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RECEIVED

Barbara Hoditschek
Permit Program Manager
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, NM 87502

Dear Ms. Hoditschek:

SUBJECT: TECHNICAL AREA 40 SCRAP DETONATION SITE CLOSURE REPORT

Enclosed please find two copies of the closure report which contains final closure documentation to support clean closure of the Technical Area (TA) 40 Scrap Detonation Site (SDS). Within this report, we believe that you will find the necessary documentation to support our conclusion that the former location of this unit meets requirements necessary to demonstrate clean closure equivalency. Certification of the closure can be found in Section 3 of the closure report.

This closure was performed to meet requirements specified in the amended final closure plan for TA-40 SDS that was approved by the New Mexico Environment Department in a letter dated May 2, 1994. All supporting documentation pertaining to this closure is currently on file with Los Alamos National Laboratory's Environmental Restoration Project Office.

Should you have any questions concerning this closure report, please call Dave McInroy at 505-667-0819 or Court Fesmire at 505-665-4718 of our staff.

Sincerely,

Jorg Jansen, Project Manager
Environmental Restoration

Sincerely,

Theodore J. Taylor, Program Manager
Los Alamos Area Office

Environmental Restoration

2495

JJ/TT/bp

Enclosures: Full Closure Report (2 Copies)

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Closure Certification Report for the Technical Area 40 Scrap Detonation Site

Volume I

Prepared for:

Los Alamos National Laboratory
Los Alamos, New Mexico

Prepared by:

IT Corporation
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March 1995

CLOSURE CERTIFICATION REPORT

FOR THE TECHNICAL AREA 40

SCRAP DETONATION SITE

Facility ID No.:	NM0890010515
Facility Name:	Los Alamos National Laboratory
Legal Owner:	United States Department of Energy
Legal Operators:	United States Department of Energy Los Alamos Area Office 528 35th Street Los Alamos, New Mexico 87545 University of California P.O. Box 1663 Los Alamos, New Mexico 87545
Contact Persons:	Mr. Joseph C. Vozella, Assistant Area Manager Office of Environment and Projects United States Department of Energy (505) 665-5027 Mr. David J. McInroy, Project Manager Los Alamos National Laboratory Environmental Restoration Project (505) 667-0819
Date:	March 1995

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Appendix F - Site-Specific Health and Safety Plan (SSHASP)
Appendix G - Energy Dispersive X-Ray Fluorescence (EDXRF) Instruments, Field Screening Methodology, and Field Screening Results
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List of Abbreviations/Acronyms

BAE	Burn Area East
BCA	Burn Cage Area
CME	Central Mining Equipment
CST	LANL's Chemical Science and Technology Division
EDXRF	energy dispersive x-ray fluorescence
FCP	Final Closure Plan
ft	feet/foot
HE	high explosives
IT	IT Corporation
LANL	Los Alamos National Laboratory
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
P.E.	professional engineer
PPE	personal protective equipment
QA/QC	quality assurance/quality control
QC	quality control
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
SAL	screening action level
SDS	Scrap Detonation Site
SOP	standard operating procedure
SSHASP	Site-Specific Health and Safety Plan
TA	Technical Area
TCLP	toxicity characteristic leaching procedure
TSDF	treatment, storage, or disposal facility
WMP	Waste Management Plan

Executive Summary

This report summarizes the actions performed at the Technical Area (TA) 40 (TA-40) Scrap Detonation Site (SDS) at Los Alamos National Laboratory (LANL) to meet the closure requirements specified in the New Mexico Environment Department (NMED)-approved Final Closure Plan (FCP) and Amendment to the FCP. The FCP for the TA-40 SDS (July 1991, as amended January 1992) outlines a sampling strategy to characterize the site. Characterization samples were collected in January and May 1992. Review of the analytical results identified two small surface areas one approximately 4 by 4 feet (ft) and one approximately 6 by 6 ft that required remediation. These two sites are referred to in this report as the Burn Cage Area (BCA) and the Burn Area East (BAE). The Amendment to the FCP (February 1993) presents the results of the site characterization and outlines proposed cleanup actions for the BCA and the BAE.

Lead and antimony were identified as contaminants of concern at the BCA; lead was identified as a contaminant of concern at the BAE. Soils from the BCA and BAE were excavated and placed into 55-gallon drums between September 24 and October 6, 1994. During excavation of the BAE, an additional area estimated to be 15 by 15 ft in area was discovered immediately north of and partially overlapping the BAE. The additional contaminated soil at the BAE was excavated with a backhoe and was placed into rolloff bins between December 12 and December 23, 1994. Analysis of verification samples from the BCA and BAE excavations demonstrated that remediation of the areas successfully removed contaminants to concentrations below the cleanup levels specified in the FCP and Amendment to the FCP.

During the final phase of the cleanup, additional contaminated material was discovered west of the expanded BAE excavation under approximately 2 ft of fill. An additional area approximately 20 by 20 by 4 ft deep was excavated and placed in the rolloff bins. It became apparent that the excavation had uncovered one end of the burn pit, that, as discussed in the Amendment, did not need remediation. Remediation of the burn pit is beyond the scope of activities outlined in the Amendment to the FCP. Therefore, excavation was discontinued, and the area was covered with 6 mil plastic pending evaluation of conditions. Two samples collected from the area were found to contain RCRA-hazardous levels of lead. Therefore, it was decided that the burn pit should be addressed.

During development of alternative strategies to address conditions in the burn pit, aerial photographs were reviewed in an attempt to verify the location and time of operation of the pit. Aerial photographs from 1976, 1977, and 1986 show that the burn pit was covered. Evaluation of these photographs, in addition to further record reviews and personnel interviews, indicates that the burn pit was closed prior to 1980, making this unit subject to the Hazardous and Solid Waste Amendment (HSWA) regulations and not Resource Conservation and Recovery Act (RCRA) closure regulations for interim status units. Based on these findings, this report reflects this finding and describes why the burn pit does not require further investigation as part of this RCRA closure. The burn pit will be addressed for corrective action as part of the Environmental Restoration activities associated with Field Unit 5 (formerly Operable Unit 1111).

CLOSURE CERTIFICATION REPORT FOR THE TECHNICAL AREA 40 SCRAP DETONATION SITE

1.0 Introduction

1.1 Background

This report summarizes the activities performed to meet closure requirements specified in the Final Closure Plan (FCP) and Amendment to the FCP (hereafter referred to as Amendment) for the Technical Area (TA) 40 (TA-40) Scrap Detonation Site (SDS) at Los Alamos National Laboratory (LANL). Figure 1 shows the locations of TAs at LANL and Figure 2 shows the layout of the TA-40 SDS. The TA-40 SDS operated as a Resource Conservation and Recovery Act (RCRA) interim status hazardous waste thermal treatment unit for open burning and open detonation of explosive scrap. Operation of the TA-40 SDS as a thermal treatment unit ceased on April 12, 1985, and a RCRA permit was not sought for the facility.

The TA-40 SDS FCP was originally submitted in September 1985, amended in December 1985 and February 1991, and finalized in July 1991 (see Appendix A). The July 1991 document was revised in January 1992; state approval for the revision was granted on February 10, 1992.

Following site characterization in January and May 1992 (per the FCP), the Amendment was submitted in February 1993 (see Appendix B). The Amendment summarizes the results of sampling conducted in January 1992 (Phases I through III) and May 1992 (Phase IV), and presents plans for cleanup activities based on those results. The FCP indicates that Phase V sampling is optional, based on the results of sampling conducted under Phase I through IV. Although hazardous constituents were detected in two areas of the TA-40 SDS, they appeared to be localized. Consequently, it was not considered likely that contaminants were broadly dispersed or deposited in the general area of the TA-40 SDS, and the Phase V investigation was not considered necessary by LANL to achieve clean closure of the site. State approval of the Amendment was received in a letter dated May 2, 1994. Closure activities at the Burn Cage Area (BCA) and Burn Area East (BAE) were conducted between September 24 and December 23, 1994.

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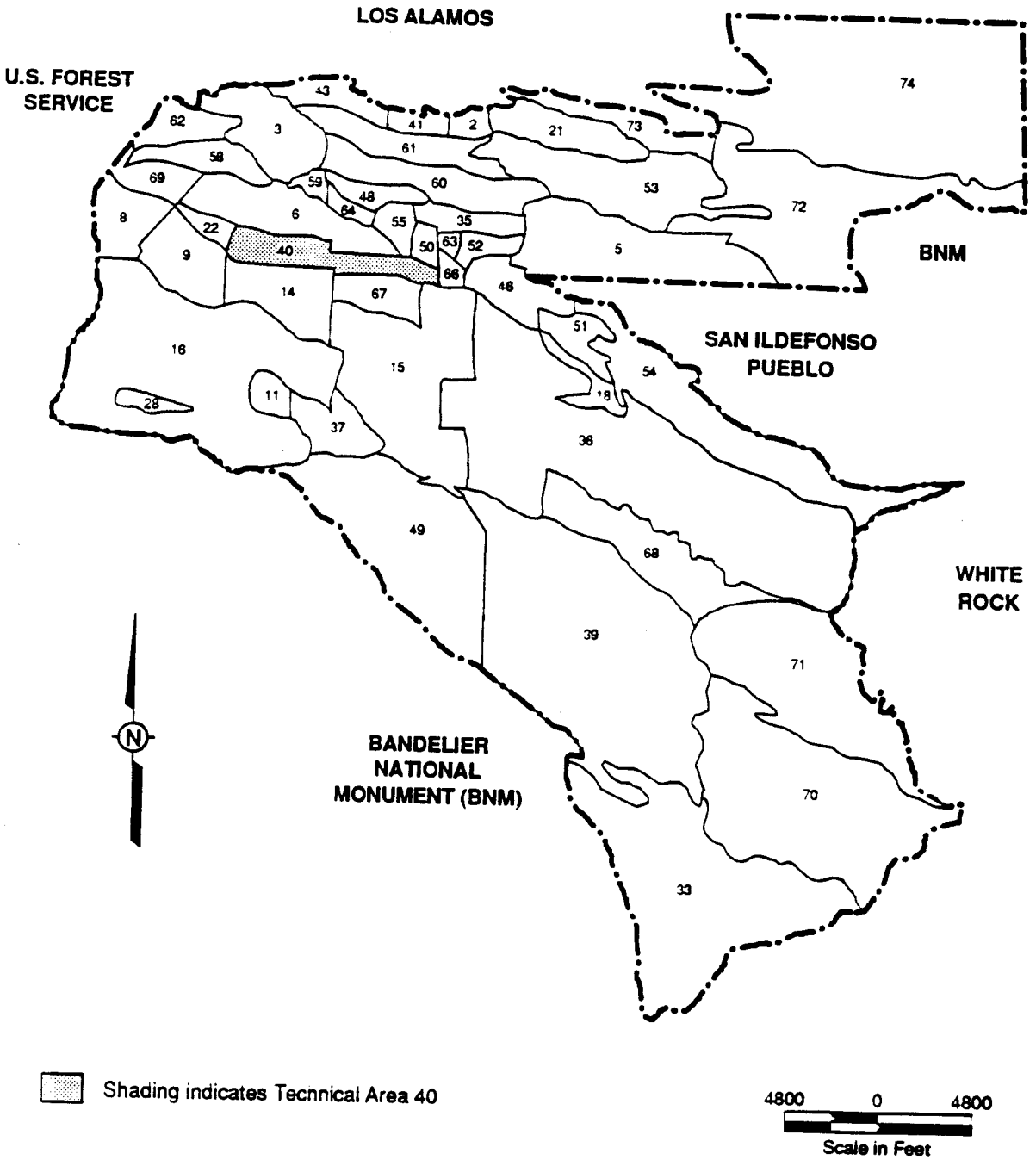

FIGURE 1
Location Map of Los Alamos National Laboratory Technical Areas

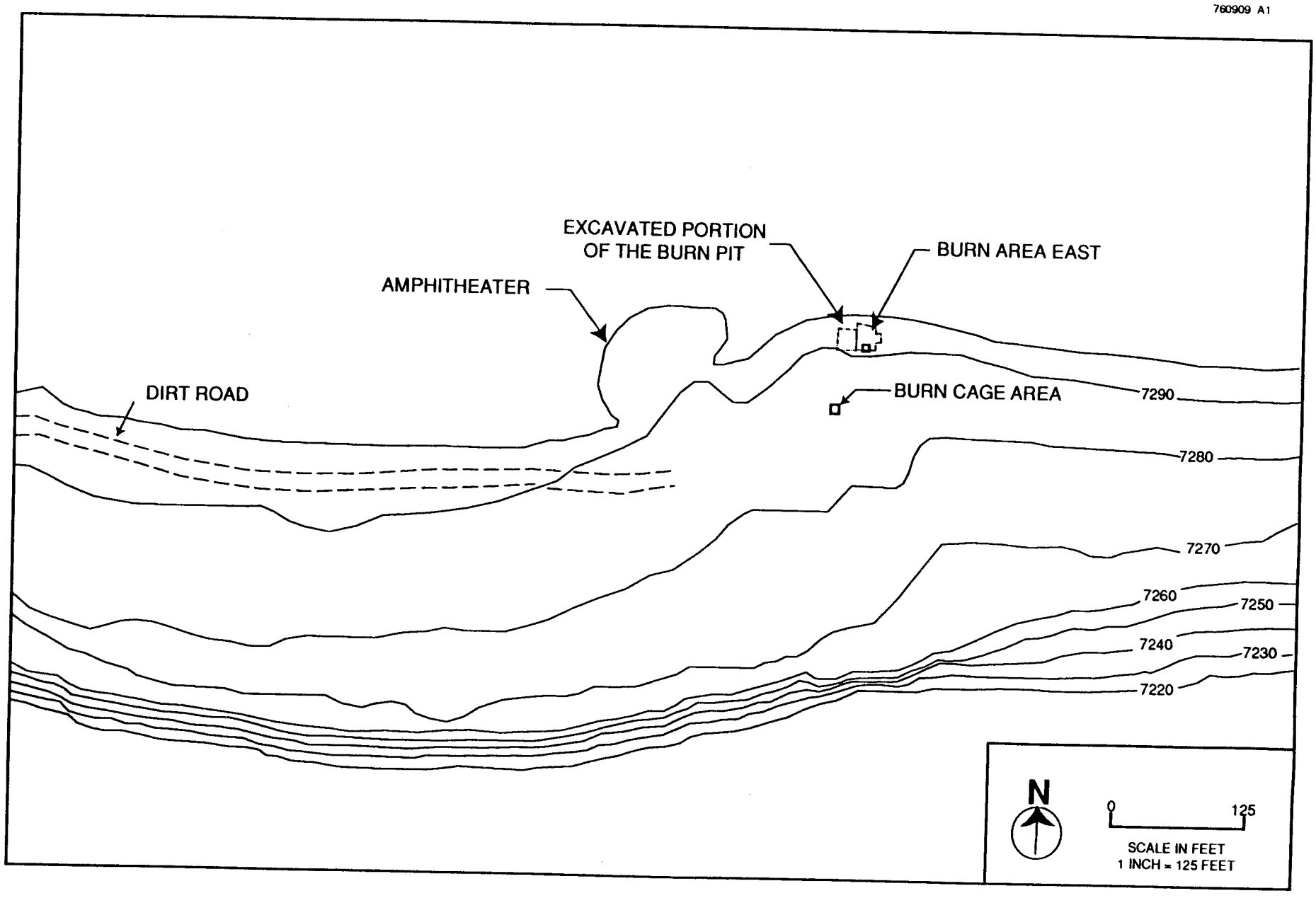

FIGURE 2
TA-40 Scrap Detonation Site Layout

1.2 Purpose

The purpose of this report is to demonstrate that closure of the TA-40 SDS was achieved substantially in accordance with the New Mexico Environment Department (NMED)-approved FCP and the Amendment. This report describes the closure activities, the disposition of wastes, and lists and justifies any variances. In accordance with Title 20 of the New Mexico Administrative Code, Chapter 4, Part 1 (20 NMAC 4.1), Subpart V, §265.115, this report also contains an engineering certification from an independent registered professional engineer (P.E.) that the TA-40 SDS was closed substantially in accordance with the NMED-approved FCP and the Amendment. Professional engineering oversight by IT Corporation (IT) did not begin until January 23, 1992, after closure activities had already begun. As such the independent professional engineering certification is based in part on a review of the records from before IT's involvement.

1.3 Report Organization

Chapter 1.0 presents the background of the site, the purpose of the report, and site and process descriptions. Chapter 2.0 includes the closure activities, sampling and analysis procedures, the disposition of any wastes generated, any variances from the FCP and the Amendment, the location of supporting documentation, and a statement of the quality assurance/quality control (QA/QC) adequacy. Chapter 3.0 presents the certification of accuracy of this report and the independent professional engineering certification. Chapter 4.0 contains the references for this report. Appendix A contains the TA-40 SDS FCP. Appendix B contains the Amendment. Appendix C presents the analytical results of the 1992 characterization of the site. Appendix D contains the Remedial Action Plan (RAP). Appendix E includes the Waste Management Plan (WMP), the Amendment to the WMP (Attachment 1), the analytical results of the waste characterization sampling (Attachment 2), and the documentation for the disposition of the wastes generated during remediation of the BCA and the BAE (Attachment 3). Appendix F contains the Site-Specific Health and Safety Plan (SSHASP). Appendix G discusses the energy dispersive x-ray fluorescence (EDXRF) instruments used, the field screening methodology, and the field screening results. Appendix H includes the analytical and QA/QC results of the verification sampling. Appendix I presents a complete discussion of the adequacy of the QA/QC for the performance of closure of the TA-40 SDS.

1.4 Site Description

The TA-40 SDS includes a detonation area, a burn pit, and three small burn areas. It is located on a south-facing mesa-rim shelf (New Mexico State Plane coordinates N1,767,000;

E481,920) that has cliffs on the north, below the mesa top, and to the south, overlooking Pajarito Canyon. The mesa-top elevation is 7340 feet (ft), and the canyon floor is at an elevation of 7100 ft. The shelf is approximately 200 ft wide from north to south and slopes gently to the canyon rim. Surface-water drainage is from north to south across the shelf, through several shallow drainage channels.

The Amendment specifies remediation of the BCA and the BAE to achieve clean closure of the TA-40 SDS (Figure 2). Lead cleanup levels at both areas are defined in the Amendment as 500 mg/kg total, and 5 mg/L TCLP. At the BCA, the antimony cleanup level was 32 mg/kg. These small areas of surface contamination (initially estimated as being approximately 4 by 4 and 6 by 6 ft, respectively) exhibited scorched soil and rock, charred ash, and other debris.

During excavation of the BAE, an additional area of subsurface contamination was discovered adjacent to and partially overlapping the original 6 by 6 ft area. This new area lies north of the BAE and was anticipated to be 15 by 15 by 4 ft deep (hereafter reference to the BAE includes the additional area). Just west of the BAE (see Figure 3), an excavation uncovered what is believed to be the east end of the burn pit (see Section 1.4.1).

The burn pit is differentiated from the BAE through the thickness of overburden and the types of materials found. The expanded area of the BAE (to the north of the area visible on the surface) was covered with a few inches of clean fill, whereas the material in the burn pit occurred at a depth of about two feet. The BAE consisted primarily of scorched earth with a small quantity of burned material. The majority of material found in the burn pit was burned debris, consisting of wood, plastic, wire, metal, and glass.

1.4.1 Burn Pit

The FCP details a two-phased investigation of the burn pit. The Amendment details the results of the investigation. In the first phase, the approximate location of the burn pit was identified. Then samples collected in 1992 from the west end of the burn pit were collected and submitted for analysis. The results of this investigation led to the conclusion that the burn pit could be left in place since all constituents detected were either at levels below screening action levels (SAL) or within the range of background concentrations.

Samples taken in 1994 from the excavated portion of the east end of the burn pit, however, contained hazardous levels of lead (see Figure 3, samples Pit A and Pit D) . Therefore, it was decided that further investigation of the burn pit was necessary. During development of alternative strategies to address the burn pit, aerial photographs were reviewed in an attempt to verify its location and time of operation. Photos from 1965 show wastes present in the approximate location that was encountered during closure activities. Photos from 1974 show that this area was covered and a new trench was excavated adjacent and to the south. Photos from 1976, 1977, and 1986 show that the entire area was covered.

Based on the information contained in these photographs, on further record reviews, and on personnel interviews, it was determined that the burn pit was closed prior to 1980. An individual who has worked at TA-40 since 1977 (Stacy, 1995) states that, to the best of his knowledge, nothing has been buried at the TA-40 SDS since his arrival in 1977.

Also, a review of records concerning the site failed to locate any information regarding burial activities at the site after 1976. Therefore, because RCRA interim status standards only apply to facilities that were in operation or for which construction commenced after November 19, 1980, the burn pit is not subject to these standards, including closure requirements. Thus, no further actions will be taken to investigate the burn pit as part of this RCRA closure. The burn pit will be addressed under the HSWA portion of RCRA for corrective action as part of the Environmental Restoration activities associated with Field Unit 5.

1.5 Process Description

At the BCA and BAE, trash suspected of being contaminated with explosives and other combustible wastes were stacked and burned either in a wire cage approximately 4 by 4 ft square and 5 ft high, or on the ground. Solvents, oils, or kerosene were poured over the waste to ensure that it burned completely. Burning was initiated using remote explosive detonators. The FCP presents a discussion of the processes conducted in other areas of the site.

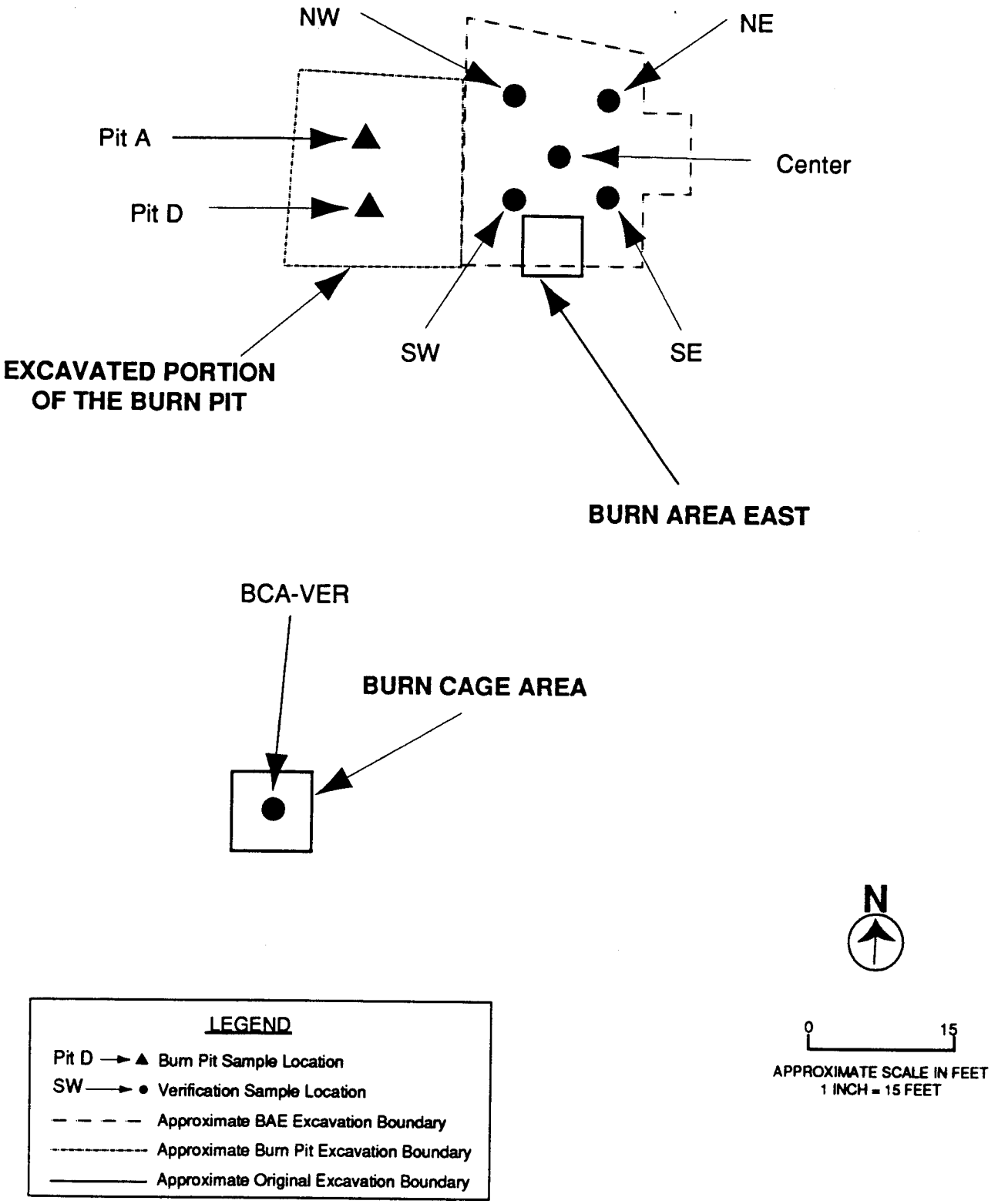

FIGURE 3
Approximate Location of the Excavation Boundaries at the
TA-40 Scrap Detonation Site

2.0 Performance of Closure

2.1 Closure Activities

Initial closure activities at the TA-40 SDS consisted of characterization sampling conducted in January and May 1992. The Amendment (see Appendix B) summarizes the results of the characterization sampling (Appendix C) and outlines remediation activities. Remediation activities were initiated on September 24, 1994, and were completed on December 23, 1994. Closure activities were performed substantially in accordance with the FCP (Appendix A), the Amendment (Appendix B), the RAP (Appendix D), and the site-specific WMP and SSHASP (Appendices E and F, respectively).

2.1.1 Burn Cage Area

Remediation activities began for the BCA on September 24, 1994, with site mobilization. On September 26, surface samples were collected and screened for lead using EDXRF instrumentation. Appendix G presents a discussion of the EDXRF instruments, the field screening methodology, and the field screening results. A decision was made in the field to use a cleanup level of 100 milligrams per kilogram (mg/kg) of lead, to assure that no lead would be present above the toxicity characteristic leaching procedure (TCLP) regulatory level of 5 milligrams per liter (mg/L) (the TCLP method uses a 20 times dilution). Screening of the surface samples indicated that lead levels exceeded the cleanup level of 100 mg/kg. Therefore, with the exceptions of the lower cleanup level and some analyses being ex situ instead of in situ, excavation of the contaminated material proceeded as specified in the Amendment.

During the week prior to initiation of field activities, LANL personnel moved the wire burn cage from the BCA to a location approximately 50 ft south, leaving a trail of burn debris on the ground surface. This burn debris was shoveled into drums along with the ash and debris remaining in the burn cage.

Soil was excavated in 6-inch lifts with hand shovels and a small skid loader and placed in drums. Prior to excavation of succeeding lifts, samples were collected for EDXRF screening. Only visibly contaminated soil or soil determined to be contaminated through EDXRF screening was removed, resulting in an irregularly shaped hole of varying depth. The final excavation was approximately 8 by 8 ft and averaged approximately 1.5 ft deep, with one small area 2 ft deep. After all visibly contaminated soil was removed, a number of in situ

EDXRF measurements were taken to confirm that cleanup was complete. Per the Amendment, one verification sample (BCA-VER) was collected on October 6, 1994 and was sent offsite for total and TCLP lead and total antimony analysis. Analytical results confirmed that contamination was removed to concentrations below the regulatory levels specified in the FCP and Amendment (see Table 2-1).

2.1.2 Burn Area East

Screening of surface samples using EDXRF began on September 25, 1994. Excavation proceeded as described for the BCA, using a lead cleanup level of 100 mg/kg. The EDXRF instrument reported lead concentrations an average of 92 mg/kg higher than the fixed laboratory analytical results. This disparity is attributed to differences in the matrices and elemental concentrations between the lead calibration sample and the samples of site materials. Analytical accuracy is greatly enhanced if the matrix composition and particle size distribution of the sample unknowns are similar to that of the standards (in terms of bulk elemental composition). The EDXRF values were adjusted accordingly. On October 4, 1994, after the excavation had reached approximately 6 by 6 ft by 1 ft deep, it became apparent that contamination in the subsurface soil extended a significant distance to the north of the originally predicted boundaries. Using a hand auger, the extent of subsurface contamination was estimated to be approximately 15 by 15 by 4 ft deep (Figure 3). Two samples (EBA-M1 and EBA-M2) of visibly contaminated soil were collected for offsite total and TCLP metals analysis on October 5, 1994. Remediation of the BAE was suspended pending receipt of the analytical results. Table 2-2 presents the analytical results for EBA-M1 and EBA-M2.

The RAP (Appendix D) was prepared to address remediation of the estimated 15 by 15 ft area of subsurface contamination at the BAE. Excavation of the additional area began on December 12, 1994. As detailed in the RAP, material was removed with a backhoe and was placed in rolloff bins. After each 1 foot lift was removed, four random samples and two biased samples were collected from the floor of the excavation and screened using EDXRF using the 100 mg/kg screening level as a guide. Due to availability, a different EDXRF analyzer was used during the December field effort. This instrument reported lead concentrations an average of 472 mg/kg higher than the fixed laboratory analytical results. The EDXRF values were adjusted accordingly.

Table 2-1

Verification Sample Results from the TA-40 Scrap Detonation Site

			Analytical Methods[a]	6010	6010	6010
Sample Date	Sample Location	Sample ID #	Sample Description	Total Lead (mg/kg)[b]	TCLP[c] Lead (mg/L)[d]	Total Antimony (mg/kg)
10/6/94	Burn Cage Area	BCA-VER[e]	Verification sample from center below final lift at Burn Cage Area	7.5	<0.0423	0.32
12/16/94	Burn Area East	NE[f]	Verification sample from northeast quadrant below final lift at Burn Area East	12.4	0.17	NR[g]
12/16/94	Burn Area East	SE[f]	Verification sample from southeast quadrant below final lift at Burn Area East	4.2	0.08	NR
12/16/94	Burn Area East	NW[f]	Verification sample from northwest quadrant below final lift at Burn Area East	4.8	0.09	NR
12/16/94	Burn Area East	SW[f]	Verification sample from southwest quadrant below final lift at Burn Area East	3.8	0.12	NR
12/16/94	Burn Area East	CENTER[f]	Verification sample from center below final lift at Burn Area East	3.7	0.13	NR

[a] "Test Methods for Evaluating Solid Waste," Physical/Chemical Methods, SW-846, U.S. Environmental Protection Agency (EPA), 1992.
[b] milligrams per kilogram
[c] toxicity characteristic leaching procedure
[d] milligrams per liter
[e] Analyzed by Quanterra Environmental Services
[f] Analyzed by Enreco Laboratories Group
[g] NR - Analysis not requested

Table 2-2

Preliminary Metals Analyses at Burn Area East[a]

Total Metals
(mg/kg)[b]

		Analytical Methods[c]	6010	6010	6010	6010	6010	6010	7470	6010	6010	6010	6010
Sample Date	Sample ID #	Sample Description	Arsenic (As)	Silver (Ag)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)	Lead (Pb)	Mercury (Hg)	Nickel (Ni)	Selenium (Se)	Antimony (Sb)	Thallium (Tl)
10/5/94	EBA-M1	Metals-Burn Area East	4.3	45.4	789	6.9	22.5	1380	0.44	26.0	< 0.4	NR[d]	1.4
10/5/94	EBA-M2	Metals-Burn Area East	2.0	26.6	415	5.4	12.0	4420	< 0.05	40.9	0.48	NR	1.0

TCLP[e] Metals
(mg/L)[f]

		Analytical Methods	6010	6010	6010	6010	6010	6010	7470	6010	6010	6010	6010
Sample Date	Sample ID #	Sample Description	As	Ag	Ba	Cd	Cr	Pb	Hg	Ni	Se	Sb	Tl
10/5/94	EBA-M1	Metals-Burn Area East	< 0.0528	< 0.0037	3.4	0.0894	< 0.0034	49.2	< 0.001	0.111	< 0.0614	NR	< 0.0545
10/5/94	EBA-M2	Metals-Burn Area East	< 0.0528	< 0.0037	3.46	0.103	0.0055	11.2	< 0.001	0.123	<0.0614	NR	< 0.0545

[a] Analyses performed by Quanterra Environmental Services
[b] milligrams per kilogram
[c] "Test Methods for Evaluating Solid Waste," Physical/Chemical Methods, SW-846, U.S. Environmental Protection Agency (EPA), 1992.
[d] NR - Analysis not requested
[e] toxicity characteristic leaching procedure
[f] milligrams per liter

Remediation of the additional area was completed on December 14, 1994. Removal of contaminated material resulted in an excavation approximately 20 by 22 by 3 to 4 ft deep. As specified in the RAP, five verification samples were collected and sent to an offsite laboratory for total and TCLP lead analysis. Analytical results confirmed that remediation of the area was successful (see Table 2-1).

Additional contaminated material was exposed along the western edge of the remediated area, beneath 1 to 2 ft of soil cover, extending to a depth of at least 6 ft. A hand auger was used to confirm that the subsurface material is present at least 30 ft west of the existing excavation. A backhoe was used to excavate a portion of the contaminated soils, in an area approximately 20 by 20 by 4 ft deep (Figure 3). The excavated waste was then placed in the rolloff bins. It is believed that the area is the eastern end of the burn pit identified in the FCP. As remediation of the burn pit is outside of the scope of the Amendment, field activities were suspended pending evaluation of conditions at the site (see Section 1.4.1).

2.2 Sampling and Analysis Procedures

Details of the characterization sampling performed in January and May 1992 are presented in the Amendment (see Appendix B). Analytical results of the 1992 sampling are presented in Appendix C and are summarized in the Amendment.

A total of six verification samples were collected following excavation of the BCA and the BAE (one from the BCA and five from the BAE). Sampling at both areas was conducted substantially in accordance with the FCP and the Amendment; all deviations are discussed in Section 2.4. As specified in the Amendment, after field screening showed that all lead-contaminated soil was removed, one verification sample was collected from the bottom of the BCA excavation. Per the Amendment, the sample was analyzed for total lead and antimony and for TCLP lead. Table 2-1 summarizes the analytical results; Appendix H presents the laboratory reports (including QA/QC results).

Removal of contaminated soil at the BAE resulted in an excavation approximately 20 by 20 by 3 to 4 ft deep, which is significantly larger than the originally anticipated 6 by 6 ft area. Because of the larger area, five verification samples were collected from the locations specified in Section 3.4 of the RAP (see Appendix D). The samples were analyzed for total and TCLP lead. Table 2-1 summarizes the analytical results; Appendix H presents the laboratory reports (including QA/QC results).

Samples from the drums and rolloff bins were collected and analyzed for waste characterization purposes as specified in the WMP (Appendix E) and in the amendment to the WMP (Attachment 1 of Appendix E). Attachment 2 of Appendix E summarizes the analytical results of the waste characterization sampling; Appendix H includes the complete laboratory reports from the verification sampling (including QA/QC results).

2.3 Disposition of Wastes Generated

The following section details the disposition of the wastes generated during the closure activities conducted at the TA-40 SDS. Sections 5.2.1 and 5.2.2 of the FCP specify that appropriate treatment and disposal options will be determined and will be identified to the NMED prior to commencing remedial activities. The Amendment states that waste will be sent to a permitted treatment, storage, or disposal facility (TSDF). It is assumed that, in approving the Amendment, NMED acknowledged that the text in the Amendment met the intent of the statement in the FCP.

2.3.1 Disposal of Debris from Amphitheater

As specified in the FCP, the rubble found in the amphitheater was removed to a level 6 inches above the original ground surface in April of 1992. The rubble was removed and placed into dump trucks for transportation to the Los Alamos County Landfill. Each dump truck load was checked for the presence of high explosives (HE) contamination using a LANL-approved Field Spot-Test Kit for explosives (Bryan and Padilla, 1992). A metal door and a tire showed positive in the field screening, and were decontaminated and disposed of appropriately by LANL's M-7 group. All pipe and conduit was disposed of in the WX flash mound and burial pit as the insides could not be adequately checked. Approximately 177 cubic yards of rubble were transported to the landfill for disposal. The last 6 inches of debris remained onsite awaiting analytical results from the surface sample taken below the debris. The sample results indicated both thallium and silver at levels above their respective SAL's. However, the TCLP concentration for silver was below the regulatory levels (thallium is not regulated). Therefore, the remaining 6 inches of debris could be managed as nonhazardous waste. Although documentation regarding the disposition of the last 6 inches of debris is scarce, one reference (Reneau, 1992) implies that the debris was placed in drums. It is likely that the debris was then disposed of at the Los Alamos County Landfill.

2.3.2 Disposal of Drummed Waste from Burn Cage Area and Burn Area East

During September and October, 1994, a total of 41 55-gallon drums of waste were generated at the BCA and the BAE. Of these, 28 drums were determined to be nonhazardous,

nonregulated waste using the procedures detailed in the LANL-approved site-specific WMP (Appendix E). Attachment 2 of Appendix E contains the results of the waste characterization sampling. These 28 drums will not be taken to the Los Alamos County Landfill, as stated in the FCP (see Section 2.4), but are currently being stored at TA-40 awaiting transport to a offsite landfill for disposal. The final disposition of the waste will be decided by LANL's Chemical and Mixed Waste Science Group (CST-5). Attachment 3 of Appendix E contains all documentation prepared to date for the disposition of these wastes (i.e., waste profile forms, waste disposal requests, etc.)

The remaining 13 drums consist of 7 drums of hazardous soils, 2 drums of soiled personal protective equipment (PPE), 2 drums of decontamination water, and 2 drums of office trash. As stated in the WMP, the drums containing PPE and decontamination water are to be characterized based on the results of the soil sampling. Attachment 2 of Appendix E presents the results of the waste characterization sampling which indicate that the soils contain hazardous levels of lead. Therefore, the 11 drums of soil, PPE, and water will be disposed of as hazardous waste. They are currently being stored at TA-54 and are awaiting transport to an offsite RCRA-permitted TSDF. See Attachment 3 of Appendix E for documentation of the disposition of the wastes. The 2 drums of office trash will be sent to an offsite landfill for disposal. The decision of where the 13 drums will be sent will be made by the CST-5 Waste Management Group.

2.3.3 Disposal of Rolloff Bin Waste from Burn Area East

During December, 1994, a total of 6 rolloff bins, each with a volume of 20 cubic yards were filled with approximately 10 cubic yards of materials from the excavation of the BAE. Also, 4 drums of waste were generated during this effort; 1 drum of office trash, 1 drum of used PPE, and 2 drums of decontamination water. The rolloff bins were characterized in accordance with the Amendment to the site-specific WMP (see Appendix E, Attachment 1). As specified in the original WMP, drums of PPE and decontamination water are to be characterized using the results of the soil sampling (rolloff bins). Attachment 2 of Appendix E presents these results. The results indicate that the wastes contain hazardous levels of lead. Therefore, the excavated soil, PPE, and decontamination water are considered hazardous. Waste profile forms and waste disposal forms were prepared for the rolloff bins, and drums of PPE and decontamination water (Attachment 3, Appendix E), and the wastes are currently awaiting transport to an offsite RCRA-permitted TSDF. The drum of office trash will be taken to an offsite landfill for disposal.

The FCP specifies that the if the material around the metal burn cage is found to be hazardous, the cage itself will be considered hazardous. Therefore, because some soils surrounding the cage were found to contain hazardous levels of lead, the burn cage was cut into pieces and placed in one of the rolloff bins to be disposed of as hazardous waste.

2.3.4 Site Restoration

Site restoration was accomplished by backfilling the BCA and BAE excavations with clean soil. Eight dump trucks, with approximately 10 cubic yards of soil in each, were brought to the site. The soil was placed into the excavations and compacted using a CAT 950 B loader. The area was then graded to the original contours consistent with the surrounding terrain.

2.4 Variances from NMED-Approved Closure Plan

The closure of the BCA and the BAE at the TA-40 SDS was performed substantially in accordance with the NMED-approved FCP (July 1991 as revised January 1992) and the Amendment (February 1993). The following listed variances detail all of the technical deviations from the FCP and Amendment during the site characterization and remediation. However, none of the variances present a significant departure from the intent of the FCP and Amendment, which is to complete clean closure of the BCA and BAE. Analytical results from the verification samples demonstrate clean closure of the TA-40 SDS.

Final Closure Plan (July 1991, as revised January 1992)

- Section 3.7, 2.c. specifies that "A measure of analytical precision (e.g., uncertainty, range, variance)" be included with the sampling results. It is not standard practice for analytical laboratories to report uncertainty, range and variance for chemicals. However, analytical instrument precision and accuracy was assessed and controlled using standard laboratory quality control (QC) checks such as matrix spikes, matrix spike duplicates, QC duplicates, etc. The results of these QC checks indicate that method performance was adequate.

- Section 3.7 specifies that bound field logbooks be kept with the supporting documentation. During the characterization work in 1992, sample-specific information was written on the chain of custody forms and a field log was also prepared. During the remediation effort, loose-page field logs were prepared. Although bound field logbooks were not used, field logs were prepared which meet the intent of the plan. These logs documented the purpose of sampling, the location of sampling, the identification of the person making the log entry, the number and volume of samples taken, a description of how the samples were

taken, the date and time of sampling, field observations, sample identification number(s), and the analytical parameters requested for analysis.

- Section 4.1.1 specifies that "native tuff should not be taken as part of the sample of fill." Section 3.1 of the Amendment states that one tuff sample was collected from the fill area. As discussed in the Amendment, because no fill existed in the immediate vicinity of the sampling location, the tuff was sampled to maintain relatively uniform coverage of the fill area.

- Section 4.1.1 specifies that if the fill is less than 4 ft deep, an upper sample would be collected from 0 to 2 ft, and a separate sample would be collected between a depth of 2 ft and the top of the native tuff. Two of the boreholes in the fill area reached tuff at a depth of 2.5 ft; separate samples were not collected from the bottom 0.5 ft of the core.

- Section 4.1.2.1 specifies that the borehole at the BCA extend to a 4 ft depth. Tuff was encountered at a 2 ft depth, and no staining was visible below the top 6 inches; therefore, the drilling stopped at 2 ft. Section 4.1.2.1 also specifies that, if the soil depth below the burn cage is greater than 4 ft, the borehole will be extended until native tuff is encountered. The intent of the plan was to core-sample the soils below the burn cage until tuff was encountered to verify the assumption that the burn cage is not located over an area of fill or at the site of the former burn pit. Because the borehole was core-sampled until tuff was encountered, the intent of the plan was achieved.

- Section 4.2 lists the constituents to be analyzed for during the characterization effort in 1992. Constituents that were not analyzed for include acetonitrile; acrolein; acrylonitrile; allyl chloride; diethylhexylphthalate; 1,4-dichloro-2-butene; dinoseb; 1,4-dioxane; ethyl methacrylate; isobutyl alcohol; methacrylonitrile; phthalic acid esters; propionitrile; and tin. However, none of these chemicals are associated with the list of high explosives presented in the FCP which were thought to be handled at TA-40. In fact, none of these chemicals are associated with explosives at all (Merck, 1989; Lewis, 1993). Therefore, since there is no reason to suspect that these chemicals were ever present at the TA-40 SDS, the fact they were not analyzed for is inconsequential.

- Section 4.3.2 specifies that a Central Mining Equipment (CME) Model 85 drill rig be used to collect core samples at the TA-40 SDS. A CME Model 55 drill rig was used because it was readily available and had adequate power to perform the required drilling.

- Section 4.3.4 specifies that rinsate blanks were to be taken during the characterization work at the rate of 1 per day or 1 per borehole, whichever is less. However, only 1 rinsate blank sample was sent for analysis. Rinsate blanks are analyzed to provide assurance that the rinse water is uncontaminated. The lack of additional rinsate samples results in a more conservative site

evaluation, because possible contamination in the rinse water was not "subtracted" from the analytical results.

Although Section 4.3.4 was written to guide the QC efforts during the site characterization, the procedures were to be followed for the remediation work as well. However, since the verification samples were to be analyzed only for metals, some of the blanks were not applicable. Specifically, field and trip blanks are associated with volatile organics analyses, not metals. Rinsate blanks were not necessary since clean, separate, or disposable spoons were used for each sample.

- Section 4.3.5 specifies the sampling equipment decontamination procedures. These procedures were followed with the exception that the final distilled water rinse was not performed. This results in a more conservative site evaluation, because of the possibility of contamination from the rinse water or cross contamination between sample locations. Based on the limited number of samples showing contamination during the site investigation, the absence of the extra rinse did not impact closure of the TA-40 SDS.

- Section 4.4 specifies the information to be contained in the bound field logbooks. Although a bound field logbook was not used, field logs were prepared which meet the intent of the plan. These logs documented the purpose of sampling, the location of sampling, the identification of the person making the log entry, the number and volume of samples taken, a description of how the samples were taken, the date and time of sampling, field observations, sample identification number(s), and the analytical parameters requested for analysis.

- Section 5.1.3 specifies that decontamination of the excavation equipment be performed at the TA-50 decontamination pad. In accordance with the FCP, during the characterization work, the augers and auger rig were sent to TA-50 for decontamination. However, to expedite the sampling, the core barrels from sampling were decontaminated onsite to expedite the sampling efforts. The decontamination water from washing the core barrels consisted of less than 10 gallons of liquid, which was released to the ground at the location of the sampling. During remediation, a decontamination pad was constructed at the TA-40 SDS to limit potential spread of contaminants and expedite field activities. Washwater from the equipment was contained on a plastic sheet and was placed into 55-gallon drums for disposal.

- Section 5.2 specifies that nonhazardous materials be disposed of at the Los Alamos County Landfill. Twenty-eight drums of soil from the BCA and the initial excavation at the BAE were determined to be nonhazardous. Also 3 drums of office trash were generated. These drums will be sent for disposal at an offsite landfill. CST-5 will select an appropriate landfill. This conservative action is taken to provide documentation of the disposal of the wastes and ensure the wastes are appropriately managed.

Amendment to the Final Closure Plan (February 1993)

- Section 4.0 specifies that LANL's standard operating procedure (SOP) for the EDXRF analyzer will be followed. However, LANL's SOP has not yet been finalized. Therefore, the EDXRFs were operated in accordance with guidance provided by the manufacturer. See Appendix G for a discussion of the EDXRF instruments used and the results obtained.

- Section 4.0 specifies that field screening for the BCA and the BAE be performed in situ. Although some in situ measurements were taken, most of the field screening was performed ex situ. Three factors have a large effect on the results obtained from an EDXRF: the moisture content of the material, the matrix of the sample, and the size of the sample. The moisture content and matrix of the sample cannot be controlled for in situ measurements, and therefore, the results are not as accurate. Also, the EDXRF only analyzes the first few millimeters of the measured surface, so the results are not representative of the entire sample. Therefore, to provide better quality samples for the EDXRF, and thus more accurate results, the samples for ex situ analysis were collected, dried, and sieved prior to analysis. During the ex situ analyses, each of the samples was homogenized inside the baggy by shaking and kneading immediately prior to analysis. The analyses were performed by "counting" each sample at least three times for at least 60 seconds each; the sample was remixed and/or repositioned between measurements to provide new surfaces for analysis. The final concentration was taken as the average of the three readings to ensure that the results were representative of the whole sample.

- Section 4.0 specifies SALs of 500 mg/kg total lead and 5 mg/L TCLP lead. However, a SAL of 100 mg/kg for total lead was used instead of the 500 mg/kg. The lower value was selected based on the 20-fold dilution used in the TCLP analysis (20 x 5 = 100) and was used to ensure that all lead-contaminated soil above the TCLP regulatory level of 5 mg/L was removed.

- Section 4.0 specifies that the BAE be excavated in 6-inch lifts. The expanded area of the BAE was excavated in 1-foot lifts, instead of the 6-inch lifts specified. This was done to expedite the cleanup, as the volume was larger than expected, and excavation was performed using a backhoe. The additional material was placed in rolloff bins instead of 55-gallon drums for the same reasons.

- Five verification samples were collected from the 20 by 20 ft BAE excavation, instead of one sample as specified in Section 4.0 of the Amendment. This was done to assure that the entire area had been remediated, because the area was much larger than the 6 by 6 ft area originally anticipated. The 20 by 20 ft area was divided into four quadrants—one sample was collected from the center of each quadrant and one from the center of the excavation.

- Stainless steel spoons were used at some locations to collect the verification samples instead of inert-plastic scoops. This change was necessary because the bottom of the excavation was native tuff, and plastic scoops were inadequate for sample collection.

- Section 4.0 specifies that excavation equipment was to be decontaminated between excavation lifts. Excavation was started with hand shovels but eventually was conducted with a backhoe using both field screening and visual contamination to guide the excavation. Decontamination of the heavy equipment between lifts would have generated an abundance of wastes that would require sampling and disposal. Therefore, not decontaminating between excavation lifts limited waste generation, time, and expense. The backhoe was decontaminated after excavation was complete. Field screening results and the verification samples collected from the excavations confirmed that contamination was removed to concentrations below regulatory levels.

2.5 Location of Supporting Documentation

As required by the revised closure plan, a file containing field documentation including field logs, laboratory sample analysis reports, the QA/QC documentation, and chain of custody records is located in Mr. Roy Bohn's office at LANL, the Pueblo Complex, Room 104D, Building 1237.

2.6 Statement of QA/QC Adequacy

A review of the sampling and shipping procedures and analytical data has determined that the analytical data are of acceptable quality and should therefore be accepted as valid and used to demonstrate clean closure of the BCA and the BAE. Appendix I presents a statement of adequacy of the QA/QC for the performance of closure of the TA-40 SDS.

3.0 Certifications

3.1 Certification of Accuracy

I certify under penalty of law that these documents and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Document title:

Closure Certification Report for the
Technical Area 40 Scrap Detonation Site

Name: _____ Date: 3/23/95

Dennis J. Erickson
Director of Environment, Safety & Health Division
Los Alamos National Laboratory

Name: _____ Date: 3/27/95

Joseph C. Vozella
Acting Assistant Area Manager
Office of Environment & Projects
DOE-Los Alamos Area Office

or

Theodore J. Taylor
Program Manager
Environmental Restoration Program
DOE-Los Alamos Area Office

INTERNATIONAL TECHNOLOGY CORPORATION

3.2 Independent Professional Engineering Certification

This certification was prepared in accordance with generally accepted professional engineering principles and practice pursuant to the requirements of 20 NMAC 4.1, Subpart V, § 265.115, for an independent professional engineering certification. These services have been performed with the care and skill ordinarily exercised by members of the profession practicing under similar conditions at the same time and in the same or in a similar locality. We make no other warranty either expressed or implied. The finding and certification are based on (1) reviewing the NMED-approved FCP of July 1991 as revised January 1992 and the NMED-approved Amendment of February 1993; (2) reviewing the waste management and remedial action plans; (3) performing various site visits during closure and sampling activities; and (4) review of the analytical results from the verification samples.

With the signature and seal below, I certify that, except for the variances presented in Section 2.4, the closure of the BCA and the BAE at the TA-40 SDS was conducted substantially in accordance with the NMED-approved closure plan; modifications detailed in the NMED-approved Amendment; and the waste management and remedial action plans, the information presented in this report is, to the best of my knowledge and belief, true, accurate, and complete.

Respectfully,

IT Corporation

P. Scott Den-Baars
NEW MEXICO
10653
REGISTERED PROFESSIONAL ENGINEER

P. Scott Den-Baars, P.E.
New Mexico Registered Professional Engineer No. 10653
Expires December 31, 1995

Date: March 17, 1995

4.0 References

Bryan, S., and M. Padilla, 1992, "H.E. Contamination Swipe-Testing of SWMU 40-003(a)," Memo from S. Bryan and M. Padilla (LANL) to Distribution, Symbol M-7-92-0223, Los Alamos National Laboratory, Los Alamos, NM, April 17, 1992. (Note: the memo incorrectly identifies the Amphitheater as SWMU 40-003(a); no portion of the TA-40 SDS is identified as a SWMU.)

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APPENDIX A

FINAL CLOSURE PLAN
TA-40 SCRAP DETONATION SITE

LAUR-91-2399

FINAL CLOSURE PLAN

TA-40 SCRAP DETONATION SITE

Facility ID No.:	NM0890010515
Facility Name:	Los Alamos National Laboratory
Legal Owner:	United States Department of Energy
Address:	Los Alamos Area Office
City, State:	Los Alamos, New Mexico 87545
Phone:	(505) 667-5061

Originally Issued: September 1985

Amended: December 1985

Amended: February 1991

Amended: January 1992

Revision 1: July 1991

(State of New Mexico Environment Department Comments Incorporated)

ENVIRONMENT DEPARTMENT
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BRUCE KING
GOVERNOR

JUDITH M. ESPINO
SECRETARY

RON CURRY
DEPUTY SECRETARY

To RPF 2-12-92

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

February 10, 1992

Mr. Jerry Bellows, Area Manager
Los Alamos Area Office
Department of Energy
528 35th Street
Los Alamos, New Mexico 87544

RE: Approval of January 1992 Amendment to the TA-40 Scrap Detonation Site Closure Plan

Dear Mr. Bellows:

On February 2, 1992, the Hazardous and Radioactive Materials Bureau (HRMB) received your amended closure plan, dated January 1992, for the Scrap Detonation Site located at TA-40 on the Los Alamos National Laboratory facility. We requested this copy of the amended closure plan in our letter to you dated December 24, 1991. The amended plan you provided contains changes which affect only Sections 4.1.3.2., 4.1.3.3., and 4.3.3. of the closure plan that we approved on September 13, 1991.

We reviewed the document that you submitted and we agree with the changes you requested. This January 1992 version of the TA-40 Scrap Detonation Site Closure Plan, which contains the changes mentioned above, is acceptable as the approved closure plan.

Please contact Marc Sides of my staff at (505) 827-4300 if you have any questions.

Sincerely,

Benito J. Garcia, Chief
Hazardous and Radioactive Materials Bureau

cc: Larry Maason, LANL
Allen J. Tiedman, LANL
William K. Honker, (6H-P), US EPA Region 6

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1. INTRODUCTION

This Closure Plan identifies the steps necessary to achieve clean closure of the Los Alamos National Laboratory (LANL) Scrap Detonation Site at Technical Area 40 (TA-40 SDS) (see Figure 1.1). TA-40 SDS was a hazardous waste thermal treatment unit operated for open burning and detonation of explosive scrap under a Resource Conservation and Recovery Act (RCRA) Interim Status Part A Permit. Operation of TA-40 SDS as a thermal treatment unit ceased on April 12, 1985, and a RCRA Part B Permit was not sought for this facility.

This Closure Plan is a modification of a previously submitted plan, dated September 1985, and amended December 1985 (DOE 1985). Since December 1985, new regulations have been promulgated and additional data have become available, leading to the need for this modification. Closure will be achieved in accordance with the interim status requirements of the New Mexico Hazardous Waste Management Regulations (HWMR-5), as amended July 9, 1989, Part VI (40 CFR Sections 265.110 through 265.120, and 265.381).

The hazardous wastes treated at TA-40 SDS were subject to regulation due to the characteristics of reactivity (D003) or ignitability (D001). The thermal treatment eliminated those characteristics; however, some of the wastes that were treated contained barium or lead compounds, and the soil could, potentially, exhibit toxic characteristic leaching procedure (TCLP) toxicity for those metals. Preliminary soil sampling and analysis results for TA-40 SDS identified no metals above levels formerly considered toxic using the extraction procedure (EP) test. These data have been provided in subsection 2.4.

This plan identifies additional site investigations and analyses needed for determining the extent of any required closure activities. In addition, the plans are provided for the removal, treatment, and disposal of hazardous wastes or contaminated equipment, should any be identified. Finally, the plan addresses requirements for documenting that clean closure has been achieved.

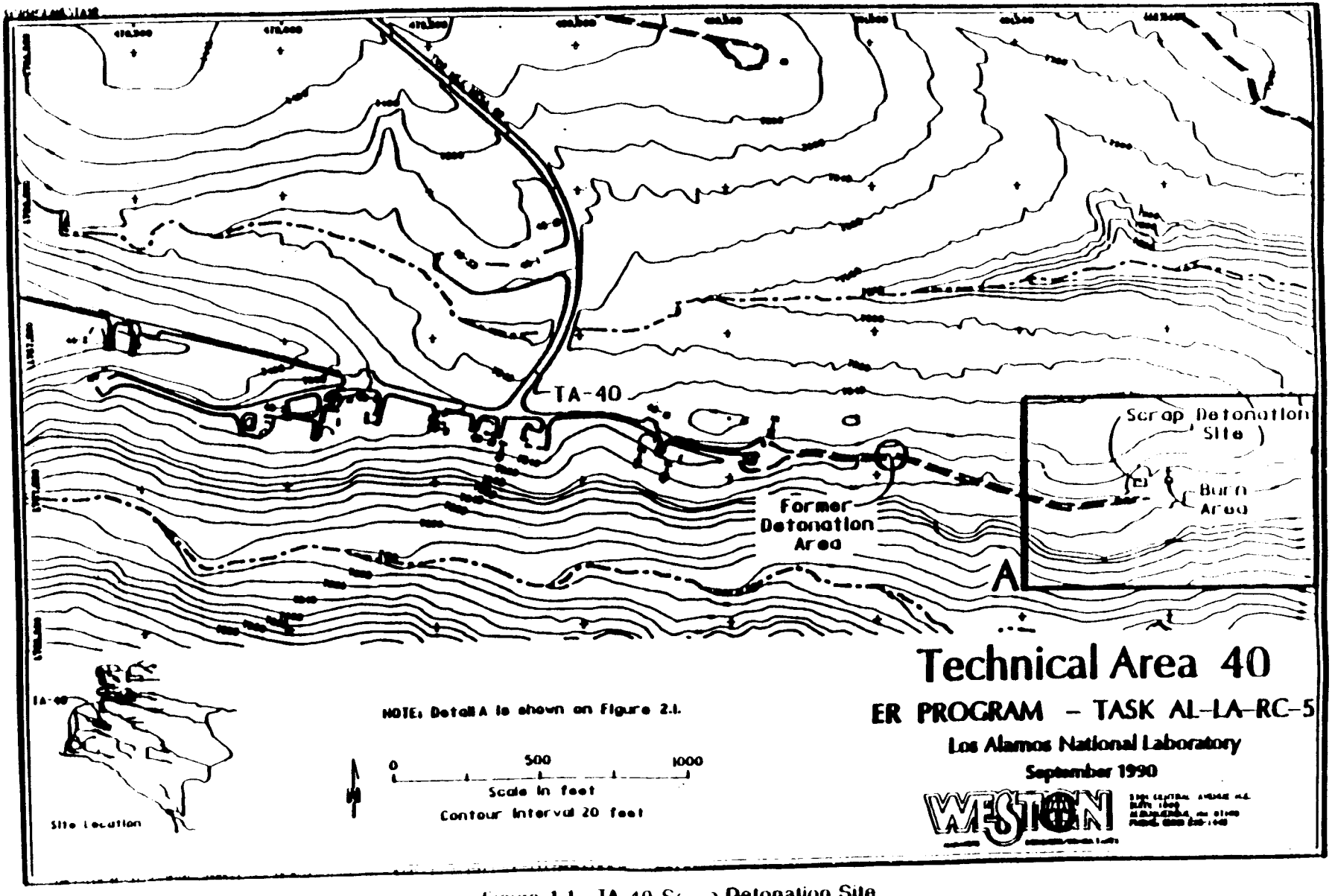

Figure 1.1. TA 40 Scrap Detonation Site.

2. TA-40 SDS DESCRIPTION

2.1. SITE DESCRIPTION

TA-40 SDS includes a burn area, a detonation area, and the surrounding area. It is located on a south-facing mesa-rim shelf (New Mexico State Plane coordinates E481,920; N1,767,000) (Figure 2.1). The shelf has cliffs both to the north below the mesa top and to the south overlooking Pajarito Canyon. The mesa-top elevation is 7,340 ft; the shelf elevation is 7,290 ft; and the canyon floor is at an elevation of 7,100 ft. The shelf is approximately 200 ft wide from north to south and slopes gently to the canyon rim. Surface water drainage is from north to south across the shelf through several shallow drainage channels.

2.1.1. Detonation Area

The detonation area is roughly circular, approximately 60 ft in diameter. Scrap detonation operations at this site probably commenced in the early 1960s (Spaulding 1959). Repeated detonations have formed a south-facing amphitheater in the northern cliff, below the mesa top. The back (north) of the amphitheater is a cliff rising 30 ft from its floor. The east and west rims of the amphitheater drop to the south, framing its opening on the mesa shelf.

The last scrap detonation operations were conducted the week ending April 12, 1985. In 1987, LANL personnel inspecting the site confirmed that it was no longer in use, but that some debris was present (DOE 1987). In 1990, LANL personnel inspecting the site found that it had been used for the dumping of construction rubble and debris (Anderson 1990).

Some confusion has existed regarding the potential for explosion-scattered debris to have been produced at the detonation area. Debris has been reported to have been explosion-scattered to distances of 300 ft or more (DOE 1987; Spaulding 1959). Interviews with LANL employees who remember the operations indicate that scattering of unexploded detonator debris did not occur at this site (Smith 1990a,b). Review of Spaulding's memo makes it clear that the TA-40 SDS, about 1300 ft east of TA-40-15, did not exist in 1959. The detonator scattering incidents occurred at sites used prior to opening TA-40 SDS. Specifically, those incidents were reported to have occurred at a former TA-40 detonation area located 450 ft east of TA-40-15 (Figure 1.1). This RCRA Closure Plan does not address the former detonation area where operations ceased in approximately 1960; that site will be investigated with other sites at TA-40 during the corrective action process.

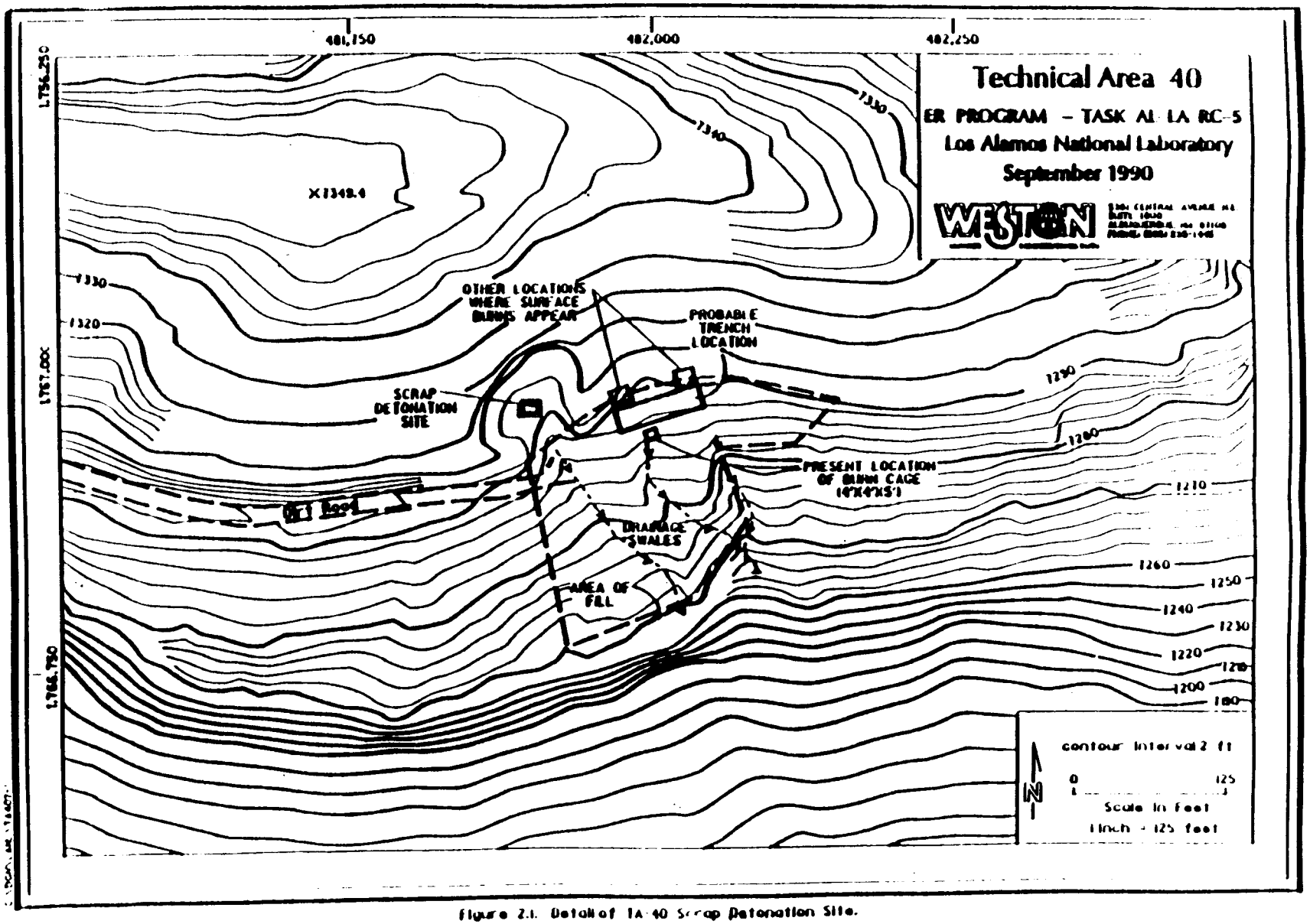

Figure 2.1. Detail of TA-40 Scrap Detonation Site.

2.1.2. Burning Area

The so-called "burn pit" is approximately 100 ft east of the detonation site and at the same elevation. Its present configuration is a wire cage approximately 4 ft by 4 ft square, and 5 ft high, with a steel plate floor. The burn cage was used to prevent wastes from being windblown before and during burning. During a site visit in September 1990 (Smith 1990c), two additional locations were identified where the burn cage may previously have been used. These areas exhibited scorched soil and rock, charred ash, and other debris. The areas were small, on the order of 6 ft by 6 ft, and the quantity of debris was small. All three surface burn areas are indicated in Figure 2.1.

Previously, there was also an open trench, probably the width of a bulldozer blade, approximately 10 ft deep and 20 ft long (Smith 1990b). This trench likely accounts for the term "burn pit." LANL engineering drawing ENG-R5121 (LANL 1983) shows the pit as approximately 60 ft long and 8 to 10 ft wide. Van Vessem (1961) proposed to dig a burn pit having dimensions of approximately 12 ft deep, 12 ft wide, and 50 ft long. It was to be located approximately 50 ft east and slightly south of the location at that time of the burn cage. Based on information gained during a September 1990 site visit (Smith 1990c), it is believed that the burn cage was located in the northwestern one of the three surface burn areas shown in Figure 2.1.

There is a reference to the disposal of the combustible portions of the magazine TA-6-4 in the pit (Courtright 1971). There may have been a sizeable volume of that material. The quantity and nature of materials in the trench are not known, although it is thought that it was not cleaned out and was eventually filled with crushed tuff created by shots at the detonation area. The pit boundaries are not presently known.

The burn pit may have been placed in operation in 1961 (Van Vessem 1961), but the year when it was backfilled is not known. In 1987, LANL personnel inspecting the site observed the wire cage and concluded that the pit was no longer in use, but that debris was present (DOE 1987). Because the last date o operation is unclear, this unit will be taken to closure with the Scrap Detonation Site.

2.2. PROCESS DESCRIPTION

The scrap detonation site was not continually manned. Personnel were at the site only for the time neede to set up a detonation or burn. Detonations were remotely controlled from the firing point TA-40-15, locate on the mesa shelf 1300 ft west. Waste explosives and other explosives-contaminated wastes wer delivered from other facilities just before detonation or burning. The maximum quantity of explosives treate at any one time was 100 pounds. No materials were stored at TA-40 SDS.

2.2.1. Detonation Area

One method was used to detonate explosive waste througnout the operation of TA-40 SDS. Sensitive explosives were placed in a metal (early operations) or plastic trash can at the detonation area. If less sensitive explosives were to be detonated, they were placed with sensitive explosives to ensure detonation. The explosives were wrapped in a plastic bag to keep them dry when immersed in the liquid nitromethane (a flammable liquid capable of being detonated).

A plastic pail, filled with nitromethane, was mounted above the trash can with a plastic drain tube running from the pail to the trash can. After the drain valve in the tube was opened, the site was evacuated. When the nitromethane had drained into the trash can, the explosives were detonated from a remote location. The nitromethane ensured complete detonation of the waste explosives.

Following each detonation, any scattered debris was picked up and transported to a chemical waste disposal site. Rock rubble, or crushed tuff, which sloughed from the amphitheater wall, was pushed out of the amphitheater to the south, forming an area of fill extending nearly to the rim of Pajarito Canyon. In 1983, a review of practices at TA-40 SDS resulted in the approval of the procedure allowing the rubble from the amphitheater to be used as ground cover onsite (Balo 1983). Any charred debris was still to be disposed of as chemical waste.

2.2.2. Burning Area

Trash suspected of explosives contamination and other combustible wastes were stacked and burned in the pit or in the wire cage. Kerosene was poured over the waste to ensure complete burning. Burning was initiated using explosive detonators set off remotely from TA-40-15. It is not believed that burned trash was removed.

2.3. WASTE DESCRIPTION

2.3.1. Detonation Area

Detonated materials included scrap explosives pieces, chips, powder, and waste detonators. Explosives handled at TA-40, and potentially treated at TA-40 SDS, included:

Sensitive compounds used in detonators:

pentaerythritol tetranitrate (PETN)

tetryl

lead azide

thallium azide (use unlikely)

Less sensitive explosives:

baratol

cyclotetramethylenetetramine (HMX)

cyclonite (RDX)

2,4,6-trinitrotoluene (TNT)

Insensitive explosives:

triaminotrinitrobenzene (TATB)

nitroquanidine

Other nonexplosive compounds used in preparation of explosives or for other purposes:

nitromethane

nitrocellulose

ammonium nitrate

barium nitrate

Soils remaining after detonation were nonreactive and nonignitable. The soils may contain low concentrations of lead or barium, causing the soils to potentially be TCLP toxic hazardous wastes. Additionally, the organic nitrogen compounds comprising many of the explosives might have left organic residues following detonation. Some of those, if present, could potentially be considered hazardous constituents.

2.3.2. Burning Area

The burn pit and burn cage were used for burning explosives-contaminated combustibles. Typical wastes included rags, paper, tape, cotton swabs, wood, glassware, and other trash items that had contacted explosives and were suspected of being explosives-contaminated. The contaminated glassware included test tubes, Buchner funnels, fritted glass, and the like. Combustible portions of the magazine building TA-6-4 (probably wood) were reported to have been deposited in the pit (Courtright 1971). Warren (1983 reported "Combustible oils and solvents, paper, and wood contaminated with high explosives are collected and burned in an incinerator at S Site or in a burn pit at TA-40."

The explosive compounds that were contaminants on the wastes to be burned are the same as those listed above in the description of the detonation area wastes. Depending on the completeness of the combustion of the wastes, the potential may exist for the same residuals to be present in the soil of the burn pit as were

described for the detonation area. In addition, non-consumed solvents, oils, and the kerosene d to initiate combustion may exist at trace levels in the soil.

2.4. EXISTING SITUATION

2.4.1. Sampling Results

Samples were collected on October 28, 1985, at nine locations around the detonation and burn areas. Two samples were taken at each of four different locations, at depths of both 4 inches (samples 1, 2, 3, and 4 and 1.5 inches (samples 1A, 2A, 3A, and 4A) (Anon. 1985). These four locations were approximately 75 ' from the detonation area, as shown in Figure 2.2. Another sampling location was on the detonation area where cores were taken to a depth of 5.4 ft. Sample 5 was 0.6 ft long; samples 5A through 5L were each 0. ft long; and sample 5M was 0.2 ft long. Sample 7 was taken adjacent to the burn cage at a depth of 4 inches Two sampling locations were in drainage channels downgradient of the detonation area (sample 8) and th burn cage (sample 6). Both locations were sampled to a depth of 4 inches. The final sample (sample 9) wa taken in the soil fill at the canyon rim, south of the detonation area. This single sample was taken to 1.5 deep.

The samples were analyzed for EP toxicity for arsenic, barium, cadmium, chromium, lead, mercury, s ium and silver, along with total nickel, beryllium, cyanide, sulfate, nitrate, and pH. No indication of contaminatic was identified in any of the samples (Tables 2.1 and 2.2). Based on these preliminary results, it is expecte that minimal contamination exists at and around TA-40 SDS, and that closure activities will not be extensive.

2.4.2. Debris

During a May 1990 site visit, construction debris from the remodeling of building TA-40-9 was found to hav been improperly dumped in the detonation area amphitheater (Anderson 1990). The debris consists c trees and shrubs, concrete curbs, asphalt pavement, soil and roadbeds, and concrete sections cut from tl building wall and footing. None of these materials originated from an area of hazardous materials use hazardous waste generation. Knowledge of the origin of the material confirms that it is a nonhazardous so waste that should have been disposed of at the county landfill. The debris is believed to have been dump in the winter of 1989-1990 (Anderson 1990).

No mixing of the debris with any material at the detonation site has occurred. However, the presence of t material will hinder further investigations within the detonation area amphitheater. As described subsection 4.1.1, the construction debris will be removed prior to investigation of the d ati amphitheater. The debris will be properly disposed of at the county landfill.

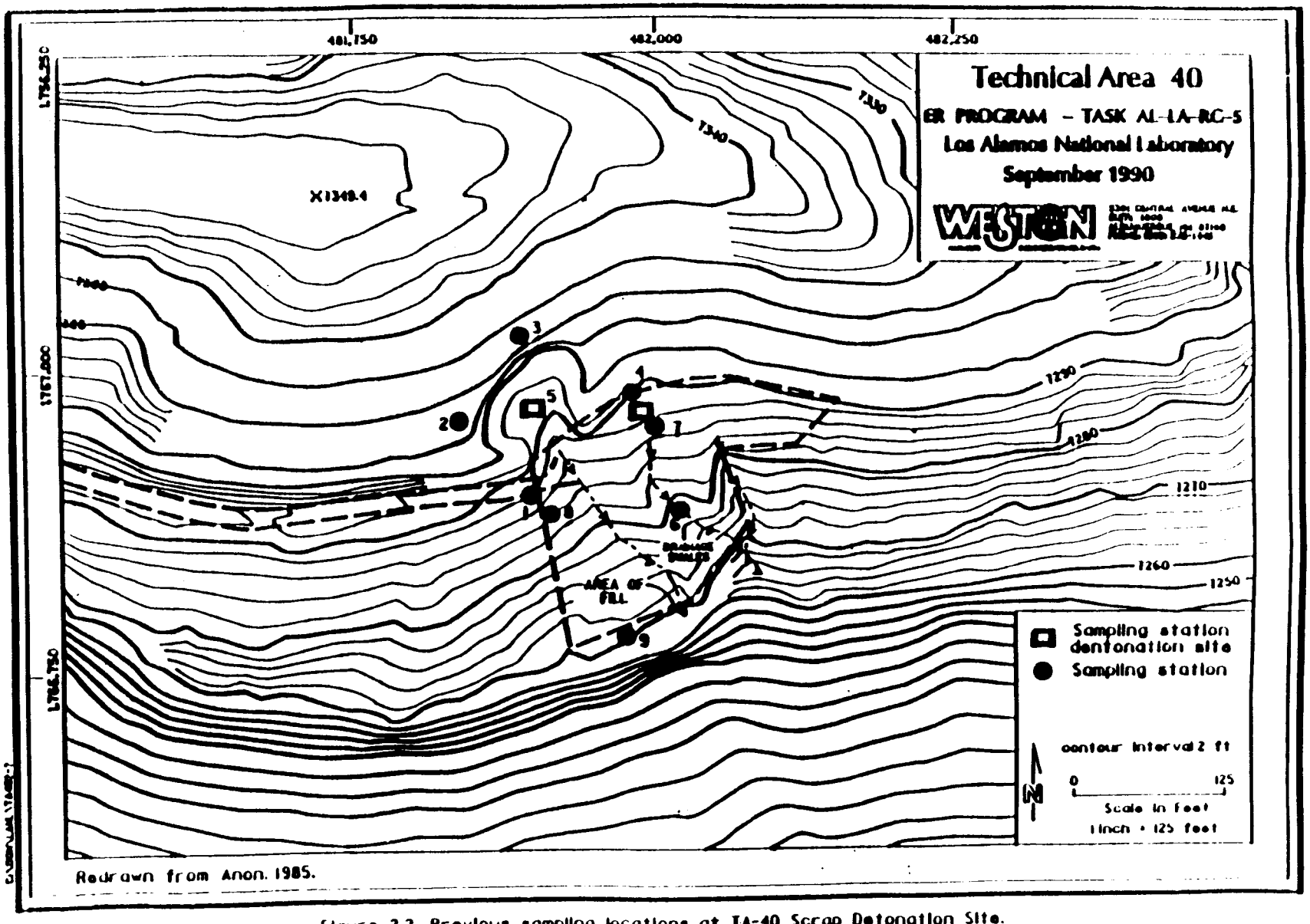

Figure 2.2. Previous sampling locations at TA-40 Scrap Detonation Site.

Table 2.1. Miscellaneous Analytical Results for TA-40 Soil Samples (Concentrations in mg/L)

Parameter	Sampling Locations														
	1	1A	2	2A	3	3A	4	4A	5	5G	5M	6	7	8	9
Nickel	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium	1.5	1.6	2.0	1.8	1.8	1.9	1.8	1.9	2.5	1.7	1.9	1.9	2.1	2.4	2.5
Cyanide	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Sulfate	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	0.6	0.2	<0.2	<0.2	<0.2	1.0
pH	6.6	6.4	6.3	6.6	6.6	6.6	6.8	6.7	8.4	8.8	6.5	5.9	7.5	6.7	7.4
Nitrate	<0.9	<0.9	<0.9	1.3	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	<0.9	1.3	<0.9	<0.9	<0.9

Source: Anon. 1985

Table 2.2. EP Toxicity Analytical Results for TA-40 Soil Samples

Parameter	EP Toxic Regulated Concentration[a] (mg/L)	Detection Limit (mg/L)	Sampling Locations														
			1	1A	2	2A	3	3A	4	4A	5	5G	5M	6	7	8	9
Arsenic	5.0	0.05 + 0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	100.0	1.0 + 1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	1.0	0.1 + 0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.5	0.5 + 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	5.0	0.5 + 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	0.2	0.001 + 0.001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	1.0	0.05 + 0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	5.0	0.5 + 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

[a]Hazardous Waste Management Regulations (HWMR) 201.B.5.
ND = Not Detected.

Source: Anon. 1985

3. CLOSURE AND POST-CLOSURE REQUIREMENTS

3.1. CLOSURE STANDARDS

Closure will be achieved in accordance with the interim status requirements of the New Mexico HWMR-5, as amended July 9, 1989, Part VI (40 CFR Sections 265.110 through 265.120, and 265.381).

This Closure Plan is the plan required by HWMR-5, Part VI (40 CFR 265.112). It is designed to meet the following general closure performance standards applicable to all hazardous waste management units, HWMR-5, Part VI (40 CFR 265.111 and .114):

- Minimize need for further maintenance.
- Protect human health and the environment.
- Prevent the escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.
- Properly manage, as required for a hazardous waste generator, any removed materials that are themselves hazardous wastes.

This plan is also designed to comply with the following specific closure standard applicable to t[illegible]at treatment units, HWMR-5, Part VI (40 CFR 265.381):

- Remove all hazardous waste.

Any crushed rock fill, waste residues, or soil in or around the TA-40 SDS site that exhibit TCLP toxicity will be managed as hazardous waste. Any crushed rock fill, waste residues, or soil in or around the TA-40 SDS site that contain HWMR-5, Part V (40 CFR 264, Appendix IX) constituents will be considered potentially contaminated and subject to remedial action, as determined by the assessment described in subsection 4.6.

3.2. CLOSURE ACTIVITIES

TA-40 SDS will be clean-closed. All hazardous wastes and all materials contaminated by hazardous constituents above contaminant-specific removal criteria will be removed and properly disposed of, as discussed in subsequent sections of this plan. The following is the set of activities to be completed in the course of implementing the TA-40 SDS Closure Plan:

A. Investigate site (see Section 4, Site Investigation Plan). Assess the presence of hazardous wastes and hazardous constituents in waste residues, soils, and crushed rock fill.

   1. Phase I. Sampling and analysis to investigate the fill area south of the detonation amphitheater. Phase I analysis results will be assessed to determine the equipment

decontamination required during removal of construction debris from the detonation amphitheater.

2. Phase II. Sampling and analysis to investigate surface burn areas and the burn pit.

3. Phase III. Sampling and analysis to investigate surface drainages, onsite structures, and scattered debris.

4. Phase IV. Sampling and analysis to investigate the detonation amphitheater.

5. Phase V. Assessment of results of Phase I through IV analyses to identify the presence of hazardous wastes or hazardous constituents and to determine if sampling of vicinity surface soils is needed. Sampling and analysis of surface soils in the vicinity of TA-40 SDS, if needed.

B. Determine extent of removal (see Section 4, Site Investigation Plan).

1. Identify hazardous wastes to be removed.

2. Determine removal criteria for any identified hazardous constituents.

3. Define areas, depths, and volumes of materials to be removed. Conduct supplementary sampling to better define excavation limits, if needed.

4. Specify waste treatment and disposal requirements for removed materials.

C. Conduct removal, treatment, and disposal activities (see Section 5, Site Decontamination).

D. Verify closure activities (see Section 5, Site Decontamination).

3.3. QUALITY ASSURANCE/QUALITY CONTROL

LANL will designate a qualified individual or individuals to independently oversee closure activities and to report directly to senior management regarding the quality of the performance of this closure. This individual will personally observe a portion of the key activities, assure that sample blanks are used and analyzed, and review the analytical reports for accuracy and adequacy. The designated individual will prepare a written statement for the final report, commenting on the adequacy of the analyses showing decontamination.

3.4. DATA QUALITY OBJECTIVES

The data acquired from this site investigation will be used to assess the presence of hazardous waste determine the presence of hazardous constituents, and determine appropriate decontamination levels hazardous waste or constituents are identified (see Subsection 6.1, Decontamination Criteria). For thes purposes, Levels III, IV, or V data quality (EPA 1987) are appropriate.

3.5. CLOSURE CERTIFICATION

In accordance with HWMR-5, Part VI (40 CFR 265.115), an independent registered professional engineer and the owner/operator of the facility will ensure that closure follows this plan. Upon completion of closure, the engineer, LANL, and the U.S. Department of Energy (DOE) will prepare a letter certifying that the area has been closed in accordance with this plan. The letter will be dated and signed by each party and stamped by the registered professional engineer; the original will be submitted to the Director of the New Mexico Environment Department (NMED), and one copy each will be maintained at the DOE offices and by LANL's HSE-8 Regulatory Compliance Section.

3.6. POST-CLOSURE PLAN

A post-closure plan is not required for thermal treatment units following clean closure since no waste-containing units remain for which care or monitoring is necessary. Certification of closure will serve as certification of completion of post-closure care pursuant to HWMR-5, Part VI (40 CFR 265.120). However, should the Laboratory be unable to certify that the site has been clean closed, a detailed post-closure care plan will be prepared and submitted to NMED for review and approval prior to implementation.

3.7. FINAL CLOSURE REPORT

Upon completion of the closure activities, LANL will submit a Final Closure Report to the Director, NMED. The report will document the final closure and contain, at a minimum, the following:

1. The certification described in subsection 3.4.
2. A tabular summary of all sampling results showing:
   a. the datum reported,
   b. the detection limit for each datum,
   c. a measure of analytical precision (e.g. uncertainty, range, variance),
   d. identification of analytical procedure, and
   e. identification of analytical laboratory.
3. A quality assurance/quality control statement on the adequacy of the analyses and the decontamination effort.
4. The location of the file of supporting documentation including:
   a. field logbooks,
   b. laboratory sample analysis reports,

c. the quality assurance/quality control documentation, and

d. chain-of-custody records.

5. Disposal location and quantities of all regulated and nonregulated materials.

6. A certification of the accuracy of the report.

7. A description of any variances from the approved closure plan.

4. SITE INVESTIGATION PLAN

4.1. INVESTIGATION PLAN AND RATIONALE

Site investigation activities for the TA-40 SDS Closure Plan will be conducted in several phases. Phase I activities will involve sampling the fill area south of the detonation amphitheater to determine if special controls, onsite access, or special requirements for decontamination of heavy equipment used for removal of debris from the detonation amphitheater will be needed. Debris removal will be conducted following an assessment of Phase I data. The intent of this phase of work is to reduce the burden of equipment decontamination, if possible, during the removal of nonhazardous debris. If the results of Phase I sample analyses indicate no hazardous wastes or hazardous constituents are present in the fill, then the fill area may be used and traversed during the debris-removal process without concern for site access or equipment decontamination.

Phase II activities will focus on sampling the surface burn areas and the burn pit. To the extent these activities are not affected by the removal of debris from the amphitheater, Phase II may proceed in parallel with Phase I.

Phase III activities will cover the shallow drainages leading from the area, the few structures present onsite, and the scattered debris that is present in the area. Again, to the extent these activities are not affected by Phase I activities, Phase III may be conducted in parallel with Phases I and II.

Phase IV will be an investigation of the detonation amphitheater following removal of the debris.

Phase V will be an investigation of surface soils in the general vicinity of TA-40 SDS. Prior to sampling the surface soils, an assessment will be made of the results of Phase I through IV investigations. If no hazardous wastes or hazardous constituents requiring removal are identified, then the Phase V investigations will not be conducted. The rationale for this approach is that the absence of hazardous wastes or hazardous constituents in the primary thermal treatment areas will be sufficient evidence that such contaminants are not present at the site and were not available to be dispersed and deposited on soils in the vicinity.

Details of the site investigation activities are given in the sections that follow. Table 4.1 summarizes the sampling effort.

Table 4.1. Approximate Sampling Effort

	Surface Samples	Boreholes	Borehole Samples	Wash Samples
Phase I				
Fill area		9	18	
Phase II				
Surface burn areas	3	3	6	
Burn pit		6	8	
Phase III				
Drainage swales	3			
Equipment washes				4
Debris wash				1
Phase IV				
Amphitheater	4	2	4	
Phase V				
Surface soils	16[a]			
Totals	26	20	36	5

[a]These will be taken only if Phase I - IV sample analysis results indicate a need.

4.1.1. Phase I. Fill Area Sampling

Investigation of the fill area extending south from the amphitheater nearly to the rim of Pajarito Canyon will be carried out using shallow borehole sampling. The origin of the fill material is sloughage from the rock walls of the amphitheater. It was pushed out, over time, in a random pattern to form a shallow fill estimated to range from 2 to 3 ft deep. In several locations within the area of fill, native tuff bedrock is exposed, indicating that the thickness of fill is variable. Three transects will be established, radiating outward from the center of the amphitheater. The angle at which each transect is extended from the amphitheater center will be chosen at random, with the constraint that one transect will fall within each of the central, eastern, and western thirds of the filled area. On each transect, three borehole locations will be randomly selected, with the constraint that one borehole will occur within each third of the length of the transect from the opening of the amphitheater to the far edge of the fill along that transect (Figure 4.1). This sampling design will provide for random selection of sampling locations within the fill area, while ensuring relatively uniform coverage of the fill. If a selected borehole location falls on exposed tuff bedrock, it will be randomly re-selected on the same transect and within the same length interval.

Each borehole will be core sampled to a nominal depth of 4 ft, and the core will be divided into two 2-ft samples. The fill material is expected to be well homogenized by the sloughage, pushing, and random placement that has occurred; thus, no biasing of the sampling to any portion of the vertical profile is necessary. If the fill in any borehole location is deeper than 4 ft, the borehole will be extended and sampled in 2-ft intervals until native tuff bedrock is encountered. If the fill depth at any location is less than 4 ft, the upper sample will retain its full 2-ft thickness, and the deeper sample will be comprised of the fill material below that depth. Native tuff should not be taken as part of the sample of fill. If the depth of the fill is less than 2 ft, one sample will be taken, comprised of the fill lying above the native tuff.

This sampling rationale is based on the need to assess the presence of contaminants in a randomly placed, homogeneous area of fill. It assumes that the likelihood of finding evidence of contamination is the same at all locations and in all depth intervals of the fill. This plan will result in a maximum of 18 samples to be analyzed, unless the depth of fill is greater than is expected.

4.1.2. Phase II. Burn Area

Investigation of the burn area encompasses the present location of the burn cage, two other areas where evidence of surface burning is visible, and the burn pit.

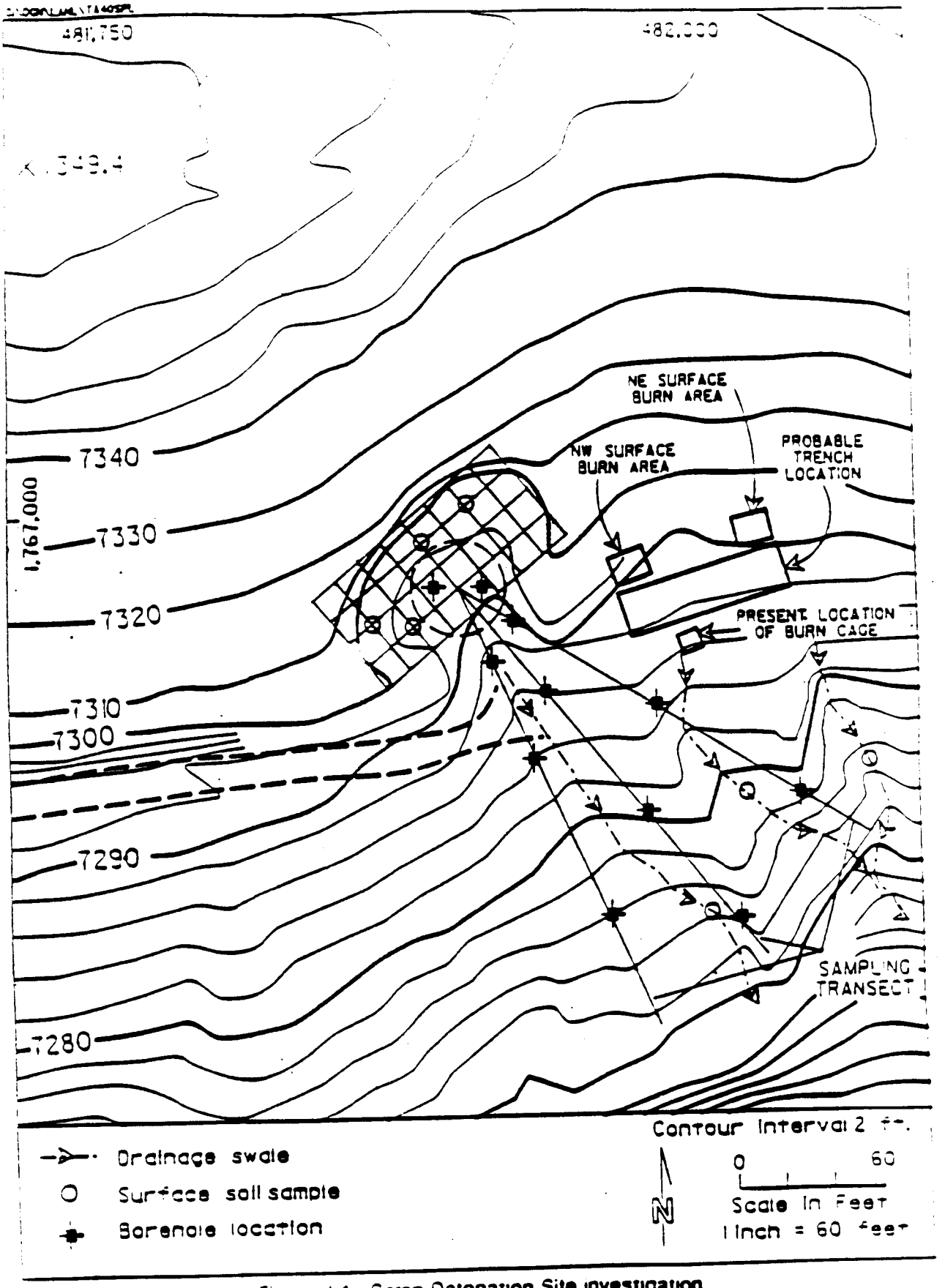

Figure 4.1. Scrap Detonation Site investigation soil sampling for amphitheater and fill.

4.1.2.1. Burn Cage

Investigation of the burn cage will consist of taking one surface sample and placing one borehole within the area of charred debris adjacent to the cage (Figure 4.2). The surface sample will be comprised of the charred debris in a 6-inch radius, to the depth of the soil surface. The borehole will be core sampled to a depth of 4 ft. The first core sample will be comprised of the charred debris found at the surface in the core to a minimum depth of 6 inches, but will include the full extent of any stained interval if deeper than 6 inches. The 1-ft interval immediately below the first core sample will be skipped. The second core sample will be comprised of the next deeper 1-ft interval.

The rationale for this investigation is based on the assumption that the burn cage overlies shallow native soil and is not located on an area of fill or at the site of the former burn pit. If the soil depth beneath the burn cage is greater than 4 ft, the borehole will be extended until native tuff bedrock is encountered. If the borehole core indicates that the burn cage overlies the former burn pit, the burn cage borehole will be counted among those planned for during investigation of the burn pit and will be sampled as described for the burn pit investigation.

Each of the two additional areas of surface burning (to the northeast and the northwest) will be investigated in an identical fashion to that described for the present location of the burn cage.
These investigations will result in a maximum of three samples per burn area, for a total of nine samples to be analyzed.

4.1.2.2. Burn Pit

The exact location of the former burn pit is not known, although the general area in which it will be found has been identified from historical aerial photographs of TA-40. The investigation of the burn pit will take place in two stages: 1) identification of location, and 2) sampling.

Identifying the location of the pit will first include a study of the historical aerial photographs of TA-40. Boreholes will then be placed on a grid in the most likely area. The boreholes will have a nominal depth of 15 ft, since one source of information indicated that the pit was to be constructed to a 12-ft depth (Van Vessem 1961). However, each borehole will be drilled until native tuff is encountered. The grid spacing will be on 16-ft centers to keep the chance reasonably small that the pit will fall between holes and be missed (Figure 4.2). It is expected that the pit is between 8 and 12 ft wide: thus, it is conceivable that the

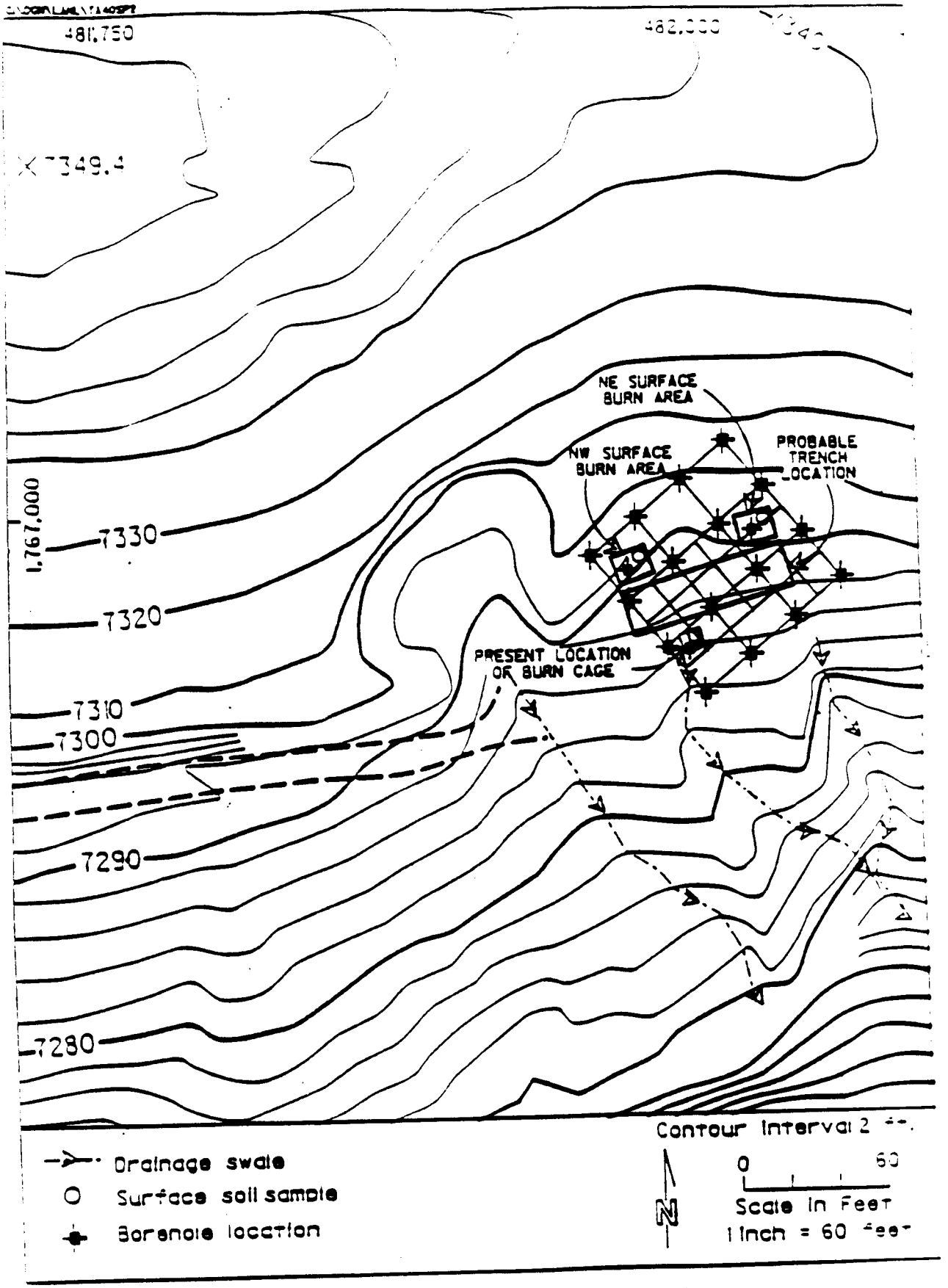

Figure 4.2. Scrap Detonation Site investigation soil sampling for burn cage and burn pit.

pit might fall between rows of boreholes. However, the pit is also expected to be between 20 and 60 ft long and, since it is unlikely that the pit and the borehole grid will be aligned by coincidence, there is a good probability that it will be penetrated by a borehole (Figure 4.2).

Presence of the pit will be inferred from identification of waste materials within a soil core, from identification of an area of fill if it can be differentiated from native soil, or from observation of a pattern for the depth to bedrock that is consistent with a bulldozed trench.

When one or more boreholes have indicated the location of the pit, the borehole grid will be adjusted to more clearly define the pit. Planned boreholes outside of the immediate area of interest will be dropped from the plan, and more closely spaced holes will be added within the area. One objective is to identify the orientation of the long axis of the pit. It is expected that halving the grid spacing, to 8-ft centers, will be appropriate. An example of such a grid is indicated in Figure 4.2.

If no conclusive evidence of the burn pit is found, a random sampling of soil and fill from the cores of the boreholes drilled on the grid will be submitted for analysis. This will entail collection and holding of those samples as a contingency as the drilling program progresses, until the presence of the pit is confirmed. Two samples will be submitted for analysis under this contingency.

When boreholes penetrating the burn pit have been identified, sampling will be limited to those holes. It is planned that a total of three boreholes penetrating the burn pit will be sampled. The core interval exhibiting charred debris or other evidence of the burn pit will be sampled in each of the holes. A 1-ft interval beneath the charred debris will be skipped, and the next deeper 1-ft interval will be sampled in each of the holes. In two of the holes, a sample will be taken of the fill overlying the charred debris. The interval sampled will be at least 1-ft above the interval exhibiting the debris.

This plan will result in eight samples for analysis if the pit is located; four if it is not.

4.1.3. Phase III. Other Investigations

4.1.3.1. Surface Drainages

Three shallow drainages lead south to Pajarito Canyon from TA-40 SDS. Surface erosion can potentially concentrate contaminants in sediments of the drainages, and surface sampling of those sediments is appropriate. In each drainage, one location will be selected where the potential for deposition of sediments is most likely (inside bends, ponding areas, etc.), and a surface sample will be obtained from each. These locations are biased rather than random.

4.1.3.2 Equipment and Structures

The surface area around the cage will be sampled as described in Section 4.1.2.1 of the closure plan. If the material around the cage is determined to be hazardous, then all of the overlying surface debris in that area, including the cage, will be considered to be hazardous. If these samples reveal no hazardous materials, then the wire cage will be considered non hazardous.

The rationale for this investigation is based on the observation that the wire cage contains very little charred debris on the frame; all of the charred remains fell to the ground and were presumably not removed. Therefore, if the ground is contaminated with hazardous materials, the cage is likely to be also. The reverse holds true if the ground is not contaminated.

The steel wiring boxes and plate steel personnel shelter will be considered contaminated with hazardous materials only if other sampling efforts (Section 4.1.1, Fill Area Sampling; or Section 4.1.3.1, Surface Drainages) reveal there is a potential for these structures to be contaminated. If hazardous materials are present, these structures will either be decontaminated, or disposed of as hazardous waste.

The rationale for this change is based on the fact that the surfaces of these structures have been exposed to the weather for about 20-25 years and consist of rusted shells and oxidized painted surfaces. They would only be contaminated near or below the ground surface and only if that ground material contains hazardous materials.

4.1.3.3 Scattered Debris

The scattered debris from the site (within a 200-ft radius of the detonation area)will be collected in a bucket and rinsed in distilled water. The rinsate will be sampled and analyzed.

This investigation is performed in this manner because this is the most practical and common method of determining contamination on the types of materials expected to be found in the vicinity.

4.1.4. Phase IV. Amphitheater Sampling

Construction debris in the detonation amphitheater will be removed piece-by-piece for the larger items and, for the soil-like material, by front-end loader to a level 6 inches above the original surface. The debris will be properly disposed of at the county landfill. Sampling activities within the amphitheater will be conducted after manually removing the remaining 6 inches of debris at each sampling location to expose the original amphitheater surface. If it is determined that hazardous wastes or hazardous constituents are present in the soil beneath the debris, the remaining debris will be excavated, handled, treated, and

disposed of in the same fashion as the hazardous soil. This is required because of the inability to conclusively separate the remaining debris from the soil.

Following debris removal, surface soil samples will be taken to a depth of 6 inches at four randomly selected locations within the amphitheater (Figure 4.1). In addition, two boreholes will be cored to a depth of 4 ft. Each borehole core will be divided into two 2-ft samples. Core sampling locations will be randomly selected within a 20-ft radius of the center of the amphitheater. This investigation plan is based on the rationale that any residual contamination from the thermal treatment process will be identified in the surface soils of the amphitheater and that the nature of the detonation process is such that all locations within the amphitheater are equally likely to exhibit such contamination. Thus, random sampling of surface soils is appropriate. Borehole sampling is also appropriate to address the potential for explosive forces to drive contamination into the soil profile. Random selection of borehole locations close to the center of the amphitheater is specified since downward explosive forces will be greatest close to the detonation.

4.1.5. Phase V. Surface Soil Sampling

Prior to initiating surface soil sampling, an assessment of the Phase I through IV analyses results will be conducted to determine if there is a need for further sampling. The data assessment will be the first stage of the process described in Subsection 4.6, Decontamination Criteria. If no need for further sampling is identified, the investigation described in subsection 4.6 will not be conducted.

Thermal treatment processes at both the detonation area and the burn area created releases of airborne products. There is a potential for the deposition and accumulation of those products on surface soils immediately around the site. To address this, a wide area around the TA-40 SDS may be subjected to random surface soil sampling. A two-tiered grid system will be employed. A grid on 100-ft centers will be established around TA-40 SDS, on areas not included in the investigations described above (Figure 4.3). Grid nodes within 200 ft of the site will be included in the first tier. The grid will extend outward 800 ft, and all grid nodes beyond 200 ft will be a part of the second tier. The ten first-tier locations will be sampled and are identified in Figure 4.3. Samples will be collected at six randomly selected grid nodes from the second tier.

If a sample cannot be obtained at the exact location of the grid node, the closest suitable location will be used. This plan will result in the collection of sixteen samples for analysis.

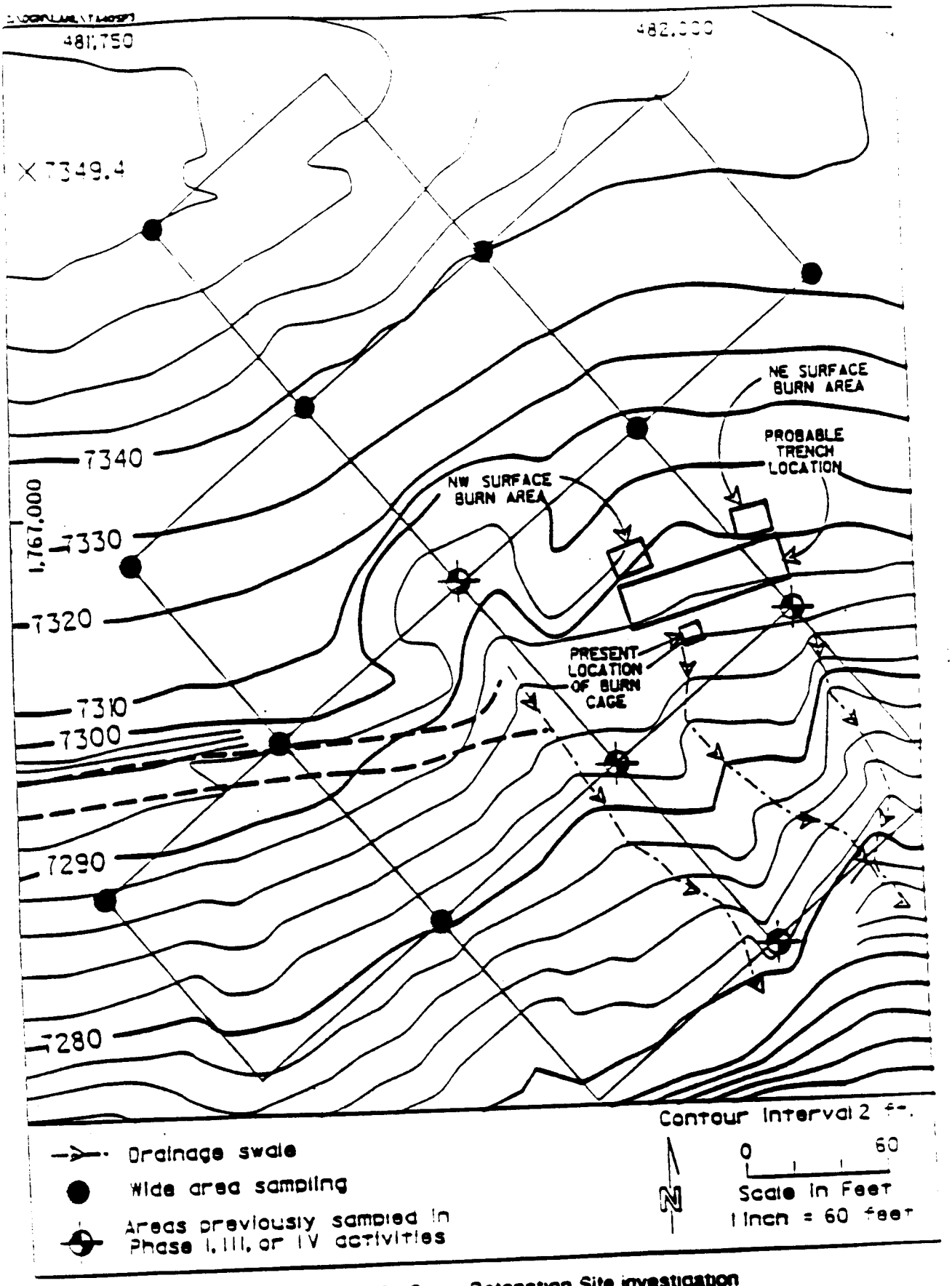

Figure 4.3. Scrap Detonation Site investigation general area surface soil sampling.

4.2. ANALYTICAL PROGRAM

All samples taken during the site investigation will be subjected to the same suite of analyses. Solid samples will include waste residues, crushed tuff fill, soil, and sediment. Liquid samples will include equipment washes, decontamination rinsates, and certain quality assurance/quality control samples. The specific analyses to be performed, and the rationale for selecting them, are described below.

All samples will be analyzed for metals and organics, as defined in subsections 4.2.1 and 4.2.2. Barium and lead are known to be present in some explosive compounds used at TA-40. The other metals are included to confirm they have not been used at the Scrap Detonation Site. Analyses for volatile and semivolatile organic compounds are conducted to confirm that solvents used in explosives preparation, as well as other regulated organic hazardous constituents, are not present.

4.2.1. Metals

A concern related to excavated waste disposal is the possible presence of TCLP toxic waste, due to the use of lead and barium compounds in the formulation of some explosives. Such materials may constitute a hazardous waste requiring appropriate management. Previous testing using EP toxicity did not identify any samples that would qualify as hazardous wastes. To further address this issue, all soil from the site investigation will be analyzed by the TCLP for the eight RCRA metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver (EPA 1990a).

Another concern is the possible presence in the soils of other metals that might pose a health risk. Although such a situation is considered unlikely, all samples will be analyzed for the metals listed in Table 4.2, using U.S. Environmental Protection Agency (EPA 1989) (EPA) total digestion methods (SW 846). Two metals suspected of having been used at TA-40 (but not known to have been present in wastes treated at TA-40-SDS), beryllium and thallium, are included on that list.

4.2.2. Organic Chemicals

Examples of such possible compounds include polynuclear aromatic hydrocarbons that are commonly associated with combustion, particularly combustion of wood and paper products, and volatile organic compounds such as the volatile components of kerosene and laboratory solvents that may remain as trace contaminants in the soil of the burn pit or cage.

Organic compounds that may be Appendix VIII (40 CFR 261) or Appendix IX (40 CFR 264) hazardous constituents are listed in Table 4.2. The EPA method (SW 846) (EPA 1989) that will be used for the analysis of each compound is given in the table. The compounds having a "Y" in the final column of Table

Table 4.2. Comparison of Appendices VIII and IX with SW-846 Methods

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
	Acenaphthene	8270	Y
	Acenaphthalene	8270	Y
	Acetone	8260	Y
Acetonitrile	Acetonitrile	8260	Y*
Acetophenone	Acetophenone	8270	
2-Acetaminefluorene	2-Acetylaminofluorene	8270	
Acetyl chloride			
1-Acetyl-2-thiourea		8270	
Acrolein	Acrolein	8260	Y
Acrylamide			
Acrylonitrile	Acrylonitrile	8260	Y
Aflatoxins			
Aldicarb			
Aldrin	Aldrin	8080	Y
Allyl alcohol			
Allyl chloride	Allyl chloride	8260	Y*
Aluminum phosphide			
4-Aminobiphenyl	4-Aminobiphenyl	8270	
5-(Aminomethyl)-3-isoxazolol			
4-Aminopyridine			
Amitrole			
Ammonium vanadate			
Aniline	Aniline	8270	Y
	Anthracene	8270	Y
Antimony	Antimony	6000/7000	Y
Antimony compounds, NOS		6000/7000	Y
Aramite	Aramite	8270	
Arsenic	Arsenic	6000/7000	Y
Arsenic compounds, NOS		6000/7000	Y
Arsenic acid		6000/7000	Y
Arsenic pentoxide		6000/7000	Y
Arsenic trioxide		6000/7000	Y
Auramine			
Azaserine			
Barium	Barium	6000/7000	Y
Barium compounds, NOS		6000/7000	Y
Barium cyanide		6000/7000	Y
Benz(c)acridine			
Benz(a)anthracene	Benz(a)anthracene	8270	Y
Benzal chloride			
Benzene	Benzene	8260	Y
Benzenearsonic acid			
Benzidine		8270	Y
Benzo(b)fluoranthene	Benzo(b)fluoranthene	8270	Y
Benzo(j)fluoranthene			

TABLE 4.2. (continued)

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
	Benzo(k)fluoranthene	8270	Y
	Benzo(ghi)perylene	8270	Y
Benzo(a)pyrene	Benzo(a)pyrene	8270	Y
p-Benzoquinone			
Benzotrichloride			
	Benzyl alcohol	8270	Y
Benzyl chloride			
Beryllium	Beryllium	6000/7000	Y
Beryllium compounds, NOS		6000/7000	Y
	Alpha-BHC	8080	Y
	Beta-BHC	8080	Y
	Delta-BHC	8080	Y
	Bis(2-chloroethoxy)methane	8270	Y
	Bis(2-chloroethyl)ether	8270	Y
	Bis(2-chloro-1-methylethyl)ether	8270	
Bromoacetone			
	Bromodichloromethane	8260	Y
Bromoform	Bromoform	8260	Y
4-Bromophenyl phenyl ether	4-Bromophenyl phenyl ether	8270	Y
Bricine			
Butyl benzyl phthalate	Butyl benzyl phthalate	8270	Y
Cacodylic acid			
Cadmium	Cadmium	6000/7000	Y
Cadmium compounds, NOS		6000/7000	Y
Calcium chromate		6000/7000	Y
Calcium cyanide		6000/7000	Y
Carbon disulfide	Carbon disulfide	8260	Y
Carbon oxyfluoride			
Carbon tetrachloride	Carbon tetrachloride	8260	Y
Chloral			
Chlordane	Chlordane	8080	Y
Chlordane (a and g isomers)			
Chlorinated benzenes, NOS		8260	Y
Chlorinated ethane, NOS			
Chlorinated fluorocarbons, NOS		8270	Y
Chlorinated naphthalene, NOS			
Chlorinated phenol, NOS			
Chlornaphazin			
Chloroacetaldehyde			
Chloroalkyl ethers, NOS			
p-Chloroaniline	p-Chloroaniline	8270	Y
Chlorobenzene	Chlorobenzene	8260	Y
Chlorobenzilate	Chlorobenzilate	8270	
p-Chloro-m-cresol	p-Chloro-m-cresol	8270	Y
	Chloroethane	8260	Y

TABLE 4.2. (continued)

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
2-Chloroethyl vinyl ether		8260	Y
Chloroform	Chloroform	8260	Y
Chloromethyl methyl ether			
beta-Chloronaphthalene	beta-Chloronaphthalene	8270	Y
o-Chlorophenol	o-Chlorophenol	8270	Y
	4-Chlorophenyl phenyl ether	8270	Y
1-(o-Chlorophenyl)thiourea			
Chloroprene	Chloroprene		
3-Chloropropionitrile			
Chromium	Chromium	6000/7000	Y
Chromium compounds, NOS		6000/7000	Y
Chrysene	Chrysene	8270	Y
Citrus red No. 2			
Coal tar creosote			
	Cobalt	6000/7000	Y
	Copper	6000/7000	Y
Copper cyanide			
Creosote			
Cresols, NOS	Cresol, NOS	8270	Y
Crotonaldehyde			
Cyanides, NOS	Cyanides, NOS		
Cyanogen			
Cyanogen bromide			
Cyanogen chloride			
Cycasin			
2-Cyclohexyl-2,6-dinitrophenol			
Cyclophosphamide			
2,4-D	2,4-D	8150	Y
2,4-D salts and esters		8150	Y
Daunomycin			
DDD	DDD	8080	Y
DDE	DDE	8080	Y
DDT	DDT	8080	Y
Diallate	Diallate	8270	
Dibenz(a,h)acridine			
Dibenz(a,j)acridine		8270	
Dibenz(a,h)anthracene	Dibenz(a,h)anthracene	8270	Y
Dibenzo carbazole			
	Dibenzofuran	8270	Y
Dibenzo(a,e)pyrene			
Dibenzo(a,h)pyrene			
Dibenzo(a,i)pyrene			
	Dibromochloromethane	8260	Y
1,2-Dibromo-3-chloropropane	1,2-Dibromo-3-chloropropane	8260	Y
Dibutyl phthalate	Dibutyl phthalate	8270	Y

TABLE 4.2. (continued)

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
o-Dichlorobenzene	o-Dichlorobenzene	8270	Y
m-Dichlorobenzene	m-Dichlorobenzene	8270	Y
p-Dichlorobenzene	p-Dichlorobenzene	8270	Y
Dichlorobenzene, NOS	Dichlorobenzene, NOS	8270	Y
3,3-Dichlorobenzidine	3,3-Dichlorobenzidine	8270	Y
1,4-Dichloro-2-butene	1,4-Dichloro-2-butene	8260	Y*
Dichlorodifluoromethane	Dichlorodifluoromethane	8260	Y
	1,1-Dichloroethane	8260	Y
Dichloroethylene, NOS	Dichloroethylene, NOS	8260	Y
1,1-Dichloroethylene	1,1-Dichloroethylene	8260	Y
1,2-Dichloroethylene	1,2-Dichloroethylene	8260	Y
Dichloroethyl ether			
Dichloroisopropyl ether			
Dichloromethoxy ethane			
Dichloromethyl ether			
2,4-Dichlorophenol	2,4-Dichlorophenol	8270	Y
2,6-Dichlorophenol	2,6-Dichlorophenol	8270	
Dichlorophenylarsine			
Dichloropropane, NOS	Dichloropropane, NOS	8260	Y
Dichloropropanol, NOS			
Dichloropropene, NOS		8260	Y
1,3-Dichloropropene		8260	Y
Dieldrin	Dieldrin	8080	Y
1,2,3,4-Diepoxybutane			
Diethylarsine			
1,4-Diethyleneoxide			
Diethylhexylphthalate	Diethylhexylphthalate	8270	Y
N,N-Diethyl hydrazine			
O,O-Diethyl s-methyl dithiophosphate			
Diethyl-p-nitrophenyl phosphate			
Diethyl phthalate	Diethyl phthalate	8270	Y
O,O-Diethyl o-pyrazinyl phosphorothioate	(Both appendices)		
Diethylstilbesterol			
Dihydrosafrole			
Diisopropylfluorophosphate			
Dimethoate	Dimethoate	8270	
3,3'-Dimethoxybenzidine			
p-Dimethylaminoazobenzene	p-Dimethylaminoazobenzene	8270	
7,12-Dimethylbenz(a)anthracene	7,12-Dimethylbenz(a)anthracene	8270	
3,3'-Dimethylbenzidine	3,3'-Dimethylbenzidine	8270	
Dimethylcarbamoyl chloride			
1,1-Dimethyl hydrazine			
1,2-Dimethyl hydrazine			
a,a-Dimethylphenethylamine	a,a-Dimethylphenethylamine	8270	

TABLE 4.2. (continued)

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
2,4-Dimethylphenol	2,4-Dimethylphenol	8270	Y
Dimethyl phthalate	Dimethyl phthalate	8270	Y
Dimethyl sulfate	Dimethyl sulfate		
Dinitrobenzene, NOS	Dinitrobenzene, NOS	8270	
4,6-Dinitro-o-cresol	4,6-Dinitro-o-cresol	8270	Y
4,6-Dinitro-o-cresol salts			
2,4-Dinitrophenol	2,4-Dinitrophenol	8270	Y
2,4-Dinitrotoluene	2,4-Dinitrotoluene	8270	Y
2,6-Dinitrotoluene	2,6-Dinitrotoluene	8270	Y
Dinoseb	Dinoseb	8150	Y
Di-n-octyl phthalate	Di-n-octyl phthalate	8270	Y
	1,4-Dioxane	8260	Y*
Diphenylamine	Diphenylamine	8270	
1,2-Diphenylhydrazine		8270	
Di-n-propylnitrosamine			
Disulfoton	Disulfoton	8270	
Dithiobiuret			
Endosulfan I and II	Endosulfan I and II	8080	Y
	Endosulfan sulfate	8080	Y
Endothall			
Endrin	Endrin	8080	Y
Endrin metabolites	Endrin metabolites	8080	Y
Epichlorohydrin			
Epinephrine			
	Ethyl benzene	8260	Y
Ethyl carbamate			
Ethyl cyanide			
Ethylenebisdithiocarbamic acid			
Ethylenebisdithiocarbamic acid, salts and esters			
Ethylene dibromide	Ethylene dibromide		
Ethylene dichloride			
Ethylene glycol monoethyl ether			
Ethyleneimine			
Ethylene oxide			
Ethylenethiourea			
Ethylidene dichloride			
Ethyl methacrylate	Ethyl methacrylate	8260	Y*
Ethyl methanesulfonate	Ethyl methanesulfonate	8270	
Famphur	Famphur	8270	
Fluoranthene	Fluoranthene	8270	Y
	Fluorene	8270	Y
Fluorine			
Fluoroacetamide			
Fluoroacetic acid sodium salt			

TABLE 4.2. (continued)

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
Formaldehyde			
Formic acid			
Glycidyaldehyde			
Halomethanes, NOS			
Heptachlor	Heptachlor	8080	Y
Heptachlor epoxide	Heptachlor epoxide	8080	Y
Heptachlor epoxide a,b,g isomers		8080	Y
Hexachlorobenzene	Hexachlorobenzene	8270	Y
Hexachlorobutadiene	Hexachlorobutadiene	8270	Y
Hexachlorocyclopentadiene	Hexachlorocyclopentadiene	8270	Y
Hexachlorodibenzo-p-dioxin	Hexachlorodibenzo-p-dioxin	8280	
Hexachlorodibenzofurans	Hexachlorodibenzofurans	8280	
Hexachloroethane	Hexachloroethane	8270	Y
Hexachlorophene	Hexachlorophene	8270	
Hexachloropropene	Hexachloropropene	8270	
Hexaethyl tetraphosphate			
	2-Hexanone	8260	Y
Hydrazine			
Hydrogen cyanide			
Hydrogen fluoride			
Hydrogen sulfide			
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	8270	Y
Isobutyl alcohol	Isobutyl alcohol	8260	Y*
Isodrin	Isodrin	8270	
	Isophorone	8270	Y
Isosafrole	Isosafrole	8270	
Kepone	Kepone	8270	
Lasiocaprine			
Lead	Lead	6000/7000	Y
Lead compounds, NOS		6000/7000	Y
Lead acetate		6000/7000	Y
Lead phosphate		6000/7000	Y
Lead subacetate		6000/7000	Y
Lindane	Lindane	8080	Y
Maleic anhydride			
Maleic hydrazide			
Malononitrile			
Melphalan			
Mercury	Mercury	7000	Y
Mercury compounds, NOS			
Mercury fulminate			
Methyacrylonitrile	Methyacrylonitrile	8260	Y*
Methapyriene	Methapyriene	8270	
Methomyl			
Methoxychlor	Methoxychlor	8080	Y

TABLE 4.2. (continued)

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
Methyl bromide	Methyl bromide	8260	Y
Methyl chloride	Methyl chloride	8260	Y
Methyl chlorocarbonate			
Methyl chloroform	Methyl chloroform	8260	Y
Methylcholanthrene	Methylcholanthrene	8270	
Methylenebis(2-chloroaniline)		8270	
Methylene bromide	Methylene bromide	8260	Y
Methylene chloride	Methylene chloride	8260	Y
Methyl ethyl ketone	Methyl ethyl ketone	8260	Y
Methylethyl ketone peroxide			
Methyl hydrazine			
Methyl iodide	Methyl iodide	8260	Y
Methyl isocyanate			
Methylacrylonitrile		8260	Y*
Methyl methacrylate	Methyl methacrylate	8260	
Methyl methanesulfonate	Methyl methanesulfonate	8270	
	2-Methyl naphthalene	8270	Y
Methyl parathion	Methyl parathion	8270	
	4-Methyl-2-pentanone	8260	Y
Methylthiouracil			
Mitomycin C			
MNNG			
Mustard gas			
Naphthalene	Naphthalene	8270	Y
1,4-Napthoquinone	1,4-Napthoquinone	8270	
a-Napthylamine	a-Napthylamine	8270	
b-Napthylamine	b-Napthylamine	8270	
a-Naphthylthiourea			
Nickel	Nickel	6000/7000	Y
Nickel compounds, NOS		6000/7000	Y
Nickel carbonyl			
Nickel cyanide		6000/7000	Y
Nicotine			
Nicotine salts			
	o-Nitroaniline	8270	Y
Nitric oxide	m-Nitroaniline	8270	Y
p-Nitroaniline	p-Nitroaniline	8270	Y
Nitrobenzene	Nitrobenzene	8270	Y
Nitrogen dioxide			
Nitrogen mustard			
Nitrogen mustard, hydrochloric acid salt			
Nitrogen mustard n-oxide			
Nitrogen mustard, n-oxide, hydrochloride salt			

TABLE 4.2. (continued)

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
	o-Nitrophenol	8270	Y
Nitroglycerin			
p-Nitrophenol	p-Nitrophenol	8270	Y
2-Nitropropane			
	4-Nitroquinoline 1-oxide	8270	
Nitrosoamines, NOS		8270	
N-Nitrosodi-n-butylamine	N-Nitrosodi-n-butylamine	8270	
N-Nitrosodiethanolamine			
N-Nitrosodiethylamine	N-Nitrosodiethylamine	8270	
N-Nitrosodimethylamine	N-Nitrosodimethylamine	8270	Y
	N-Nitrosodiphenylamine	8270	Y
	N-Nitrosodipropylamine	8270	Y
N-Nitroso-n-ethylurea			
N-Nitrosomethylethylamine	N-Nitrosomethylethylamine	8270	
N-Nitroso-n-methylurea			
N-Nitroso-n-methylurethane			
N-Nitrosomethylvinylamine			
N-Nitrosomorpholine	N-Nitrosomorpholine	8270	
N-Nitrosonornicotine			
N-Nitrosopiperidine	N-Nitrosopiperidine	8270	
N-Nitrosopyrrolidine	N-Nitrosopyrrolidine	8270	
N-Nitrososarcosine			
5-Nitro-o-toluidine	5-Nitro-o-toluidine	8270	
Octamethylpyrophosphoramide		8270	
Osmium tetroxide			
Paraldehyde			
Parathion	Parathion	8270	
Pentachlorobenzene	Pentachlorobenzene	8270	
Pentachlorodibenzo-p-dioxins	Pentachlorodibenzo-p-dioxins	8280	
Pentachlorodibenzofurans	Pentachlorodibenzofurans	8280	
Pentachloroethane	Pentachloroethane	8260/8270	
Pentachloronitrobenzene	Pentachloronitrobenzene	8270	
Pentachlorophenol	Pentachlorophenol	8270	Y
Phenacetin	Phenacetin	8270	
	Phenanthrene	8270	Y
Phenol	Phenol	8270	Y
Phenylenediamine	Phenylenediamine	8270	
Phenylmercury acetate			
Phenylthiourea			
Phosgene			
Phosphine			
Phorate	Phorate	8270	
Phthalic acid esters, NOS		8270	Y
Phthalic anhydride		8270	
2-Picoline	2-Picoline	8270	

TABLE 4.2. (continued)

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
Polychlorinated biphenyls, NOS	Polychlorinated biphenyls, NOS	8080	Y
Potassium cyanide	Potassium cyanide		
Potassium silver cyanide	Potassium silver cyanide		
Pronamide	Pronamide	8270	
1,3-Propane sultone			
	Proprionitrile	8260	Y*
n-Propylamine			
Propargyl alcohol			
Propylene dichloride			
1,2-Propyleneimine			
Propylthiouracil			
	Pyrene	8270	Y
Pyridine	Pyridine	8270	
Reserpine			
Resorcinol		8270	
Saccharin			
Saccharin salts			
Safrole	Safrole	8270	
Selenium compounds, NOS	Selenium compounds, NOS	6000/7000	Y
Selenium dioxide	Selenium dioxide	6000/7000	Y
Selenium sulfide	Selenium sulfide	6000/7000	Y
Selenourea	Selenourea		
Silver	Silver	6000/7000	Y
Silver compounds, NOS		6000/7000	Y
Silver cyanide		6000/7000	Y
Silvex (2,4,5-tp)	Silvex (2,4,5-tp)	8150	Y
Sodium cyanide			
Streptozotocin			
	Styrene	8260	Y
Strychnine			
Strychnine salts			
	Sulfide		
2,3,7,8-TCDD	2,3,7,8-TCDD	8280	
1,2,4,5-Tetrachlorobenzene	1,2,4,5-Tetrachlorobenzene	8270	
Tetrachlorodibenzo-p-dioxins	Tetrachlorodibenzo-p-dioxins	8280	
Tetrachlorodibenzofurans	Tetrachlorodibenzofurans	8280	
Tetrachloroethane, NOS		8260	Y
1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	8260	Y
1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	8260	Y
Tetrachloroethylene	Tetrachloroethylene	8260	Y
2,3,4,6-Tetrachlorophenol	2,3,4,6-Tetrachlorophenol	8270	
Tetraethyldithiopyrophosphate	Tetraethyldithiopyrophosphate		
Tetraethyl lead			
Tetraethyl pyrophosphate			
Tetranitromethane			

TABLE 4.2. (continued)

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
Thallium	Thallium	6000/7000	Y
Thallium compounds, NOS	Thallium compounds, NOS	6000/7000	Y
Thallic oxide	Thallic oxide	6000/7000	Y
Thallium (I) acetate	Thallium (I) acetate	6000/7000	Y
Thallium (I) carbonate	Thallium (I) carbonate	6000/7000	Y
Thallium (I) chloride	Thallium (I) chloride	6000/7000	Y
Thallium (I) nitrate	Thallium (I) nitrate	6000/7000	Y
Thallium selenite	Thallium selenite	6000/7000	Y
Thallium (I) sulfate	Thallium (I) sulfate	6000/7000	Y
Thioacetamide			
Thiofanox			
Thiomethanol			
Thiophenol		8270	
Thiosemicarbizide			
Thiourea			
Thiram			
	Tin	6000/7000	Y
Toluene	Toluene	8260	Y
Toluenediamine			
Toluene-2,4-diamine			
Toluene-2,6-diamine			
Toluene-3,4-diamine			
Toluene diisocyanate			
o-Toluidine	o-Toluidine	8270	
o-Toluidine hydrochloride			
p-Toluidine			
Toxaphene	Toxaphene	8080	Y
1,2,4-Trichlorobenzene	1,2,4-Trichlorobenzene	8270	Y
1,1,2-Trichloroethane	1,1,2-Trichloroethane	8260	Y
Trichloroethylene	Trichloroethylene	8260	Y
Trichloromethanethiol			
Trichloromonofluoromethane	Trichloromonofluoromethane	8260	Y
2,4,5-Trichlorophenol	2,4,5-Trichlorophenol	8270	Y
2,4,6-Trichlorophenol	2,4,6-Trichlorophenol	8270	Y
2,4,5-T	2,4,5-T	8150	Y
Trichloropropane, NOS	Trichloropropane, NOS	8260	Y
	o,o-Triethyl phosphorothioate	8270	
	1,3,5-Trinitrobenzene	8270	
Tris(1-aziridinyl)phosphine sulfide			
Tris(2,3-dibromopropyl)phosphate		8270	
Trypan blue			
Uracil mustard			
	Vanadium	6000/7000	Y
Vanadium pentoxide			
	Vinyl acetate	8260	Y

TABLE 4.2. (continued)

EPA Appendix VIII 40 CFR Part 261	EPA Appendix IX 40 CFR Part 264	SW-846 Number	HSE-9 Performs
Vinyl chloride	Vinyl chloride	8260	Y
Warfarin			
Warfarin salts at conc. < 0.3%			
Warfarin salts at conc. > 0.3%			
	Xylene	8260	Y
	Zinc	6000/7000	Y
Zinc cyanide			
Zinc phosphide			

4.2 are those for which analyses will be conducted. None of the remaining organic constituents are used in explosives manufacture.

4.2.3. Sample Volume Requirements

Sampling must provide sufficient volume within each sampling interval to satisfy the sample volume needs of all analyses, including periodic duplication of samples for quality assurance/quality control purposes. At least 500 grams of each sample need to be collected.

4.3. SAMPLING METHODS

All samples planned in section 4.1. and summarized in Table 4.1. are discrete samples; no composite sampling will occur during this closure. Sampling by the methods described below is consistent with guidance given in Samplers and Sampling Procedures for Hazardous Waste Streams (EPA 1983) and Test Methods for Evaluating Hazardous Solid Wastes "SW-846" (EPA 1989).

4.3.1. Surface Soil

Surface soil samples will be taken to a depth of 6 inches, using a trowel or a scoop.

4.3.2. Soil Coring

Collection of soil cores will be done using a Central Mining Equipment Model 85 (CME-85) drilling rig equipped with a hollow-stem auger with 3-inch-diameter coring capabilities. This equipment is capable of coring to greater than 150 ft in bedrock tuff. Coring with the hollow-stem auger produces borehole cuttings that will be left onsite.

4.3.3. Equipment Washes

Liquid wash samples from the collected debris will be obtained by rinsing the surface of those items in bucket of distilled water

4.3.4. Quality Assurance/Quality Control Samples

Field quality control samples will be included with the field samples submitted for laboratory analysis. Four types of field quality control samples will be used: field duplicates (1 per 20 field samples), rinsate blanks (1 per day, or 1 per borehole, whichever is less), trip blanks (1 per VOA sample shipping container), and field blanks (1 per sampling event).

Laboratory quality control for all analyses will be consistent with the guidance given in the final rule for the toxicity characteristics leaching procedure (EPA 1990a), and will include: one laboratory blank analyzed for every 20 sample analyses, and one matrix spike analysis performed for each set of samples submitted.

4.3.5. Sampling Equipment Decontamination

Sampling tools will be decontaminated in an area that has been set aside for the purpose and lined with plastic to prevent any spread of contamination from rinseate spillage. Rinseate will be collected in a drum and stored on-site pending sample analytical results. If sampling results indicate the presence of hazardous constituents, the drum of decontamination rinse water will be sampled to determine whether to dispose of it as hazardous waste. Sampling tools will be washed with a Liquinox or Alconox solution, then tap water and distilled water.

4.4. SAMPLE HANDLING AND DOCUMENTATION

Sample labels, as shown in Figure 4.4, will be affixed to the sample container at the time of sampling. Site, location, sample, and sampler identifications will be made on each sample label. Sample containers will be sealed with a gummed paper seal (Figure 4.5) attached to the container in such as way that the seal must be broken in order to open the container. Sample descriptions will be identified on the Hazardous Material Sample Analysis Request (Figure 4.6), which will be used to document field information pertinent to the sample collection, such as soil texture and surface appearance, ambient temperature and cloud cover, and precipitation conditions within the past 24 hours. Multipart chain-of-custody forms, as shown in Figure 4.7, will be used to track and document sample possession from the time of collection. The original must accompany the sample, and a copy is retained by LANL when custody of the sample is relinquished to another organization. The former identified above and illustrated in Figures 4.4 through 4.7 may be replaced by equivalent former for comply with LANL operating procedures in effect at the time of sampling.

Each person responsible for field activities will maintain a separate field log book for recording information pertinent to field surveys and sampling. The book is to have bound and consecutively numbered pages in an 8-1/2- by 11-inch format. Minimum entries include:

a. Purpose of sample (routine sampling, special sampling).

b. Location of sampling (coordinates of sampling point, grid location, etc.).

c. Identification of person making log entry.

d. Type of process producing waste.

e. Number and volume of samples taken.

OFFICIAL SAMPLE LABEL

Collector_____ Collector's Sample No._____

Place of Collection_____

Date Sampled_____ Time Sampled_____

Field Information_____

ALTERNATE SAMPLE LABEL

DATE TIME SAMPLE NO. ORIGIN

LOCATION SAMPLED

DESCRIPTION

REMARKS

REQUESTED ANALYSIS

SAMPLED BY: (PRINT AND SIGN) LOG REFERENCE

TAG NO.____OF____

Figure 4.4. Examples of sample labels.

OFFICIAL SAMPLE SEAL

Collected by_____ Collector's Sample No._____
(Signature)

Date Collected_____ Time Collected_____

Place Collected_____

Figure 4.5. Example of sample seal.

PART I: FIELD SECTION

Collector_____ Date Sampled_____ Time____hours

Location of Sampling_____
name of company, disposal site, etc.

Address_____
number street city state zip

Telephone (___)_____ Company Contact_____

HML NO. (Lab only)	COLLECTOR'S SAMPLE NO.	TYPE OF SAMPLE*	FIELD INFORMATION

Analysis Requested_____

_____

_____

Special Handling and/or Storage_____

_____

PART II: LABORATORY SECTION

Received by_____Title_____Date_____

Sample Allocation: __HML __LBL __LABL __SRL Date_____

Analysis Required_____

_____

_____

*Indicate whether sample is sludge, soil, etc.; **Use back of page for additional information.

Figure 4.6. Hazardous materials sample analysis request.

Hazardous Materials
Collectors Sample No.____

Location of Sampling: __Producer __Hauler __Disposal Site

__Other:_____

Company's Name_____Telephone (___)_____

Address_____
number street city state zip

Collector's Name_____Telephone (___)_____
signature

Date Sampled_____ Time Sampled_____hours

Type of Process Producing Waste_____

Waste Type Code_____ Other_____

Field Information_____

_____

_____

Sample Allocation:

1. _____
name of organization

2. _____
name of organization

3. _____
name of organization

Chain of Possession

1. _____ _____ _____ _____
signature title inclusive dates

2. _____ _____ _____ _____
signature title inclusive dates

3. _____ _____ _____ _____
signature title inclusive dates

Figure 4.7. Chain-of-custody record.

f. Description of sampling location, sampling methodology, equipment used.

g. Date and time of sample collection

h. Estimated wind speed and direction

i. Sample destination and transporter's name (name of laboratory, UPS, etc.).

j. Map or photograph of sampling site, if any.

k. Field observations (ambient temperature, sky conditions, past 24-hour precipitation, etc.).

l. Field measurements, if any.

m. Sample identification number.

n. Analytical parameters requested for sample analysis.

o. Signature of person responsible for the log entry.

Sample shipments and chain-of-custody records must be accompanied by the sample analysis request, as shown in Figure 4.6. The request sheet has two parts: field and laboratory. The field portion of this form must be completed by the person collecting the sample and may include pertinent information from the log book. The laboratory portion is intended to be completed by analytical laboratory personnel when the sample is received.

4.5. PERSONNEL PROTECTION

Personnel involved in sampling and equipment decontamination will wear rubber gloves, rubber boots, safety glasses, and coveralls. Personnel involved in dust generating activities, such as sampling, coring, and drumming of sampling wastes, will wear respiratory protection to prevent inhalation of contaminated dust, unless sufficient dust-suppression measures are imposed to curtail the generation of dust. The LANL Industrial Hygiene Group, HSE-5, will determine the required level of dust suppression or respiratory protection based on a review of this plan.

4.6. SITE DECONTAMINATION CRITERIA

LANL will prepare a risk assessment, using NMED-approved methodology, for any hazardous constituent identified in the field investigation to determine threshold concentrations in soil. Soils will be considered contaminated if hazardous constituent concentrations exceed those that correlate to to an acceptable risk range dictated by NMED. Removal of contaminated soil will not occur until NMED has approved of decontamination criteria.

4.7. ADDITIONAL SAMPLING TO DEFINE EXCAVATION LIMITS

To clearly define the limits of of excavation, additional site investigations will be conducted prior to commencing site decontamination. If additional investigations are needed, LANL will include sampling and analysis plans as a revision of this Closure Plan. The plans will identify the specific objectives of the additional investigations.

5. SITE DECONTAMINATION

5.1. SITE DECONTAMINATION METHODS

5.1.1. Material Excavation

The approach to decontamination will depend on the extent of contamination, as determined by the site investigation. If identified quantities of contaminated soils are small and confined to the surface, the contaminated material will be removed by hand shovel or backhoe, placed into drums, and transferred via truck to appropriate storage or disposal facilities.

If the volumes are large, excavation will be by backhoe or front-end loader. The material will be transported in sealed and covered dump trucks or gondola trucks. For regulated wastes, LANL will contract with a permitted disposal site contractor for the trucks, transportation, and any required treatment and disposal.

5.1.2. Personnel Protection

Personnel involved in excavation and decontamination will wear rubber gloves, rubber boots, safety glasses, and coveralls. Personnel involved in dust generating activities, such as digging and filling drums, wi ar respiratory protection to prevent inhalation of contaminated dust. The LANL Industrial Hygiene Group, HSE-5, will review the sampling results from the site investigation, specify the type of respiratory protection to be used, and recommend any additional protective clothing that may be needed.

5.1.3. Equipment Decontamination

Equipment used to excavate contaminated materials may include shovels, backhoes, front-end loaders, and similar equipment. All equipment will be scraped and brushed clean, and the removed material will be contained and disposed of with the associated excavated material. Following the dry removal of material from the equipment, the potentially contaminated portions will be bagged in plastic, sealed, and transported to the TA-50 decontamination pad where the equipment will be steam cleaned. The wash and rinse water will be contained and treated at a permitted waste water treatment facility.

Since the potential exists for materials excavated from different areas of the site to have different disposa requirements, it may be necessary to separately decontaminate equipment for each type of area excavated If possible, work will be scheduled such that excavation of nonhazardous materials will precede excavation o contaminated materials for which equipment decontamination is required.

5.2. WASTE SEGREGATION, STORAGE, TREATMENT, AND DISPOSAL

Materials to be excavated will be identified prior to excavation as nonhazardous, hazardous constituent-contaminated, or hazardous waste. Nonhazardous materials will be disposed of at the Los Alamos County Landfill.

5.2.1. Hazardous Constituent-Contaminated Materials

Materials categorized as hazardous constituent-contaminated will be those in which one or more hazardous constituents exceeds risk-based contamination criterion (see subsection 4.6). Waste storage, treatment and disposal options for such materials may vary depending on the particular hazardous constituent. The appropriate treatment and disposal options will be determined on the basis of the site investigation sampling results and will be identified to NMED prior to commencing remedial activities. Such options will be in compliance with New Mexico HWMR-5, as amended July 9, 1989, and with appropriate EPA regulations.

5.2.2. Hazardous Wastes

Hazardous wastes that may potentially be identified at TA-40 SDS are soils determined to be TCLP-toxic fo lead, barium, or organic compounds. Such materials will be subject to full regulation as hazardous waste an will be managed in compliance with New Mexico HWMR-5, amended July 9, 1989, and with appropriate EP regulations. In particular, certain hazardous wastes may be subject to land disposal restrictions and ma need to be treated by specific techniques prior to disposal at a permitted facility. The appropriate treatmer and disposal options will be determined on the basis of the site investigation sampling results and will b identified to NMED prior to commencing remedial actions. As necessary, LANL will contract with a permitte disposal site contractor for transport, treatment, storage, and disposal of the wastes.

5.3. DECONTAMINATION VERIFICATION

Decontamination of the site will be demonstrated by additional sampling. Surface soil/tuff samples will b taken following excavation at the same locations used to define the contaminated area. The suite of analyte and the method for determining contamination will be as previously discussed; however, verificatic analyses will be limited to those constituents that necessitated the removal.

5.4. SITE RESTORATION

If excavation is required, site restoration will consist of backfilling and/or regrading to contours consistent w surrounding terrain, and seeding with native species. If no excavation is required, site restoration will limited to housekeeping measures (e.g., collection of uncontaminated solid waste for disposal).

6. SCHEDULE

A certification of final closure for this site, along with a closure report, will be submitted in early 1993, although initiation of closure activities will occur in late 1991. The schedule provided in Figure 6.1 will commence upon receipt of a notice of approval of this closure plan from NMED (the dates shown assume that NMED approves the plan by the end of September, 1991). Significant milestones include the initiation of field activities (11/6/91), completion of field activities (8/3/92), and submittal of a final closure report and certification (2/3/93).

The schedule includes the optional sampling identified in Section 4.7., as well as excavation, waste treatment, and disposal activities. These activities are considered unlikely based on preliminary sample analysis results, which indicate there is little probability of contamination in the area. Thus, the schedule in Figure 6.1 is considered to represent a reasonable maximum duration for the project. However, field activities are subject to delay based on weather conditions and interactions with outside agencies (e.g., closure plan approval).

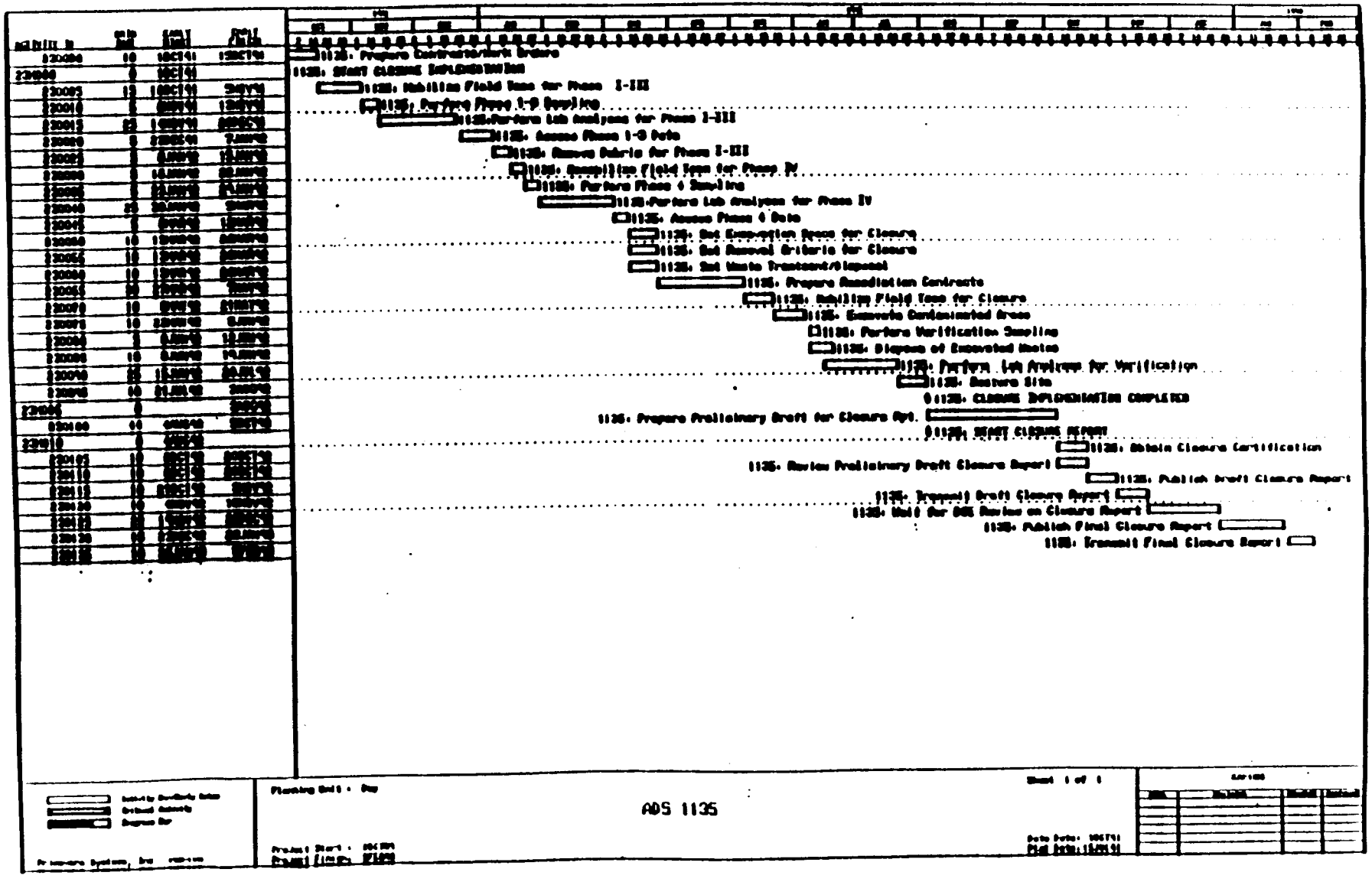

Figure 6.1. TA-40 Scrap Detonation Site Closure Schedule

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APPENDIX B

AMENDMENT TO THE FINAL CLOSURE PLAN
TA-40 SCRAP DETONATION SITE

AMENDMENT
TO THE
FINAL CLOSURE PLAN
TA-40 SCRAP DETONATION SITE

LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO 87544

FEBRUARY 1993

By LANL 2/93

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1.0 INTRODUCTION

This amendment to the Technical Area 40 (TA-40) Scrap Detonation Site (SDS) Final Closure Plan (FCP), Revision 1 [Los Alamos National Laboratory (LANL), July 1991], presents the analytical data from the Phases I through IV site investigation activities conducted in January and May 1992 and the plans for clean-up activities based on those results. This amendment to the FCP is being submitted in lieu of a revision to the plan. If approved by the New Mexico Environment Department (NMED), this approach will expedite the remedial activities at the TA-40 site.

The FCP identifies the activities necessary to achieve clean closure of a hazardous waste thermal treatment unit at LANL (see Figure 1.1 in the FCP). The thermal treatment unit was used to treat explosive scrap material by open burning and detonation until April 12, 1985. Closure will be achieved in accordance with the New Mexico Hazardous Waste Management Regulations (HWMR-5), which incorporate Code of Federal Regulations Title 40 (40 CFR), Part 265, Subpart G, Closure and Post-Closure, and Subpart P, Thermal Treatment.

Thermal treatment of hazardous wastes at TA-40 SDS eliminated the Resource Conservation and Recovery Act (RCRA) characteristics of reactivity (D003) and ignitability (D001). However, some of the treated wastes contained barium or lead compounds which may have contaminated the surrounding soil with toxicity characteristic leaching procedure (TCLP) metals. As stated in the FCP, analytical data from an October 1985 soil sampling effort did not identify any metals considered toxic using the extraction procedure (EP) test method. The FCP described the sampling that would be done in Phases I through IV and proposed additional sampling if hazardous constituents were detected above levels of concern.

Section 2 of this amendment presents methods for evaluating potential contaminants of concern based on comparison with screening action levels, background information, and risk assessment. Section 3 presents the Phase I through IV data and compares these data to background concentrations, action levels, and risk-based preliminary remediation goals. Section 4 describes the proposed clean-up actions. Section 5 presents the TA-40 SDS closure schedule.

2.0 DATA EVALUATION

During the course of site investigation, environmental data may be evaluated by three criteria. Comparison of individual measurements with screening action levels is used to identify contaminants of potential concern to human or environmental receptors. Because the action levels are calculated using extremely conservative guidelines, as described in Section 2.1 below, they are below natural background concentration for a few elements, so in some cases a second comparison of observations with background distributions is required (Section 2.2). Finally, if further action is required, target preliminary remediation goals should be calculated using actual or potential site specific exposure conditions, as outlined in Section 2.3.

2.1 COMPARISON WITH SCREENING ACTION LEVELS

The preliminary assessment of each phase of the site investigations is based primarily on the comparison of site data to screening action levels (SALs). As stated in the proposed Subpart S to 40 CFR Part 264, if these SALs are exceeded, this may trigger further analysis of potential remedies (i.e., perform a risk assessment and develop remediation alternatives) (EPA, 1990).

For the TA-40 SDS data assessment, a SAL was calculated for each hazardous constituent for which the measured concentration was above the detection limit for that constituent in at least one sample. The potential hazardous constituents considered at the TA-40 SDS included organics and metals listed in 40 CFR Part 261, Appendix VIII, and 40 CFR Part 264, Appendix IX (see Table 4.2 in the FCP).

Table 2.1 lists these calculated SALs. Screening action level calculations were performed using the methodology and equations presented in the proposed Subpart S. An explanation of the action level calculations follows Table 2.1.

For SAL calculations, the target risk level for carcinogens and the target hazard index for systemic toxicants are those used in proposed Subpart S. Direct soil ingestion is the selected exposure pathway because it results in the most conservative action levels for TA-40. The intake assumptions used are those proposed in Subpart S.

Toxicological information for noncarcinogens (systemic toxicants) is summarized by a reference dose (RfD), below which adverse health effects are extremely unlikely to occur in even the most sensitive members of the exposed population. Toxicological information for carcinogens is summarized by a carcinogenic slope factor (CSF), which is a measure of the rate at which cancer risk increases with dose.

Carcinogens are further classified according to "Cancer Class," which indicates the nature of the toxicological information supporting the classification of a chemical as a carcinogen, as follows:

A = Known human carcinogen

B1 = Probable human carcinogen; limited human data are available

B2 = Probable human carcinogen; sufficient evidence in animals but inadequate or no evidence in humans

C = Possible human carcinogen

D = Not classified as a human carcinogen

References for the CSF and RfD data shown in Table 2.1 are "Integrated Risk Information System" (IRIS), (EPA, 1992), and "Health Effects Assessment Summary Tables" (HEAST), (EPA, 1991). These data bases are updated quarterly as new information becomes available. For the cases where the chemical is both a systemic toxicant and a carcinogen, the action levels were computed two ways, and the lower action level is reported in Table 2.1.

Because there is currently neither RfD nor CSF data for lead, the screening action level for lead is based on additional EPA guidance. More information about the quantification of lead toxicity and the basis for lead risk assessment is given in Section 2.3.

The SALs shown in Table 2.1 were calculated assuming only one hazardous chemical is present in the soil. Where several chemicals are present, there may be a combined health effect of the chemicals. In this case, if the actual concentrations are near but still below the SALs, their combined effect may need to be considered.

TABLE 2.1

SCREENING ACTION LEVEL CALCULATION TABLE

CHEMICAL	CANCER CLASS	ORAL RfD (mg/kg/day)	ORAL SF (mg/kg/day)-1	SAL FOR SOIL (mg/kg)
METALS				
Antimony	ND	4E-04	ND	32
Arsenic	A	3E-04	1.75	.40
Barium	ND	7E-02	ND	5,600
Beryllium	B2	5E-03	4.3	.16
Cadmium	B1	1E-03	ND	80
Chromium (VI)	A	5E-03	ND	400
Cobalt	ND	ND	ND	ND
Copper	D	3.7E-02	ND	3,000
Lead	B2	ND	ND	500[a]
Mercury	D	3E-04	ND	24
Nickel	ND	2E-02	ND	1600
Silver	D	5E-03	ND	400
Thallium	ND	8E-05	ND	6.4
Vanadium	ND	7E-03	ND	560
Zinc	D	3E-01	ND	24,000

[a] Soil lead concentrations of 500 to 1000 ppm are considered protective for direct contact in a residential exposure setting by the Office of Emergency and Remedial Response and the Office of Waste Programs Enforcement (EPA, 1989).

ND - No Data

TABLE 2.1 (con't)

SCREENING ACTION LEVEL CALCULATION TABLE

CHEMICAL	CANCER CLASS	ORAL RfD (mg/kg/day)	ORAL SF (mg/kg/day)-1	SAL FOR SOIL (mg/kg)
SVOCs				
Phenol	D	6E-01	ND	48,000
Benzo[b]fluoranthene	B2	ND	ND	ND
Fluoranthene	D	4E-02	ND	3,200
Pyrene	D	3E-02	ND	2,400
PESTICIDES				
Beta-BHC	C	ND	1.8	3.9
Delta-BHC	ND	ND	ND	ND
Heptachlor Epoxide	B2	1.3E-05	9.1	0.077
4,4-DDE	B2	ND	3.4E-01	2.06
4,4-DDT	B2	5E-04	3.4E-01	2.06
HERBICIDES				
2,4,5-TP	ND	1E-01	ND	8,000
NITRATES	ND	1E-01	ND	8,000
TPH	ND	ND	ND	ND

ND - No Data

EXPLANATION OF SCREENING ACTION LEVEL CALCULATION TABLE

CALCULATION OF SCREENING ACTION LEVELS FOR SOIL

The calculation for action levels for soil is based on the equations in the proposed Subpart S to 40 CFR 264 (EPA, 1990). Two set of exposure and intake assumptions were used: 1) continuously exposed adult, and 2) continuously exposed child. Both scenarios use soil ingestion as the primary pathway.

General Equations

Carcinogens

Screening Action Level in Soil = (R x W x LT)/(CSF x I x A x ED x CF)

Systemic Toxicant (noncarcinogens)

Screening Action Level in Soil = (RfD x W)/(I x A x CF)

Where:

R = Target risk level for carcinogens (dimensionless)

1.0E-06

W = Body weight (kg)

70 for adults

16 for children age 1 to 6

A = Absorption factor (dimensionless)

1 (worst case)

ED = Exposure duration (years)

30 yrs for adult exposure

6 yrs for child exposure (age 1-6)

I = Soil intake assumption (mg/day)

100 mg/day adult

200 mg/day child

LT = Assumed lifetime for carcinogens (yars)

70 years

CF = Conversion factor (converts units from kg/kg to mg/kg)

10^{+6} mg/kg

CSF = Carcinogenic slope factor ($(mg/kg\text{-}day)^{-1}$)

RfD = Reference dose (mg/kg-day)

2.2 BACKGROUND CONCENTRATIONS OF SELECTED CONSTITUENTS

Many of the elements included in Table 4.2 in the FCP occur as natural constituents of the soils and tuffs of the Pajarito Plateau. In most cases, the SALs described in the preceding section exceed the background concentrations of these elements by a significant margin, but there are a few exceptions, notably arsenic and beryllium, for which the calculated SALs are below the natural background range. Unsurprisingly, the TA-40 SDS data include observations of these two elements above the levels shown in Table 2.1.

Information about the natural concentrations of these elements is available from several sources. A standard reference work, covering the conterminous United States, is Shacklette and Boerngen (1984). Data from undisturbed areas of Sigma Mesa are reported by Ferenbaugh et al. (1990). A current, more thorough investigation of elemental concentrations in both soils of various types and in the underlying Bandelier tuff is currently being carried out by the LANL ER Program. Preliminary results reported by Longmire et al. (unpublished data, 1992) are comparable to the earlier observations of Ferenbaugh et. al. (1990).

As reported by Longmire et al., the natural concentrations can depend significantly on whether the sample was taken in soil or in tuff. For the purposes of comparison with TA-40 data, we present two subsets of the data collected by Longmire et al. (unpublished data, 1992):

1) 59 soil samples from five mesa-top sites
2) 24 tuff samples from Unit 1 of the Upper Bandelier Tuff, which is the unit underlying TA-40.

Figure 2.1 illustrates the natural variability in the concentrations of arsenic and beryllium in mesa-top soils and in Unit 1 of the Upper Bandelier Tuff by means of "box plots". Each distribution is represented by a central shaded box that includes the middle 50% of the observations, extended upward and downward to the extremes of the data . For example, the left box in the arsenic plot shows that half of the mesa-top soil background data fell between 3.4 and 7.4 ppm, with a quarter ranging down to below detection levels, and another quarter ranging up to almost 11 ppm. The median value, denoted by the white stripe, is just under 5 ppm. By contrast, arsenic concentrations were not observed above 3.2 ppm in tuff, and more than half of the observations were below detection levels.

Three other elements of potential interest at TA-40 are barium, lead, and zinc, although the action levels for these exceed the background concentrations by an order of magnitude or more. Background distributions for these elements are shown in Figure 2.2.

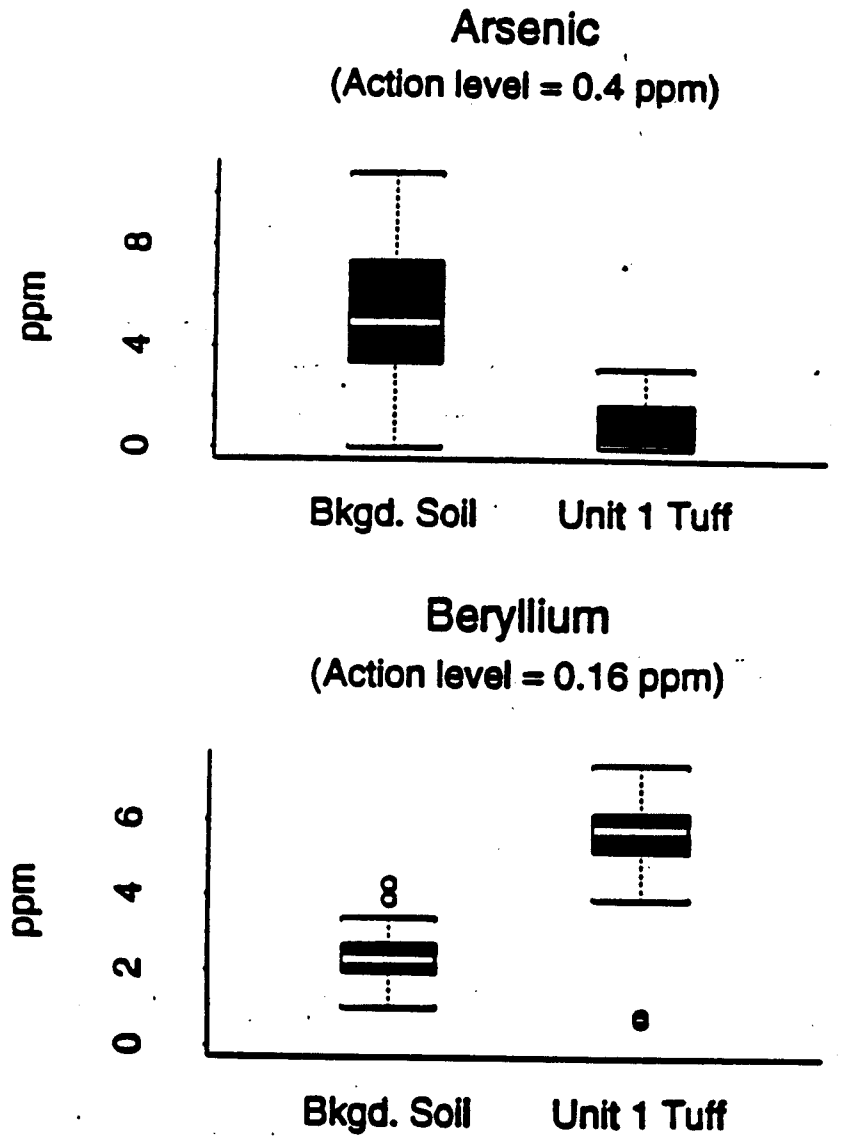

Figure 2.1. Background Concentrations for Two Elements with Low SALs

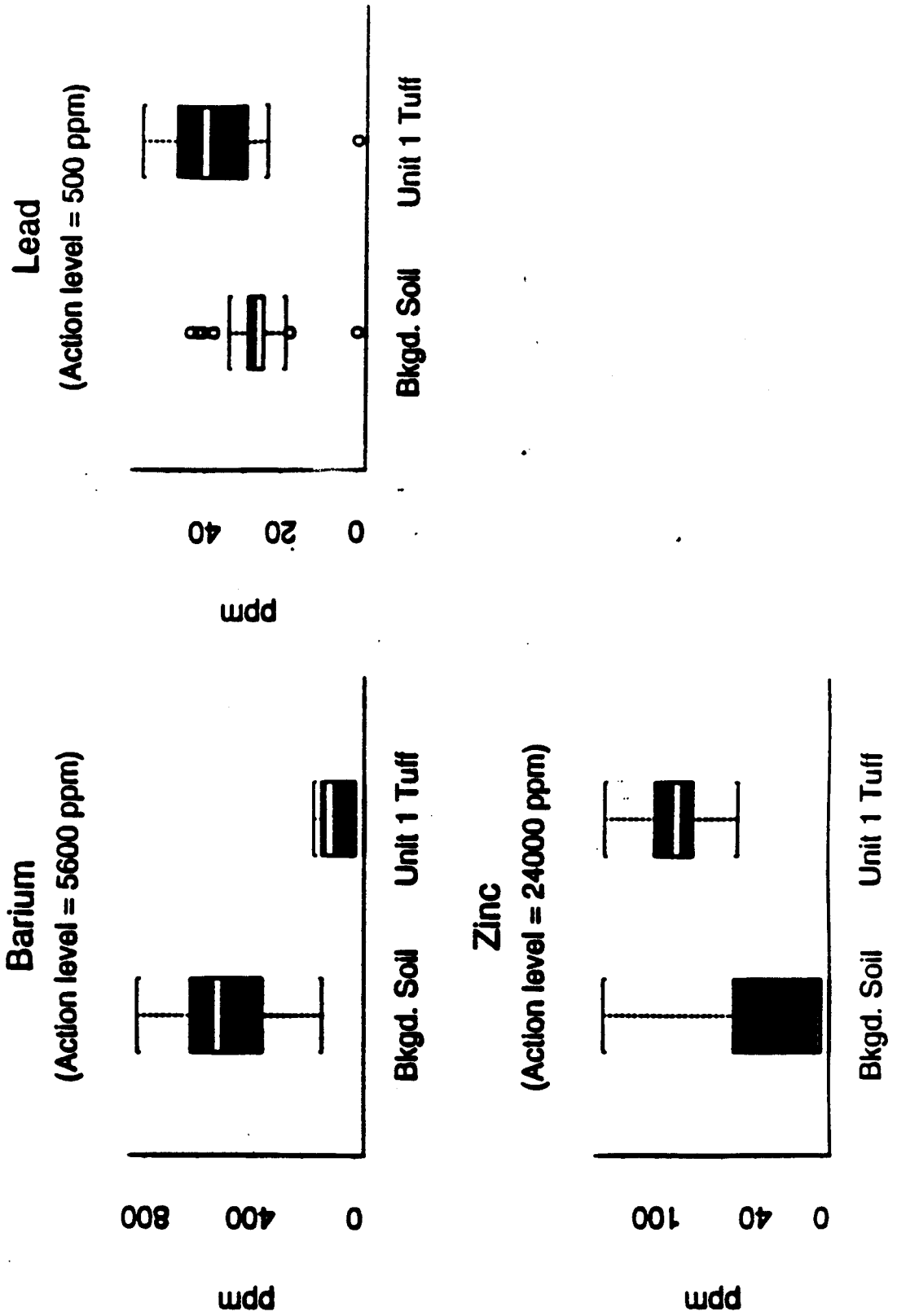

Figure 2.2. Background Concentrations for Three Elements with High SALs

2.3 RISK ASSESSMENT AND PRELIMINARY REMEDIATION GOALS

Where remediation may be required at the TA-40 SDS, risk-based Preliminary Remediation Goals are needed to guide corrective action. Risk is "the probability that the toxic properties of a chemical will be produced in populations of individuals under their actual conditions of exposure." (Rodricks, 1992, p. 48). Thus risk calculation requires not only the collating of the toxicological information about hazardous constituents of concern, but also the estimation of actual or probable exposures, present or future. The site- and media-specific concentration levels corresponding to target risk or hazard indices are called Preliminary Remediation Goals (PRGs). PRGs are not generally equal to Subpart S action levels, for a number of reasons:

- Multiple exposure pathways may be considered, not only soil ingestion. For example, inhalation of contaminants that adhere to particulates can be an important pathway during the dry and windy New Mexico springs.

- The chemical form of the constituent at the site may be different from that used in animal studies. For example, the reference dose for thallium is based on toxicity data for thallium sulfate, which is the most soluble and bioavailable form of thallium salts, while thallium oxide is much less available for absorption in the GI tract.

- The target risk level for carcinogens may not be 10^{-6}. There is precedent in the State of New Mexico for setting target risk levels in the range of 10^{-4} to 10^{-6} that is considered by EPA to be protective of human health (NMED 1990). The choice of a target risk level of 10^{-6} can not be sustained in setting PRGs for constituents for which the calculated risks associated with naturally occurring concentrations of the constituent exceed this level.

- The "actual conditions of exposure" may imply different ingestion rates than are assumed in the proposed Subpart S calculations. In particular, if the site is unsuitable or unavailable for residential use, then the Subpart S intake assumptions are far too conservative for use in calculating chronic exposure.

The methodology described in Part B of the Risk Assessment Guidance for Superfund (EPA 1991) will be used to calculate PRGs for the TA-40 SDS. Two land use scenarios are considered for the site. In the near future, TA-40 will continue to be used for Laboratory operations. In the more distant future, the most probable land use would be for recreational purposes. Table 2.2 shows PRGs for arsenic, beryllium, and thallium computed using these two scenarios. Tables 2.3 through 2.7 present the equations and the

assumptions that are proposed for calculating PRGs for each land use scenario. Most of these assumptions are taken from the Part B guidance. Where assumptions were not available in Part B, the rationale for selection is explained in each table.

Lead is currently a special case for risk assessment. Because lead is the most ubiquitous of all toxic metals, there is a great deal of information about its effects and the concentrations which cause these effects. However, this information is generally reported as a function of the concentration of lead in the blood (rather than of dose), with a no-effects level for children (the most sensitive subpopulation) of about 10 µg/dL. Therefore current EPA guidance recommends the use of the IBK Lead Risk Assessment Model to calculate the increase in blood concentration levels of lead resulting from to exposure to lead in soils as well as uptake from other sources (paint, air, water, food, etc.).

Risks from lead in soil calculated by the IBK Lead Risk Assessment Model, or by the very similar, slightly more conservative model used by the State of California, are driven almost entirely by the dietary component of these models, and a substantial fraction of the diet (more than 5%) must be grown on-site before these models will predict lead concentrations in children as high as 10 µg/dL from soil lead concentrations of 500 ppm. Inhalation is the second most important pathway, and direct soil ingestion contributes almost nothing to the predicted total.

TABLE 2.2.

PRELIMINARY REMEDIATION GOALS FOR SELECTED ELEMENTS CALCULATED USING THE SITE WORKER AND RECREATIONAL LAND USE SCENARIOS

	SITE WORKER[a]			RECREATIONAL USE[b]		
RISK CRITERION	TR=10^{-4} [c]	TR=10^{-6} [c]	THI=1 [d]	TR=10^{-4} [c]	TR=10^{-6} [c]	THI=1 [d]
Arsenic (ppm)	330	3.3	610	520	5.2	780
Beryllium (ppm)	130	1.3	10,000	210	2.1	13,000
Thallium (ppm)	--[e]	--[e]	160	--[e]	--[e]	210

a Calculated using standard exposure assumptions for the non-construction site worker scenario (Tables 2.3 and 2.4.)

b Calculated using standard exposure assumptions for the non-construction site worker scenario (Tables 2.5, 2.6 and 2.7.)

c Cleanup levels for carcinogens selected within the target risk (TR) range of 1 in 10,000 (10^{-4}) to 1 in 1,000,000 (10^{-6}) are considered by EPA to be protective of human health.

d Cleanup levels for noncarcinogens are set at a level at which no adverse human health effects would be expected to occur. This level is defined by the ratio of the expected dose to the reference dose, or the target hazard index (THI), being one or less.

e No carcinogenic effects have been observed.

TABLE 2.3.
EQUATION AND PARAMETERS FOR PRGs FOR CARCINOGENS
NON CONSTRUCTION SITE WORKER

The calculation of PRGs for the site worker scenario is based on two exposure pathways: soil ingestion and inhalation of particulates.

$$PRG = \frac{TR \times BW \times LT}{EF \times ED \times \left[\left(SF_o \times CF \times IR_{soil}\right) + \left(SF_i \times IR_{air} + PEF\right)\right]}$$

where:

PRG = Soil concentration (mg/kg or ppm)

TR = Target risk level for carcinogens (dimensionless)

1.0E-06 to 1.0E-04

BW = Body weight (kg)

70 kg (average for adults)

16 kg (average for children age 1 to 6)

LT = Assumed lifetime (years)

70 years

EF = Exposure frequency (days/year)

250 days/year

ED = Exposure duration (years)

25 years

SF_o = Chemical-specific oral cancer slope factor ((mg/kg-day)$^{-1}$)

SF_i = Chemical-specific inhalation cancer slope factor ((mg/kg-day)$^{-1}$)

IR_{soil} = Soil intake assumption (mg/day)

50 mg/day (at site)

IR_{air} = Inhalation rate (m^3/day)

20 m^3/day (at site)

PEF = Particulate emission factor (m^3/kg)

4.63E+09 m^3/kg

CF = Conversion factor (converts units from kg/kg to mg/kg)

10^{+6} mg/kg

TABLE 2.4.
EQUATION AND PARAMETERS FOR PRGs FOR SYSTEMIC TOXICANTS
NON-CONSTRUCTION SITE WORKER

The calculation of PRGs for the site worker scenario is based on two exposure pathways: soil ingestion and inhalation of particulates.

$$PRG = \frac{THI \times BW \times CT}{EF \times ED \times \left[\left(1/RfD_o \times CF \times IR_{soil}\right) + \left(1/RfD_i \times IR_{air} + PEF\right)\right]}$$

where:

PRG = Soil concentration (mg/kg or ppm)

THI = Target hazard index for systemic toxicants (dimensionless)

1.0

BW = Body weight (kg)

70 kg (average for adults)

16 kg (average for children age 1 to 6)

CT = Averaging time for chronic exposure (years)

30 years

EF = Exposure frequency (days/year)

250 days/year

ED = Exposure duration (years)

25 years

RfD_o = Chemical-specific oral chronic reference dose (mg/kg-day)

RfD_i = Chemical-specific inhalation chronic reference dose (mg/kg-day)

IR_{soil} = Soil intake assumption (mg/day)

50 mg/day (at site)

IR_{air} = Inhalation rate (m^3/day)

20 m^3/day (at site)

PEF = Particulate emission factor (m^3/kg)

4.63E+09 m^3/kg

CF = Conversion factor (converts units from kg/kg to mg/kg)

10^{+6} mg/kg

TABLE 2.5.
CALCULATION OF AGE-ADJUSTED SOIL INGESTION FACTOR FOR THE RECREATIONAL SCENARIO

The recreational land use scenario assumes the receptor is a camper who visits the site six years as a child (ages 1-6) and 14 years as an adult.

$$IF_{soil/adj} = \frac{IR_{soil/child} \times ED_{child}}{BW_{child}} + \frac{IR_{soil/adult} \times ED_{adult}}{BW_{adult}}$$

where:

$IF_{soil/adj}$ = Age-adjusted soil ingestion factor (mg-year/kg-day)

BW_{child} = Body weight for child (kg)

16 kg (average for children 1-6)

BW_{adult} = Body weight for adults (kg)

70 (average for adults 7-31)

ED_{child} = Exposure duration as child (years)

6 years

ED_{adult} = Exposure duration as adult (years)

14 years

$IR_{soil/child}$ = Soil intake assumption for child (mg/day)

200 mg/day

$IR_{soil/adult}$ = Soil intake assumption for adult (mg/day)

100 mg/day

TABLE 2.6.
EQUATION AND PARAMETERS FOR PRGs FOR CARCINOGENS
CAMPER, RECREATIONAL SCENARIO

The calculation of PRGs for the recreational scenario is based on the soil ingestion exposure pathway and uses the age-adjusted soil ingestion factor computed in Table 2.5. It is assumed that the camper uses the site four weeks per year for a total of 20 years, six of them as a child under six.

$$PRG = \frac{TR \times LT}{EF \times SF_o \times CF \times IF_{soil/adj}}$$

where:

PRG = Soil concentration (mg/kg or ppm)

TR = Target risk level for carcinogens (dimensionless)

1.0E-06 to 1.0E-04

LT = Assumed lifetime (years)

70 years

EF = Exposure frequency (days/year)

28 days/year

SF_o = Chemical-specific oral cancer slope factor ($(mg/kg\text{-}day)^{-1}$)

$IF_{soil/adj}$ = Age-adjusted soil ingestion factor (mg-year/kg-day)

CF = Conversion factor (converts units from kg/kg to mg/kg)

10^{+6} mg/kg

TABLE 2.7.
EQUATION AND PARAMETERS FOR PRGs FOR SYSTEMIC TOXICANTS
CAMPER, RECREATIONAL SCENARIO

The calculation of PRGs for the recreational scenario is based on the soil ingestion exposure pathway and uses the age-adjusted soil ingestion factor computed in Table 2.5. It is assumed that the camper uses the site four weeks per year for a total of 20 years, six of them as a child under six.

$$PRG = \frac{THI \times CT}{EF \times 1/RfD_o \times CF \times IF_{soil/adj}}$$

where:

PRG = Soil concentration (mg/kg or ppm)

THI = Target hazard index for systemic toxicants (dimensionless)

1.0

CT = Averaging time for chronic exposure (years)

30 years

EF = Exposure frequency (days/year)

28 days/year

RfD_o = Chemical-specific oral chronic reference dose (mg/kg-day)

$IF_{soil/adj}$ = Age-adjusted soil ingestion factor (mg-year/kg-day)

CF = Conversion factor (converts units from kg/kg to mg/kg)

10^{+6} mg/kg

3.0 ASSESSMENT OF PHASES I- IV RESULTS

The site investigation activities at TA-40 SDS were conducted in four phases during January and May of 1992 (Fresquez, 1992b). Phase I activities involved sampling the fill area south of the detonation amphitheater. The Phase II investigation sampled the surface burn areas and the burn pit east of the amphitheater. Phase III activities included sampling shallow drainages leading from the area, as well as on-site structures, scattered debris in the area, and soil beneath the debris pile located within the amphitheater. Phases I, II, and III were conducted simultaneously during the January 1992 effort. The Phase IV investigation was conducted in May 1992, and included sampling within the amphitheater after the construction debris was removed in April 1992. The general locations of the areas investigated in Phases I through IV are shown on Figures 2.1 and 4.1 in the FCP and on the detailed map included in the pocket of this Amendment. Analytical data from the Phases I through IV site investigations are presented in Appendices I through IV of this amendment. A listing of the analytical methods used is provided in Appendix V. A complete set of original analytical data, including quality assurance and quality control (QA/QC) data, will be submitted with the final closure report.

The Phase I - IV data shows that the only constituents in debris or soil with levels above screening action levels are beryllium, thallium, lead, antimony, silver and arsenic. Table 3.1 summarizes the data for the TAL metal analyses of interest (note that mercury is in ppb while the other metals are in ppm). The observations of lead, antimony, or silver above SALs and background levels are accentuated in bold print. The beryllium and arsenic levels are all well within naturally occurring background levels (Figure 2.1).

Barium levels shown in Table 3.1 are below screening action levels and, as comparison with Figure 2.2 shows, also within the range of background. Although zinc levels are uniformly well below the screening action level, a few are elevated above background.

The details of the four investigations are presented in the following subsections, together with preliminary assessments based on comparisons with action levels and background data.

Table 3.1. Selected .. Metals at the TA-40 SDS

Phase	Area	Field #	Sample #	Media	Depth	As	Ba	Be	Hg	Ag	Pb	Sb	Th	Zn
						ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm
I	fill area	PF-40-FA-13A	92.00701	soil, tuff	0-2.5'	0.2	200	1.52	18.4	<1	13	<2	<4	24
I	fill area	PF-40-FA-15A	92.00700	soil, tuff	0-2.5'	0.3	156	1.61	18.9	1.1	12.7	<2	<4	24
I	fill area	PF-40-FA-16A	92.00702	soil, tuff	0-2.5'	0.4	260	1.98	16.5	<1	12	<2	<4	24
I	fill area	PF-40-FA-16A	92.00702d	soil, tuff	0-2.5'	NA	NA	NA	NA	NA	NA	NA	NA	21
I	fill area	PF-40-FA-18A	92.00703	tuff	0-2.5'	0.4	284	1.55	17.6	<1	35	<2	<4	56
I	fill area	PF-40-FA-19A	92.00704	soil, tuff	0-2.5'	0.4	281	1.76	19.6	<1	27	<2	<4	21
I	fill area	PF-40-FA-19A	92.00704d	soil, tuff	0-2.5'	NA	NA	NA	NA	NA	24	NA	NA	33
I	fill area	PF-40-FA-1A	92.00696	soil, tuff	0-2.5'	<0.2	180	1.91	18.7	2.6	13	<2	<4	28
I	fill area	PF-40-FA-2A	92.00699	soil, tuff	0-2.5'	0.2	248	1.6	16	<1	14	<2	<4	27
I	fill area	PF-40-FA-4A	92.00697	soil, tuff	0-2.5'	0.3	183	2.08	15.3	<1	15	<2	<4	26.6
I	fill area	PF-40-FA-5A	92.00698	soil, tuff	0-2.5'	0.3	231	1.7	20.4	<1	15	<2	<4	24
I	fill area	PF-40-FA-5R	92.00770	soil, tuff	0-2.5'	0.4	313	1.72	<2	<1	***2980***	<2	<1	48
I	fill area	PF-40-FA-5R	92.00770d	soil, tuff	0-2.5'	0.4	262	1.67	<2	<1	***2710***	<2	<1	54
II	burn area	PF-40-BAE-1	92.00914	soil, debris	surface	0.7	291	1.96	16	2.3	41	<3	<4	163
II	burn area	PF-40-BAE-2	92.00707	soil	0-6"	3.1	469	1.17	85.6	10.7	***1470***	<2	<4	2750
II	burn area	PF-40-BAE-3	92.00708	soil	1-2'	0.3	186	1.29	10.6	<1	19	<2	<4	74
II	burn area	PF-40-BAW-1	92.00913	soil, debris	surface	0.6	278	1.87	<2	1.1	137	<3	<4	199
II	burn area	PF-40-BAW-2	92.00709	soil	0-6"	0.7	242	1.75	34.6	<1	22	<2	<4	64
II	burn area	PF-40-BAW-3	92.00710	soil	1-2'	0.7	194	1.89	24.8	<1	9.2	<2	<4	21
II	burn area	PF-40-BAW-3	92.00710d	soil	1-2'	NA	NA	NA	NA	NA	8.2	NA	NA	21
II	burn cage	PF-40-BC-1	92.00767	debris	surface	2.2	365	2.14	<2	21.2	***21102***	***43***	<1	6360
II	burn cage	PF-40-BC-2	92.00705	soil	0-6"	0.4	224	1.7	18.9	<1	20	<2	<4	57
II	burn cage	PF-40-BC-3	92.00706	soil	1-2'	0.2	210	1.57	16.7	<1	13	<2	<4	24
II	burn cage	PF-40-BC-3	92.00706d	soil	1-2'	NA	NA	1.61	NA	NA	NA	<2	<4	NA

Table 3.1. Selected TAL Me at the TA-40 SDS (continued)

Phase	Area	Field #	Sample #	Media	Depth	As	Ba	Be	Hg	Ag	Pb	Sb	Th	Zn
						ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm
II	burn pit	PF-40-BP-1A	92.00761	soil	1-2'	0.7	302	2.28	<2	<1	22.5	<2	<1	54
II	burn pit	PF-40-BP-1B	92.00762	debris	3'	0.5	149	2.5	<2	<1	8	<2	<1	40
II	burn pit	PF-40-BP-1C	92.00763	soil	4-5'	0.6	129	2.41	<2	<1	10	<2	<1	42
II	burn pit	PF-40-BP-2A	92.00764	soil	1-2'	0.5	280	2.15	<2	<1	34	<2	<1	49
II	burn pit	PF-40-BP-2B	92.00765	debris	4-5'	0.5	182	1.81	98	1.4	16	<2	<1	43
II	burn pit	PF-40-BP-2B	92.00765d	debris	4-5'	NA	196	1.94	NA	NA	NA	<2	<1	54
II	burn pit	PF-40-BP-2C	92.00766	soil	5'	0.5	143	6.74	<2	<1	9	<2	<1	36
II	burn pit	PF-40-BP-3B	92.00768	debris	3-4'?	1.5	182	1.11	<2	<1	93	<2	<1	28
II	burn pit	PF-40-BP-3C	92.00769	soil	4-5'?	0.9	208	2.64	<2	<1	12	<2	<1	45
III	drainage	PF-40-SD-E	92.00921	soil	surface	0.4	204	1.84	<2	<1	<4	<3	<4	54
III	drainage	PF-40-SD-M	92.00920	soil	surface	0.4	270	1.29	<2	<1	<4	<3	<4	58
III	drainage	PF-40-SD-W	92.00919	soil	surface	0.3	231	1.9	<2	<1	5	<3	<4	75
III	elec. box	PF-40-EBX-E	92.00916	soil	surface	0.7	262	1.85	<2	<1	32	<3	<4	91
III	elec. box	PF-40-EBX-W	92.00915	soil	surface	0.6	292	2.1	<2	<1	<4	<3	<4	88
III	shelter	PF-40-SPS	92.00917	soil	surface	0.6	241	1.76	<2	<1	<4	<3	<4	70
III	amphitheater	PF-40-DP	92.00918	soil	surface	1.2	446	1.71	32	*20900*	<3	<4	22	NA
IV	amphitheater	PF-40-A-1	92.06115	soil	0-6"	1.2	414	2.5	21	1.6	48	<6	21	72.5
IV	amphitheater	PF-40-A-1-QA	92.06123	soil	0-6"	1.1	440	2.39	11	<1	44	<6	24	67.1
IV	amphitheater	PF-40-A-2	92.06116	soil	0-6"	0.9	589	2.1	10	1.5	34	<6	25	55
IV	amphitheater	PF-40-A-3	92.06117	soil	0-6"	0.8	383	2.38	10	<1	48	<6	28	79
IV	amphitheater	PF-40-A-4	92.06118	soil	0-6"	0.6	241	2.8	<10	<1	46	<6	25	77
IV	amphitheater	PF-40-A-CH1-2	92.06119	soil	0-2'	0.8	463	2.3	11	<1	36	10	26	80
IV	amphitheater	PF-40-A-CH1-4	92.06120	soil	2-4'	0.5	217	2.49	<10	<1	39	<6	24	91.6
IV	amphitheater	PF-40-A-CH2-2	92.06121	soil	0-2'	<0.2	176	2.63	<10	<1	36	<6	21	55.8
IV	amphitheater	PF-40-A-CH2-4	92.06122	soil	2-4'	0.6	663	2.21	<10	<1	30.6	<6	27	47

3.1 PHASE I INVESTIGATION, FILL AREA

The Phase I investigation of the fill area extending south from the amphitheater nearly to the rim of Pajarito Canyon was conducted in January 1992. Three transects were established, radiating outward from the center of the amphitheater. On each transect, three borehole locations were randomly selected so that one borehole was located within each third of the length of the transect. This sampling design allowed selection of nine random sampling locations within the fill area, yet ensured relatively uniform coverage of the area. A tenth sampling location, PF-40-FA-5R, was collocated with PF-40-FA-5A.

Shallow borehole samples were collected with a Central Mining Equipment Model 55 (CME-55) drill rig equipped with a hollow-stem auger with a three-inch-diameter coring capability. Nine soil samples were collected to a maximum depth of 2.5 feet. The depth of fill was usually two feet or less at each sampling location. Tuff (native bedrock) was collected at one location where very little fill material existed. Since the immediate surrounding area of this sampling location was similar (i.e., there was no fill nearby), the tuff was sampled here in order to maintain relatively uniform coverage of the fill area.

TABLE 3.2. PHASE I SAMPLE IDENTIFICATION NUMBERS AND DESCRIPTIONS

FIELD SAMPLE ID	LABORATORY SAMPLE ID[1]	LABORATORY SAMPLE ID[2]	BOREHOLE DESCRIPTION
PF-40-FA-1A	92.00696	92.00711	Soil, 0-2'; Tuff, >2'
PF-40-FA-4A	92.00697	92.00712	Soil, 0-2'; Tuff, >2'
PF-40-FA-5A	92.00698	92.00713	Soil, 0-2.5'; Tuff, >2.5'
PF-40-FA-2A	92.00699	92.00714	Soil, 0-2'; Tuff, >2'
PF-40-FA-15A	92.00700	92.00715	Soil, 0-2'; Tuff, >2'
PF-40-FA-13A	92.00701	92.00716	Soil, 0-1'; Tuff, >1'
PF-40-FA-16A	92.00702	92.00717	Soil, 0-2'; Tuff, >2'
PF-40-FA-18A	92.00703	92.00718	Tuff, 0-1'; Tuff, >1'
PF-40-FA-19A	92.00704	92.00719	Soil, 0-1'; Tuff, >1'
PF-40-FA-5R	92.00770	92.00780	Soil, 0-2.5'; Tuff, >2.5'

1: Samples analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, herbicides, polychlorinated biphenyls (PCBs), nitrates, and Target Analyte List (TAL) metals.

2: Samples analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals.

All samples were analyzed for metals and organics, as required in the FCP, to determine whether hazardous constituents were present. A summary of the analytical data for the Phase I investigation is provided in Appendix I. Table 3.2 lists the field sample identification numbers, corresponding laboratory sample identification numbers, and brief descriptions for each Phase I sample. The field sample locations are shown on Figure 4.1 in the FCP

No volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, herbicides, polychlorinated biphenyls (PCBs), nitrates, or TCLP metals were detected in any of the samples collected from the fill area.

One sample (PF-40-FA-5R) had a lead concentration of 2,710 µg/g (ppm), well above the action level of 500 to 1,000 mg/kg (ppm). This sample was collocated with sample PF-40-FA-5A, which had a lead concentration of 15 ppm. The laboratory.measurement was closely replicated in a laboratory split (see Table 3.1). No other TAL metals were present in concentrations exceeding the calculated action levels or background levels in any of the fill area samples.

3.2 PHASE II INVESTIGATION, BURN CAGE, TWO BURN AREAS, AND BURN PIT

The Phase II investigation of the burn areass included sampling at the present location of the burn cage, at two other areas where evidence of surface burning is visible, and at the burn pit. This investigation was conducted in January 1992. All samples were analyzed for metals and organics to determine whether hazardous constituents were present. In addition, two of the samples from the burn pit and two field duplicates (collocated samples) were analyzed for total petroleum hydrocarbons (TPH), although these analyses were not required by the closure plan. A summary of the analytical data for the Phase II investigation is provided in Appendix II. Table 3.3 lists the field sample identification numbers, corresponding laboratory sample identification numbers, and brief descriptions for each Phase II sample. Field sample locations are shown on Figure 4.2 in the FCP. This investigation showed that the burn pit and burn area west had no constituents above screening action levels or background levels for those TAL metals with action levels below background levels. Lead in one surface sample below the debris was above the screening action level in the burn area east. The burn cage had a debris sample with elevated lead and antimony .

TABLE 3.3. PHASE II SAMPLE IDENTIFICATION NUMBERS AND DESCRIPTIONS

FIELD ID[1]	LAB ID[2]	LAB ID[3]	LAB ID[4]	SAMPLE DESCRIPTION
PF-40-BC-2	92.00705	92.00720		Soil, 0-6"
PF-40-BC-3	92.00706	92.00721		Soil, 1-2'
PF-40-BAE-2	92.00707	92.00722		Soil, 0-6"
PF-40-BAE-3	92.00708	92.00723		Soil, 1-2'
PF-40-BAW-2	92.00709	92.00724		Soil, 0-6"
PF-40-BAW-3	92.00710	92.00725		Soil, 1-2'
PF-40-BP-1A	92.00761	92.00771		Soil above charred debris, 1-2'
PF-40-BP-1B	92.00762	92.00772		Charred debris, 3'
PF-40-BP-1C	92.00763	92.00773		Soil below charred debris, 4-5'
PF-40-BP-2A	92.00764	92.00774		Soil above charred debris, 1-2'
PF-40-BP-2B	92.00765	92.00775		Charred debris, 4-5'
PF-40-BP-2C	92.00766	92.00776		Soil below charred debris, 5'
PF-40-BC-1	92.00767	92.00777		Charred surface debris
PF-40-BP-3B	92.00768	92.00778	92.01110	Charred debris
PF-40-BP-3C	92.00769	92.00779	92.01111	Soil below charred debris
PF-40-BAW-1	92.00913	92.00922		Surface soil/charred debris
PF-40-BAE-1	92.00914	92.00923		Surface soil/charred debris

1 The area from where each sample was collected is identified in the Field Sample Id:

BC	Burn Cage
BAE	Burn Area East
BAW	Burn Area West
BP	Burn Pit

2 Samples analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, herbicides, polychlorinated biphenyls (PCBs), nitrates, Target Analyte List (TAL) metals, and total petroleum hydrocarbons (TPH).

3 Samples analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals.

4 Samples analyzed for TPH.

3.2.1 BURN CAGE AND TWO BURN AREAS

Sampling activities at the current site of the burn cage and at the two burn areas, burn area east (northeast of the burn cage) and burn area west (northwest of the burn cage), included collecting one charred surface debris sample and core samples at each site. The surface debris samples were contained charred material collected within a six-inch radius to the depth of the soil surface. Charred surface debris samples were collected with disposable inert-plastic scoops.

The core samples were collected from boreholes placed within the charred area adjacent to the burn cage and within the charred areas at the other two burn areas. The upper core sample at each location included charred surface debris and other material to a depth of six inches. No staining was observed deeper than six inches. The lower core sample at each location was collected at the one- to two-foot interval; native tuff was encountered at the two-foot depth. The shallow borehole samples were collected with a CME-55 drill rig equipped with a hollow-stem auger with a three-inch-diameter coring capability. Three samples were collected at each burn site (one surface and two core samples) for a total of nine samples.

No target VOCs, PCBs, or nitrates were detected in any of the samples from these areas. Other results are enumerated below for each area.

3.2.1.1 BURN CAGE RESULTS

Semivolatiles. Charred surface debris at the burn cage, sample PF-40-BC-1, contained benzo[b]fluoranthene at a concentration of 1,800 µg/kg (ppb), or 1.8 ppm. The SAL for this compound is 3,200 mg/kg (ppm).

Pesticides. No pesticides were detected in this area

Metals. Sample PF-40-BC-1, charred surface debris collected at the burn cage, contained TAL and TCLP metals. TAL lead and antimony at 2,110 and 43 µg/g (ppm) were detected in this sample, and TCLP lead was detected at 110 mg/L. The screening action levels for TAL lead and antimony are 500 and 32 mg/kg (ppm), respectively. The regulatory level for TCLP lead, listed in 40 CFR 261, Subpart C, is 5.0 mg/L. Therefore, the levels of TAL lead and antimony and TCLP lead in sample PF-40-BC-1 exceed the action levels. No other TAL or TCLP metals were present in concentrations exceeding the SALs or background levels in any of the burn cage samples.

3.2.1.2 BURN AREA EAST RESULTS

Semivolatiles. No semi-volatiles were detected in the burn area east.

Pesticides. Sample PF-40-BAE-2, a soil sample from the zero- to six-inch interval at the east burn area, contained 4.6 µg/kg (ppb) delta-BHC. An screening action level for delta-BHC could not be calculated because no data for this compound are available in EPA's IRIS and HEAST reference documents (EPA, 1992, 1991). A SAL was calculated for beta-BHC, however. Since these compounds behave similarly, it is reasonable to assume that the action level for beta-BHC may apply to delta-BHC. The beta-BHC action level was calculated to be 0.519 mg/kg (ppm), or 519 ppb. This calculated screening action level is far greater than the observed pesticide concentration of 4.6 ppb in PF-40-BAE-2.

Metals. TAL and TCLP lead were also detected in PF-40-BAE-2. The TAL lead concentration in this sample was 1,470 µg/g (ppm), and the TCLP lead concentration was 13 mg/L. These concentrations exceed the screening action and regulatory levels for lead. No other TAL or TCLP metals were present in concentrations exceeding the SALs or background levels in any of the burn area east samples.

3.2.1.3 BURN AREA WEST RESULTS;

Semivolatiles. No semivolatiles were detected in the burn area west.

Pesticides. No pesticides were detected in this area.

Metals. No TAL or TCLP metals were present in concentrations exceeding the SALs in any of the burn area west samples. The debris sample had lead above background levels but well below the SAL.

3.2.2 BURN PIT RESULTS;

The investigation at the burn pit occurred in two stages. First, the approximate location of the burn pit was identified from historical aerial photographs of TA-40. A grid was then placed over the area determined most likely to include the pit. Boreholes were drilled at several of the grid locations until the burn pit was penetrated, as evidenced by the presence of charred debris within the soil core. The borehole grid was then adjusted to more clearly define the extent of the burn pit, and a total of three boreholes were drilled into the pit. Core samples were collected from each borehole with a CME-55 drill rig equipped with a hollow-stem auger with a three-inch-diameter coring capability. Samples of the upper core material were collected from two boreholes; these samples were obtained from the material one foot above the charred

debris. Samples from the core interval containing charred debris and from a one-foot interval below the charred debris were collected at all three borehole locations. A total of eight samples were submitted for analysis.

VOCs, PCBs, Nitrates. No target VOCs, PCBs, or nitrates were detected in any of the samples from these areas.

Semivolatiles. Benzoic acid was detected at a concentration of 2,100 µg/kg (ppb) in the soil above the charred debris at burn pit sample PF-40-BP-2A; however, this compound is not included on the 40 CFR 261, Appendix VIII or 40 CFR 264, Appendix IX lists of hazardous substances (see Table 4.2 in the FCP). Phenol was detected in the same sample at a concentration of 1,500 µg/kg (ppb), or 1.5 ppm, which is far below the screening action level of 48,000 mg/kg (ppm).

Pesticides. Soil above the charred debris at burn pit location PF-40-BP-2A, collected at the one- to two-foot interval, contained 33 µg/kg (ppb) heptachlor epoxide, which is less than the 103 ppb screening action level for this compound. Sample PF-40-BP-3B, collected at depth from the layer of charred debris within the burn pit, contained 4.7 µg/kg (ppb) of the herbicide 2,4,5-TP. The SAL for this compound is 640 mg/kg (ppm), which is much higher than the level detected in the burn pit sample.

Metals. No TAL or TCLP metals were present in concentrations exceeding the SALs in any of the burn pit samples. One of the debris samples had lead above background levels but well below the SAL.

TPH. Although TPH analysis was not required in the FCP, two samples and sample replicates were collected at one location in the burn pit. Samples PF-40-BP-3B and PF-40-BP-3C, collected at depth from "oily" material in the charred debris layer and below the charred debris layer, contained 13.9 and 28.3 µg/g (ppm) TPH. Replicate samples collected near this same location contained 1,260 and 49.8 µg/g (ppm) TPH. Operating records indicate that kerosene was used to initiate burning at the pit, and LANL believes that the presence of TPH in the burn pit is due to incomplete combustion. As mentioned above, no target VOCs were detected in any of the burn pit samples.

Regulations applicable to underground storage tanks (USTs) require remediation activities if the soils are highly contaminated (i.e., free product is observable in the soil or, if the petroleum product is sufficiently liquid, the petroleum product drains from the soil when the soil is suspended on filter paper) and if the depth to ground water is less than 50 feet (NMEID, July 1990). There was no free product observable at the burn pit, and the depth to groundwater at TA-40 is approximately 1,000 feet. Therefore, remediation to address the presence of TPH would not be required from a UST and should not be necessary for clean

closure of the burn pit.

3.3 PHASE III INVESTIGATION, DRAINAGES AND OTHER SURFACE SAMPLES

Sampling of three shallow drainages, two electrical boxes, a steel personnel shelter, scattered debris at the site, and soil beneath the debris pile within the amphitheater comprised the Phase III investigation. This investigation was conducted in January 1992.

One location where the potential for sediment deposition was determined to be most likely in each shallow drainage was selected for sampling. The selection of sampling locations was biased rather than random. One surface soil sample from each drainage was collected with a disposable inert-plastic scoop, for a total of three samples.

The closure plan required sampling two electrical boxes and a steel personnel shelter only if hazardous constituents were detected in the fill area (Phase I) or surface drainages (Phase III). However, since the Phases I through III site investigations were conducted simultaneously, sampling of these three structures was performed as part of the Phase III effort. Surface soil samples were collected with disposable inert-plastic scoops at each structure location. In addition, scattered debris from within a 200-foot radius of the detonation area was collected and rinsed in distilled water. This rinsate was then sampled and submitted for analysis.

To determine if hazardous constituents were present beneath the debris pile located within the amphitheater, a surface soil sample was collected from the base of the debris pile. This surface soil sample was collected with a disposable inert-plastic scoop. The construction debris was removed in April 1992 before the Phase IV investigation activities were initiated.

All samples were analyzed for metals and organics to determine whether hazardous constituents were present. A summary of the analytical data for the Phase III investigation is provided in Appendix III. Table 3.4 lists the field sample identification numbers, corresponding laboratory sample identification numbers, and brief descriptions for each Phase III sample. Sampling locations for this phase are shown on Figure 4.1 in the FCP.

No VOCs, SVOCs, herbicides, PCBs, nitrates, or TCLP metals above action levels were detected in any of the soil or rinsate samples collected during the Phase III investigation. Pesticides were present in one sample, PF-40-EBX-W. This surface soil sample collected at the west electrical box contained p,p'-DDE at 12 µg/kg (ppb) and p,p'-DDT at 14 µg/kg (ppb). Screening action levels for both DDE and DDT were

calculated at 2.74 mg/kg (ppm), or 2,740 ppb. Therefore, the pesticide levels in the surface sample at the west electrical box are well below the SAL.

Thallium was detected above the calculated action level in sample PF-40-DP, a soil sample collected from beneath the debris pile in the amphitheater. This sample contained 22 µg/g (ppm) thallium, which exceeds the 5.6 ppm action level. The PF-40-DP sample also contained silver at a level (20900 ppm or 2.09%) above background levels and above the screening action level (400 ppm).

TABLE 3.4. PHASE III SAMPLE IDENTIFICATION NUMBERS AND DESCRIPTIONS

FIELD SAMPLE ID	LAB SAMPLE ID[1]	LAB SAMPLE ID[2]	SAMPLE DESCRIPTION
PF-40-EBX-W West Electrical Box)	92.00915	92.00924	Surface soil
PF-40-EBX-E (East Electrical Box)	92.00916	92.00925	Surface soil
PF-40-SPS (Steel Personnel Shelter)	92.00917	92.00926	Surface soil
PF-40-DP (Amphitheater Debris Pile)	92.00918	92.00927	Surface soil
PF-40-SD-W (West Drainage)	92.00919	92.00928	Surface soil
PF-40-SD-M (Middle Drainage)	92.00920	92.00929	Surface soil
PF-40-SD-E (East Drainage)	92.00921	92.00930	Surface soil
PF-40-EW (Equipment Wash)	92.00938	92.00940	Sampling equipment rinsate
PF-40-DEB (Debris Rinsate)	92.00939	92.00941	Surface debris rinsate

1 Samples analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, herbicides, polychlorinated biphenyls (PCBs), nitrates, and Target Analyte List (TAL) metals.

2 Samples analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals.

3.4 PHASE IV INVESTIGATION, AMPHITHEATER

Construction debris was removed from the detonation area (the amphitheater) in April 1992. Construction debris was field screened for HE contamination, and all uncontaminated material was properly disposed of at the sanitary landfill. Debris that showed residual HE contamination was either decontaminated and disposed of at the landfill or was collected by the Dynamic Testing (M-7) Group for treatment and subsequent disposal (LANL, April 1992).

The Phase IV investigation of the amphitheater was conducted in May 1992. Surface soil samples and core samples were collected and analyzed to determine if any residual contamination from the thermal treatment process remains in the amphitheater. Sampling locations were selected at random within the amphitheater, because the nature of the detonation process was such that all locations within the amphitheater would be equally likely to exhibit contamination, if present.

Surface soil samples were collected with disposable inert-plastic scoops to a depth of six inches at four randomly-selected locations within the amphitheater, and a field duplicate sample was collocated with one of these four samples.

Two boreholes were randomly located within a 20-foot radius of the center of the amphitheater. Borehole locations close to the center of the amphitheater were selected because downward explosive forces would have been the greatest close to the detonation. Core samples were collected from each borehole to determine if explosive forces had driven contaminants into the soil profile. Two core samples were collected at each borehole. The upper core samples were collected to a depth of two feet; lower core samples were collected from the two- to four-foot interval. A total of four soil core samples were submitted for analysis. Shallow borehole samples were collected with a CME-55 drill rig equipped with a hollow-stem auger with a three-inch-diameter coring capacity.

All samples were analyzed for metals and organics determine whether hazardous constituents were present. A summary of the analytical data for the Phase IV investigation is provided in Appendix IV. Table 3.5 lists the field sample identification numbers, corresponding laboratory sample identification numbers, and brief descriptions for each Phase IV sample; sampling locations are shown on Figure 4.1 in the FCP.

No herbicides, PCBs, nitrates, or TCLP metals were detected in any of the samples collected during the Phase IV investigation. Trace amounts of acetone, a VOC, were detected in five of the samples analyzed; however, this compound was detected in the blanks as well and is a common laboratory contaminant. Therefore, acetone is probably not a hazardous constituent of concern at the amphitheater.

Three samples contained minor amounts of SVOCs, including benzo[b]fluoranthene, fluoranthene, and pyrene:

- Benzo[b]fluoranthene and fluoranthene at 460 and 380 µg/kg (ppb), respectively, were detected in sample PF-40-A-1. This soil sample was collected from the zero- to six-inch depth within the amphitheater. The screening action level for both compounds is 3,200 mg/kg (ppm). The concentrations of SVOCs in sample PF-40-A-1 are far below the SALs.

TABLE 3.5

PHASE IV SAMPLE IDENTIFICATION NUMBERS AND DESCRIPTIONS.

FIELD SAMPLE ID	LAB SAMPLE ID[1]	LAB SAMPLE ID[2]	SAMPLE DESCRIPTION
PF-40-A-1	92.06115	92.06126	Soil, 0-6"
PF-40-A-2	92.06116	92.06127	Soil, 0-6"
PF-40-A-3	92.06117	92.06128	Soil, 0-6"
PF-40-A-4	92.06118	92.06129	Soil, 0-6"
PF-40-CH1-2	92.06119	92.06130	Soil, 0-2'
PF-40-CH1-4	92.06120	92.06131	Soil, 2-4'
PF-40-CH2-2	92.06121	92.06132	Soil, 0-2'
PF-40-CH2-4	92.06122	92.06133	Soil, 2-4'
PF-40-A-1-QA	92.06123	92.06134	Soil, 0-6"

1 Samples analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, herbicides, polychlorinated biphenyls (PCBs), nitrates, and Target Analyte List (TAL) metals.

2 Samples analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals.

- Pyrene at 350 µg/kg (ppb) was detected in sample PF-40-A-2. This zero- to six-inch-depth soil sample was also collected from within the amphitheater. The screening action level for pyrene is 2,400 mg/kg (ppm); therefore, the amount of pyrene detected in PF-40-A-2 is far less than the SAL for this compound.

- Fluoranthene and pyrene were detected in a soil core sample collected within the amphitheater. Sample PF-40-CH2-4 contained 490 and 420 µg/kg (ppb) of these compounds, respectively. The corresponding screening action levels are 3,200 and 2,400 mg/kg (ppm). Again, the concentrations of SVOCs in sample PF-40-CH2-4 are well below the SALs for these compounds.

One pesticide, beta-BHC, was detected in sample PF-40-A-1, a soil sample collected from the zero- to six-inch-depth within the amphitheater. The concentration of this compound was 5.2 µg/kg (ppb), which is less than the screening action level of 0.519 mg/kg (ppm), or 519 ppb.

Thallium was detected above the action level in each Phase IV sample at the amphitheater, which is also consistent with the observation from the Phase III sample PF-40-DP collected before the construction debris was removed. Measured thallium concentrations are consistently in the range of 21 to 28 ppm. This is well below the preliminary remediation goals for thallium shown in Table 2.2. The data also show clearly that thallium contamination affects only the amphitheater area, which with a diameter of about 60 ft is less than 300 m^2.

3.5 ASSESSMENT OF SITE-WIDE LEAD DATA

Figure 3.1 is a log-normal probability plot of all of the lead data (including debris samples) collected in Phases I through IV, to which a mixture distribution (about 87% "background", 13% "contaminated") has been fitted. As the Phase I through IV samples certainly do not represent a random sample of the TA-40 SDS (most were deliberately selected from areas where higher than average concentrations could be expected—the amphitheater, the burn sites, and the fill area)—the fitted distribution is probably biased upward. In particular, four of the five observations above the background range shown in Figure 2.2 were from samples of debris, debris mixed with soil, or soil collected immediately below debris.

Section 4.0 describes proposed corrective action to remove debris and surface soils that will significantly reduce the average lead level at the site. Even without this corrective action, the estimate of the mean level of contamination at the site, based on the fitted mixture distribution, is 97 ppm, with a 95% upper confidence bound of about 113 ppm. The fitted log-normal distribution suggests that less than 7% of the site (about 300 m^2) is contaminated above 500 ppm even without further corrective action.

As indicated in the brief discussion at the end of Section 2.3, human health risks associated with lead in soils are due primarily to ingestion of food grown on the site. Because the total potentially lead-contaminated area is so small and unsuited for agriculture, residual lead contamination following the corrective action proposed in the following section is expected to pose no risk to human health or to the environment.

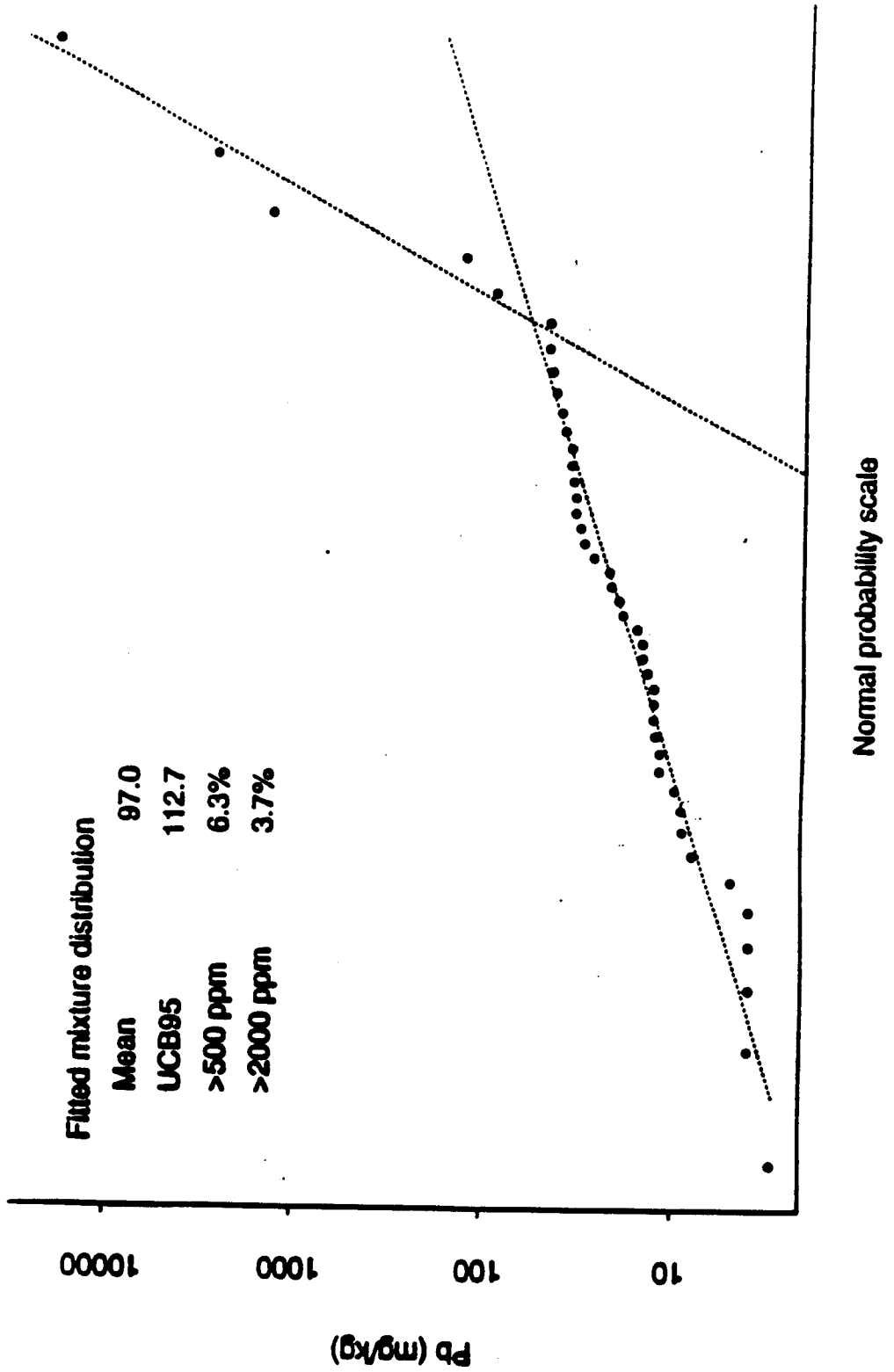

Figure 3.1. Lead Concentrations in Phase I through IV Samples

4.0 CORRECTIVE ACTION AT SURFACE BURN AREAS

The data from the Phases I through IV investigations indicate elevated levels of several hazardous constituents, including lead and antimony above SALs, in some debris samples and surface soil samples from the surface burn areas. Corrective action is proposed at the burn cage and the east burn area, to remove visible surface debris and stained soil, followed by field screening and confirmatory sampling for metals. Based on the Phase I-IV observations, this action is expected to remove most of the hazardous materials remaining at the site.

Other observations above SALs were elevated silver in the Phase III sample from the amphitheater, collected before the removal of construction debris from that area, and lead above its SAL at the fill area in one of a pair of collocated samples (PF-40-FA-5R), of which the other had only background levels. No further actions are proposed for these areas.

Total lead and antimony and TCLP lead were detected in a charred surface debris sample collected from the burn cage location, PF-40-BC-1. This sample contained 2,110 ppm total lead, 43 ppm total antimony, and 110 mg/L TCLP lead. The respective screening action and regulatory levels for these constituents are 500 ppm, 32 ppm, and 5.0 mg/L. Lead was also detected in a sample collected to a depth of six inches at the east burn area. Sample PF-40-BAE-2 contained 1,470 ppm total lead and 13 mg/L TCLP lead. These concentrations exceed the respective screening action levels of 500 ppm and 5.0 mg/L. The debris sample PF-40-BAW-1 from the west burn area contained 137 ppm total lead, below the SAL but above background levels.

The contaminated areas are small and localized. Visible debris and debris mixed with soil at the surface of these three areas will be containerized and removed for proper treatment or disposal.

As the principal contaminants of concern at the burn cage are inorganic compounds (particularly lead and antimony), energy dispersive x-ray fluorescence (EDXRF) is an acceptable field screening method. The EDXRF analyzer can provide quick and reliable assays of lead in coarse soils down to concentration levels of 15 ppm with little or no sample preparation. In addition, the instrument can detect a number of other inorganic contaminants in the same samples. (The instrument's lower detection limit for antimony is 33 ppm, which is slightly greater than the screening action level of 32 ppm.) It can be used either in-situ or as a bench instrument.

Measurements of lead, which is the most widespread contaminant of concern at the surface burn areas, will be used as the principal field indicator for determining the extent of remediation required. Field

screening with the EDXRF analyzer to characterize the extent of soil contamination will be integrated with laboratory sampling to verify decontamination so that site remediation can be accomplished in a cost-effective manner. The Standard Operating Procedure (SOP) for the EDXRF analyzer, "In Situ Field Screening of Metals in Soil by Radioisotope Excited X-Ray Fluorescence", will be followed (LANL, 1992).

The burn cage site is approximately four feet by four feet in area. A grid will be established over this area and in-situ observations will be made at each grid node locations, as shown on Figure 4.1. If lead is measured above the PRG of 500 ppm at any of the burn cage perimeter locations, the sampling area will be expanded one foot beyond the edges of the burn cage (Figure 4.1). The sampling area will continue to be expanded if the need is indicated by the field screening results.

The east and west burn areas are approximately six feet by six feet each in area. Grids will be established over these areas and in-situ observations will be made at selected grid node location, as shown on Figure 4.2. If lead is measured above 500 ppm at any of the perimeter locations, the sampling area will be expanded one foot beyond the edges of the burn area (Figure 4.2). The sampling area will continue to be expanded if the need is so indicated by the field screening results.

After the surface field screening has been completed, if lead has been measured above 500 ppm, the soil and material will be excavated to a depth of six inches within the affected areas. Additional field screening measurements will then be collected at the exposed six-inch depth from the nodal locations shown on Figure 4.1 or Figure 4.2. Additional soil will be excavated as required.

When lead is not measured above 500 ppm at any of the exposed locations, one 0-6" decontamination verification sample will be collected at the six-inch depth near the location of the original Phase II core hole at the final depth where lead contamination as measured by field screening is below 500 ppm. The decontamination verification samples will be analyzed for total lead and TCLP lead, and for antimony. Decontamination verification samples will be collected with disposable inert-plastic scoops.

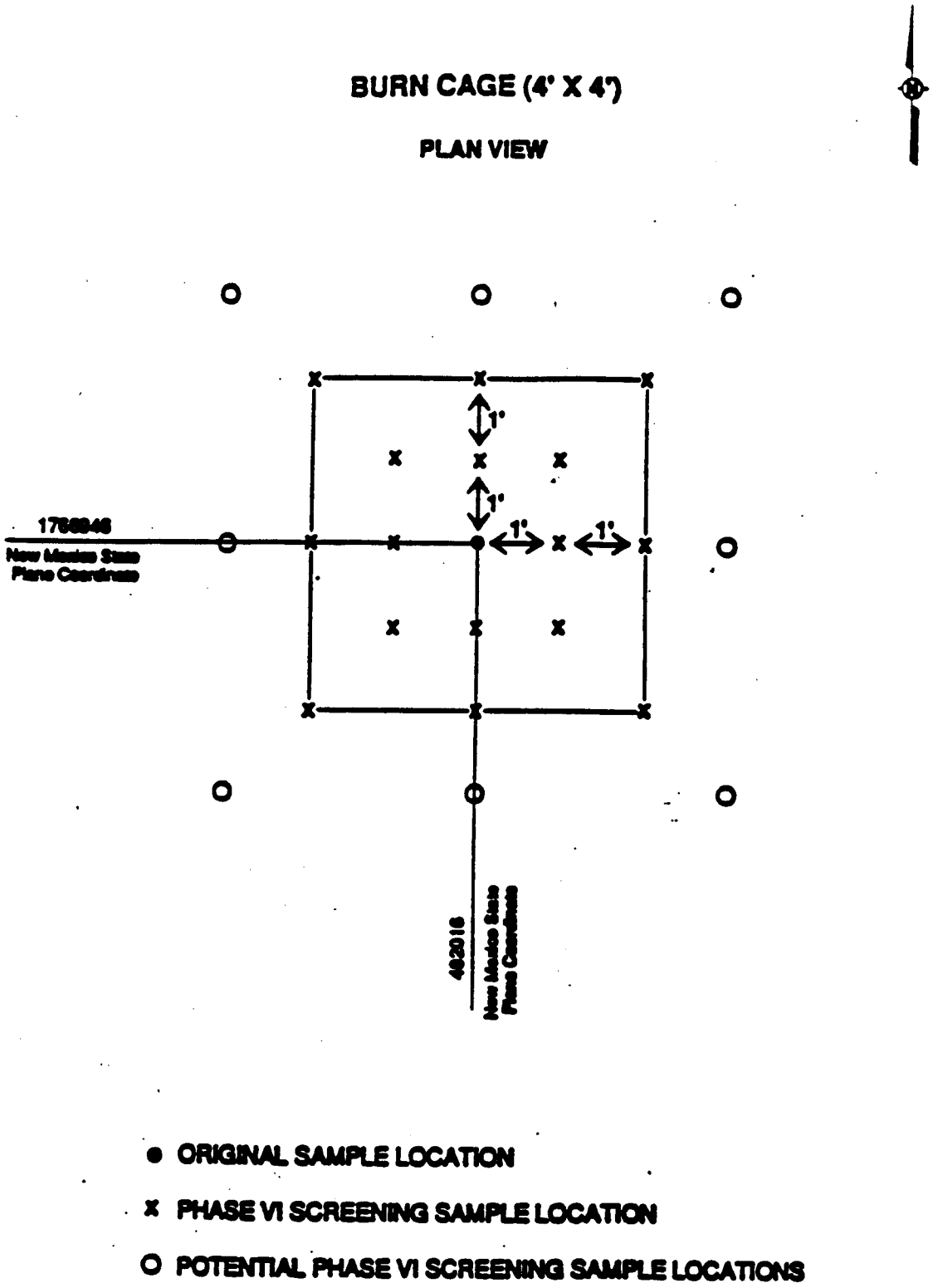

Figure 4.1. Sampling Grid for Corrective Action Investigation of Burn Cage

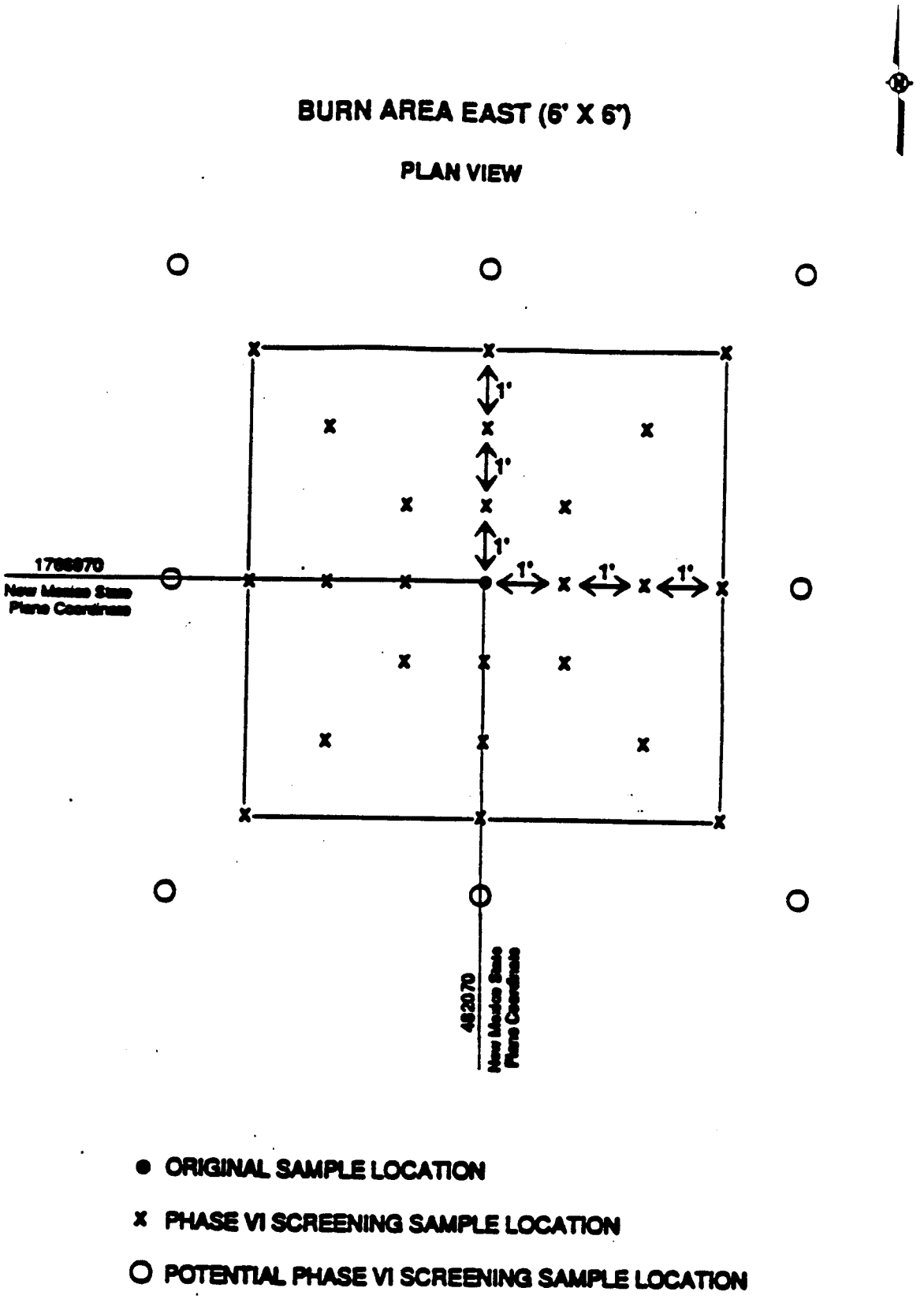

Figure 4.2. Sampling Grid for Corrective Action Investigation of Burn Area East and Burn Area West

Required excavations should be performed manually with a hand shovel. However, if the ground is frozen, other equipment (e.g., jackhammer or pneumatic shovel) may be used. Excavation equipment will be decontaminated between each six-inch interval of excavation. Equipment used during excavation will be decontaminated according to the procedures presented in Section 5.1.3 of the FCP. Soil removed from the affected area will be considered hazardous waste and will be containerized and stored in 55-gallon drums at a less-than-90-day storage area established on site. When sufficient waste has accumulated, the drums will be transported to TA-54 for temporary storage until transferred to a permitted TSDF. The excavated area will be roped off and marked with yellow warning tape. Site restoration will be done according to the steps presented in Section 5.4 of the FCP; however, this activity will be initiated only after decontamination verification data are evaluated.

QA/QC samples will be collected at the frequency discussed in Section 4.3.4 of the FCP. Sample handling and documentation will follow the guidelines in Section 4.4 of the FCP, and measures of personnel protection will adhere to those presented in Sections 4.5 and 5.1.2 of the FCP.

5.0 SCHEDULE

If this amendment is approved, a certification of final closure for TA-40 SDS and a closure report will be submitted to NMED in early 1994. The corrective actions will be conducted in the summer of 1993. The revised schedule provided in Figure 5.1 will commence upon receipt of a notice of approval of this amendment to the FCP. The dates shown on Figure 5.1 assume that NMED approves this amendment by August 1993.

The schedule includes supplementary sampling and excavation at two sites. The schedule provided on Figure 5.1 attempts to recognize all of the potential tasks required to achieve clean closure of TA-40 SDS, and allows sufficient time for completion of these activities.

CLOSURE SCHEDULE

	Early Start	Early Finish	Duration (Days)
NMED Review of Closure Plan Amendment	5/20/93	8/20/93	90
Corrective Action at Surface Burn Areas	8/23/93	--	
Field Screening/Soil Removal	8/23/93	9/3/93	10
Dispose/Manage Excavated Waste	9/6/93	9/17/93	10
Verification Sampling	9/6/93	9/10/93	5
Laboratory Analysis	9/13/93	11/12/93	45
Assess Clean-up Verification Data	11/15/93	11/19/93	5
Restore Site	11/22/93	12/3/93	10
Closure Implementation Complete	--	12/3/93	
Prepare Closure Report and Certification	11/22/93	12/17/93	20
Submit Final Closure Report to NMED	12/20/93	1/7/94	15

Figure 5.1. TA-40 Scrap Detonation Site Revised Closure Schedule

6.0 REFERENCES

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APPENDIX I

PHASE I ANALYTICAL DATA

TABLE I-a

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701
Acetone	<20	<28	<20	<20	<20	<32
Benzene	<5	<7	<5	<5	<5	<8
Bromobenzene	<5	<7	<5	<5	<5	<8
Bromochloromethane	<5	<7	<5	<5	<5	<8
Bromodichloromethane	<5	<7	<5	<5	<5	<8
Bromoform	<5	<7	<5	<5	<5	<8
Bromomethane	<10	<14	<10	<10	<10	<16
2-Butanone	<20	<28	<20	<20	<20	<32
n-Butylbenzene	<5	<7	<5	<5	<5	<8
sec-Butylbenzene	<5	<7	<5	<5	<5	<8
tert-Butylbenzene	<5	<7	<5	<5	<5	<8
Carbon disulfide	<5	<7	<5	<5	<5	<8
Carbon tetrachloride	<5	<7	<5	<5	<5	<8
Chlorobenzene	<5	<7	<5	<5	<5	<8
Chlorodibromomethane	<5	<7	<5	<5	<5	<8
Chloroethane	<10	<14	<10	<10	<10	<16
Chloroform	<5	<7	<5	<5	<5	<8
Chloromethane	<10	<14	<10	<10	<10	<16
o-Chlorotoluene	<5	<7	<5	<5	<5	<8
p-Chlorotoluene	<5	<7	<5	<5	<5	<8
1,2-Dibromo-3-chloropropane	<10	<14	<10	<10	<10	<16
1,2-Dibromoethane	<5	<7	<5	<5	<5	<8
Dibromomethane	<5	<7	<5	<5	<5	<8
o-Dichlorobenzene (1,2)	<5	<7	<5	<5	<5	<8
m-Dichlorobenzene (1,3)	<5	<7	<5	<5	<5	<8
p-Dichlorobenzene (1,4)	<5	<7	<5	<5	<5	<8
Dichlorodifluoromethane	<10	<14	<10	<10	<10	<16
1,1-Dichloroethane	<5	<7	<5	<5	<5	<8
1,2-Dichloroethane	<5	<7	<5	<5	<5	<8

TABLE I-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701
1,1-Dichloroethene	<5	<7	<5	<5	<5	<8
trans-1,2-Dichloroethene	<5	<7	<5	<5	<5	<8
cis-1,2-Dichloroethylene	<5	<7	<5	<5	<5	<8
1,2-Dichloropropane	<5	<7	<5	<5	<5	<8
1,3-Dichloropropane	<5	<7	<5	<5	<5	<8
2,2-Dichloropropane	<5	<7	<5	<5	<5	<8
1,1-Dichloropropene	<5	<7	<5	<5	<5	<8
cis-1,3-Dichloropropene	<5	<7	<5	<5	<5	<8
trans-1,3-Dichloropropene	<5	<7	<5	<5	<5	<8
Ethylbenzene	<5	<7	<5	<5	<5	<8
2-Hexanone	<20	<28	<20	<20	<20	<32
Isopropylbenzene	<5	<7	<5	<5	<5	<8
4-Isopropyltoluene	<5	<7	<5	<5	<5	<8
Methyl iodide	<5	<7	<5	<5	<5	<8
4-Methyl-2-pentanone	<20	<28	<20	<20	<20	<32
Methylene chloride	<5	<7	<5	<5	<5	<8
Propylbenzene	<5	<7	<5	<5	<5	<8
Styrene	<5	<7	<5	<5	<5	<8
1,1,1,2-Tetrachloroethane	<5	<7	<5	<5	<5	<8
1,1,2,2-Tetrachloroethane	<5	<7	<5	<5	<5	<8
Tetrachloroethylene	<5	<7	<5	<5	<5	<8
Toluene	<5	<7	<5	<5	<5	<8
1,1,2-Trichloro-1,2,2-trifluoroethane	<5	<7	<5	<5	<5	<8
1,1,1-Trichloroethane	<5	<7	<5	<5	<5	<8
1,1,2-Trichloroethane	<5	<7	<5	<5	<5	<8
Trichloroethene	<5	<7	<5	<5	<5	<8
Trichlorofluoromethane	<5	<7	<5	<5	<5	<8
1,2,3-Trichloropropane	<5	<7	<5	<5	<5	<8

TABLE I-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701
1,2,4-Trimethylbenzene	<5*	<7	<5	<5	<5	<8
1,3,5-Trimethylbenzene	<5	<7	<5	<5	<5	<8
Vinyl acetate	<10	<14	<10	<10	<10	<16
Vinyl chloride	<10	<14	<10	<10	<10	<16
Mixed-Xylenes (o ± m ± p)	<5	<7	<5	<5	<5	<8
Tentatively Identified Compounds (TICs)	None	None	None	None	None	None

<: Indicates volatile organic compounds (VOC) concentration is less than the given value (detection limit).
NOTE: All samples contained charcoal/burnt material.

TABLE I-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.00702	92.00703	92.00704	92.00770
Acetone	<20	<20	<20	<20
Benzene	<5	<5	<5	<5
Bromobenzene	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5
Bromomethane	<10	<10	<10	<10
2-Butanone	<20	<20	<20	<20
n-Butylbenzene	<5	<5	<5	<5
sec-Butylbenzene	<5	<5	<5	<5
tert-Butylbenzene	<5	<5	<5	<5
Carbon disulfide	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5
Chlorodibromomethane	<5	<5	<5	<5
Chloroethane	<10	<10	<10	<10
Chloroform	<5	<5	<5	<5
Chloromethane	<10	<10	<10	<10
o-Chlorotoluene	<5	<5	<5	<5
p-Chlorotoluene	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	<10	<10	<10	<10
1,2-Dibromoethane	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5
o-Dichlorobenzene (1,2)	<5	<5	<5	<5
m-Dichlorobenzene (1,3)	<5	<5	<5	<5
p-Dichlorobenzene (1,4)	<5	<5	<5	<5
Dichlorodifluoromethane	<10	<10	<10	<10
1,1-Dichloroethane	<5	<5	<5	<5

TABLE I-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.00702	92.00703	92.00704	92.00770
1,2-Dichloroethane	<5	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5	<5
cis-1,2-Dichloroethylene	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5
1,3-Dichloropropane	<5	<5	<5	<5
2,2-Dichloropropane	<5	<5	<5	<5
1,1-Dichloropropene	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5
trans-1,3-Dichloropropene	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5
2-Hexanone	<20	<20	<20	<20
Isopropylbenzene	<5	<5	<5	<5
4-Isopropyltoluene	<5	<5	<5	<5
Methyl iodide	<5	<5	<5	<5
4-Methyl-2-pentanone	<20	<20	<20	<20
Methylene chloride	<5	<5	<5	<5
Propylbenzene	<5	<5	<5	<5
Styrene	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5
Toluene	<5	<5	<5	<5
1,1,2-Trichloro-1,2,2-trifluoroethane	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5
Trichlorofluoromethane	<5	<5	<5	<5

TABLE I-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.00702	92.00703	92.00704	92.00770
1,2,3-Trichloropropane	<5	<5	<5	<5
1,2,4-Trimethylbenzene	<5	<5	<5	<5
1,3,5-Trimethylbenzene	<5	<5	<5	<5
Vinyl acetate	<10	<10	<10	<10
Vinyl chloride	<10	<10	<10	<10
Mixed-Xylenes (o ± m ± p)	<5	<5	<5	<5
Tentatively Identified Compounds (TICs)	None	None	None	None

<: Indicates volatile organic compounds (VOC) concentration is less than the given value (detection limit).
NOTE: All samples contained charcoal/burnt material.

TABLE I-b

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701
Acenaphthene	<330	<1300	<330	<330	<330	<330
Acenaphthylene	<330	<1300	<330	<330	<330	<330
Aniline	<330	<1300	<330	<330	<330	<330
Anthracene	<330	<1300	<330	<330	<330	<330
Azobenzene	<330	<1300	<330	<330	<330	<330
m-Benzidine	<330	<1300	<330	<330	<330	<330
Benzo[a]anthracene	<330	<1300	<330	<330	<330	<330
Benzo[a]pyrene	<330	<1300	<330	<330	<330	<330
Benzo[b]fluoranthene	<330	<1300	<330	<330	<330	<330
Benzo[g,h,i]perylene	<330	<1300	<330	<330	<330	<330
Benzo[k]fluoranthene	<330	<1300	<330	<330	<330	<330
Benzoic acid	<330	<1300	<330	<330	<330	<330
Benzyl alcohol	<330	<1300	<330	<330	<330	<330
Bis(2-chloroethoxy)methane	<330	<1300	<330	<330	<330	<330
Bis(2-chloroethyl)ether	<330	<1300	<330	<330	<330	<330
Bis(2-chloroisopropyl)ether	<330	<1300	<330	<330	<330	<330
Bis(2-ethylhexyl)phthalate	<330	<1300	<330	<330	<330	<330
4-Bromophenylphenyl ether	<330	<1300	<330	<330	<330	<330
Butyl benzyl phthalate	<330	<1300	<330	<330	<330	<330
4-Chloro-3-methylphenol	<330	<1300	<330	<330	<330	<330
4-Chloroaniline	<330	<1300	<330	<330	<330	<330
2-Chloronaphthalene	<330	<1300	<330	<330	<330	<330
o-Chlorophenol	<330	<1300	<330	<330	<330	<330
4-Chlorophenylphenyl ether	<330	<1300	<330	<330	<330	<330
Chrysene	<330	<1300	<330	<330	<330	<330
Di-n-butyl phthalate	<330	<1300	<330	<330	<330	<330
Di-n-octyl phthalate	<330	<1300	<330	<330	<330	<330
Dibenzo[a,h]anthracene	<330	<1300	<330	<330	<330	<330
Dibenzofuran	<330	<1300	<330	<330	<330	<330

TABLE I-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701
o-Dichlorobenzene (1,2)	<330	<1300	<330	<330	<330	<330
m-Dichlorobenzene (1,3)	<330	<1300	<330	<330	<330	<330
p-Dichlorobenzene (1,4)	<330	<1300	<330	<330	<330	<330
3,3'-Dichlorobenzidine	<330	<1300	<330	<330	<330	<330
2,4-Dichlorophenol	<330	<1300	<330	<330	<330	<330
Diethyl phthalate	<330	<1300	<330	<330	<330	<330
Dimethyl phthalate	<330	<1300	<330	<330	<330	<330
2,4-Dimethylphenol	<330	<1300	<330	<330	<330	<330
2,4-Dinitrophenol	<330	<1300	<330	<330	<330	<330
2,4-Dinitrotoluene	<330	<1300	<330	<330	<330	<330
2,6-Dinitrotoluene	<330	<1300	<330	<330	<330	<330
Fluoranthene	<330	<1300	<330	<330	<330	<330
Fluorene	<330	<1300	<330	<330	<330	<330
Hexachlorobenzene	<330	<1300	<330	<330	<330	<330
Hexachlorobutadiene	<330	<1300	<330	<330	<330	<330
Hexachlorocyclopentadiene	<330	<1300	<330	<330	<330	<330
Hexachloroethane	<330	<1300	<330	<330	<330	<330
Indeno(1,2,3-cd)pyrene	<330	<1300	<330	<330	<330	<330
Isophorone	<330	<1300	<330	<330	<330	<330
2-Methyl-4,6-dinitrophenol	<330	<1300	<330	<330	<330	<330
2-Methylnaphthalene	<330	<1300	<330	<330	<330	<330
2-Methylphenol	<330	<1300	<330	<330	<330	<330
4-Methylphenol	<330	<1300	<330	<330	<330	<330
Naphthalene	<330	<1300	<330	<330	<330	<330
2-Nitroaniline	<330	<1300	<330	<330	<330	<330
3-Nitroaniline	<330	<1300	<330	<330	<330	<330
4-Nitroaniline	<330	<1300	<330	<330	<330	<330
Nitrobenzene	<330	<1300	<330	<330	<330	<330

TABLE I-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701
2-Nitrophenol	<330	<1300	<330	<330	<330	<330
4-Nitrophenol	<330	<1300	<330	<330	<330	<330
N-Nitrosodi-n-propylamine	<330	<1300	<330	<330	<330	<330
N-Nitrosodimethylamine	<330	<1300	<330	<330	<330	<330
N-Nitrosodiphenylamine	<330	<1300	<330	<330	<330	<330
Pentachlorophenol	<330	<1300	<330	<330	<330	<330
Phenanthrene	<330	<1300	<330	<330	<330	<330
Phenol	<330	<1300	<330	<330	<330	<330
Pyrene	<330	<1300	<330	<330	<330	<330
1,2,4-Trichlorobenzene	<330	<1300	<330	<330	<330	<330
2,4,5-Trichlorophenol	<330	<1300	<330	<330	<330	<330
2,4,6-Trichlorophenol	<330	<1300	<330	<330	<330	<330
Tentatively Identified Compounds (TICs)	None	5600*	None	2700*	None	None

<: Indicates semivolatile organic compound (SVOC) concentration was less than the given value (detection limit).
*: TIC detected was an unknown organic compound.

TABLE I-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.00702	92.00703	92.00704	92.00770
Acenaphthene	<330	<330	<330	<3300
Acenaphthylene	<330	<330	<330	<3300
Aniline	<330	<330	<330	<3300
Anthracene	<330	<330	<330	<3300
Azobenzene	<330	<330	<330	<3300
m-Benzidine	<330	<330	<330	<3300
Benzo[a]anthracene	<330	<330	<330	<3300
Benzo[a]pyrene	<330	<330	<330	<3300
Benzo[b]fluoranthene	<330	<330	<330	<3300
Benzo[g,h,i]perylene	<330	<330	<330	<3300
Benzo[k]fluoranthene	<330	<330	<330	<3300
Benzoic acid	<330	<330	<330	<3300
Benzyl alcohol	<330	<330	<330	<3300
Bis(2-chloroethoxy)methane	<330	<330	<330	<3300
Bis(2-chloroethyl)ether	<330	<330	<330	<3300
Bis(2-chloroisopropyl)ether	<330	<330	<330	<3300
Bis(2-ethylhexyl)phthalate	<330	<330	<330	<3300
4-Bromophenylphenyl ether	<330	<330	<330	<3300
Butyl benzyl phthalate	<330	<330	<330	<3300
4-Chloro-3-methylphenol	<330	<330	<330	<3300
4-Chloroaniline	<330	<330	<330	<3300
2-Chloronaphthalene	<330	<330	<330	<3300
o-Chlorophenol	<330	<330	<330	<3300
4-Chlorophenylphenyl ether	<330	<330	<330	<3300
Chrysene	<330	<330	<330	<3300
Di-n-butyl phthalate	<330	<330	<330	<3300
Di-n-octyl phthalate	<330	<330	<330	<3300
Dibenzo[a,h]anthracene	<330	<330	<330	<3300

TABLE I-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.00702	92.00703	92.00704	92.00770
Dibenzofuran	<330	<330	<330	<3300
o-Dichlorobenzene (1,2)	<330	<330	<330	<3300
m-Dichlorobenzene (1,3)	<330	<330	<330	<3300
p-Dichlorobenzene (1,4)	<330	<330	<330	<3300
3,3'-Dichlorobenzidine	<330	<330	<330	<3300
2,4-Dichlorophenol	<330	<330	<330	<3300
Diethyl phthalate	<330	<330	<330	<3300
Dimethyl phthalate	<330	<330	<330	<3300
2,4-Dimethylphenol	<330	<330	<330	<3300
2,4-Dinitrophenol	<330	<330	<330	<3300
2,4-Dinitrotoluene	<330	<330	<330	<3300
2,6-Dinitrotoluene	<330	<330	<330	<3300
Fluoranthene	<330	<330	<330	<3300
Fluorene	<330	<330	<330	<3300
Hexachlorobenzene	<330	<330	<330	<3300
Hexachlorobutadiene	<330	<330	<330	<3300
Hexachlorocyclopentadiene	<330	<330	<330	<3300
Hexachloroethane	<330	<330	<330	<3300
Indeno(1,2,3-cd)pyrene	<330	<330	<330	<3300
Isophorone	<330	<330	<330	<3300
2-Methyl-4,6-dinitrophenol	<330	<330	<330	<3300
2-Methylnaphthalene	<330	<330	<330	<3300
2-Methylphenol	<330	<330	<330	<3300
4-Methylphenol	<330	<330	<330	<3300
Naphthalene	<330	<330	<330	<3300
2-Nitroaniline	<330	<330	<330	<3300
3-Nitroaniline	<330	<330	<330	<3300
4-Nitroaniline	<330	<330	<330	<3300

TABLE I-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.00702	92.00703	92.00704	92.00770
Nitrobenzene	<330	<330	<330	<3300
2-Nitrophenol	<330	<330	<330	<3300
4-Nitrophenol	<330	<330	<330	<3300
N-Nitrosodi-n-propylamine	<330	<330	<330	<3300
N-Nitrosodimethylamine	<330	<330	<330	<3300
N-Nitrosodiphenylamine	<330	<330	<330	<3300
Pentachlorophenol	<330	<330	<330	<3300
Phenanthrene	<330	<330	<330	<3300
Phenol	<330	<330	<330	<3300
Pyrene	<330	<330	<330	<3300
1,2,4-Trichlorobenzene	<330	<330	<330	<3300
2,4,5-Trichlorophenol	<330	<330	<330	<3300
2,4,6-Trichlorophenol	<330	<330	<330	<3300
Tentatively Identified Compounds (TICs)	None	None	None	None

<: Indicates semivolatile organic compound (SVOC) concentration was less than the given value (detection limit).

TABLE I-c

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
PESTICIDES (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER									
COMPOUND[1]	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701	92.00702	92.00703	92.00704	92.00770
alpha-BHC	<1.1	<1.1	<1.2	<1.2	<1.1	<1.1	<1.2	<1.2	<1.1	<1.1
beta-BHC	<2.2	<2.2	<2.3	<2.4	<2.2	<2.3	<2.3	<2.3	<2.2	<2.2
delta-BHC	<3.3	<3.3	<3.5	<3.5	<3.4	<3.4	<3.5	<3.5	<3.4	<3.4
Lindane	<1.5	<1.5	<1.5	<1.6	<1.5	<1.5	<1.6	<1.6	<1.5	<1.5
Heptachlor	<1.1	<1.1	<1.2	<1.2	<1.1	<1.1	<1.2	<1.2	<1.1	<1.1
Aldrin	<1.5	<1.5	<1.5	<1.6	<1.5	<1.5	<1.6	<1.6	<1.5	<1.5
Heptachlor epoxide	<31	<30	<32	<32	<31	<32	<32	<32	<31	<31
Endosulfan I	<5.2	<5.1	<5.4	<5.5	<5.2	<5.3	<5.4	<5.4	<5.2	<5.2
Dieldrin	<0.74	<0.74	<0.77	<0.78	<0.75	<0.76	<0.78	<0.78	<0.75	<0.75
p,p'-DDE	<1.5	<1.5	<1.5	<1.6	<1.5	<1.5	<1.6	<1.6	<1.5	<1.5
Endrin	<2.2	<2.2	<2.3	<2.4	<2.2	<2.3	<2.3	<2.3	<2.2	<2.2
Endosulfan II	<1.5	<1.5	<5.4	<1.6	<1.5	<1.5	<1.6	<1.6	<1.5	<1.5
p,p'-DDD	<4.1	<4	<4.2	<4.3	<4.1	<4.2	<4.3	<4.3	<4.1	<4.1
Endosulfan sulfate	<24	<24	<25	<26	<25	<25	<26	<26	<25	<25
p,p'-DDT	<4.4	<4.4	<4.6	<4.7	<4.5	<4.6	<4.6	<4.7	<4.5	<4.5
Methoxychlor	<65	<65	<68	<69	<66	<67	<68	<68	<66	<66
Endrin aldehyde	<8.5	<8.4	<8.9	<9	<8.6	<8.8	<8.9	<8.9	<8.6	<8.6
Chlordane	<5.2	<5.1	<5.4	<5.5	<5.2	<5.3	<5.4	<5.4	<5.2	<5.2
Toxaphene	<89	<88	<93	<94	<90	<91	<93	<93	<90	<90

< Indicates pesticide concentration is less than the given value (detection limit)
1 Tentatively identified compounds (TICs) were not detected in any samples

TABLE I-d

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
HERBICIDES (in µg/kg)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER									
COMPOUND[1]	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701	92.00702	92.00703	92.00704	92.00770
2,4-D	<27	<26	<28	28	<27	<28	<28	<28	<27	<27
2,4,5-TP	<3.8	<3.7	<4	<4	<3.8	<3.9	<4	<4	<3.9	<3.9
2,4,5-T	<4.4	<4.4	<4.7	<4.7	<4.5	<4.6	<4.7	<4.7	<4.5	<4.5

<: Indicates herbicide concentration is less than the given value (detection limit).
1. Tentatively identified compounds (TICs) were not detected in any samples.

TABLE I-e

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
POLYCHLORINATED BIPHENYLS (PCBs) (in µg/g)
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER									
COMPOUND	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701	92.00702	92.00703	92.00704	92.00770
Mixed-Aroclor	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Aroclor 1242	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Aroclor 1254	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Aroclor 1260	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06

<: Indicates PCB concentration is less than the given value (detection limit).

TABLE I-f

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
NITRATE-N (in µg/g)
PHASE I DATA

SAMPLE IDENTIFICATION NUMBER	NITRATE-N	NITRATE-N (DUPLICATE)
92.00696	NR	NR
92.00697	NR	NR
92.00698	NR	NR
92.00699	NR	NR
92.00700	NR	NR
92.00701	NR	NR
92.00702	NR	NR
92.00703	NR	NR
92.00704	NR	NR
92.00770	0.317	0.317

NR: Not requested.

TABLE I-g

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE I DATA

COMPOUND	SAMPLE IDENTIFICATION NUMBER										
	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701	92.00702	92.00702 (Duplicate)	92.00703	92.00704	92.00704 (Duplicate)
Aluminum	5.53%	5%	5.16%	5%	5.2%	4.6%	5%	NA	5%	5.4%	NA
Arsenic	<0.2	0.3	0.3	0.2	0.3	0.2	0.4	NA	0.4	0.4	NA
Barium	180	183	231	248	156	200	260	NA	284	281	NA
Beryllium	1.91	2.08	1.7	1.6	1.61	1.52	1.98	NA	1.55	1.76	NA
Calcium	2100	1960	2700	2700	2070	1900	3840	NA	2550	3190	NA
Cadmium	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	NA
Cobalt	<1	<1	2	2	2	1	2	NA	1	2	NA
Chromium	1.7	2	2	2.4	2.1	2	2	1.7	2.8	2.1	3
Copper	16	0.85	24	3	4.4	1.4	0.6	0.6	54	59	62
Iron	8600	1.03%	1.26%	1.28%	9900	8790	1.3%	NA	8520	1.1%	NA
Potassium	2.42%	2.18%	2%	2%	2.6%	2.3%	2.4%	NA	2.4%	2.6%	NA
Magnesium	450	437	1100	1100	740	530	1410	NA	810	1140	NA
Manganese	324	379	321	365	312	265	622	NA	324	323	NA
Mercury [1]	18.7	15.3	20.4	16	18.9	18.4	16.5	NA	17.6	19.6	NA
Mercury (Duplicate)[1]	17.8	15.3	15.9	12.3	17.9	17	15.5	NA	16	16.6	NA
Selenium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	NA	<0.2	<0.2	NA
Silver	2.6	<1	<1	<1	1.1	<1	<1	NA	<1	<1	NA

TABLE I-g (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER										
COMPOUND	92.00696	92.00697	92.00698	92.00699	92.00700	92.00701	92.00702	92.00702 (Duplicate)	92.00703	92.00704	92.00704 (Duplicate)
Silver (Duplicate)	1.1	<1	<1	<1	<1	<1	<1	NA	<1	<1	NA
Sodium	2.67%	2.38%	2.25%	22.5%	2.3%	2.2%	2.3%	NA	2.3%	2.4%	NA
Nickel	2	1.8	2	2	2.4	1.7	2.2	2	2.7	2.5	3.2
Lead	13	15	15	14	12.7	13	12	NA	35	27	24
Antimony	<2	<2	<2	<2	<2	<2	<2	NA	<2	<2	NA
Thallium	<4	<4	<4	<4	<4	<4	<4	NA	<4	<4	NA
Vanadium	3	5	9	9	6	4	8	NA	6	10	NA
Zinc	28	26.6	24	27	24	24	24	21	56	21	33

<: Indicates metal concentration is less than the given value (detection limit).
*: Concentration units are given in µg/g, unless otherwise indicated.
1: Mercury concentration units are in ng/g.
NA: Not analyzed.

TABLE I-g (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER	
COMPOUND	92.00770	92.00770 (Duplicate)
Aluminum	6%	6.07%
Arsenic	0.4	0.4
Barium	262	313
Beryllium	1.67	1.72
Calcium	3110	4070
Cadmium	<1	1
Cobalt	3	3
Chromium	5	5
Copper	40	56
Iron	1.78%	1.34%
Potassium	3%	2.91%
Magnesium	1560	1280
Manganese	424	456
Mercury[1]	<2	<2
Selenium	<0.2	<0.2
Silver	<1	<1
Sodium	2.69%	2.69%

TABLE I-g (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER	
COMPOUND	92.00770	92.00770 (Duplicate)
Nickel	5	3
Lead	2710	2980
Antimony	<2	<2
Thallium	<1	<1
Vanadium	12	12
Zinc	54	48

<: Indicates metal concentration is less than the given value (detection limit).
*: Concentration units are given in µg/g, unless otherwise indicated.
1: Mercury concentration units are in ng/g.

TABLE I-h

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) METALS
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER					
TCLP METAL	92.00711	92.00712	92.00713	92.00714	92.00715	92.00716
Arsenic[1]	<2	<2	<2	<2	<2	<2
Barium[2]	0.34	0.31	0.55	0.65	0.42	0.41
Cadmium[2]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium[2]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead[2]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Mercury[1]	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Selenium[1]	<2	<2	<2	<2	<2	<2
Silver[1]	<10	<10	<10	<10	<10	<10

	SAMPLE IDENTIFICATION NUMBER			
TCLP METAL	92.00717	92.00718	92.00719	92.00780
Arsenic[1]	3.2	<2	<2	<2
Barium[2]	0.36	0.37	0.47	0.44
Cadmium[2]	<0.01	<0.01	<0.01	<0.02
Chromium[2]	0.01	<0.01	0.01	<0.01
Lead[2]	<0.05	<0.05	<0.05	<0.05
Mercury[1]	<0.1	<0.1	<0.1	<0.1
Selenium[1]	<2	<2	<2	<2
Silver[1]	<10	<10	<10	<10

<: Indicates TCLP metal concentration is less than the given value (detection limit).
1: Results are given in µg/L.
2: Results are given in mg/L.

TABLE I-h

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) METALS
PHASE I DATA

	SAMPLE IDENTIFICATION NUMBER					
TCLP METAL	92.00711	92.00712	92.00713	92.00714	92.00715	92.00716
Arsenic[1]	<2	<2	<2	<2	<2	<2
Barium[2]	0.34	0.31	0.55	0.65	0.42	0.41
Cadmium[2]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium[2]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Lead[2]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Mercury[1]	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Selenium[1]	<2	<2	<2	<2	<2	<2
Silver[1]	<10	<10	<10	<10	<10	<10

	SAMPLE IDENTIFICATION NUMBER			
TCLP METAL	92.00717	92.00718	92.00719	92.00780
Arsenic[1]	3.2	<2	<2	<2
Barium[2]	0.36	0.37	0.47	0.44
Cadmium[2]	<0.01	<0.01	<0.01	<0.02
Chromium[2]	0.01	<0.01	0.01	<0.01
Lead[2]	<0.05	<0.05	<0.05	<0.05
Mercury[1]	<0.1	<0.1	<0.1	<0.1
Selenium[1]	<2	<2	<2	<2
Silver[1]	<10	<10	<10	<10

<: Indicates TCLP metal concentration is less than the given value (detection limit).
1: Results are given in µg/L.
2: Results are given in mg/L.

APPENDIX II

PHASE II ANALYTICAL DATA

TABLE II-a

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00705	92.00706	92.00707	92.00708	92.00709	92.00710
Acetone	<20	<20	<52	<20	<20	<20
Benzene	<5	<5	<13	<5	<5	<5
Bromobenzene	<5	<5	<13	<5	<5	<5
Bromochloromethane	<5	<5	<13	<5	<5	<5
Bromodichloromethane	<5	<5	<13	<5	<5	<5
Bromoform	<5	<5	<13	<5	<5	<5
Bromomethane	<10	<10	<26	<10	<10	<10
2-Butanone	<20	<20	<52	<20	<20	<20
n-Butylbenzene	<5	<5	<13	<5	<5	<5
sec-Butylbenzene	<5	<5	<13	<5	<5	<5
tert-Butylbenzene	<5	<5	<13	<5	<5	<5
Carbon disulfide	<5	<5	<13	<5	<5	<5
Carbon tetrachloride	<5	<5	<13	<5	<5	<5
Chlorobenzene	<5	<5	<13	<5	<5	<5
Chlorodibromomethane	<5	<5	<13	<5	<5	<5
Chloroethane	<10	<10	<26	<10	<10	<10
Chloroform	<5	<5	<13	<5	<5	<5
Chloromethane	<10	<10	<26	<10	<10	<10
o-Chlorotoluene	<5	<5	<13	<5	<5	<5
p-Chlorotoluene	<5	<5	<13	<5	<5	<5
1,2-Dibromo-3-chloropropane	<10	<10	<26	<10	<10	<10
1,2-Dibromoethane	<5	<5	<13	<5	<5	<5
Dibromomethane	<5	<5	<13	<5	<5	<5
o-Dichlorobenzene (1,2)	<5	<5	<13	<5	<5	<5
m-Dichlorobenzene (1,3)	<5	<5	<13	<5	<5	<5
p-Dichlorobenzene (1,4)	<5	<5	<13	<5	<5	<5
Dichlorodifluoromethane	<10	<10	<26	<10	<10	<10
1,1-Dichloroethane	<5	<5	<13	<5	<5	<5
1,2-Dichloroethane	<5	<5	<13	<5	<5	<5

TABLE II-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00705	92.00706	92.00707	92.00708	92.00709	92.00710
1,1-Dichloroethene	<5	<5	<13	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<13	<5	<5	<5
cis-1,2-Dichloroethylene	<5	<5	<13	<5	<5	<5
1,2-Dichloropropane	<5	<5	<13	<5	<5	<5
1,3-Dichloropropane	<5	<5	<13	<5	<5	<5
2,2-Dichloropropane	<5	<5	<13	<5	<5	<5
1,1-Dichloropropene	<5	<5	<13	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<13	<5	<5	<5
trans-1,3-Dichloropropene	<5	<5	<13	<5	<5	<5
Ethylbenzene	<5	<5	<13	<5	<5	<5
2-Hexanone	<20	<20	<52	<20	<20	<20
Isopropylbenzene	<5	<5	<13	<5	<5	<5
4-Isopropyltoluene	<5	<5	<13	<5	<5	<5
Methyl iodide	<5	<5	<13	<5	<5	<5
4-Methyl-2-pentanone	<20	<20	<52	<20	<20	<20
Methylene chloride	<5	<5	<13	<5	<5	<5
Propylbenzene	<5	<5	<13	<5	<5	<5
Styrene	<5	<5	<13	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<13	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<13	<5	<5	<5
Tetrachloroethylene	<5	<5	<13	<5	<5	<5
Toluene	<5	<5	<13	<5	<5	<5
1,1,2-Trichloro-1,2,2-trifluoroethane	<5	<5	<13	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<13	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<13	<5	<5	<5
Trichloroethene	<5	<5	<13	<5	<5	<5
Trichlorofluoromethane	<5	<5	<13	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<13	<5	<5	<5

TABLE II-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

COMPOUND	SAMPLE IDENTIFICATION NUMBER					
	92.00705	92.00706	92.00707	92.00708	92.00709	92.00710
1,2,4-Trimethylbenzene	<5	<5	<13	<5	<5	<5
1,3,5-Trimethylbenzene	<5	<5	<13	<5	<5	<5
Vinyl acetate	<10	<10	<26	<10	<10	<10
Vinyl chloride	<10	<10	<26	<10	<10	<10
Mixed-Xylenes (o ± m ± p)	<5	<5	<13	<5	<5	<5
Tentatively Identified Compounds (TICs)	None	None	None	None	None	None

<: Indicates volatile organic compound (VOC) concentration is less than the given value (detection limit).
NOTE: All samples contained charcoal/burnt material.

TABLE II-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

COMPOUND	SAMPLE IDENTIFICATION NUMBER					
	92.00761	92.00762	92.00763	92.00764	92.00765	92.00766
Acetone	<20	<20	<20	<20	<20	<20
Benzene	<5	<5	<5	<5	<5	<5
Bromobenzene	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5
Bromomethane	<5	<5	<5	<5	<5	<5
2-Butanone	<10	<10	<10	<10	<10	<10
n-Butylbenzene	<20	<20	<20	<20	<20	<20
sec-Butylbenzene	<5	<5	<5	<5	<5	<5
tert-Butylbenzene	<5	<5	<5	<5	<5	<5
Carbon disulfide	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5
Chlorodibromomethane	<5	<5	<5	<5	<5	<5
Chloroethane	<5	<5	<5	<5	<5	<5
Chloroform	<10	<10	<10	<10	<10	<10
Chloromethane	<5	<5	<5	<5	<5	<5
o-Chlorotoluene	<10	<10	<10	<10	<10	<10
p-Chlorotoluene	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<10	<10	<10	<10	<10	<10
Dibromomethane	<5	<5	<5	<5	<5	<5
o-Dichlorobenzene (1,2)	<5	<5	<5	<5	<5	<5
m-Dichlorobenzene (1,3)	<5	<5	<5	<5	<5	<5
p-Dichlorobenzene (1,4)	<5	<5	<5	<5	<5	<5
Dichlorodifluoromethane	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<10	<10	<10	<10	<10	<10
	<5	<5	<5	<5	<5	<5

TABLE II-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00761	92.00762	92.00763	92.00764	92.00765	92.00766
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5
cis-1,2-Dichloroethylene	<5	<5	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5	<5	<5
1,3-Dichloropropane	<5	<5	<5	<5	<5	<5
2,2-Dichloropropane	<5	<5	<5	<5	<5	<5
1,1-Dichloropropene	<5	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
trans-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5
2-Hexanone	<20	<20	<20	<20	<20	<20
Isopropylbenzene	<5	<5	<5	<5	<5	<5
4-Isopropyltoluene	<5	<5	<5	<5	<5	<5
Methyl iodide	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	<20	<20	<20	<20	<20	<20
Methylene chloride	<5	<5	<5	<5	<5	<5
Propylbenzene	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5
1,1,2-Trichloro-1,2,2-trifluoroethane	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5

TABLE II-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00761	92.00762	92.00763	92.00764	92.00765	92.00766
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5
1,2,4-Trimethylbenzene	<5	<5	<5	<5	<5	<5
1,3,5-Trimethylbenzene	<5	<5	<5	<5	<5	<5
Vinyl acetate	<10	<10	<10	<10	<10	<10
Vinyl chloride	<10	<10	<10	<10	<10	<10
Mixed-Xylenes (o ± m ± p)	<5	<5	<5	<5	<5	<5
Tentatively Identified Compounds (TICs)	None	None	None	None	None	None

<: Indicates volatile organic compound (VOC) concentration is less than the given value (detection limit).
NOTE: All samples contained charcoal/burnt material.

TABLE II-e (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

COMPOUND	SAMPLE IDENTIFICATION NUMBER				
	92.00767[1]	92.00768[1]	92.00769[1]	92.00913	92.00914
Acetone	<24	<20	<20	<20	<20
Benzene	<6	<5	<5	<5	<5
Bromobenzene	<6	<5	<5	<5	<5
Bromochloromethane	<6	<5	<5	<5	<5
Bromodichloromethane	<6	<5	<5	<5	<5
Bromoform	<6	<5	<5	<5	<5
Bromomethane	<12	<10	<10	<10	<10
2-Butanone	<24	<20	<20	<20	<20
n-Butylbenzene	<6	<5	<5	<5	<5
sec-Butylbenzene	<6	<5	<5	<5	<5
tert-Butylbenzene	<6	<5	<5	<5	<5
Carbon disulfide	<6	<5	<5	<5	<5
Carbon tetrachloride	<6	<5	<5	<5	<5
Chlorobenzene	<6	<5	<5	<5	<5
Chlorodibromomethane	<6	<5	<5	<5	<5
Chloroethane	<12	<10	<10	<10	<10
Chloroform	<6	<5	<5	<5	<5
Chloromethane	<12	<10	<10	<10	<10
o-Chlorotoluene	<6	<5	<5	<5	<5
p-Chlorotoluene	<6	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	<12	<10	<10	<10	<10
1,2-Dibromoethane	<6	<5	<5	<5	<5
Dibromomethane	<6	<5	<5	<5	<5
o-Dichlorobenzene (1,2)	<6	<5	<5	<5	<5
m-Dichlorobenzene (1,3)	<6	<5	<5	<5	<5
p-Dichlorobenzene (1,4)	<6	<5	<5	<5	<5
Dichlorodifluoromethane	<12	<10	<10	<10	<10
1,1-Dichloroethane	<6	<5	<5	<5	<5

TABLE II-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

COMPOUND	SAMPLE IDENTIFICATION NUMBER				
	92.00767'	92.00768'	92.00769'	92.00913	92.00914
1,2-Dichloroethane	<6	<5	<5	<5	<5
1,1-Dichloroethene	<6	<5	<5	<5	<5
trans-1,2-Dichloroethene	<6	<5	<5	<5	<5
cis-1,2-Dichloroethylene	<6	<5	<5	<5	<5
1,2-Dichloropropane	<6	<5	<5	<5	<5
1,3-Dichloropropane	<6	<5	<5	<5	<5
2,2-Dichloropropane	<6	<5	<5	<5	<5
1,1-Dichloropropene	<6	<5	<5	<5	<5
cis-1,3-Dichloropropene	<6	<5	<5	<5	<5
trans-1,3-Dichloropropene	<6	<5	<5	<5	<5
Ethylbenzene	<6	<5	<5	<5	<5
2-Hexanone	<24	<20	<20	<20	<20
Isopropylbenzene	<6	<5	<5	<5	<5
4-Isopropyltoluene	<6	<5	<5	<5	<5
Methyl iodide	<6	<5	<5	<5	<5
4-Methyl-2-pentanone	<24	<20	<20	<20	<20
Methylene chloride	<6	<5	<5	<5	<5
Propylbenzene	<6	<5	<5	<5	<5
Styrene	<6	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<6	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<6	<5	<5	<5	<5
Tetrachloroethylene	<6	<5	<5	<5	<5
Toluene	<6	<5	<5	<5	<5
1,1,2-Trichloro-1,2,2-trifluoroethane	<6	<5	<5	<5	<5
1,1,1-Trichloroethane	<6	<5	<5	<5	<5
1,1,2-Trichloroethane	<6	<5	<5	<5	<5
Trichloroethene	<6	<5	<5	<5	<5
Trichlorofluoromethane	<6	<5	<5	<5	<5

TABLE II-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER				
COMPOUND	92.00767[1]	92.00768[1]	92.00769[1]	92.00913	92.00914
1,2,3-Trichloropropane	<6	<5	<5	<5	<5
1,2,4-Trimethylbenzene	<6	<5	<5	<5	<5
1,3,5-Trimethylbenzene	<6	<5	<5	<5	<5
Vinyl acetate	<12	<10	<10	<10	<10
Vinyl chloride	<12	<10	<10	<10	<10
Mixed-Xylenes (o ± m ± p)	<6	<5	<5	<5	<5
Tentatively Identified Compounds (TICs)	None	3400*	150*	None	None

<: Indicates volatile organic compound (VOC) concentration is less than the given value (detection limit).
*: Sample contained saturated hydrocarbons at indicated value.
1: Samples 92.00767, 92.00768, and 92.00769 contained charcoal/burnt material.

TABLE II-b

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00705	92.00706	92.00707	92.00708	92.00709	92.00710
Acenaphthene	<330	<330	<330	<330	<330	<330
Acenaphthylene	<330	<330	<330	<330	<330	<330
Aniline	<330	<330	<330	<330	<330	<330
Anthracene	<330	<330	<330	<330	<330	<330
Azobenzene	<330	<330	<330	<330	<330	<330
m-Benzidine	<330	<330	<330	<330	<330	<330
Benzo[a]anthracene	<330	<330	<330	<330	<330	<330
Benzo[a]pyrene	<330	<330	<330	<330	<330	<330
Benzo[b]fluoranthene	<330	<330	<330	<330	<330	<330
Benzo[g,h,i]perylene	<330	<330	<330	<330	<330	<330
Benzo[k]fluoranthene	<330	<330	<330	<330	<330	<330
Benzoic acid	<330	<330	<330	<330	<330	<330
Benzyl alcohol	<330	<330	<330	<330	<330	<330
Bis(2-chloroethoxy)methane	<330	<330	<330	<330	<330	<330
Bis(2-chloroethyl)ether	<330	<330	<330	<330	<330	<330
Bis(2-chloroisopropyl)ether	<330	<330	<330	<330	<330	<330
Bis(2-ethylhexyl)phthalate	<330	<330	<330	<330	<330	<330
4-Bromophenylphenyl ether	<330	<330	<330	<330	<330	<330
Butyl benzyl phthalate	<330	<330	<330	<330	<330	<330
4-Chloro-3-methylphenol	<330	<330	<330	<330	<330	<330
4-Chloroaniline	<330	<330	<330	<330	<330	<330
2-Chloronaphthalene	<330	<330	<330	<330	<330	<330
o-Chlorophenol	<330	<330	<330	<330	<330	<330
4-Chlorophenylphenyl ether	<330	<330	<330	<330	<330	<330
Chrysene	<330	<330	<330	<330	<330	<330
Di-n-butyl phthalate	<330	<330	<330	<330	<330	<330
Di-n-octyl phthalate	<330	<330	<330	<330	<330	<330
Dibenzo[a,h]anthracene	<330	<330	<330	<330	<330	<330
Dibenzofuran	<330	<330	<330	<330	<330	<330

TABLE II-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00705	92.00706	92.00707	92.00708	92.00709	92.00710
o-Dichlorobenzene (1,2)	<330	<330	<330	<330	<330	<330
m-Dichlorobenzene (1,3)	<330	<330	<330	<330	<330	<330
p-Dichlorobenzene (1,4)	<330	<330	<330	<330	<330	<330
3,3'-Dichlorobenzidine	<330	<330	<330	<330	<330	<330
2,4-Dichlorophenol	<330	<330	<330	<330	<330	<330
Diethyl phthalate	<330	<330	<330	<330	<330	<330
Dimethyl phthalate	<330	<330	<330	<330	<330	<330
2,4-Dimethylphenol	<330	<330	<330	<330	<330	<330
2,4-Dinitrophenol	<330	<330	<330	<330	<330	<330
2,4-Dinitrotoluene	<330	<330	<330	<330	<330	<330
2,6-Dinitrotoluene	<330	<330	<330	<330	<330	<330
Fluoranthene	<330	<330	<330	<330	<330	<330
Fluorene	<330	<330	<330	<330	<330	<330
Hexachlorobenzene	<330	<330	<330	<330	<330	<330
Hexachlorobutadiene	<330	<330	<330	<330	<330	<330
Hexachlorocyclopentadiene	<330	<330	<330	<330	<330	<330
Hexachloroethane	<330	<330	<330	<330	<330	<330
Indeno[1,2,3-cd]pyrene	<330	<330	<330	<330	<330	<330
Isophorone	<330	<330	<330	<330	<330	<330
2-Methyl-4,6-dinitrophenol	<330	<330	<330	<330	<330	<330
2-Methylnaphthalene	<330	<330	<330	<330	<330	<330
2-Methylphenol	<330	<330	<330	<330	<330	<330
4-Methylphenol	<330	<330	<330	<330	<330	<330
Naphthalene	<330	<330	<330	<330	<330	<330
2-Nitroaniline	<330	<330	<330	<330	<330	<330
3-Nitroaniline	<330	<330	<330	<330	<330	<330
4-Nitroaniline	<330	<330	<330	<330	<330	<330
Nitrobenzene	<330	<330	<330	<330	<330	<330

TABLE II-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00705	92.00706	92.00707	92.00708	92.00709	92.00710
2-Nitrophenol	<330	<330	<330	<330	<330	<330
4-Nitrophenol	<330	<330	<330	<330	<330	<330
N-Nitrosodi-n-propylamine	<330	<330	<330	<330	<330	<330
N-Nitrosodimethylamine	<330	<330	<330	<330	<330	<330
N-Nitrosodiphenylamine	<330	<330	<330	<330	<330	<330
Pentachlorophenol	<330	<330	<330	<330	<330	<330
Phenanthrene	<330	<330	<330	<330	<330	<330
Phenol	<330	<330	<330	<330	<330	<330
Pyrene	<330	<330	<330	<330	<330	<330
1,2,4-Trichlorobenzene	<330	<330	<330	<330	<330	<330
2,4,5-Trichlorophenol	<330	<330	<330	<330	<330	<330
2,4,6-Trichlorophenol	<330	<330	<330	<330	<330	<330
Tentatively Identified Compounds (TICs)	None	None	See Below[1]	None	None	None

<: Indicates semivolatile organic compound (SVOC) concentration was less than the given value (detection limit).

1: TICs detected in 92.00707 (in µg/kg) include: esters (6500); oxygenated hydrocarbon (1000); saturated hydrocarbons (410, 430, and 410); and an unknown organic compound (490).

TABLE II-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00761	92.00762	92.00763	92.00764	92.00765	92.00766
Acenaphthene	<330	<330	<330	<660	<330	<330
Acenaphthylene	<330	<330	<330	<660	<330	<330
Aniline	<330	<330	<330	<660	<330	<330
Anthracene	<330	<330	<330	<660	<330	<330
Azobenzene	<330	<330	<330	<660	<330	<330
m-Benzidine	<330	<330	<330	<660	<330	<330
Benzo[a]anthracene	<330	<330	<330	<660	<330	<330
Benzo[a]pyrene	<330	<330	<330	<660	<330	<330
Benzo[b]fluoranthene	<330	<330	<330	<660	<330	<330
Benzo[g,h,i]perylene	<330	<330	<330	<660	<330	<330
Benzo[k]fluoranthene	<330	<330	<330	<660	<330	<330
Benzoic acid	<330	<330	<330	2100	<330	<330
Benzyl alcohol	<330	<330	<330	<660	<330	<330
Bis(2-chloroethoxy)methane	<330	<330	<330	<660	<330	<330
Bis(2-chloroethyl)ether	<330	<330	<330	<660	<330	<330
Bis(2-chloroisopropyl)ether	<330	<330	<330	<660	<330	<330
Bis(2-ethylhexyl)phthalate	<330	<330	<330	<660	<330	<330
4-Bromophenylphenyl ether	<330	<330	<330	<660	<330	<330
Butyl benzyl phthalate	<330	<330	<330	<660	<330	<330
4-Chloro-3-methylphenol	<330	<330	<330	<660	<330	<330
4-Chloroaniline	<330	<330	<330	<660	<330	<330
2-Chloronaphthalene	<330	<330	<330	<660	<330	<330
o-Chlorophenol	<330	<330	<330	<660	<330	<330
4-Chlorophenylphenyl ether	<330	<330	<330	<660	<330	<330
Chrysene	<330	<330	<330	<660	<330	<330
Di-n-butyl phthalate	<330	<330	<330	<660	<330	<330
Di-n-octyl phthalate	<330	<330	<330	<660	<330	<330
Dibenzo[a,h]anthracene	<330	<330	<330	<660	<330	<330

TABLE II-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00761	92.00762	92.00763	92.00764	92.00765	92.00766
Dibenzofuran	<330	<330	<330	<660	<330	<330
o-Dichlorobenzene (1,2)	<330	<330	<330	<660	<330	<330
m-Dichlorobenzene (1,3)	<330	<330	<330	<660	<330	<330
p-Dichlorobenzene (1,4)	<330	<330	<330	<660	<330	<330
3,3'-Dichlorobenzidine	<330	<330	<330	<660	<330	<330
2,4-Dichlorophenol	<330	<330	<330	<660	<330	<330
Diethyl phthalate	<330	<330	<330	<660	<330	<330
Dimethyl phthalate	<330	<330	<330	<660	<330	<330
2,4-Dimethylphenol	<330	<330	<330	<660	<330	<330
2,4-Dinitrophenol	<330	<330	<330	<660	<330	<330
2,4-Dinitrotoluene	<330	<330	<330	<660	<330	<330
2,6-Dinitrotoluene	<330	<330	<330	<660	<330	<330
Fluoranthene	<330	<330	<330	<660	<330	<330
Fluorene	<330	<330	<330	<660	<330	<330
Hexachlorobenzene	<330	<330	<330	<660	<330	<330
Hexachlorobutadiene	<330	<330	<330	<660	<330	<330
Hexachlorocyclopentadiene	<330	<330	<330	<660	<330	<330
Hexachloroethane	<330	<330	<330	<660	<330	<330
Indeno(1,2,3-cd)pyrene	<330	<330	<330	<660	<330	<330
Isophorone	<330	<330	<330	<660	<330	<330
2-Methyl-4,6-dinitrophenol	<330	<330	<330	<660	<330	<330
2-Methylnaphthalene	<330	<330	<330	<660	<330	<330
2-Methylphenol	<330	<330	<330	<660	<330	<330
4-Methylphenol	<330	<330	<330	<660	<330	<330
Naphthalene	<330	<330	<330	<660	<330	<330
2-Nitroaniline	<330	<330	<330	<660	<330	<330
3-Nitroaniline	<330	<330	<330	<660	<330	<330
4-Nitroaniline	<330	<330	<330	<660	<330	<330

TABLE II-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00761	92.00762	92.00763	92.00764	92.00765	92.00766
Nitrobenzene	<330	<330	<330	<660	<330	<330
2-Nitrophenol	<330	<330	<330	<660	<330	<330
4-Nitrophenol	<330	<330	<330	<660	<330	<330
N-Nitrosodi-n-propylamine	<330	<330	<330	<660	<330	<330
N-Nitrosodimethylamine	<330	<330	<330	<660	<330	<330
N-Nitrosodiphenylamine	<330	<330	<330	<660	<330	<330
Pentachlorophenol	<330	<330	<330	<660	<330	<330
Phenanthrene	<330	<330	<330	<660	<330	<330
Phenol	<330	<330	<330	1500	<330	<330
Pyrene	<330	<330	<330	<660	<330	<330
1,2,4-Trichlorobenzene	<330	<330	<330	<660	<330	<330
2,4,5-Trichlorophenol	<330	<330	<330	<660	<330	<330
2,4,6-Trichlorophenol	<330	<330	<330	<660	<330	<330
Tentatively Identified Compounds (TICs)	None	See Below[1]	None	None	See Below[2]	None

<: Indicates semivolatile organic compound (SVOC) concentration was less than the given value (detection limit).

1: TICs detected in 92.00762 (in µg/kg) include thirteen saturated hydrocarbons (820, 1300, 2800, 1000, 2800, 690, 2800, 620, 580, 1100, 1500, 2100, and 600); and an unknown polynuclear aromatic hydrocarbon (830).

2: TICs detected in 92.00765 include 15 saturated hydrocarbons (2000, 820, 1100, 820, 1200, 2600, 370, 3700, 3000, 1700, 530, 3700, 640, 1000, and 650).

TABLE II-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER				
COMPOUND	92.00767	92.00768	92.00769	92.00913	92.00914
Acenaphthene	<1300	<330	<330	<330	<330
Acenaphthylene	<1300	<330	<330	<330	<330
Aniline	<1300	<330	<330	<330	<330
Anthracene	<1300	<330	<330	<330	<330
Azobenzene	<1300	<330	<330	<330	<330
m-Benzidine	<1300	<330	<330	<330	<330
Benzo[a]anthracene	<1300	<330	<330	<330	<330
Benzo[a]pyrene	<1300	<330	<330	<330	<330
Benzo[b]fluoranthene	1800	<330	<330	<330	<330
Benzo[g,h,i]perylene	<1300	<330	<330	<330	<330
Benzo[k]fluoranthene	<1300	<330	<330	<330	<330
Benzoic acid	<1300	<330	<330	<330	<330
Benzyl alcohol	<1300	<330	<330	<330	<330
Bis(2-chloroethoxy)methane	<1300	<330	<330	<330	<330
Bis(2-chloroethyl)ether	<1300	<330	<330	<330	<330
Bis(2-chloroisopropyl)ether	<1300	<330	<330	<330	<330
Bis(2-ethylhexyl)phthalate	<1300	<330	<330	<330	<330
4-Bromophenylphenyl ether	<1300	<330	<330	<330	<330
Butyl benzyl phthalate	<1300	<330	<330	<330	<330
4-Chloro-3-methylphenol	<1300	<330	<330	<330	<330
4-Chloroaniline	<1300	<330	<330	<330	<330
2-Chloronaphthalene	<1300	<330	<330	<330	<330
o-Chlorophenol	<1300	<330	<330	<330	<330
4-Chlorophenylphenyl ether	<1300	<330	<330	<330	<330
Chrysene	<1300	<330	<330	<330	<330
Di-n-butyl phthalate	<1300	<330	<330	<330	<330
Di-n-octyl phthalate	<1300	<330	<330	<330	<330
Dibenzo[a,h]anthracene	<1300	<330	<330	<330	<330

TABLE II-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER				
COMPOUND	92.00767	92.00768	92.00769	92.00913	92.00914
Dibenzofuran	<1300	<330	<330	<330	<330
o-Dichlorobenzene (1,2)	<1300	<330	<330	<330	<330
m-Dichlorobenzene (1,3)	<1300	<330	<330	<330	<330
p-Dichlorobenzene (1,4)	<1300	<330	<330	<330	<330
3,3'-Dichlorobenzidine	<1300	<330	<330	<330	<330
2,4-Dichlorophenol	<1300	<330	<330	<330	<330
Diethyl phthalate	<1300	<330	<330	<330	<330
Dimethyl phthalate	<1300	<330	<330	<330	<330
2,4-Dimethylphenol	<1300	<330	<330	<330	<330
2,4-Dinitrophenol	<1300	<330	<330	<330	<330
2,4-Dinitrotoluene	<1300	<330	<330	<330	<330
2,6-Dinitrotoluene	<1300	<330	<330	<330	<330
Fluoranthene	<1300	<330	<330	<330	<330
Fluorene	<1300	<330	<330	<330	<330
Hexachlorobenzene	<1300	<330	<330	<330	<330
Hexachlorobutadiene	<1300	<330	<330	<330	<330
Hexachlorocyclopentadiene	<1300	<330	<330	<330	<330
Hexachloroethane	<1300	<330	<330	<330	<330
Indeno[1,2,3-cd]pyrene	<1300	<330	<330	<330	<330
Isophorone	<1300	<330	<330	<330	<330
2-Methyl-4,6-dinitrophenol	<1300	<330	<330	<330	<330
2-Methylnaphthalene	<1300	<330	<330	<330	<330
2-Methylphenol	<1300	<330	<330	<330	<330
4-Methylphenol	<1300	<330	<330	<330	<330
Naphthalene	<1300	<330	<330	<330	<330
2-Nitroaniline	<1300	<330	<330	<330	<330
3-Nitroaniline	<1300	<330	<330	<330	<330
4-Nitroaniline	<1300	<330	<330	<330	<330

TABLE II-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER				
COMPOUND	92.00767	92.00768	92.00769	92.00913	92.00914
Nitrobenzene	<1300	<330	<330	<330	<330
2-Nitrophenol	<1300	<330	<330	<330	<330
4-Nitrophenol	<1300	<330	<330	<330	<330
N-Nitrosodi-n-propylamine	<1300	<330	<330	<330	<330
N-Nitrosodimethylamine	<1300	<330	<330	<330	<330
N-Nitrosodiphenylamine	<1300	<330	<330	<330	<330
Pentachlorophenol	<1300	<330	<330	<330	<330
Phenanthrene	<1300	<330	<330	<330	<330
Phenol	<1300	<330	<330	<330	<330
Pyrene	<1300	<330	<330	<330	<330
1,2,4-Trichlorobenzene	<1300	<330	<330	<330	<330
2,4,5-Trichlorophenol	<1300	<330	<330	<330	<330
2,4,6-Trichlorophenol	<1300	<330	<330	<330	<330
Tentatively Identified Compounds (TICs)	None	None	None	See Below[1]	None

<: Indicates semivolatile organic compound (SVOC) concentration was less than the given value (detection limit).
1: TICs detected in 92.00913 (in µg/kg) include two saturated hydrocarbons (860 and 670).

TABLE II-C

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
PESTICIDES (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER										
COMPOUND[1]	92.00705	92.00706	92.00707	92.00708	92.00709	92.00710	92.00761	92.00762	92.00763	92.00764	92.00765
alpha-BHC	<1.3	<1.2	<1.2	<1.1	<1.2	<1.1	<1.2	<1.1	<1.1	<1.2	<1.3
beta-BHC	<2.6	<2.3	<2.5	<2.2	<2.4	<2.3	<2.5	<2.2	<2.2	<2.4	<2.6
delta-BHC	<3.9	<3.5	4.6	<3.3	<3.6	<3.4	<3.7	<3.4	<3.3	<3.6	<3.9
Lindane	<1.7	<1.5	<1.7	<1.5	<1.6	<1.5	<1.6	<1.5	<1.5	<1.6	<1.7
Heptachlor	<1.3	<1.2	<1.2	<1.1	<1.2	<1.1	<1.2	<1.1	<1.1	<1.2	<1.3
Aldrin	<1.7	<1.5	<1.7	<1.5	<1.6	<1.5	<1.6	<1.5	<1.5	<1.6	<1.7
Heptachlor epoxide	<36	<32	<34	<30	<34	<32	<34	<31	<31	33	<36
Endosulfan I	<6.1	<5.4	<5.8	<5.2	<5.7	<5.3	<5.8	<5.2	<5.2	<5.5	<6.1
Dieldrin	<0.87	<0.77	<0.83	<0.74	<0.81	<0.76	<0.83	<0.75	<0.74	<0.79	<0.87
p,p'-DDE	<1.7	<1.5	<1.7	<1.5	<1.6	<1.5	<1.6	<1.5	<1.5	<1.6	<1.7
Endrin	<2.6	<2.3	<2.5	<2.2	<2.4	<2.3	<2.5	<2.2	<2.2	<2.4	<2.6
Endosulfan II	<1.7	<1.5	<1.7	<1.5	<1.6	<1.5	<1.6	<1.5	<1.5	<1.6	<1.7
p,p'-DDD	<4.8	<4.2	<4.6	<4	<4.4	<4.2	<4.5	<4.1	<4	<4.3	<4.8
Endosulfan sulfate	<29	<26	<27	<24	<27	<25	<27	<25	<24	<4.7	<29
p,p'-DDT	<5.2	<4.6	<5	<4.4	<4.8	<4.6	<5	<4.5	<4.4	<4.7	<5.2
Methoxychlor	<76	<68	<73	<65	<71	<67	<73	<66	<65	<69	<76
Endrin aldehyde	<10	<8.9	<9.5	<8.5	<9.3	<8.8	<9.5	<8.6	<8.5	<9.1	<10
Chlordane	<6.1	<5.4	<5.8	<5.2	<5.7	<5.3	<5.8	<5.2	<5.2	<5.5	<6.1
Toxaphene	<100	<93	<100	<88	<97	<91	<99	<90	<88	<95	<100

< Indicates pesticide concentration is less than the given value (detection limit)

1 Tentatively identified compounds (TICs) were not detected in any samples

TABLE II-c (C.. ..inued)

LOS ALAMOS NATIONAL LABORATORY,
TECHNICAL AREA 40,
SCRAP DETONATION SITE
PESTICIDES (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND[1]	92.00766	92.00767	92.00768	92.00769	92.00913	92.00914
alpha-BHC	<1.2	<1.3	<1.1	<1.1	<1.3	<1.3
beta-BHC	<2.4	<2.6	<2.2	<2.2	<2.6	<2.6
delta-BHC	<3.6	<3.9	<3.3	<3.4	<4	<3.8
Lindane	<1.6	<1.7	<1.4	<1.5	<1.8	<1.7
Heptachlor	<1.2	<1.3	<1.1	<1.1	<1.3	<1.3
Aldrin	<1.6	<1.7	<1.4	<1.5	<1.8	<1.7
Heptachlor epoxide	<33	<36	<30	<31	<36	<35
Endosulfan I	<5.6	<6	<5.1	<5.2	<6.2	<6
Dieldrin	<0.81	<0.86	<0.72	<0.75	<0.88	<0.86
p,p'-DDE	<1.6	<1.7	<1.4	<1.5	<1.8	<1.7
Endrin	<2.4	<2.6	<2.2	<2.2	<2.6	<2.6
Endosulfan II	<1.6	<1.7	<1.4	<1.5	<1.8	<1.7
p,p'-DDD	<4.4	<4.7	<4	<4.1	<4.8	<4.7
Endosulfan sulfate	<27	<28	<24	<25	<29	<28
p,p'-DDT	<4.8	<5.2	<4.4	<4.5	<5.3	<5.1
Methoxychlor	<71	<76	<64	<66	<78	<75
Endrin aldehyde	<9.3	<9.9	<8.3	<8.6	<10	<9.8
Chlordane	<5.6	<6	<5.1	<5.2	<6.2	<6
Toxaphene	<97	<100	<87	<90	<100	<100

< Indicates pesticide concentration is less than the given value (detection limit)

1. Tentatively identified compounds (TICs) were not detected in any samples.

TABLE II-d

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
HERBICIDES (in µg/kg)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND[1]	92.00705	92.00706	92.00707	92.00708	92.00709	92.00710	92.00761	92.00762	92.00763
2,4-D	<32	<28	<30	<27	<29	<28	<30	<27	<27
2,4,5-TP	<4.5	<4	<4.3	<3.8	<4.1	<3.9	<4.2	<3.8	<3.8
2,4,5-T	<5.3	<4.6	<5	<4.5	<4.9	<4.6	<5	<4.5	<4.5

	SAMPLE IDENTIFICATION NUMBER							
COMPOUND[1]	92.00764	92.00765	92.00766	92.00767	92.00768	92.00769	92.00913	92.00914
2,4-D	<28	<31	<29	<31	<26	<27	<32	<31
2,4,5-TP	<4	<4.4	<4.2	<4.4	4.7	<3.8	<4.5	<4.4
2,4,5-T	<4.8	<5.2	<4.9	<5.2	<4.4	<4.5	<5.3	<5.2

<: Indicate herbicide concentration is less than the given value (detection limit).
1: Tentatively identified compounds (TICs) were not detected in any samples.

TABLE II-e

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
POLYCHLORINATED BIPHENYLS (PCBs) (in µg/g)
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND	92.00705	92.00706	92.00707	92.00708	92.00709	92.00710	92.00761	92.00762	92.00763
Mixed-Aroclor	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Aroclor 1242	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Aroclor 1254	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Aroclor 1260	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06

	SAMPLE IDENTIFICATION NUMBER							
COMPOUND	92.00764	92.00765	92.00766	92.00767	92.00768	92.00769	92.00913	92.00914
Mixed-Aroclor	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05
Aroclor 1242	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05
Aroclor 1254	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05
Aroclor 1260	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05

<: Indicates PCB concentration is less than the given value (detection limit).

TABLE II-f

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
NITRATE-N (in µg/g)
PHASE II DATA

SAMPLE IDENTIFICATION NUMBER	NITRATE-N	NITRATE-N (DUPLICATE)
92.00705	NR	NR
92.00706	NR	NR
92.00707	NR	NR
92.00708	NR	NR
92.00709	NR	NR
92.00710	NR	NR
92.00761	0.079	0.079
92.00762	2.02	2.02
92.00763	2.27	2.28
92.00764	0.069	NA
92.00765	<0.04	NA
92.00766	0.158	0.158
92.00767	0.287	0.287
92.00768	0.069	0.069
92.00769	0.487	0.487
92.00913	0.079	0.079
92.00914	0.327	0.337

<: Indicates nitrate-N concentration is below the given value (detection limit).
NA: Not analyzed.
NR: Not requested.

TABLE II-g

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER										
COMPOUND	92.00705	92.00706	92.00706 (Duplicate)	92.00707	92.00708	92.00709	92.00710	92.00710 (Duplicate)	92.00761	92.00762	92.00763
Aluminum	4.3%	4.6%	5%	4.1%	5.3%	5.1%	5%	NA	5.97%	5.52%	5.33%
Arsenic	0.4[2]	0.2	NA	3.1	0.3	0.7	0.7	NA	0.7	0.5	0.6
Barium	224	210	NA	469	186	242	194	NA	302	149	129
Beryllium	1.7	1.57	1.61	1.17	1.29	1.75	1.89	NA	2.28	2.5	2.41
Calcium	2550	2390	2410	4410	1630	4280	9720	NA	5070	425	1700
Cadmium	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1
Cobalt	1	2	1	4	<1	2	2	NA	3.4	2.26	1.74
Chromium	2.9	1.6	NA	20	2.3	3.6	3.7	4	6.5	2.9	3.72
Copper	68	3.1	NA	584	3.5	33	2.4	2.7	57	1.78	1.27
Iron	9450	9100	9700	1.3%	6770	1.1%	1.1%	NA	1.55%	1.09%	1.05%
Potassium	1.9%	2.3%	2.4%	1.9%	2.7%	2.2%	2.1%	NA	2.73%	2.91%	2.74%
Magnesium	1180	810	750	1660	280	1470	1900	NA	2130	606	626
Manganese	322	310	350	350	232	310	270	NA	455	302	330
Mercury[1]	18.9	16.7	NA	85.6	10.6	34.6	24.8	NA	<2	<2	<2
Mercury (Duplicate)[1]	16.6	15.4	NA	67.2	10.4	31.1	22.6	NA	NA	NA	NA
Selenium	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	NA	<2	<0.2	<0.2
Silver	<1	<1	NA	10.7	<1	<1	<1	NA	<1	<1	<1

TABLE II-g (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER										
COMPOUND	92.00705	92.00706	92.00706 (Duplicate)	92.00707	92.00708	92.00709	92.00710	92.00710 (Duplicate)	92.00761	92.00762	92.00763
Silver (Duplicate)	<1	<1	NA	27.7	<1	<1	<1	NA	NA	NA	NA
Sodium	1.8%	2.1%	2.4%	1.8%	2.6%	2.1%	2%	NA	2.42%	2.54%	2.31
Nickel	4.4	1.7	NA	45	1.7	3.7	3.7	3.5	4	<2	2
Lead	20	13	NA	1470	19	22	9.2	8.2	22.5	8	10
Antimony	<2	<2	<2	<2	<2	<2	<2	NA	<2	<2	<2
Thallium	<4	<4	<4	<4	<4	<4	<4	NA	<1	<1	<1
Vanadium	8	5	6	8	2	13	13	NA	14.7	6	8
Zinc	57	24	NA	2750	74	64	21	21	54	40	42

<: Indicates metal concentration is less than the given value (detection limit).
*: Concentration units are given in µg/g, unless otherwise indicated.
1: Mercury concentration units are in ng/g.
2: Arsenic duplicate concentration was 0.5 µg/g
NA: Not analyzed.

TABLE II-g (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND	92.00764	92.00765	92.00765 (Duplicate)	92.00766	92.00767	92.00768	92.00769	92.00913	92.00914
Aluminum	5.93%	5.45%	5.44%	5.28%	3.75%	4.97%	6%	4.98%	5.73%
Arsenic	0.5	0.5	NA	0.5	2.2	1.5	0.9	0.6	0.7
Barium	280	182	196	143	365	182	208	278	291
Beryllium	2.15	1.81	1.94	6.74	2.14	1.11	2.64	1.87	1.96
Calcium	4350	1960	2320	1500	2920	2430	2580	3940	4410
Cadmium	<1	<1	<1	5	5	<1	<1	<1	<1
Cobalt	3	2	2	6.62	18	2	3	3	2
Chromium	5	2	2	7	40	6	8	6	7
Copper	68	43	31	6	2880	8	8	61	83
Iron	1.38%	8800	1.06%	8230	6.19%	1.04%	1.37%	1.19%	1.41%
Potassium	2.86%	2.98%	2.91%	2.89%	1.69%	2.29%	2.69%	2.19%	2.56%
Magnesium	1730	450	620	436	4960	1390	2120	1510	1760
Manganese	418	300	312	377	513	186	260	417	412
Mercury[1]	<2	98	NA	<2	<2	<2	<2	<2	16
Selenium	<0.2	<0.2	NA	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	<1	1.4	NA	<1	21.2	<1	<1	1.1	2.3
Sodium	2.48%	2.56%	2.55%	2.48%	1.48%	2%	2.22%	2.04%	2.56%

TABLE II-g (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND	92.00764	92.00765	92.00765 (Duplicate)	92.00766	92.00767	92.00768	92.00769	92.00913	92.00914
Nickel	3	5	6	6	68	3	6	5.81	8.47
Lead	34	16	NA	9	2110[2]	9[3]	12	137	41
Antimony	<2	<2	<2	<2	43	<2	<2	<3	<3
Thallium	<1	<1	<1	<1	<1	<1	<1	<4	<4
Vanadium	13	6	6	10	11	12	15	13	11
Zinc	49	43	54	36	6360	28	45	199	163

<: Indicates metal concentration is less than the given value (detection limit).
*: Concentration units are given in µg/g, unless otherwise indicated.
1: Mercury concentration units are in ng/g.
2: Lead duplicate concentration was 3340 µg/g.
3: Lead duplicate concentration was 7 µg/g.
NA: Not analyzed.

TABLE II-h

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) METALS
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER					
TCLP METAL	92.00720	92.00721	92.00722	92.00723	92.00724	92.00725
Arsenic[1]	2.3	2	<2	<2	2.5	2.4
Barium[2]	0.43	0.24	1.9	8.8	14	0.92
Cadmium[2]	<0.01	<0.01	0.06	0.15	0.15	<0.01
Chromium[2]	<0.01	<0.01	0.03	0.23	0.39	0.05
Lead[2]	<0.05	<0.05	13	1.6	0.31	<0.05
Mercury[1]	0.2	0.2	<0.1	0.2	0.2	0.2
Selenium[1]	<2	<2	<2	<2	<2	<2
Silver[1]	<10	<10	<10	<10	<10	12

	SAMPLE IDENTIFICATION NUMBER					
TCLP METAL	92.00771	92.00772	92.00773	92.00774	92.00775	92.00776
Arsenic[1]	<2	<2	<2	<2	<2	<2
Barium[2]	0.41	0.87	0.44	0.38	0.27	0.33
Cadmium[2]	<0.01	<0.01	0.04	<0.01	<0.01	<0.01
Chromium[2]	0.01	0.03	<0.01	<0.01	<0.01	<0.01
Lead[2]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Mercury[1]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium[1]	<2	<2	<2	<2	<2	<2
Silver[1]	<10	<10	<10	<10	<10	12

TABLE II-h (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) METALS
PHASE II DATA

	SAMPLE IDENTIFICATION NUMBER				
TCLP METAL	92.00777	92.00778	92.00779	92.00922	92.00923
Arsenic[1]	<2	<2	<2	<2	<2
Barium[2]	2.2	0.79	0.88	1.14	1.11
Cadmium[2]	0.04	<0.01	<0.01	<0.01	0.01
Chromium[2]	<0.01	<0.01	0.01	<0.01	0.01
Lead[2]	110	<0.05	<0.05	0.2	1.03
Mercury[1]	<0.1	<0.1	<0.1	<0.1	0.1
Selenium[1]	<2	<2	<2	<2	<2
Silver[1]	10	<10	<10	<10	<10

<: Indicates TCLP metal concentration is less than the given value (detection limit).
1: Results are given in µg/L.
2: Results are given in mg/L.

TABLE II-I

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (in µg/g)
PHASE II DATA

SAMPLE IDENTIFICATION NUMBER	TOTAL RECOVERABLE PETROLEUM HYDROCARBONS
92.00768 (92.00768-A)	13.9 ± 3.4
92.01110 (92.00768-B)	1260 ± 320
92.00769 (92.00769-A)	28.3 ± 7.1
92.01111 (92.00769-B)	49.8 ± 12.4

APPENDIX III

PHASE III ANALYTICAL DATA

TABLE III-a

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920
Acetone	<20	<20	<20	<40	<20	<20
Benzene	<5	<5	<5	<10	<5	<5
Bromobenzene	<5	<5	<5	<10	<5	<5
Bromochloromethane	<5	<5	<5	<10	<5	<5
Bromodichloromethane	<5	<5	<5	<10	<5	<5
Bromoform	<5	<5	<5	<10	<5	<5
Bromomethane	<10	<10	<10	<20	<10	<10
2-Butanone	<20	<20	<20	<40	<20	<20
n-Butylbenzene	<5	<5	<5	<10	<5	<5
sec-Butylbenzene	<5	<5	<5	<10	<5	<5
tert-Butylbenzene	<5	<5	<5	<10	<5	<5
Carbon disulfide	<5	<5	<5	<10	<5	<5
Carbon tetrachloride	<5	<5	<5	<10	<5	<5
Chlorobenzene	<5	<5	<5	<10	<5	<5
Chlorodibromomethane	<5	<5	<5	<10	<5	<5
Chloroethane	<10	<10	<10	<20	<10	<10
Chloroform	<5	<5	<5	<10	<5	<5
Chloromethane	<10	<10	<10	<20	<10	<10
o-Chlorotoluene	<5	<5	<5	<10	<5	<5
p-Chlorotoluene	<5	<5	<5	<10	<5	<5
1,2-Dibromo-3-chloropropane	<10	<10	<10	<20	<10	<10
1,2-Dibromoethane	<5	<5	<5	<10	<5	<5
Dibromomethane	<5	<5	<5	<10	<5	<5
o-Dichlorobenzene (1,2)	<5	<5	<5	<10	<5	<5
m-Dichlorobenzene (1,3)	<5	<5	<5	<10	<5	<5
p-Dichlorobenzene (1,4)	<5	<5	<5	<10	<5	<5
Dichlorodifluoromethane	<10	<10	<10	<20	<10	<10
1,1-Dichloroethane	<5	<5	<5	<10	<5	<5
1,2-Dichloroethane	<5	<5	<5	<10	<5	<5

TABLE III-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920
1,1-Dichloroethene	<5	<5	<5	<10	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5	<10	<5	<5
cis-1,2-Dichloroethylene	<5	<5	<5	<10	<5	<5
1,2-Dichloropropane	<5	<5	<5	<10	<5	<5
1,3-Dichloropropane	<5	<5	<5	<10	<5	<5
2,2-Dichloropropane	<5	<5	<5	<10	<5	<5
1,1-Dichloropropene	<5	<5	<5	<10	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<10	<5	<5
trans-1,3-Dichloropropene	<5	<5	<5	<10	<5	<5
Ethylbenzene	<5	<5	<5	<10	<5	<5
2-Hexanone	<20	<20	<20	<40	<20	<20
Isopropylbenzene	<5	<5	<5	<10	<5	<5
4-Isopropyltoluene	<5	<5	<5	<10	<5	<5
Methyl iodide	<5	<5	<5	<10	<5	<5
4-Methyl-2-pentanone	<20	<20	<20	<40	<20	<20
Methylene chloride	<5	<5	<5	<10	<5	<5
Propylbenzene	<5	<5	<5	<10	<5	<5
Styrene	<5	<5	<5	<10	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<10	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<10	<5	<5
Tetrachloroethylene	<5	<5	<5	<10	<5	<5
Toluene	<5	<5	<5	<10	<5	<5
1,1,2-Trichloro-1,2,2-trifluoroethane	<5	<5	<5	<10	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<10	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<10	<5	<5
Trichloroethene	<5	<5	<5	<10	<5	<5
Trichlorofluoromethane	<5	<5	<5	<10	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<10	<5	<5

TABLE III-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE III DATA

COMPOUND	SAMPLE IDENTIFICATION NUMBER					
	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920
1,2,4-Trimethylbenzene	<5	<5	<5	<10	<5	<5
1,3,5-Trimethylbenzene	<5	<5	<5	<10	<5	<5
Vinyl acetate	<10	<10	<10	<20	<10	<10
Vinyl chloride	<10	<10	<10	<20	<10	<10
Mixed-Xylenes (o ± m ± p)	<5	<5	<5	<10	<5	<5
Tentatively Identified Compounds (TICs)	None	None	None	None	None	None

<: Indicates volatile organic compounds (VOC) concentration is less than the given value (detection limit).

TABLE III-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS
PHASE III DATA

COMPOUND	SAMPLE IDENTIFICATION NUMBER		
	92.00921[1]	92.00938[2]	92.00939[2]
Acetone	<20	<20	<20
Benzene	<5	<5	<5
Bromobenzene	<5	<5	<5
Bromochloromethane	<5	<5	<5
Bromodichloromethane	<5	<5	<5
Bromoform	<5	<5	<5
Bromomethane	<10	<10	<10
2-Butanone	<20	<20	<20
n-Butylbenzene	<5	<5	<5
sec-Butylbenzene	<5	<5	<5
tert-Butylbenzene	<5	<5	<5
Carbon disulfide	<5	<5	<5
Carbon tetrachloride	<5	<5	<5
Chlorobenzene	<5	<5	<5
Chlorodibromomethane	<5	<5	<5
Chloroethane	<10	<10	<10
Chloroform	<5	<5	<5
Chloromethane	<10	<10	<10
o-Chlorotoluene	<5	<5	<5
p-Chlorotoluene	<5	<5	<5
1,2-Dibromo-3-chloropropane	<10	<10	<10
1,2-Dibromoethane	<5	<5	<5
Dibromomethane	<5	<5	<5
o-Dichlorobenzene (1,2)	<5	<5	<5
m-Dichlorobenzene (1,3)	<5	<5	<5
p-Dichlorobenzene (1,4)	<5	<5	<5
Dichlorodifluoromethane	<10	<10	<10
1,1-Dichloroethane	<5	<5	<5

TABLE III-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER		
COMPOUND	92.00921[1]	92.00938[2]	92.00939[2]
1,2-Dichloroethane	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5
cis-1,2-Dichloroethylene	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5
1,3-Dichloropropane	<5	<5	<5
2,2-Dichloropropane	<5	<5	<5
1,1-Dichloropropene	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5
trans-1,3-Dichloropropene	<5	<5	<5
Ethylbenzene	<5	<5	<5
2-Hexanone	<20	<20	<20
Isopropylbenzene	<5	<5	<5
4-Isopropyltoluene	<5	<5	<5
Methyl iodide	<5	<5	<5
4-Methyl-2-pentanone	<20	<20	<20
Methylene chloride	<5	<5	<5
Propylbenzene	<5	<5	<5
Styrene	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5
Tetrachloroethylene	<5	<5	<5
Toluene	<5	<5	<5
1,1,2-Trichloro-1,2,2-trifluoroethane	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5
Trichloroethene	<5	<5	<5
Trichlorofluoromethane	<5	<5	<5

TABLE III-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER		
COMPOUND	92.00921[1]	92.00938[2]	92.00939[2]
1,2,3-Trichloropropane	<5	<5	<5
1,2,4-Trimethylbenzene	<5	<5	<5
1,3,5-Trimethylbenzene	<5	<5	<5
Vinyl acetate	<10	<10	<10
Vinyl chloride	<10	<10	<10
Mixed-Xylenes (o ± m ± p)	<5	<5	<5
Tentatively Identified Compounds (TICs)	None	None	None

<: Indicates volatile organic compounds (VOC) concentration is less than the given value (detection limit).
1: Units are µg/kg.
2: Units are µg/L.

TABLE III-b

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920
Acenaphthene	<330	<330	<330	<3300	<330	<330
Acenaphthylene	<330	<330	<330	<3300	<330	<330
Aniline	<330	<330	<330	<3300	<330	<330
Anthracene	<330	<330	<330	<3300	<330	<330
Azobenzene	<330	<330	<330	<3300	<330	<330
m-Benzidine	<330	<330	<330	<3300	<330	<330
Benzo[a]anthracene	<330	<330	<330	<3300	<330	<330
Benzo[a]pyrene	<330	<330	<330	<3300	<330	<330
Benzo[b]fluoranthene	<330	<330	<330	<3300	<330	<330
Benzo[g,h,i]perylene	<330	<330	<330	<3300	<330	<330
Benzo[k]fluoranthene	<330	<330	<330	<3300	<330	<330
Benzoic acid	<330	<330	<330	<3300	<330	<330
Benzyl alcohol	<330	<330	<330	<3300	<330	<330
Bis(2-chloroethoxy)methane	<330	<330	<330	<3300	<330	<330
Bis(2-chloroethyl)ether	<330	<330	<330	<3300	<330	<330
Bis(2-chloroisopropyl)ether	<330	<330	<330	<3300	<330	<330
Bis(2-ethylhexyl)phthalate	<330	<330	<330	<3300	<330	<330
4-Bromophenylphenyl ether	<330	<330	<330	<3300	<330	<330
Butyl benzyl phthalate	<330	<330	<330	<3300	<330	<330
4-Chloro-3-methylphenol	<330	<330	<330	<3300	<330	<330
4-Chloroaniline	<330	<330	<330	<3300	<330	<330
2-Chloronaphthalene	<330	<330	<330	<3300	<330	<330
o-Chlorophenol	<330	<330	<330	<3300	<330	<330
4-Chlorophenylphenyl ether	<330	<330	<330	<3300	<330	<330
Chrysene	<330	<330	<330	<3300	<330	<330
Di-n-butyl phthalate	<330	<330	<330	<3300	<330	<330
Di-n-octyl phthalate	<330	<330	<330	<3300	<330	<330
Dibenzo[a,h]anthracene	<330	<330	<330	<3300	<330	<330
Dibenzofuran	<330	<330	<330	<3300	<330	<330

TABLE III-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE III DATA

COMPOUND	SAMPLE IDENTIFICATION NUMBER					
	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920
o-Dichlorobenzene (1,2)	<330	<330	<330	<3300	<330	<330
m-Dichlorobenzene (1,3)	<330	<330	<330	<3300	<330	<330
p-Dichlorobenzene (1,4)	<330	<330	<330	<3300	<330	<330
3,3'-Dichlorobenzidine	<330	<330	<330	<3300	<330	<330
2,4-Dichlorophenol	<330	<330	<330	<3300	<330	<330
Diethyl phthalate	<330	<330	<330	<3300	<330	<330
Dimethyl phthalate	<330	<330	<330	<3300	<330	<330
2,4-Dimethylphenol	<330	<330	<330	<3300	<330	<330
2,4-Dinitrophenol	<330	<330	<330	<3300	<330	<330
2,4-Dinitrotoluene	<330	<330	<330	<3300	<330	<330
2,6-Dinitrotoluene	<330	<330	<330	<3300	<330	<330
Fluoranthene	<330	<330	<330	<3300	<330	<330
Fluorene	<330	<330	<330	<3300	<330	<330
Hexachlorobenzene	<330	<330	<330	<3300	<330	<330
Hexachlorobutadiene	<330	<330	<330	<3300	<330	<330
Hexachlorocyclopentadiene	<330	<330	<330	<3300	<330	<330
Hexachloroethane	<330	<330	<330	<3300	<330	<330
Indeno[1,2,3-cd]pyrene	<330	<330	<330	<3300	<330	<330
Isophorone	<330	<330	<330	<3300	<330	<330
2-Methyl-4,6-dinitrophenol	<330	<330	<330	<3300	<330	<330
2-Methylnaphthalene	<330	<330	<330	<3300	<330	<330
2-Methylphenol	<330	<330	<330	<3300	<330	<330
4-Methylphenol	<330	<330	<330	<3300	<330	<330
Naphthalene	<330	<330	<330	<3300	<330	<330
2-Nitroaniline	<330	<330	<330	<3300	<330	<330
3-Nitroaniline	<330	<330	<330	<3300	<330	<330
4-Nitroaniline	<330	<330	<330	<3300	<330	<330
Nitrobenzene	<330	<330	<330	<3300	<330	<330

TABLE III-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER					
COMPOUND	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920
2-Nitrophenol	<330	<330	<330	<3300	<330	<330
4-Nitrophenol	<330	<330	<330	<3300	<330	<330
N-Nitrosodi-n-propylamine	<330	<330	<330	<3300	<330	<330
N-Nitrosodimethylamine	<330	<330	<330	<3300	<330	<330
N-Nitrosodiphenylamine	<330	<330	<330	<3300	<330	<330
Pentachlorophenol	<330	<330	<330	<3300	<330	<330
Phenanthrene	<330	<330	<330	<3300	<330	<330
Phenol	<330	<330	<330	<3300	<330	<330
Pyrene	<330	<330	<330	<3300	<330	<330
1,2,4-Trichlorobenzene	<330	<330	<330	<3300	<330	<330
2,4,5-Trichlorophenol	<330	<330	<330	<3300	<330	<330
2,4,6-Trichlorophenol	<330	<330	<330	<3300	<330	<330
Tentatively Identified Compounds (TICs)	See Below[1]	See Below[2]	See Below[3]	See Below[4]	See Below[5]	See Below[6]

<: Indicates semivolatile organic compound (SVOC) concentration was less than the given value (detection limit).
1: TICs detected in 92.00915 (in µg/kg) include: esters (620) and saturated hydrocarbons (370).
2: TICs detected in 92.00916 (in µg/kg) include three saturated hydrocarbons (1800, 1500, and 3100).
3: TICs detected in 92.00917 (in µg/kg) include oxygenated hydrocarbon (720) and an unknown alcohol (540).
4: TICs detected in 92.00918 (in µg/kg) include one unknown organic compound (8900).
5: TICs detected in 92.00919 (in µg/kg) include saturated hydrocarbons (510).
6: TICs detected in 92.00920 (in µg/kg) include saturated hydrocarbons (540).

TABLE III-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER		
COMPOUND	92.00921[1]	92.00938[2]	92.00939[2]
Acenaphthene	<330	<10	<11
Acenaphthylene	<330	<10	<11
Aniline	<330	<10	<11
Anthracene	<330	<10	<11
Azobenzene	<330	<10	<11
m-Benzidine	<330	<10	<11
Benzo[a]anthracene	<330	<10	<11
Benzo[a]pyrene	<330	<10	<11
Benzo[b]fluoranthene	<330	<10	<11
Benzo[g,h,i]perylene	<330	<10	<11
Benzo[k]fluoranthene	<330	<10	<11
Benzoic acid	<330	<10	<11
Benzyl alcohol	<330	<10	<11
Bis(2-chloroethoxy)methane	<330	<10	<11
Bis(2-chloroethyl)ether	<330	<10	<11
Bis(2-chloroisopropyl)ether	<330	<10	<11
Bis(2-ethylhexyl)phthalate	<330	<10	<11
4-Bromophenylphenyl ether	<330	<10	<11
Butyl benzyl phthalate	<330	<10	<11
4-Chloro-3-methylphenol	<330	<10	<11
4-Chloroaniline	<330	<10	<11
2-Chloronaphthalene	<330	<10	<11
o-Chlorophenol	<330	<10	<11
4-Chlorophenylphenyl ether	<330	<10	<11
Chrysene	<330	<10	<11
Di-n-butyl phthalate	<330	<10	<11
Di-n-octyl phthalate	<330	<10	<11
Dibenzo[a,h]anthracene	<330	<10	<11

TABLE III-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER		
COMPOUND	92.00921[1]	92.00938[2]	92.00939[2]
Dibenzofuran	<330	<10	<11
o-Dichlorobenzene (1,2)	<330	<10	<11
m-Dichlorobenzene (1,3)	<330	<10	<11
p-Dichlorobenzene (1,4)	<330	<10	<11
3,3'-Dichlorobenzidine	<330	<10	<11
2,4-Dichlorophenol	<330	<10	<11
Diethyl phthalate	<330	<10	<11
Dimethyl phthalate	<330	<10	<11
2,4-Dimethylphenol	<330	<10	<11
2,4-Dinitrophenol	<330	<10	<11
2,4-Dinitrotoluene	<330	<10	<11
2,6-Dinitrotoluene	<330	<10	<11
Fluoranthene	<330	<10	<11
Fluorene	<330	<10	<11
Hexachlorobenzene	<330	<10	<11
Hexachlorobutadiene	<330	<10	<11
Hexachlorocyclopentadiene	<330	<10	<11
Hexachloroethane	<330	<10	<11
Indeno(1,2,3-cd)pyrene	<330	<10	<11
Isophorone	<330	<10	<11
2-Methyl-4,6-dinitrophenol	<330	<10	<11
2-Methylnaphthalene	<330	<10	<11
2-Methylphenol	<330	<10	<11
4-Methylphenol	<330	<10	<11
Naphthalene	<330	<10	<11
2-Nitroaniline	<330	<10	<11
3-Nitroaniline	<330	<10	<11
4-Nitroaniline	<330	<10	<11

TABLE III-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER		
COMPOUND	92.00921[1]	92.00938[2]	92.00939[2]
Nitrobenzene	<330	<10	<11
2-Nitrophenol	<330	<10	<11
4-Nitrophenol	<330	<10	<11
N-Nitrosodi-n-propylamine	<330	<10	<11
N-Nitrosodimethylamine	<330	<10	<11
N-Nitrosodiphenylamine	<330	<10	<11
Pentachlorophenol	<330	<10	<11
Phenanthrene	<330	<10	<11
Phenol	<330	<10	<11
Pyrene	<330	<10	<11
1,2,4-Trichlorobenzene	<330	<10	<11
2,4,5-Trichlorophenol	<330	<10	<11
2,4,6-Trichlorophenol	<330	<10	<11
Tentatively Identified Compounds (TICs)	See Below[3]	None	None

<: Indicates semivolatile organic compound (SVOC) concentration was less than the given value (detection limit).
1: Concentrations in µg/kg.
2: Concentrations in µg/L.
3: TICs detected in 92.00921 include saturated hydrocarbons (630) and an unknown organic compound (900).

TABLE III-c

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
PESTICIDES*
PHASE III DATA

COMPOUND[1]	SAMPLE IDENTIFICATION NUMBER								
	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920	92.00921	92.00938[2]	92.00939[2]
alpha-BHC	<1.2	<1.2	<1.1	<1.2	<1.3	<1.2	<1.3	<0.09	<0.09
beta-BHC	<2.3	<2.5	<2.2	<2.4	<2.5	<2.4	<2.5	<0.18	<0.18
delta-BHC	<3.5	<3.7	<3.3	<3.6	<3.8	<3.6	<3.8	<0.27	<0.26
Lindane	<1.5	<1.6	<1.5	<1.6	<1.7	<1.6	<1.7	<0.12	<0.12
Heptachlor	<1.2	<1.2	<1.1	<1.2	<1.3	<1.2	<1.3	<0.09	<0.09
Aldrin	<1.5	<1.6	<1.5	<1.6	<1.7	<1.6	<1.7	<0.12	<0.12
Heptachlor epoxide	<32	<34	<30	<33	<35	<34	<35	<2.5	<2.4
Endosulfan I	<5.4	<5.8	<5.2	<5.6	<5.9	<5.7	<5.9	<0.42	<0.41
Dieldrin	<0.77	<0.82	<0.74	<0.79	<0.84	<0.81	<0.84	<0.06	<0.06
p,p'-DDE	12	<1.6	<1.5	<1.6	<1.7	<1.6	<1.7	<0.12	<0.12
Endrin	<2.3	<2.5	<2.2	<2.4	<2.5	<2.4	<2.5	<0.18	<0.18
Endosulfan II	<1.6	<1.6	<1.5	<1.6	<1.7	<1.6	<1.7	<0.12	<0.12
p,p'-DDD	<4.2	<4.5	<4	<4.4	<4.6	<4.4	<4.6	<0.33	<0.32
Endosulfan sulfate	<25	<27	<24	<26	<28	<27	<28	<2	<1.9
p,p'-DDT	14	<5	<4.4	<4.8	<5	<4.8	<5	<0.36	<0.35
Methoxychlor	<68	<73	<65	<70	<74	<71	<74	<5.3	<5.2
Endrin aldehyde	<8.9	<9.5	<8.5	<9.1	<9.7	<9.3	<9.7	<0.7	<0.68
Chlordane	<5.4	<5.8	<5.2	<5.6	<5.9	<5.7	<5.9	<0.42	<0.41
Toxaphene	<92	<99	<88	<95	<100	<97	<100	<7.3	<7.1

< Indicates pesticide concentration is less than the given value (detection limit)
* Concentration units are in µg/kg, unless otherwise indicated
1 Tentatively identified compounds (TICs) were not detected in any samples
2 Concentration units are in µg/L

TABLE III-d

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
HERBICIDES*
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND[1]	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920	92.00921	92.00938[2]	92.00939[2]
2,4-D	<28	<30	<27	<29	<30	<29	<30	<1.2	<1.2
2,4,5-TP	<4	<4.2	<3.8	<4.1	<4.3	<4.2	<4.3	<0.17	<0.17
2,4,5-T	<4.7	<5	<4.4	<4.8	<5.1	<4.9	<5.1	<0.2	<0.2

<: Indicates herbicide concentration is less than the given value (detection limit).
*: Concentration units are in µg/kg, unless otherwise indicated.
1: Tentatively identified compounds (TICs) were not detected in any samples.
2: Concentration units are in µg/L.

TABLE III-e

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
POLYCHLORINATED BIPHENYLS (PCBs)*
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920	92.00921	92.00938[1]	92.00939[1]
Mixed-Aroclor	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5
Aroclor 1242	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5
Aroclor 1254	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5
Aroclor 1260	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5

<: Indicates PCB concentration is less than the given value (detection limit).
*: Concentration units are in µg/g, unless otherwise indicated.
1: Concentration units are in µg/L.

TABLE III-f

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
NITRATE-N*
PHASE III DATA

SAMPLE IDENTIFICATION NUMBER	NITRATE-N	NITRATE-N (DUPLICATE)
92.00915	13.9	14.2
92.00916	7.42	7.42
92.00917	1.83	1.83
92.00918	0.417	0.407
92.00919	0.04	0.04
92.00920	0.04	0.04
92.00921	0.043	0.043
92.00938'	0.307	0.307
92.00939'	1.02	1.02

*: Concentrations given in µg/g, unless otherwise specified.
1: Concentrations are given in mg/L

TABLE III-g

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920	92.00921	92.00938[2]	92.00939[2]
Aluminum	5.99%	5.21%	5.86%	5.56%	5.13%	5.39%	5.44%	<0.02	0.08
Arsenic	0.6	0.7	0.6	1.2	0.3	0.4	0.4	<2	<2
Barium	292	262	241	446	231	270	204	0.11	0.149
Beryllium	2.1	1.85	1.76	1.71	1.9	1.29	1.84	<0.03	0.07
Calcium	4210	3810	2960	5700	3510	3000	2720	10.6	14.6
Cadmium	<1	<1	<1	<1	<1	<1	<1	<0.003	<0.003
Cobalt	3	2.2	2	4	2	1	1	<0.01	<0.01
Chromium	5	5	3	9	5	2	3	<0.01	<0.01
Copper	55	128	20	9	34	174	15	<0.01	<0.01
Iron	1.28%	1.19%	1.52%	1.43%	1.37%	1.14%	1.03%	<0.01	0.03
Potassium	2.63%	2.17%	2.59%	1.96%	2.14%	2.25%	2.27%	<1	2
Magnesium	1430	1570	873	2200	1270	751	909	3.47	3.07
Manganese	410	342	445	344	479	404	300	0.004	0.02
Mercury[1]	<2	<2	<2	32	<2	<2	<2	<0.1	<0.1
Mercury (Duplicate)[1]	NA	NA	NA	<0.2	NA	NA	<2	NA	NA
Selenium	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	2	<2
Silver	<1	<1	<1	2.09%	<1	<1	<1	<10	<10
Sodium	2.52%	2.08%	2.6%	8.1	2.21%	2.57%	2.4%	13	13

TABLE III-g (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND	92.00915	92.00916	92.00917	92.00918	92.00919	92.00920	92.00921	92.00938[2]	92.00939[2]
Nickel	4	4	3.7	<4	6	3	3	<0.01	<0.01
Lead	<4	32	<4	<3	5	<4	<4	<0.05	<0.05
Antimony	<3	<3	<3	<4	<3	<3	<3	<0.02	<0.02
Thallium	<4	<4	<4	22	<4	<4	<4	<0.03	<0.03
Vanadium	11	13	10	48	11	8	8	0.01	<0.006
Zinc	88	91	70	NA	75	58	54	0.014	0.03
Cyanide	NR	NR	NR	NR	NR	NR	NR	<0.01	<0.01

<: Indicates metal concentration is less than the given value (detection limit).
*: Concentration units are given in µg/g, unless otherwise indicated.
1: Mercury concentration units except 92.00938 and 92.00939 are in ng/g.
2: Concentrations are in mg/L.
NA: Not analyzed.
NR: Not requested.

TABLE III-h

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) METALS
PHASE III DATA

	SAMPLE IDENTIFICATION NUMBER				
TCLP METAL	92.00924	92.00925	92.00926	92.00927	92.00928
Arsenic[1]	<2	<2	<2	<2	<2
Barium[2]	0.85	0.79	0.13	0.93	0.52
Cadmium[2]	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium[2]	<0.01	<0.01	<0.01	0.01	<0.01
Lead[2]	<0.05	0.05	0.05	<0.05	<0.05
Mercury[1]	0.1	<0.1	<0.1	<0.1	<0.1
Selenium[1]	<2	<2	<2	<2	<2
Silver[1]	<10	<10	<10	<10	<10

	SAMPLE IDENTIFICATION NUMBER			
TCLP METAL	92.00929	92.00930	92.00940	92.00941
Arsenic[1]	<2	2.3	<2	<2
Barium[2]	0.65	0.59	0.2	0.22
Cadmium[2]	<0.01	<0.01	<0.01	<0.01
Chromium[2]	<0.01	<0.01	<0.01	<0.01
Lead[2]	0.06	<0.05	<0.05	<0.05
Mercury[1]	<0.1	<0.1	<0.1	<0.1
Selenium[1]	<2	<2	<2	<2
Silver[1]	<10	<10	<10	<10

<: Indicates TCLP metal concentration is less than the given value (detection limit).
1: Results are given in µg/L.
2: Results are given in mg/L.

APPENDIX IV

PHASE IV ANALYTICAL DATA

TABLE IV-a

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER				
COMPOUND	92.06115	92.06116	92.06117	92.06118	92.06119
Acetone[1]	<20	<20	<20	<20	25
Benzene	<5	<5	<5	<5	<5
Bromobenzene	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5
Bromomethane	<10	<10	<10	<10	<10
2-Butanone	<20	<20	<20	<20	<20
n-Butylbenzene	<5	<5	<5	<5	<5
sec-Butylbenzene	<5	<5	<5	<5	<5
tert-Butylbenzene	<5	<5	<5	<5	<5
Carbon disulfide	<5	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5
Chlorodibromomethane	<5	<5	<5	<5	<5
Chloroethane	<10	<10	<10	<10	<10
Chloroform	<5	<5	<5	<5	<5
Chloromethane	<10	<10	<10	<10	<10
o-Chlorotoluene	<5	<5	<5	<5	<5
p-Chlorotoluene	<5	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	<10	<10	<10	<10	<10
1,2-Dibromoethane	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5
o-Dichlorobenzene (1,2)	<5	<5	<5	<5	<5
m-Dichlorobenzene (1,3)	<5	<5	<5	<5	<5
p-Dichlorobenzene (1,4)	<5	<5	<5	<5	<5
Dichlorodifluoromethane	<10	<10	<10	<10	<10
1,1-Dichloroethane	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5

TABLE IV-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER				
COMPOUND	92.06115	92.06116	92.06117	92.06118	92.06119
1,1-Dichloroethene	<5	<5	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5	<5	<5
cis-1,2-Dichloroethylene	<5	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5	<5
1,3-Dichloropropane	<5	<5	<5	<5	<5
2,2-Dichloropropane	<5	<5	<5	<5	<5
1,1-Dichloropropene	<5	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5	<5
trans-1,3-Dichloropropene	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5
Ethylene dibromide	<5	<5	<5	<5	<5
2-Hexanone	<20	<20	<20	<20	<20
Isopropylbenzene	<5	<5	<5	<5	<5
4-Isopropyltoluene	<5	<5	<5	<5	<5
Methyl iodide	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	<20	<20	<20	<20	<20
Methylene chloride	<5	<5	<5	<5	<5
Propylbenzene	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5
1,1,2-Trichloro-1,2,2-trifluoroethane	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5
Trichlorofluoromethane	<5	<5	<5	<5	<5

TABLE IV-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

COMPOUND	SAMPLE IDENTIFICATION NUMBER				
	92.06115	92.06116	92.06117	92.06118	92.06119
1,2,3-Trichloropropane	<5	<5	<5	<5	<5
1,2,4-Trimethylbenzene	<5	<5	<5	<5	<5
1,3,5-Trimethylbenzene	<5	<5	<5	<5	<5
Vinyl acetate	<10	<10	<10	<10	<10
Vinyl chloride	<10	<10	<10	<10	<10
Mixed-Xylenes (o ± m ± p)	<5	<5	<5	<5	<5
Tentatively Identified Compounds (TICs)	None	None	None	None	None

<: Indicates volatile organic compound (VOC) concentration is less than the given value (detection limit).
1: Acetone was detected in each blank analyzed with samples 92.06115 through 92.06119. Possible laboratory contamination is suspected.

TABLE IV-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.06120	92.06121	92.06122	92.06123
Acetone[1]	33	33	25	26
Benzene	<5	<5	<5	<5
Bromobenzene	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5
Bromomethane	<10	<10	<10	<10
2-Butanone	<20	<20	<20	<20
n-Butylbenzene	<5	<5	<5	<5
sec-Butylbenzene	<5	<5	<5	<5
tert-Butylbenzene	<5	<5	<5	<5
Carbon disulfide	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5
Chlorodibromomethane	<5	<5	<5	<5
Chloroethane	<10	<10	<10	<10
Chloroform	<5	<5	<5	<5
Chloromethane	<10	<10	<10	<10
o-Chlorotoluene	<5	<5	<5	<5
p-Chlorotoluene	<5	<5	<5	<5
1,2-Dibromo-3-chloropropane	<10	<10	<10	<10
1,2-Dibromoethane	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5
o-Dichlorobenzene (1,2)	<5	<5	<5	<5
m-Dichlorobenzene (1,3)	<5	<5	<5	<5
p-Dichlorobenzene (1,4)	<5	<5	<5	<5
Dichlorodifluoromethane	<10	<10	<10	<10
1,1-Dichloroethane	<5	<5	<5	<5

TABLE IV-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

COMPOUND	SAMPLE IDENTIFICATION NUMBER			
	92.06120	92.06121	92.06122	92.06123
1,2-Dichloroethane	<5	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5	<5
cis-1,2-Dichloroethylene	<5	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5	<5
1,3-Dichloropropane	<5	<5	<5	<5
2,2-Dichloropropane	<5	<5	<5	<5
1,1-Dichloropropene	<5	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5	<5
trans-1,3-Dichloropropene	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5
Ethylene dibromide	<5	<5	<5	<5
2-Hexanone	<20	<20	<20	<20
Isopropylbenzene	<5	<5	<5	<5
4-Isopropyltoluene	<5	<5	<5	<5
Methyl iodide	<5	<5	<5	<5
4-Methyl-2-pentanone	<20	<20	<20	<20
Methylene chloride	<5	<5	<5	<5
Propylbenzene	<5	<5	<5	<5
Styrene	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5
Toluene	<5	<5	<5	<5
1,1,2-Trichloro-1,2,2-trifluoroethane	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5

TABLE IV-a (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
VOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.06120	92.06121	92.06122	92.06123
Trichlorofluoromethane	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5
1,2,4-Trimethylbenzene	<5	<5	<5	<5
1,3,5-Trimethylbenzene	<5	<5	<5	<5
Vinyl acetate	<10	<10	<10	<10
Vinyl chloride	<10	<10	<10	<10
Mixed-Xylenes (o ± m ± p)	<5	<5	<5	<5
Tentatively Identified Compounds (TICs)	None	None	None	None

<: Indicates volatile organic compound (VOC) concentration is less than the given value (detection limit).
1: Acetone was detected in the blanks analyzed with these samples. Probable laboratory contamination is suspected.

TABLE IV-b

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER				
COMPOUND	92.06115	92.06116	92.06117	92.06118	92.06119
Acenaphthene	<330	<330	<330	<330	<330
Acenaphthylene	<330	<330	<330	<330	<330
Aniline	<330	<330	<330	<330	<330
Anthracene	<330	<330	<330	<330	<330
Azobenzene	<330	<330	<330	<330	<330
m-Benzidine	<330	<330	<330	<330	<330
Benzo[a]anthracene	<330	<330	<330	<330	<330
Benzo[a]pyrene	<330	<330	<330	<330	<330
Benzo[b]fluoranthene	460	<330	<330	<330	<330
Benzo[g,h,i]perylene	<330	<330	<330	<330	<330
Benzo[k]fluoranthene	<330	<330	<330	<330	<330
Benzoic acid	<330	<330	<330	<330	<330
Benzyl alcohol	<330	<330	<330	<330	<330
Bis(2-chloroethoxy)methane	<330	<330	<330	<330	<330
Bis(2-chloroethyl)ether	<330	<330	<330	<330	<330
Bis(2-chloroisopropyl)ether	<330	<330	<330	<330	<330
Bis(2-ethylhexyl)phthalate	<330	<330	<330	<330	<330
4-Bromophenylphenyl ether	<330	<330	<330	<330	<330
Butyl benzyl phthalate	<330	<330	<330	<330	<330
4-Chloro-3-methylphenol	<330	<330	<330	<330	<330
4-Chloroaniline	<330	<330	<330	<330	<330
2-Chloronaphthalene	<330	<330	<330	<330	<330
o-Chlorophenol	<330	<330	<330	<330	<330
4-Chlorophenylphenyl ether	<330	<330	<330	<330	<330
Chrysene	<330	<330	<330	<330	<330
Di-n-butyl phthalate	<330	<330	<330	<330	<330
Di-n-octyl phthalate	<330	<330	<330	<330	<330
Dibenzo[a,h]anthracene	<330	<330	<330	<330	<330

TABLE IV-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER				
COMPOUND	92.06115	92.06116	92.06117	92.06118	92.06119
Dibenzofuran	<330	<330	<330	<330	<330
o-Dichlorobenzene (1,2)	<330	<330	<330	<330	<330
m-Dichlorobenzene (1,3)	<330	<330	<330	<330	<330
p-Dichlorobenzene (1,4)	<330	<330	<330	<330	<330
3,3'-Dichlorobenzidine	<330	<330	<330	<330	<330
2,4-Dichlorophenol	<330	<330	<330	<330	<330
Diethyl phthalate	<330	<330	<330	<330	<330
Dimethyl phthalate	<330	<330	<330	<330	<330
2,4-Dimethylphenol	<330	<330	<330	<330	<330
2,4-Dinitrophenol	<330	<330	<330	<330	<330
2,4-Dinitrotoluene	<330	<330	<330	<330	<330
2,6-Dinitrotoluene	<330	<330	<330	<330	<330
Fluoranthene	380	<330	<330	<330	<330
Fluorene	<330	<330	<330	<330	<330
Hexachlorobenzene	<330	<330	<330	<330	<330
Hexachlorobutadiene	<330	<330	<330	<330	<330
Hexachlorocyclopentadiene	<330	<330	<330	<330	<330
Hexachloroethane	<330	<330	<330	<330	<330
Indeno(1,2,3-cd)pyrene	<330	<330	<330	<330	<330
Isophorone	<330	<330	<330	<330	<330
2-Methyl-4,6-dinitrophenol	<330	<330	<330	<330	<330
2-Methylnaphthalene	<330	<330	<330	<330	<330
2-Methylphenol	<330	<330	<330	<330	<330
4-Methylphenol	<330	<330	<330	<330	<330
Naphthalene	<330	<330	<330	<330	<330
2-Nitroaniline	<330	<330	<330	<330	<330
3-Nitroaniline	<330	<330	<330	<330	<330

TABLE IV-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER				
COMPOUND	92.06115	92.06116	92.06117	92.06118	92.06119
4-Nitroaniline	<330	<330	<330	<330	<330
Nitrobenzene	<330	<330	<330	<330	<330
2-Nitrophenol	<330	<330	<330	<330	<330
4-Nitrophenol	<330	<330	<330	<330	<330
N-Nitrosodi-n-propylamine	<330	<330	<330	<330	<330
N-Nitrosodimethylamine	<330	<330	<330	<330	<330
N-Nitrosodiphenylamine	<330	<330	<330	<330	<330
Pentachlorophenol	<330	<330	<330	<330	<330
Phenanthrene	<330	<330	<330	<330	<330
Phenol	<330	<330	<330	<330	<330
Pyrene	<330	350	<330	<330	<330
1,2,4-Trichlorobenzene	<330	<330	<330	<330	<330
2,4,5-Trichlorophenol	<330	<330	<330	<330	<330
2,4,6-Trichlorophenol	<330	<330	<330	<330	<330
Tentatively Identified Compounds (TICs)	None	None	See Below[1]	See Below[2]	See Below[3]

<: Indicates semivolatile organic compound (SVOC) concentration was less than the given value (detection limit).
1: TICs detected in 92.06117 (in µg/kg) include two nitrogenous hydrocarbons (660 and 380) and an oxygenated hydrocarbon (680).
2: TICs detected in 92.06118 (in µg/kg) include benzenes (substituted) (850) and bisphenol A (1030).
3: TICs detected in 92.06119 (in µg/kg) include benzenes (substituted) (660) and bisphenol A (2500).

TABLE IV-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.06120	92.06121	92.06122	92.06123
Acenaphthene	<330	<330	<330	<1700
Acenaphthylene	<330	<330	<330	<1700
Aniline	<330	<330	<330	<1700
Anthracene	<330	<330	<330	<1700
Azobenzene	<330	<330	<330	<1700
m-Benzidine	<330	<330	<330	<1700
Benzo[a]anthracene	<330	<330	<330	<1700
Benzo[a]pyrene	<330	<330	<330	<1700
Benzo[b]fluoranthene	<330	<330	<330	<1700
Benzo[g,h,i]perylene	<330	<330	<330	<1700
Benzo[k]fluoranthene	<330	<330	<330	<1700
Benzoic acid	<330	<330	<330	<1700
Benzyl alcohol	<330	<330	<330	<1700
Bis(2-chloroethoxy)methane	<330	<330	<330	<1700
Bis(2-chloroethyl)ether	<330	<330	<330	<1700
Bis(2-chloroisopropyl)ether	<330	<330	<330	<1700
Bis(2-ethylhexyl)phthalate	<330	<330	<330	<1700
4-Bromophenylphenyl ether	<330	<330	<330	<1700
Butyl benzyl phthalate	<330	<330	<330	<1700
4-Chloro-3-methylphenol	<330	<330	<330	<1700
4-Chloroaniline	<330	<330	<330	<1700
2-Chloronaphthalene	<330	<330	<330	<1700
o-Chlorophenol	<330	<330	<330	<1700
4-Chlorophenylphenyl ether	<330	<330	<330	<1700
Chrysene	<330	<330	<330	<1700
Di-n-butyl phthalate	<330	<330	<330	<1700
Di-n-octyl phthalate	<330	<330	<330	<1700

TABLE IV-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.06120	92.06121	92.06122	92.06123
Dibenzo[a,h]anthracene	<330	<330	<330	<1700
Dibenzofuran	<330	<330	<330	<1700
o-Dichlorobenzene (1,2)	<330	<330	<330	<1700
m-Dichlorobenzene (1,3)	<330	<330	<330	<1700
p-Dichlorobenzene (1,4)	<330	<330	<330	<1700
3,3'-Dichlorobenzidine	<330	<330	<330	<1700
2,4-Dichlorophenol	<330	<330	<330	<1700
Diethyl phthalate	<330	<330	<330	<1700
Dimethyl phthalate	<330	<330	<330	<1700
2,4-Dimethylphenol	<330	<330	<330	<1700
2,4-Dinitrophenol	<330	<330	<330	<1700
2,4-Dinitrotoluene	<330	<330	<330	<1700
2,6-Dinitrotoluene	<330	<330	<330	<1700
Fluoranthene	<330	<330	490	<1700
Fluorene	<330	<330	<330	<1700
Hexachlorobenzene	<330	<330	<330	<1700
Hexachlorobutadiene	<330	<330	<330	<1700
Hexachlorocyclopentadiene	<330	<330	<330	<1700
Hexachloroethane	<330	<330	<330	<1700
Indeno[1,2,3-cd]pyrene	<330	<330	<330	<1700
Isophorone	<330	<330	<330	<1700
2-Methyl-4,6-dinitrophenol	<330	<330	<330	<1700
2-Methylnaphthalene	<330	<330	<330	<1700
2-Methylphenol	<330	<330	<330	<1700
4-Methylphenol	<330	<330	<330	<1700
Naphthalene	<330	<330	<330	<1700
2-Nitroaniline	<330	<330	<330	<1700

TABLE IV-b (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
SEMIVOLATILE ORGANIC COMPOUNDS (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER			
COMPOUND	92.06120	92.06121	92.06122	92.06123
3-Nitroaniline	<330	<330	<330	<1700
4-Nitroaniline	<330	<330	<330	<1700
Nitrobenzene	<330	<330	<330	<1700
2-Nitrophenol	<330	<330	<330	<1700
4-Nitrophenol	<330	<330	<330	<1700
N-Nitrosodi-n-propylamine	<330	<330	<330	<1700
N-Nitrosodimethylamine	<330	<330	<330	<1700
N-Nitrosodiphenylamine	<330	<330	<330	<1700
Pentachlorophenol	<330	<330	<330	<1700
Phenanthrene	<330	<330	<330	<1700
Phenol	<330	<330	<330	<1700
Pyrene	<330	<330	420	<1700
1,2,4-Trichlorobenzene	<330	<330	<330	<1700
2,4,5-Trichlorophenol	<330	<330	<330	<1700
2,4,6-Trichlorophenol	<330	<330	<330	<1700
Tentatively Identified Compounds (TICs)	See Below[1]	None	None	None

<: Indicates semivolatile organic compound (SVOC) is less than the given value (detection limit).
1: TICs detected in 92.06120 (in µg/kg) include bisphenol A (1700) and diethylene glycol (1100).

TABLE IV-c

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
PESTICIDES (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND	92.06115	92.06116	92.06117	92.06118	92.06119	92.06120	92.06121	92.06122	92.06123
alpha-BHC	<1.1	<1.1	<1.1	<1.2	<1.1	<1.1	<1.1	<1.0	<1.1
beta-BHC	5.2	<2.1	<2.2	<2.3	<2.2	<2.2	<2.1	<2.1	<2.2
delta-BHC	<3.2	<3.2	<3.4	<3.5	<3.2	<3.3	<3.2	<3.2	<3.2
Lindane	<1.4	<1.4	<1.5	<1.6	<1.4	<1.4	<1.4	<1.4	<1.4
Heptachlor	<1.1	<1.1	<1.1	<1.2	<1.1	<1.1	<1.1	<1.0	<1.1
Aldrin	<1.4	<1.4	<1.5	<1.6	<1.4	<1.4	<1.4	<1.4	<1.4
Heptachlor epoxide	<30	<29	<31	<32	<30	<30	<30	<29	<30
Endosulfan I	<5.0	<5.0	<5.3	<5.5	<5.0	<5.1	<5.0	<4.9	<5.1
Dieldrin	<0.72	<0.71	<0.75	<0.78	<0.72	<0.73	<0.72	<0.70	<0.72
4,4'-DDE	<1.4	<1.4	<1.5	<1.6	<1.4	<1.4	<1.4	<1.4	<1.4
Endrin	<2.2	<2.1	<2.2	<2.3	<2.2	<2.2	<2.1	<2.1	<2.2
Endosulfan II	<1.4	<1.4	<1.5	<1.6	<1.4	<1.4	<1.4	<1.4	<1.4
4,4'-DDD	<4.0	<3.9	<4.1	<4.3	<4.0	<4.0	<3.9	<3.9	<4.0
Endosulfan sulfate	<24	<23	<25	<26	<24	<24	<24	<23	<24
4,4'-DDT	<4.3	<4.3	<4.5	<4.7	<4.3	<4.4	<4.3	<4.2	<4.3
Methoxychlor	<64	<62	<66	<69	<63	<64	<63	<62	<64
Endrin aldehyde	<8.3	<8.2	<8.6	<9.0	<8.3	<8.4	<8.2	<8.1	<8.3
Chlordane, technical	<5.0	<5.0	<5.3	<5.5	<5.0	<5.1	<5.0	<4.9	<5.1
Toxaphene	<87	<84	<90	<94	<86	<87	<86	<84	<87

< Indicates pesticide concentration is less than the given value (detection limit)

TABLE IV-d

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
HERBICIDES (in µg/kg)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND[1]	92.06115	92.06116	92.06117	92.06118	92.06119	92.06120	92.06121	92.06122	92.06123
2,4-D	<26	<26	<27	<28	<26	<26	<26	<26	<26
2,4,5-TP	<3.7	<3.6	<3.9	<4.0	<3.7	<3.8	<3.7	<3.6	<3.7
2,4,5-T	<4.4	<4.3	<4.6	<4.7	<4.4	<4.4	<4.3	<4.3	<4.4

<: Indicates herbicide concentration is less than the given value (detection limit).
1: Tentatively identified compounds (TICs) were not detected in any samples.

TABLE IV-e

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
POLYCHLORINATED BIPHENYLS (PCBs) (in µg/g)
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND	92.06115	92.06116	92.06117	92.06118	92.06119	92.06120	92.06121	92.06122	92.06123
Mixed Aroclor	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Aroclor 1242	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Aroclor 1254	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Aroclor 1260	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17

<: Indicates PCB concentration is less than the given value (detection limit).

TABLE IV-f

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
NITRATE-N (in µg/g)
PHASE IV DATA

SAMPLE IDENTIFICATION NUMBER	NITRATE-N	NITRATE-N (DUPLICATE)
92.06115	3.8	NA
92.06116	<0.08	NA
92.06117	4	NA
92.06118	0.81	NA
92.06119	1.04	NA
92.06120	1.57	1.57
92.06121	0.39	NA
92.06122	<0.08	NA
92.06123	4.84	4.7

<: Indicates nitrate-N concentration is below the given value (detection limit).
NA: Not analyzed.

TABLE IV-g

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND	92.06115	92.06116	92.06117	92.06118	92.06119	92.06120	92.06121	92.06122	92.06123
Aluminum	7.39%	7.24%	7.04%	7.37%	7.02%	6.9%	6.49%	7.24%	7.1%
Arsenic	1.2[2]	0.9	0.8	0.6	0.8	0.5	<0.2	0.6	1.1
Barium	414	589	383	241	463	217	176	663	440
Beryllium	2.5	2.1	2.38	2.8	2.3	2.49	2.63	2.21[1]	2.39
Calcium	0.66%	0.95%	0.5%	0.34%	0.7%	0.31%	[illegible]	1.25%	0.63%
Cadmium	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt	5	4.8	3.5	3.2	4.9	2.1	3.1	5.8	4.1
Chromium	12	12	7.6	5.4	9.8	4.4	3.2	13.6	9.6
Copper	304	63	212	45	153	16.3	2.2	17.8	90.8
Iron	1.58%	1.46%	1.58%	1.41%	1.45%	1.21%	1.09%	1.63%	1.58%
Potassium	3.58%	3.32%	3.58%	4.05%	3.31%	3.8%	3.71%	3.12%	3.35%
Magnesium	0.24%	0.32%	0.2%	0.14%	0.25%	933	562	0.44%	0.24%
Manganese	394	368	458	362	398	391	334	412	387
Mercury[1]	21	10	10	<10	11	<10	<10	<10	11
Selenium	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Silver	1.6	1.5	<1	<1	<1	<1	<1	<1	<1
Sodium	2.76%	2.8%	2.91%	3.04%	2.75%	3.09%	2.95%	2.7%	2.71%
Nickel	8	12	6	25	5	4	4	12	8

TABLE IV-g (Continued)

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TARGET ANALYTE LIST (TAL) METALS*
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER								
COMPOUND	92.06115	92.06116	92.06117	92.06118	92.06119	92.06120	92.06121	92.06122	92.06123
Lead	48	34	48	46	36	39	36	30.6	44
Antimony	<6	<6	<6	<6	10	<6	<6	<6	<6
Thallium	21	25	28	25	26	24	21	27	24
Vanadium	19	20	13	10	19	6	4	26	19
Zinc	72.5	55	79	77	80	91.6	55.8	47	67.1
Cyanide	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02[3]	<0.02

<: Indicates metal concentration is less than the given value (detection limit).
*: Concentration units are given in µg/g, unless otherwise indicated.
1: Mercury concentration units are in ng/g.
2: Arsenic was detected at 0.9 µg/g and 1.1 µg/g in duplicate samples.
3: Cyanide duplicate was <0.02 µg/g.

TABLE IV-h

LOS ALAMOS NATIONAL LABORATORY
TECHNICAL AREA 40
SCRAP DETONATION SITE
TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) METALS
PHASE IV DATA

	SAMPLE IDENTIFICATION NUMBER				
TCLP METAL	92.06126	92.06127	92.06128	92.06129	92.06130
Arsenic[1]	2	3	<2	<2	<2
Barium[2]	0.68	0.83	0.77	0.28	0.62
Cadmium[2]	<0.01	<0.01	<0.01	<0.01	<0.01
Chromium[2]	<0.01	<0.01	<0.01	<0.01	<0.01
Lead[2]	<0.05	<0.05	<0.05	<0.05	<0.05
Mercury[1]	<0.1	<0.1	<0.1	<0.1	<0.1
Selenium[1]	9	8	<2	<2	<2
Silver[1]	<10	<10	<10	<10	<10

	SAMPLE IDENTIFICATION NUMBER			
TCLP METAL	92.06131	92.06132	92.06133	92.06134
Arsenic[1]	<2	<2	<2	<2
Barium[2]	0.25	0.17	0.62	0.71
Cadmium[2]	<0.01	<0.01	<0.01	<0.01
Chromium[2]	<0.01	<0.01	<0.01	<0.01
Lead[2]	<0.05	<0.05	<0.05	<0.05
Mercury[1]	<0.1	<0.1	<0.1	0.1
Selenium[1]	<2	<2	<2	<2
Silver[1]	<10	<10	<10	<10

<: Indicates TCLP metal concentration is less than the given value (detection limit).
1: Results are given in µg/L
2: Results are given in mg/L

APPENDIX V

ANALYTICAL METHODS

ANALYTICAL METHODS

The following analytical methods were used for the analyses of samples collected during Phases I through IV. The same applicable methods will be employed for the Phase VI laboratory analyses.

PARAMETER	ANALYTE	EPA/SW-846 METHOD
Volatile Organic Compounds		8260
Semivolatile Organic Compounds		8270, 3540
Pesticides		8080
Herbicides		8150
Polychlorinated Biphenyls		8080
Nitrate		353.2
Target Analyte List Metals		6010 (ICPES)
		3050 (acid digestion, soil)
	Arsenic	7060 (AA)
	Selenium	7740 (AA)
	Antimony	7040 (AA)
	Thallium	7840 (AA)
	Mercury	7470 (CVAA, liquid)
		7471 (CVAA, soil)
	Silver	7760 (AA)
Toxicity Characteristic Leaching Procedure Metals		1311, 3010
	Arsenic	7060 (AA)
	Selenium	7740 (AA)
	Antimony	7040 (AA)
	Thallium	7840 (AA)
	Mercury	7470 (CVAA, liquid)
	Silver	7760 (AA)
Total Petroleum Hydrocarbons		418.1

APPENDIX C

ANALYTICAL RESULTS OF THE 1992 CHARACTERIZATION OF TA-40 SCRAP DETONATION SITE

VOC Analyses

VOC

TO: Phil Fresquez, EM-8

FROM: Suzanne Ehart Bell, EM-9 Organic Analysis Section

THRU: Chris Leibman SEH for CL 2/7/92
Laura Tsiagkouris

DATE: January 31, 1992

REQUEST: 12439

The following samples were received for volatile organic analysis using SW846 purge and trap method 8260:

92.00696 through 92.00710
92.00726 through 92.00728
92.00741 and 92.00742 (QC)
92.00761 through 92.00770
92.00781 and 92.00782

Five grams of the soil was purged using standard purge and trap protocols. Since the sample results are not blank subtracted, a copy of the method blank results have been included with this report. The 14 day holding time requirement was met.

Results: No target compounds were detected in any of the samples. Samples 92.00768 and 92.00769 contained a large amount of some type of hydrocarbon. These samples were given to Stuart Neilsen for total petroleum hydrocarbon (TPH) analysis. Please refer to his report for results.

QC Summary: Several samples had surrogate recoveries out-of-control. Most of the samples contained charcoal/burnt material, and the poor recoveries are directly attributable to this. Because of the high charcoal content of the samples, it is possible that there were target volatiles present but not detected using EPA purge and trap protocol. Charcoal is a strong absorber of volatile organics. If you have any questions about this, please call. All matrix spike recoveries were within control limits. Two blind QC samples were analyzed with these samples, and the results are included with this report.

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR VOLATILES
SOIL

REQUEST #: 12439

NUMBER OF SAMPLES: 22
MATRIX S
ANALYST: SCB
Date: 01/31/92

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	d4-1,2-dichloro-ethene	toluene-(d8)	4-bromo-fluoro-benzene
1	b92.00743	BLANK	81	87	94
2	b92.00744	BLANK	85	83	93
3	s92.00726	SAMPLE	76	88	80
4	s92.00727	SAMPLE	79	87	88
5	s92.00728	SAMPLE	89	83	96
6	s92.00781	SAMPLE	87	97	101
	s92.00782	SAMPLE	90	98	100
8	s92.00696	SAMPLE	88	81	104
9	s92.00697	SAMPLE	69 *	85	87
10	s92.00698	SAMPLE	77	83	102
11	s92.00699	SAMPLE	83	82	102
12	s92.00700	SAMPLE	85	82	94
13	s92.00701	SAMPLE	88	79 *	109
14	s92.00702	SAMPLE	85	82	100
15	s92.00703	SAMPLE	84	82	98
16	s92.00704	SAMPLE	91	90	110
17	s92.00705	SAMPLE	88	91	101
18	s92.00706	SAMPLE	89	92	97
19	s92.00707	SAMPLE	108	86	184 *
20	s92.00708	SAMPLE	101	93	147 *
21	m92.00702	MATRIX SPIK	79	81	94
22	d92.00702	MATRIX SP-D	82	82	93

Average % Surrogate Recovery...	82	87	95
Defined Lower QC Limits (%)....	70	81	74
Defined Upper QC Limits (%)....	121	117	121
Observed Lower QC Limits (%)...	69	81	80
Observed Upper QC Limits (%)...	90	98	104

' If % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

Lotus file
S12439.wk1

Reviewed By:

2/7/92

1.31.92

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
MATRIX SPIKE RECOVERIES FOR VOLATILES

		DRY WT/VOL (G or ML)	DILUTION FACTOR	AMOUNT SPIKED	LOQ (UG/KG OR UG/
REQUEST #:	12439				
NUMBER OF SAMPLES:	22				
SPIKE ID: (STARTS M OR E)	m92.00702	SPIKE 4.4933	1	56	5
SPIKE DUP ID: (STARTS D OR F)	d92.00702	SPIKE-DUP4.4933	1	56	5
RAW DATA WITH:	scb12439				
ANALYST:	SCB				

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW. REC. LIM.	UPP. REC. LIM.	RPD LIM.
-Dichlorethene	35	36	63%	65%	3%	59	172	22
Benzene	43	43	77%	77%	0%	66	142	21
Trichlorethene	50	48	90%	86%	4%	62	137	24
Toluene	50	48	90%	86%	4%	59	139	21
Chlorobenzene	49	47	88%	84%	4%	60	133	21

If % Matrix Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By: 3/7/92

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR VOLATILES
SOIL

REQUEST #: 12439

NUMBER OF SAMPLES: 20
MATRIX S
ANALYST: SCB
Date: 02/05/92

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	d4-1,2-dichloro-ethene	toluene-(d8)	4-bromo-fluoro-benzene
1	s92.00709	SAMPLE	95	90	117
2	s92.00710	SAMPLE	81	87	106
3	s92.00741	SAMPLE	80	88	78
4	s92.00742	SAMPLE	83	92	82
	m92.00768	MATRIX SPIK	82	85	111
6	d92.00768	MATRIX SP-D	84	84	110
7	s92.00761	SAMPLE	81	90	109
8	s92.00762	SAMPLE	88	84	122 *
9	s92.00763	SAMPLE	77	92	96
10	s92.00764	SAMPLE	81	84	106
11	s92.00765	SAMPLE	83	90	103
12	s92.00766	SAMPLE	80	84	102
13	s92.00767	SAMPLE	104	84	269 *
14	s92.00768	SAMPLE	81	84	119
15	b92.01181	BLANK	95	98	102
16	s92.00769	SAMPLE	77	83	110
17	s92.00770	SAMPLE	81	87	109
18	b92.01178	BLANK	91	93	106
19	b92.01179	BLANK	90	92	98
20	b92.01180	BLANK	84	89	98
21					
22					

New blank included

Lotus file X12439.WK1

SB 2-5-92

Average % Surrogate Recovery...	83	88	104
Defined Lower QC Limits (%)....	70	81	74
Defined Upper QC Limits (%)....	121	117	121
Observed Lower QC Limits (%)...	77	84	78
Observed Upper QC Limits (%)...	95	92	122

"*" If % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By: SPM 2/7/92

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
MATRIX SPIKE RECOVERIES FOR VOLATILES

		DRY WT/VOL (G or ML)	DILUTION FACTOR	AMOUNT SPIKED	LOQ (UG/KG OR UG/
REQUEST #:	12439				
NUMBER OF SAMPLES:	17				
SPIKE ID: (STARTS M OR E)	m92.00768	SPIKE 4.5358	1	55	5
SPIKE DUP ID: (STARTS D OR F)	d92.00768	SPIKE-DUP 4.214	1	59	5
RAW DATA WITH:	scb12439				
ANALYST:	SCB				

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW. REC. LIM.	UPP. REC. LIM.	RPD LIM.
1-Dichlorethene	38	44	69%	74%	7%	59	172	22
Benzene	47	53	85%	89%	5%	66	142	21
Trichlorethene	44	50	80%	84%	5%	62	137	24
Toluene	50	55	91%	93%	2%	59	139	21
Chlorobenzene	49	54	89%	91%	2%	60	133	21

" If % Matrix Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By: 3/17/92

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00696

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-FA-1A	92.00696	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-FA-1A	92.00696	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-FA-1A	92.00696	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-FA-1A	92.00696	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-FA-1A	92.00696	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-FA-1A	92.00696	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-FA-1A	92.00696	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-FA-1A	92.00696	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-FA-1A	92.00696	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-FA-1A	92.00696	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-FA-1A	92.00696	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-FA-1A	92.00696	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-FA-1A	92.00696	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-FA-1A	92.00696	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-FA-1A	92.00696	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-FA-1A	92.00696	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-FA-1A	92.00696	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-FA-1A	92.00696	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-FA-1A	92.[illegible]96	106434	< 5.		UG/KG	2/06/9[illegible]	CHARCOAL	p-Chlorotoluene
PF-40-FA-1A	92.[illegible]	96128	< 10.		UG/KG	2/06/[illegible]	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-FA-1A	92.00696	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-FA-1A	92.00696	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-FA-1A	92.00696	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-FA-1A	92.00696	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-FA-1A	92.00696	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-FA-1A	92.00696	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-FA-1A	92.00696	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-FA-1A	92.00696	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-FA-1A	92.00696	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-FA-1A	92.00696	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-FA-1A	92.00696	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-FA-1A	92.00696	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-FA-1A	92.00696	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-FA-1A	92.00696	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-FA-1A	92.00696	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-FA-1A	92.00696	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-FA-1A	92.00696	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-FA-1A	92.00696	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-FA-1A	92.00696	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-FA-1A	92.00696	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-FA-1A	92.00696	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-FA-1A	92.00696	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-FA-1A	92.00696	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-FA-1A	92.00696	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-FA-1A	92.00696	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-FA-1A	92.00696	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-FA-1A	92.00696	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-FA-1A	92.00696	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-FA-1A	92.00696	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-FA-1A	92.00696	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-FA-1A	92.00696	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FA-1A	92.00696	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-FA-1A	92.00696	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-FA-1A	92.00696	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-FA-1A	92.00696	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-FA-1A	92.00696	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-FA-1A	92.00696	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-FA-1A	92.00696	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-FA-1A	92.00696	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-FA-1A	92.00696	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-FA-1A	92.00696	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00696

none

Customer Sample Duplicate Results for Sample # 92.00696

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00696

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00697

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-4A	92.00697	67641	< 28.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-FA-4A	92.00697	71432	< 7.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-FA-4A	92.00697	108861	< 7.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-FA-4A	92.00697	74975	< 7.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-FA-4A	92.00697	75274	< 7.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-FA-4A	92.00697	75252	< 7.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-FA-4A	92.00697	74839	< 14.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-FA-4A	92.00697	78933	< 28.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-FA-4A	92.00697	104518	< 7.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-FA-4A	92.00697	135988	< 7.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-FA-4A	92.00697	98066	< 7.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-FA-4A	92.00697	75150	< 7.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-FA-4A	92.00697	56235	< 7.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-FA-4A	92.00697	108907	< 7.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-FA-4A	92.00697	124481	< 7.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-FA-4A	92.00697	75003	< 14.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-FA-4A	92.00697	67663	< 7.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-FA-4A	92.00697	74873	< 14.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-FA-4A	92.00697	95498	< 7.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-FA-4A	92.00697	106434	< 7.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-FA-4A	92.00697	96128	< 14.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-FA-4A	92.00697	106934	< 7.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-FA-4A	92.00697	74953	< 7.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-FA-4A	92.00697	95501	< 7.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-FA-4A	92.00697	541731	< 7.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-FA-4A	92.00697	106467	< 7.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-FA-4A	92.00697	75718	< 14.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-FA-4A	92.00697	75343	< 7.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-FA-4A	92.00697	107062	< 7.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-FA-4A	92.00697	75354	< 7.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-FA-4A	92.00697	156605	< 7.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-FA-4A	92.00697	156592	< 7.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-FA-4A	92.00697	78875	< 7.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-FA-4A	92.00697	142289	< 7.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-FA-4A	92.00697	594207	< 7.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-FA-4A	92.00697	563586	< 7.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-FA-4A	92.00697	10061015	< 7.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-FA-4A	92.00697	10061026	< 7.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-FA-4A	92.00697	100414	< 7.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-FA-4A	92.00697	591786	< 28.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-FA-4A	92.00697	98828	< 7.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-FA-4A	92.00697	99876	< 7.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-FA-4A	92.00697	74884	< 7.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-FA-4A	92.00697	108101	< 28.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-FA-4A	92.00697	75092	< 7.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-FA-4A	92.00697	103651	< 7.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-FA-4A	92.00697	100425	< 7.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-FA-4A	92.00697	630206	< 7.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-FA-4A	92.00697	79345	< 7.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-FA-4A	92.00697	127184	< 7.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-FA-4A	92.00697	108883	< 7.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-FA-4A	92.00697	76131	< 7.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FA-4A	92.00697	71556	< 7.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-FA-4A	92.00697	79005	< 7.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-FA-4A	92.00697	79016	< 7.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-FA-4A	92.00697	75694	< 7.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-FA-4A	92.00697	96184	< 7.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-FA-4A	92.00697	95636	< 7.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-FA-4A	92.00697	108678	< 7.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-FA-4A	92.00697	108054	< 14.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-FA-4A	92.00697	75014	< 14.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-FA-4A	92.00697	1330207	< 7.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00697

none

Customer Sample Duplicate Results for Sample # 92.00697

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00697

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00698

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-5A	92.00698	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-FA-5A	92.00698	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-FA-5A	92.00698	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-FA-5A	92.00698	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-FA-5A	92.00698	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-FA-5A	92.00698	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-FA-5A	92.00698	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-FA-5A	92.00698	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-FA-5A	92.00698	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-FA-5A	92.00698	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-FA-5A	92.00698	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-FA-5A	92.00698	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-FA-5A	92.00698	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-FA-5A	92.00698	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-FA-5A	92.00698	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-FA-5A	92.00698	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-FA-5A	92.00698	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-FA-5A	92.00698	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-FA-5A	92.00698	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-FA-5A	92.00698	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-FA-5A	92.00698	96128	< 10.		UG/KG	2/06/	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-FA-5A	92.00698	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-FA-5A	92.00698	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-FA-5A	92.00698	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-FA-5A	92.00698	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-FA-5A	92.00698	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-FA-5A	92.00698	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-FA-5A	92.00698	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-FA-5A	92.00698	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-FA-5A	92.00698	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-FA-5A	92.00698	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-FA-5A	92.00698	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-FA-5A	92.00698	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-FA-5A	92.00698	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-FA-5A	92.00698	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-FA-5A	92.00698	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-FA-5A	92.00698	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-FA-5A	92.00698	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-FA-5A	92.00698	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-FA-5A	92.00698	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-FA-5A	92.00698	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-FA-5A	92.00698	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-FA-5A	92.00698	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-FA-5A	92.00698	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-FA-5A	92.00698	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-FA-5A	92.00698	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-FA-5A	92.00698	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-FA-5A	92.00698	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-FA-5A	92.00698	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-FA-5A	92.00698	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-FA-5A	92.00698	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-FA-5A	92.00698	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FA-5A	92.00698	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-FA-5A	92.00698	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-FA-5A	92.00698	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-FA-5A	92.00698	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-FA-5A	92.00698	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-FA-5A	92.00698	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-FA-5A	92.00698	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-FA-5A	92.00698	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-FA-5A	92.00698	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-FA-5A	92.00698	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00698

none

Customer Sample Duplicate Results for Sample # 92.00698

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00698

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00699

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-2A	92.00699	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-FA-2A	92.00699	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-FA-2A	92.00699	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-FA-2A	92.00699	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-FA-2A	92.00699	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-FA-2A	92.00699	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-FA-2A	92.00699	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-FA-2A	92.00699	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-FA-2A	92.00699	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-FA-2A	92.00699	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-FA-2A	92.00699	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-FA-2A	92.00699	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-FA-2A	92.00699	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-FA-2A	92.00699	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-FA-2A	92.00699	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-FA-2A	92.00699	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-FA-2A	92.00699	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-FA-2A	92.00699	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-FA-2A	92.00699	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-FA-2A	92.00699	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-FA-2A	92.00699	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-FA-2A	92.00699	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-FA-2A	92.00699	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-FA-2A	92.00699	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-FA-2A	92.00699	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-FA-2A	92.00699	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-FA-2A	92.00699	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-FA-2A	92.00699	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-FA-2A	92.00699	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-FA-2A	92.00699	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-FA-2A	92.00699	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-FA-2A	92.00699	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-FA-2A	92.00699	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-FA-2A	92.00699	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-FA-2A	92.00699	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-FA-2A	92.00699	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-FA-2A	92.00699	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-FA-2A	92.00699	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-FA-2A	92.00699	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-FA-2A	92.00699	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-FA-2A	92.00699	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-FA-2A	92.00699	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-FA-2A	92.00699	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-FA-2A	92.00699	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-FA-2A	92.00699	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-FA-2A	92.00699	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-FA-2A	92.00699	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-FA-2A	92.00699	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-FA-2A	92.00699	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-FA-2A	92.00699	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-FA-2A	92.00699	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-FA-2A	92.00699	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FA-2A	92.00699	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-FA-2A	92.00699	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-FA-2A	92.00699	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-FA-2A	92.00699	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-FA-2A	92.00699	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-FA-2A	92.00699	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-FA-2A	92.00699	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-FA-2A	92.00699	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-FA-2A	92.00699	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-FA-2A	92.00699	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00699

none

Customer Sample Duplicate Results for Sample # 92.00699

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00699

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00700

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-15A	92.00700	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-FA-15A	92.00700	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-FA-15A	92.00700	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-FA-15A	92.00700	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-FA-15A	92.00700	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-FA-15A	92.00700	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-FA-15A	92.00700	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-FA-15A	92.00700	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-FA-15A	92.00700	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-FA-15A	92.00700	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-FA-15A	92.00700	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-FA-15A	92.00700	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-FA-15A	92.00700	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-FA-15A	92.00700	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-FA-15A	92.00700	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-FA-15A	92.00700	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-FA-15A	92.00700	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-FA-15A	92.00700	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-FA-15A	92.00700	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-FA-15A	92.00700	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-FA-15A	92.00700	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

-40-FA-15A	92.00700	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
-40-FA-15A	92.00700	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
-40-FA-15A	92.00700	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
-40-FA-15A	92.00700	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
-40-FA-15A	92.00700	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
-40-FA-15A	92.00700	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
-40-FA-15A	92.00700	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
-40-FA-15A	92.00700	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
-40-FA-15A	92.00700	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
-40-FA-15A	92.00700	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
-40-FA-15A	92.00700	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
-40-FA-15A	92.00700	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
-40-FA-15A	92.00700	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
-40-FA-15A	92.00700	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
-40-FA-15A	92.00700	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
-40-FA-15A	92.00700	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
-40-FA-15A	92.00700	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
-40-FA-15A	92.00700	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
-40-FA-15A	92.00700	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
-40-FA-15A	92.00700	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
-40-FA-15A	92.00700	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
-40-FA-15A	92.00700	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
-40-FA-15A	92.00700	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
-40-FA-15A	92.00700	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
-40-FA-15A	92.00700	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
-40-FA-15A	92.00700	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
-40-FA-15A	92.00700	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
-40-FA-15A	92.00700	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
-40-FA-15A	92.00700	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
-40-FA-15A	92.00700	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
-40-FA-15A	92.00700	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
-40-FA-15A	92.00700	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
-40-FA-15A	92.00700	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
-40-FA-15A	92.00700	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
-40-FA-15A	92.00700	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
-40-FA-15A	92.00700	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
-40-FA-15A	92.00700	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
-40-FA-15A	92.00700	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
-40-FA-15A	92.00700	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
-40-FA-15A	92.00700	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
-40-FA-15A	92.00700	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o + m + p)

ntatively Identified Compounds in Customer Sample # 92.00700

ne

Customer Sample Duplicate Results for Sample # 92.00700

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00700

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00701

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-13A	92.00701	67641	< 32.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-FA-13A	92.00701	71432	< 8.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-FA-13A	92.00701	108861	< 8.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-FA-13A	92.00701	74975	< 8.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-FA-13A	92.00701	75274	< 8.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-FA-13A	92.00701	75252	< 8.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-FA-13A	92.00701	74839	< 16.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-FA-13A	92.00701	78933	< 32.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-FA-13A	92.00701	104518	< 8.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-FA-13A	92.00701	135988	< 8.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-FA-13A	92.00701	98066	< 8.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-FA-13A	92.00701	75150	< 8.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-FA-13A	92.00701	56235	< 8.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-FA-13A	92.00701	108907	< 8.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-FA-13A	92.00701	124481	< 8.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-FA-13A	92.00701	75003	< 16.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-FA-13A	92.00701	67663	< 8.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-FA-13A	92.00701	74873	< 16.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-FA-13A	92.00701	95498	< 8.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-FA-13A	92.00701	106434	< 8.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-FA-13A	92.00701	96128	< 16.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-FA-13A	92.00701	106934	< 8.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-FA-13A	92.00701	74953	< 8.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-FA-13A	92.00701	95501	< 8.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-FA-13A	92.00701	541731	< 8.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-FA-13A	92.00701	106467	< 8.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-FA-13A	92.00701	75718	< 16.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-FA-13A	92.00701	75343	< 8.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-FA-13A	92.00701	107062	< 8.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-FA-13A	92.00701	75354	< 8.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-FA-13A	92.00701	156605	< 8.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-FA-13A	92.00701	156592	< 8.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-FA-13A	92.00701	78875	< 8.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-FA-13A	92.00701	142289	< 8.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-FA-13A	92.00701	594207	< 8.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-FA-13A	92.00701	563586	< 8.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-FA-13A	92.00701	10061015	< 8.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-FA-13A	92.00701	10061026	< 8.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-FA-13A	92.00701	100414	< 8.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-FA-13A	92.00701	591786	< 32.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-FA-13A	92.00701	98828	< 8.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-FA-13A	92.00701	99876	< 8.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-FA-13A	92.00701	74884	< 8.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-FA-13A	92.00701	108101	< 32.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-FA-13A	92.00701	75092	< 8.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-FA-13A	92.00701	103651	< 8.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-FA-13A	92.00701	100425	< 8.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-FA-13A	92.00701	630206	< 8.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-FA-13A	92.00701	79345	< 8.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-FA-13A	92.00701	127184	< 8.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-FA-13A	92.00701	108883	< 8.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-FA-13A	92.00701	76131	< 8.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FA-13A	92.00701	71556	< 8.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-FA-13A	92.00701	79005	< 8.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-FA-13A	92.00701	79016	< 8.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-FA-13A	92.00701	75694	< 8.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-FA-13A	92.00701	96184	< 8.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-FA-13A	92.00701	95636	< 8.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-FA-13A	92.00701	108678	< 8.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-FA-13A	92.00701	108054	< 16.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-FA-13A	92.00701	75014	< 16.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-FA-13A	92.00701	1330207	< 8.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00701

none

Customer Sample Duplicate Results for Sample # 92.00701

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00701

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00702

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-16A	92.00702	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-FA-16A	92.00702	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-FA-16A	92.00702	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-FA-16A	92.00702	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-FA-16A	92.00702	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-FA-16A	92.00702	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-FA-16A	92.00702	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-FA-16A	92.00702	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-FA-16A	92.00702	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-FA-16A	92.00702	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-FA-16A	92.00702	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-FA-16A	92.00702	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-FA-16A	92.00702	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-FA-16A	92.00702	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-FA-16A	92.00702	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-FA-16A	92.00702	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-FA-16A	92.00702	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-FA-16A	92.00702	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-FA-16A	92.00702	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-FA-16A	92[illegible]02	106434	< 5.		UG/KG	2/06/9[illegible]	CHARCOAL	p-Chlorotoluene
PF-40-FA-16A	92[illegible]2	96128	< 10.		UG/KG	2/06/[illegible]	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-FA-16A	92.00702	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-FA-16A	92.00702	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-FA-16A	92.00702	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-FA-16A	92.00702	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-FA-16A	92.00702	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-FA-16A	92.00702	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-FA-16A	92.00702	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-FA-16A	92.00702	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-FA-16A	92.00702	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-FA-16A	92.00702	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-FA-16A	92.00702	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-FA-16A	92.00702	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-FA-16A	92.00702	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-FA-16A	92.00702	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-FA-16A	92.00702	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-FA-16A	92.00702	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-FA-16A	92.00702	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-FA-16A	92.00702	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-FA-16A	92.00702	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-FA-16A	92.00702	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-FA-16A	92.00702	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-FA-16A	92.00702	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-FA-16A	92.00702	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-FA-16A	92.00702	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-FA-16A	92.00702	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-FA-16A	92.00702	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-FA-16A	92.00702	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-FA-16A	92.00702	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-FA-16A	92.00702	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-FA-16A	92.00702	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-FA-16A	92.00702	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FA-16A	92.00702	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-FA-16A	92.00702	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-FA-16A	92.00702	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-FA-16A	92.00702	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-FA-16A	92.00702	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-FA-16A	92.00702	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-FA-16A	92.00702	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-FA-16A	92.00702	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-FA-16A	92.00702	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-FA-16A	92.00702	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00702

none

Customer Sample Duplicate Results for Sample # 92.00702

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00702

none

Matrix Spike Results for Sample # 92.00702

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-16A	92.00702	71432	55.64	43.	UG/KG	2/06/92	charcoal	Benzene
PF-40-FA-16A	92.00702	108907	55.64	49.	UG/KG	2/06/92	charcoal	Chlorobenzene
PF-40-FA-16A	92.00702	75343	55.64	35.	UG/KG	2/06/92	charcoal	1,1-Dichloroethane
PF-40-FA-16A	92.00702	108883	55.64	50.	UG/KG	2/06/92	charcoal	Toluene
PF-40-FA-16A	92.00702	79016	55.64	50.	UG/KG	2/06/92	charcoal	Trichloroethene

Matrix Spike Duplicate Results for Sample # 92.00702

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-16A	92.00702	71432	55.64	43.	UG/KG	2/06/92	charcoal	Benzene
PF-40-FA-16A	92.00702	108907	55.64	47.	UG/KG	2/06/92	charcoal	Chlorobenzene
PF-40-FA-16A	92.00702	75343	55.64	36.	UG/KG	2/06/92	charcoal	1,1-Dichloroethane
PF-40-FA-16A	92.00702	108883	55.64	48.	UG/KG	2/06/92	charcoal	Toluene
PF-40-FA-16A	92.00702	79016	55.64	48.	UG/KG	2/06/92	charcoal	Trichloroethene

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00703

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-18A	92.00703	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-FA-18A	92.00703	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-FA-18A	92.00703	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-FA-18A	92.00703	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-FA-18A	92.00703	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-FA-18A	92.00703	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-FA-18A	92.00703	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-FA-18A	92.00703	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-FA-18A	92.00703	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-FA-18A	92.00703	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-FA-18A	92.00703	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-FA-18A	92.00703	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-FA-18A	92.00703	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-FA-18A	92.00703	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-FA-18A	92.00703	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-FA-18A	92.00703	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-FA-18A	92.00703	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-FA-18A	92.00703	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-FA-18A	92.00703	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-FA-18A	92.00703	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-FA-18A	92.00703	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

F-40-FA-18A	92.00703	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
F-40-FA-18A	92.00703	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
F-40-FA-18A	92.00703	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
F-40-FA-18A	92.00703	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
F-40-FA-18A	92.00703	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
F-40-FA-18A	92.00703	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
F-40-FA-18A	92.00703	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
F-40-FA-18A	92.00703	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
F-40-FA-18A	92.00703	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
F-40-FA-18A	92.00703	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
F-40-FA-18A	92.00703	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
F-40-FA-18A	92.00703	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
F-40-FA-18A	92.00703	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
F-40-FA-18A	92.00703	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
F-40-FA-18A	92.00703	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
F-40-FA-18A	92.00703	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
F-40-FA-18A	92.00703	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
F-40-FA-18A	92.00703	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
F-40-FA-18A	92.00703	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
F-40-FA-18A	92.00703	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
F-40-FA-18A	92.00703	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
F-40-FA-18A	92.00703	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
F-40-FA-18A	92.00703	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
F-40-FA-18A	92.00703	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
F-40-FA-18A	92.00703	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
F-40-FA-18A	92.00703	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
F-40-FA-18A	92.00703	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
F-40-FA-18A	92.00703	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
F-40-FA-18A	92.00703	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
F-40-FA-18A	92.00703	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
F-40-FA-18A	92.00703	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
F-40-FA-18A	92.00703	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
F-40-FA-18A	92.00703	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
F-40-FA-18A	92.00703	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
F-40-FA-18A	92.00703	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
F-40-FA-18A	92.00703	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
F-40-FA-18A	92.00703	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
F-40-FA-18A	92.00703	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
F-40-FA-18A	92.00703	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
F-40-FA-18A	92.00703	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
F-40-FA-18A	92.00703	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00703

None

Customer Sample Duplicate Results for Sample # 92.00703

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00703

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00704

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/26/92 Date Analyzed: 1/26/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-19A	92.00704	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-FA-19A	92.00704	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-FA-19A	92.00704	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-FA-19A	92.00704	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-FA-19A	92.00704	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-FA-19A	92.00704	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-FA-19A	92.00704	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-FA-19A	92.00704	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-FA-19A	92.00704	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-FA-19A	92.00704	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-FA-19A	92.00704	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-FA-19A	92.00704	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-FA-19A	92.00704	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-FA-19A	92.00704	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-FA-19A	92.00704	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-FA-19A	92.00704	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-FA-19A	92.00704	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-FA-19A	92.00704	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-FA-19A	92.00704	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-FA-19A	92.00704	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-FA-19A	92.00704	96128	< 10.		UG/KG	2/06	CHARCOAL	1,2-Dibromo-3-chloropropane

Customer Sample Duplicate Results for Sample # 92.00704

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00704

none

PF-40-FA-19A	92.00704	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-FA-19A	92.00704	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-FA-19A	92.00704	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-FA-19A	92.00704	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-FA-19A	92.00704	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-FA-19A	92.00704	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-FA-19A	92.00704	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-FA-19A	92.00704	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-FA-19A	92.00704	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-FA-19A	92.00704	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-FA-19A	92.00704	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-FA-19A	92.00704	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-FA-19A	92.00704	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-FA-19A	92.00704	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-FA-19A	92.00704	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-FA-19A	92.00704	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-FA-19A	92.00704	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-FA-19A	92.00704	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-FA-19A	92.00704	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-FA-19A	92.00704	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-FA-19A	92.00704	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-FA-19A	92.00704	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-FA-19A	92.00704	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-FA-19A	92.00704	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-FA-19A	92.00704	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-FA-19A	92.00704	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-FA-19A	92.00704	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-FA-19A	92.00704	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-FA-19A	92.00704	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-FA-19A	92.00704	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-FA-19A	92.00704	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FA-19A	92.00704	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-FA-19A	92.00704	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-FA-19A	92.00704	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-FA-19A	92.00704	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-FA-19A	92.00704	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-FA-19A	92.00704	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-FA-19A	92.00704	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-FA-19A	92.00704	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-FA-19A	92.00704	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-FA-19A	92.00704	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00704

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00705

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/26/92 Date Analyzed: 1/26/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-2	92.00705	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BC-2	92.00705	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BC-2	92.00705	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BC-2	92.00705	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BC-2	92.00705	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BC-2	92.00705	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BC-2	92.00705	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BC-2	92.00705	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BC-2	92.00705	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BC-2	92.00705	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BC-2	92.00705	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BC-2	92.00705	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BC-2	92.00705	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BC-2	92.00705	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BC-2	92.00705	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BC-2	92.00705	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BC-2	92.00705	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BC-2	92.00705	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BC-2	92.00705	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BC-2	92.00705	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-BC-2	92.00705	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BC-2	92.00705	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BC-2	92.00705	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BC-2	92.00705	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BC-2	92.00705	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BC-2	92.00705	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BC-2	92.00705	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BC-2	92.00705	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BC-2	92.00705	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BC-2	92.00705	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BC-2	92.00705	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BC-2	92.00705	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BC-2	92.00705	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BC-2	92.00705	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BC-2	92.00705	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BC-2	92.00705	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BC-2	92.00705	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BC-2	92.00705	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BC-2	92.00705	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BC-2	92.00705	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BC-2	92.00705	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BC-2	92.00705	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BC-2	92.00705	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BC-2	92.00705	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BC-2	92.00705	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BC-2	92.00705	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BC-2	92.00705	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BC-2	92.00705	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BC-2	92.00705	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BC-2	92.00705	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BC-2	92.00705	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BC-2	92.00705	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BC-2	92.00705	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BC-2	92.00705	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BC-2	92.00705	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BC-2	92.00705	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BC-2	92.00705	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BC-2	92.00705	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BC-2	92.00705	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BC-2	92.00705	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BC-2	92.00705	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BC-2	92.00705	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00705

none

Customer Sample Duplicate Results for Sample # 92.00705

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00705

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00706

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/26/92 Date Analyzed: 1/26/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-3	92.00706	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BC-3	92.00706	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BC-3	92.00706	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BC-3	92.00706	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BC-3	92.00706	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BC-3	92.00706	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BC-3	92.00706	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BC-3	92.00706	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BC-3	92.00706	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BC-3	92.00706	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BC-3	92.00706	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BC-3	92.00706	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BC-3	92.00706	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BC-3	92.00706	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BC-3	92.00706	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BC-3	92.00706	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BC-3	92.00706	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BC-3	92.00706	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BC-3	92.00706	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BC-3	92.0[illegible]	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-BC-3	92.0[illegible]	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

Customer Sample Duplicate Results for Sample # 92.00706

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00706

none

PF-40-BC-3	92.00706	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BC-3	92.00706	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BC-3	92.00706	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BC-3	92.00706	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BC-3	92.00706	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BC-3	92.00706	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BC-3	92.00706	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BC-3	92.00706	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BC-3	92.00706	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BC-3	92.00706	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BC-3	92.00706	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BC-3	92.00706	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BC-3	92.00706	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BC-3	92.00706	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BC-3	92.00706	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BC-3	92.00706	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BC-3	92.00706	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BC-3	92.00706	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BC-3	92.00706	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BC-3	92.00706	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BC-3	92.00706	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BC-3	92.00706	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BC-3	92.00706	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BC-3	92.00706	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BC-3	92.00706	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BC-3	92.00706	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BC-3	92.00706	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BC-3	92.00706	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BC-3	92.00706	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BC-3	92.00706	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BC-3	92.00706	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BC-3	92.00706	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BC-3	92.00706	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BC-3	92.00706	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BC-3	92.00706	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BC-3	92.00706	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BC-3	92.00706	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BC-3	92.00706	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BC-3	92.00706	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BC-3	92.00706	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BC-3	92.00706	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00706

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00707

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/26/92 Date Analyzed: 1/26/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-2	92.00707	67641	< 52.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BAE-2	92.00707	71432	< 13.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BAE-2	92.00707	108861	< 13.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BAE-2	92.00707	74975	< 13.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BAE-2	92.00707	75274	< 13.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BAE-2	92.00707	75252	< 13.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BAE-2	92.00707	74839	< 26.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BAE-2	92.00707	78933	< 52.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BAE-2	92.00707	104518	< 13.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BAE-2	92.00707	135988	< 13.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BAE-2	92.00707	98066	< 13.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BAE-2	92.00707	75150	< 13.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BAE-2	92.00707	56235	< 13.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BAE-2	92.00707	108907	< 13.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BAE-2	92.00707	124481	< 13.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BAE-2	92.00707	75003	< 26.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BAE-2	92.00707	67663	< 13.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BAE-2	92.00707	74873	< 26.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BAE-2	92.00707	95498	< 13.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BAE-2	92.00707	106434	< 13.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-BAE-2	92.00707	96128	< 26.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BAE-2	92.00707	106934	< 13.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BAE-2	92.00707	74953	< 13.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BAE-2	92.00707	95501	< 13.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BAE-2	92.00707	541731	< 13.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BAE-2	92.00707	106467	< 13.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BAE-2	92.00707	75718	< 26.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BAE-2	92.00707	75343	< 13.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BAE-2	92.00707	107062	< 13.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BAE-2	92.00707	75354	< 13.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BAE-2	92.00707	156605	< 13.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BAE-2	92.00707	156592	< 13.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BAE-2	92.00707	78875	< 13.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BAE-2	92.00707	142289	< 13.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BAE-2	92.00707	594207	< 13.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BAE-2	92.00707	563586	< 13.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BAE-2	92.00707	10061015	< 13.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BAE-2	92.00707	10061026	< 13.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BAE-2	92.00707	100414	< 13.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BAE-2	92.00707	591786	< 52.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BAE-2	92.00707	98828	< 13.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BAE-2	92.00707	99876	< 13.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BAE-2	92.00707	74884	< 13.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BAE-2	92.00707	108101	< 52.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BAE-2	92.00707	75092	< 13.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BAE-2	92.00707	103651	< 13.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BAE-2	92.00707	100425	< 13.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BAE-2	92.00707	630206	< 13.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BAE-2	92.00707	79345	< 13.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BAE-2	92.00707	127184	< 13.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BAE-2	92.00707	108883	< 13.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BAE-2	92.00707	76131	< 13.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BAE-2	92.00707	71556	< 13.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BAE-2	92.00707	79005	< 13.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BAE-2	92.00707	79016	< 13.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BAE-2	92.00707	75694	< 13.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BAE-2	92.00707	96184	< 13.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BAE-2	92.00707	95636	< 13.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BAE-2	92.00707	108678	< 13.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BAE-2	92.00707	108054	< 26.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BAE-2	92.00707	75014	< 26.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BAE-2	92.00707	1330207	< 13.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00707

none

Customer Sample Duplicate Results for Sample # 92.00707

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00707

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00708

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/26/92 Date Analyzed: 1/26/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-3	92.00708	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BAE-3	92.00708	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BAE-3	92.00708	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BAE-3	92.00708	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BAE-3	92.00708	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BAE-3	92.00708	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BAE-3	92.00708	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BAE-3	92.00708	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BAE-3	92.00708	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BAE-3	92.00708	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BAE-3	92.00708	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BAE-3	92.00708	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BAE-3	92.00708	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BAE-3	92.00708	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BAE-3	92.00708	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BAE-3	92.00708	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BAE-3	92.00708	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BAE-3	92.00708	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BAE-3	92.00708	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BAE-3	92.[illegible]8	106434	< 5.		UG/KG	2/06/9[illegible]	CHARCOAL	p-Chlorotoluene
PF-40-BAE-3	92.[illegible]	96128	< 10.		UG/KG	2/06/9[illegible]	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BAE-3	92.00708	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BAE-3	92.00708	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BAE-3	92.00708	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BAE-3	92.00708	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BAE-3	92.00708	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BAE-3	92.00708	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BAE-3	92.00708	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BAE-3	92.00708	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BAE-3	92.00708	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BAE-3	92.00708	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BAE-3	92.00708	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BAE-3	92.00708	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BAE-3	92.00708	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BAE-3	92.00708	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BAE-3	92.00708	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BAE-3	92.00708	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BAE-3	92.00708	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BAE-3	92.00708	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BAE-3	92.00708	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BAE-3	92.00708	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BAE-3	92.00708	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BAE-3	92.00708	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BAE-3	92.00708	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BAE-3	92.00708	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BAE-3	92.00708	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BAE-3	92.00708	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BAE-3	92.00708	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BAE-3	92.00708	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BAE-3	92.00708	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BAE-3	92.00708	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BAE-3	92.00708	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BAE-3	92.00708	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BAE-3	92.00708	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BAE-3	92.00708	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BAE-3	92.00708	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BAE-3	92.00708	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BAE-3	92.00708	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BAE-3	92.00708	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BAE-3	92.00708	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BAE-3	92.00708	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BAE-3	92.00708	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00708

none

Customer Sample Duplicate Results for Sample # 92.00708

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00708

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00709

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/26/92 Date Analyzed: 1/26/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-2	92.00709	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BAW-2	92.00709	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BAW-2	92.00709	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BAW-2	92.00709	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BAW-2	92.00709	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BAW-2	92.00709	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BAW-2	92.00709	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BAW-2	92.00709	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BAW-2	92.00709	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BAW-2	92.00709	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BAW-2	92.00709	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BAW-2	92.00709	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BAW-2	92.00709	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BAW-2	92.00709	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BAW-2	92.00709	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BAW-2	92.00709	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BAW-2	92.00709	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BAW-2	92.00709	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BAW-2	92.00709	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BAW-2	92.00709	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-BAW-2	92.00709	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BAW-2	92.00709	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BAW-2	92.00709	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BAW-2	92.00709	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BAW-2	92.00709	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BAW-2	92.00709	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BAW-2	92.00709	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BAW-2	92.00709	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BAW-2	92.00709	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BAW-2	92.00709	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BAW-2	92.00709	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BAW-2	92.00709	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BAW-2	92.00709	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BAW-2	92.00709	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BAW-2	92.00709	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BAW-2	92.00709	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BAW-2	92.00709	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BAW-2	92.00709	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BAW-2	92.00709	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BAW-2	92.00709	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BAW-2	92.00709	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BAW-2	92.00709	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BAW-2	92.00709	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BAW-2	92.00709	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BAW-2	92.00709	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BAW-2	92.00709	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BAW-2	92.00709	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BAW-2	92.00709	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BAW-2	92.00709	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BAW-2	92.00709	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BAW-2	92.00709	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BAW-2	92.00709	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BAW-2	92.00709	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BAW-2	92.00709	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BAW-2	92.00709	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BAW-2	92.00709	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BAW-2	92.00709	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BAW-2	92.00709	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BAW-2	92.00709	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BAW-2	92.00709	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BAW-2	92.00709	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BAW-2	92.00709	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00709

none

Customer Sample Duplicate Results for Sample # 92.00709

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00709

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00710

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/26/92 Date Analyzed: 1/26/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-3	92.00710	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BAW-3	92.00710	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BAW-3	92.00710	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BAW-3	92.00710	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BAW-3	92.00710	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BAW-3	92.00710	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BAW-3	92.00710	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BAW-3	92.00710	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BAW-3	92.00710	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BAW-3	92.00710	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BAW-3	92.00710	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BAW-3	92.00710	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BAW-3	92.00710	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BAW-3	92.00710	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BAW-3	92.00710	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BAW-3	92.00710	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BAW-3	92.00710	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BAW-3	92.00710	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BAW-3	92.00710	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BAW-3	92.00	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-BAW-3	92.00	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BAW-3	92.00710	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BAW-3	92.00710	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BAW-3	92.00710	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BAW-3	92.00710	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BAW-3	92.00710	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BAW-3	92.00710	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BAW-3	92.00710	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BAW-3	92.00710	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BAW-3	92.00710	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BAW-3	92.00710	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BAW-3	92.00710	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BAW-3	92.00710	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BAW-3	92.00710	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BAW-3	92.00710	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BAW-3	92.00710	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BAW-3	92.00710	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BAW-3	92.00710	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BAW-3	92.00710	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BAW-3	92.00710	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BAW-3	92.00710	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BAW-3	92.00710	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BAW-3	92.00710	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BAW-3	92.00710	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BAW-3	92.00710	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BAW-3	92.00710	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BAW-3	92.00710	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BAW-3	92.00710	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BAW-3	92.00710	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BAW-3	92.00710	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BAW-3	92.00710	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BAW-3	92.00710	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BAW-3	92.00710	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BAW-3	92.00710	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BAW-3	92.00710	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BAW-3	92.00710	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BAW-3	92.00710	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BAW-3	92.00710	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BAW-3	92.00710	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BAW-3	92.00710	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BAW-3	92.00710	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BAW-3	92.00710	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00710

none

Customer Sample Duplicate Results for Sample # 92.00710

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00710

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00726

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/24/92 Date Analyzed: 1/24/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FBLK	92.00726	67641	< 20.		UG/KG	2/06/92	TRIP BLANK	Acetone
PF-40-FBLK	92.00726	71432	< 5.		UG/KG	2/06/92	TRIP BLANK	Benzene
PF-40-FBLK	92.00726	108861	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromobenzene
PF-40-FBLK	92.00726	74975	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromochloromethane
PF-40-FBLK	92.00726	75274	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromodichloromethane
PF-40-FBLK	92.00726	75252	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromoform
PF-40-FBLK	92.00726	74839	< 10.		UG/KG	2/06/92	TRIP BLANK	Bromomethane
PF-40-FBLK	92.00726	78933	< 20.		UG/KG	2/06/92	TRIP BLANK	2-Butanone
PF-40-FBLK	92.00726	104518	< 5.		UG/KG	2/06/92	TRIP BLANK	n-Butylbenzene
PF-40-FBLK	92.00726	135988	< 5.		UG/KG	2/06/92	TRIP BLANK	sec-Butylbenzene
PF-40-FBLK	92.00726	98066	< 5.		UG/KG	2/06/92	TRIP BLANK	tert-Butylbenzene
PF-40-FBLK	92.00726	75150	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon disulfide
PF-40-FBLK	92.00726	56235	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon tetrachloride
PF-40-FBLK	92.00726	108907	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorobenzene
PF-40-FBLK	92.00726	124481	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorodibromomethane
PF-40-FBLK	92.00726	75003	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloroethane
PF-40-FBLK	92.00726	67663	< 5.		UG/KG	2/06/92	TRIP BLANK	Chloroform
PF-40-FBLK	92.00726	74873	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloromethane
PF-40-FBLK	92.00726	95498	< 5.		UG/KG	2/06/92	TRIP BLANK	o-Chlorotoluene
PF-40-FBLK	92.00726	106434	< 5.		UG/KG	2/06/92	TRIP BLANK	p-Chlorotoluene
PF-40-FBLK	92.00726	96128	< 10.		UG/KG	2/06/92	TRIP BLANK	1,2-Dibromo-3-chloropropane

PF-40-FBLK	92.00726	106934	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dibromoethane
PF-40-FBLK	92.00726	74953	< 5.	UG/KG	2/06/92	TRIP BLANK	Dibromomethane
PF-40-FBLK	92.00726	95501	< 5.	UG/KG	2/06/92	TRIP BLANK	o-Dichlorobenzene (1,2)
PF-40-FBLK	92.00726	541731	< 5.	UG/KG	2/06/92	TRIP BLANK	m-Dichlorobenzene (1,3)
PF-40-FBLK	92.00726	106467	< 5.	UG/KG	2/06/92	TRIP BLANK	p-Dichlorobenzene (1,4)
PF-40-FBLK	92.00726	75718	< 10.	UG/KG	2/06/92	TRIP BLANK	Dichlorodifluoromethane
PF-40-FBLK	92.00726	75343	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethane
PF-40-FBLK	92.00726	107062	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloroethane
PF-40-FBLK	92.00726	75354	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethene
PF-40-FBLK	92.00726	156605	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,2-Dichloroethene
PF-40-FBLK	92.00726	156592	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,2-Dichloroethylene
PF-40-FBLK	92.00726	78875	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloropropane
PF-40-FBLK	92.00726	142289	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3-Dichloropropane
PF-40-FBLK	92.00726	594207	< 5.	UG/KG	2/06/92	TRIP BLANK	2,2-Dichloropropane
PF-40-FBLK	92.00726	563586	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloropropene
PF-40-FBLK	92.00726	10061015	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,3-Dichloropropene
PF-40-FBLK	92.00726	10061026	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,3-Dichloropropene
PF-40-FBLK	92.00726	100414	< 5.	UG/KG	2/06/92	TRIP BLANK	Ethylbenzene
PF-40-FBLK	92.00726	591786	< 20.	UG/KG	2/06/92	TRIP BLANK	2-Hexanone
PF-40-FBLK	92.00726	98828	< 5.	UG/KG	2/06/92	TRIP BLANK	Isopropylbenzene
PF-40-FBLK	92.00726	99876	< 5.	UG/KG	2/06/92	TRIP BLANK	4-Isopropyltoluene
PF-40-FBLK	92.00726	74884	< 5.	UG/KG	2/06/92	TRIP BLANK	Methyl iodide
PF-40-FBLK	92.00726	108101	< 20.	UG/KG	2/06/92	TRIP BLANK	4-Methyl-2-pentanone
PF-40-FBLK	92.00726	75092	< 5.	UG/KG	2/06/92	TRIP BLANK	Methylene chloride
PF-40-FBLK	92.00726	103651	< 5.	UG/KG	2/06/92	TRIP BLANK	Propylbenzene
PF-40-FBLK	92.00726	100425	< 5.	UG/KG	2/06/92	TRIP BLANK	Styrene
PF-40-FBLK	92.00726	630206	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1,2-Tetrachloroethane
PF-40-FBLK	92.00726	79345	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2,2-Tetrachloroethane
PF-40-FBLK	92.00726	127184	< 5.	UG/KG	2/06/92	TRIP BLANK	Tetrachloroethylene
PF-40-FBLK	92.00726	108883	< 5.	UG/KG	2/06/92	TRIP BLANK	Toluene
PF-40-FBLK	92.00726	76131	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FBLK	92.00726	71556	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1-Trichloroethane
PF-40-FBLK	92.00726	79005	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloroethane
PF-40-FBLK	92.00726	79016	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichloroethene
PF-40-FBLK	92.00726	75694	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichlorofluoromethane
PF-40-FBLK	92.00726	96184	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,3-Trichloropropane
PF-40-FBLK	92.00726	95636	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,4-Trimethylbenzene
PF-40-FBLK	92.00726	108678	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3,5-Trimethylbenzene
PF-40-FBLK	92.00726	108054	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl acetate
PF-40-FBLK	92.00726	75014	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl chloride
PF-40-FBLK	92.00726	1330207	< 5.	UG/KG	2/06/92	TRIP BLANK	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00726

none

Customer Sample Duplicate Results for Sample # 92.00726

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00726

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00727

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-TPBLK	92.00727	67641	< 20.		UG/KG	2/06/92	TRIP BLANK	Acetone
PF-40-TPBLK	92.00727	71432	< 5.		UG/KG	2/06/92	TRIP BLANK	Benzene
PF-40-TPBLK	92.00727	108861	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromobenzene
PF-40-TPBLK	92.00727	74975	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromochloromethane
PF-40-TPBLK	92.00727	75274	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromodichloromethane
PF-40-TPBLK	92.00727	75252	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromoform
PF-40-TPBLK	92.00727	74839	< 10.		UG/KG	2/06/92	TRIP BLANK	Bromomethane
PF-40-TPBLK	92.00727	78933	< 20.		UG/KG	2/06/92	TRIP BLANK	2-Butanone
PF-40-TPBLK	92.00727	104518	< 5.		UG/KG	2/06/92	TRIP BLANK	n-Butylbenzene
PF-40-TPBLK	92.00727	135988	< 5.		UG/KG	2/06/92	TRIP BLANK	sec-Butylbenzene
PF-40-TPBLK	92.00727	98066	< 5.		UG/KG	2/06/92	TRIP BLANK	tert-Butylbenzene
PF-40-TPBLK	92.00727	75150	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon disulfide
PF-40-TPBLK	92.00727	56235	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon tetrachloride
PF-40-TPBLK	92.00727	108907	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorobenzene
PF-40-TPBLK	92.00727	124481	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorodibromomethane
PF-40-TPBLK	92.00727	75003	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloroethane
PF-40-TPBLK	92.00727	67663	< 5.		UG/KG	2/06/92	TRIP BLANK	Chloroform
PF-40-TPBLK	92.00727	74873	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloromethane
PF-40-TPBLK	92.00727	95498	< 5.		UG/KG	2/06/92	TRIP BLANK	o-Chlorotoluene
PF-40-TPBLK	[illegible]00727	106434	< 5.		UG/KG	2/0[illegible]92	TRIP BLANK	p-Chlorotoluene
PF-40-TPBLK	[illegible]0727	96128	< 10.		UG/KG	2/[illegible]	TRIP BLANK	1,2-Dibromo-3-chloropropane

PF-40-TPBLK	92.00727	106934	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dibromoethane
PF-40-TPBLK	92.00727	74953	< 5.	UG/KG	2/06/92	TRIP BLANK	Dibromomethane
PF-40-TPBLK	92.00727	95501	< 5.	UG/KG	2/06/92	TRIP BLANK	o-Dichlorobenzene (1,2)
PF-40-TPBLK	92.00727	541731	< 5.	UG/KG	2/06/92	TRIP BLANK	m-Dichlorobenzene (1,3)
PF-40-TPBLK	92.00727	106467	< 5.	UG/KG	2/06/92	TRIP BLANK	p-Dichlorobenzene (1,4)
PF-40-TPBLK	92.00727	75718	< 10.	UG/KG	2/06/92	TRIP BLANK	Dichlorodifluoromethane
PF-40-TPBLK	92.00727	75343	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethane
PF-40-TPBLK	92.00727	107062	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloroethane
PF-40-TPBLK	92.00727	75354	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethene
PF-40-TPBLK	92.00727	156605	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,2-Dichloroethene
PF-40-TPBLK	92.00727	156592	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,2-Dichloroethylene
PF-40-TPBLK	92.00727	78875	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloropropane
PF-40-TPBLK	92.00727	142289	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3-Dichloropropane
PF-40-TPBLK	92.00727	594207	< 5.	UG/KG	2/06/92	TRIP BLANK	2,2-Dichloropropane
PF-40-TPBLK	92.00727	563586	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloropropene
PF-40-TPBLK	92.00727	10061015	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,3-Dichloropropene
PF-40-TPBLK	92.00727	10061026	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,3-Dichloropropene
PF-40-TPBLK	92.00727	100414	< 5.	UG/KG	2/06/92	TRIP BLANK	Ethylbenzene
PF-40-TPBLK	92.00727	591786	< 20.	UG/KG	2/06/92	TRIP BLANK	2-Hexanone
PF-40-TPBLK	92.00727	98828	< 5.	UG/KG	2/06/92	TRIP BLANK	Isopropylbenzene
PF-40-TPBLK	92.00727	99876	< 5.	UG/KG	2/06/92	TRIP BLANK	4-Isopropyltoluene
PF-40-TPBLK	92.00727	74884	< 5.	UG/KG	2/06/92	TRIP BLANK	Methyl iodide
PF-40-TPBLK	92.00727	108101	< 20.	UG/KG	2/06/92	TRIP BLANK	4-Methyl-2-pentanone
PF-40-TPBLK	92.00727	75092	< 5.	UG/KG	2/06/92	TRIP BLANK	Methylene chloride
PF-40-TPBLK	92.00727	103651	< 5.	UG/KG	2/06/92	TRIP BLANK	Propylbenzene
PF-40-TPBLK	92.00727	100425	< 5.	UG/KG	2/06/92	TRIP BLANK	Styrene
PF-40-TPBLK	92.00727	630206	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1,2-Tetrachloroethane
PF-40-TPBLK	92.00727	79345	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2,2-Tetrachloroethane
PF-40-TPBLK	92.00727	127184	< 5.	UG/KG	2/06/92	TRIP BLANK	Tetrachloroethylene
PF-40-TPBLK	92.00727	108883	< 5.	UG/KG	2/06/92	TRIP BLANK	Toluene
PF-40-TPBLK	92.00727	76131	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-TPBLK	92.00727	71556	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1-Trichloroethane
PF-40-TPBLK	92.00727	79005	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloroethane
PF-40-TPBLK	92.00727	79016	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichloroethene
PF-40-TPBLK	92.00727	75694	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichlorofluoromethane
PF-40-TPBLK	92.00727	96184	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,3-Trichloropropane
PF-40-TPBLK	92.00727	95636	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,4-Trimethylbenzene
PF-40-TPBLK	92.00727	108678	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3,5-Trimethylbenzene
PF-40-TPBLK	92.00727	108054	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl acetate
PF-40-TPBLK	92.00727	75014	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl chloride
PF-40-TPBLK	92.00727	1330207	< 5.	UG/KG	2/06/92	TRIP BLANK	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00727

none

Customer Sample Duplicate Results for Sample # 92.00727

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00727

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00728

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-TPBLK	92.00728	67641	< 20.		UG/KG	2/06/92	TRIP BLANK	Acetone
PF-40-TPBLK	92.00728	71432	< 5.		UG/KG	2/06/92	TRIP BLANK	Benzene
PF-40-TPBLK	92.00728	108861	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromobenzene
PF-40-TPBLK	92.00728	74975	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromochloromethane
PF-40-TPBLK	92.00728	75274	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromodichloromethane
PF-40-TPBLK	92.00728	75252	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromoform
PF-40-TPBLK	92.00728	74839	< 10.		UG/KG	2/06/92	TRIP BLANK	Bromomethane
PF-40-TPBLK	92.00728	78933	< 20.		UG/KG	2/06/92	TRIP BLANK	2-Butanone
PF-40-TPBLK	92.00728	104518	< 5.		UG/KG	2/06/92	TRIP BLANK	n-Butylbenzene
PF-40-TPBLK	92.00728	135988	< 5.		UG/KG	2/06/92	TRIP BLANK	sec-Butylbenzene
PF-40-TPBLK	92.00728	98066	< 5.		UG/KG	2/06/92	TRIP BLANK	tert-Butylbenzene
PF-40-TPBLK	92.00728	75150	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon disulfide
PF-40-TPBLK	92.00728	56235	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon tetrachloride
PF-40-TPBLK	92.00728	108907	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorobenzene
PF-40-TPBLK	92.00728	124481	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorodibromomethane
PF-40-TPBLK	92.00728	75003	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloroethane
PF-40-TPBLK	92.00728	67663	< 5.		UG/KG	2/06/92	TRIP BLANK	Chloroform
PF-40-TPBLK	92.00728	74873	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloromethane
PF-40-TPBLK	92.00728	95498	< 5.		UG/KG	2/06/92	TRIP BLANK	o-Chlorotoluene
PF-40-TPBLK	92.00728	106434	< 5.		UG/KG	2/06/92	TRIP BLANK	p-Chlorotoluene
PF-40-TPBLK	92.00728	96128	< 10.		UG/KG	2/06/92	TRIP BLANK	1,2-Dibromo-3-chloropropane

PF-40-TPBLK	92.00728	106934	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dibromoethane
PF-40-TPBLK	92.00728	74953	< 5.	UG/KG	2/06/92	TRIP BLANK	Dibromomethane
PF-40-TPBLK	92.00728	95501	< 5.	UG/KG	2/06/92	TRIP BLANK	o-Dichlorobenzene (1,2)
PF-40-TPBLK	92.00728	541731	< 5.	UG/KG	2/06/92	TRIP BLANK	m-Dichlorobenzene (1,3)
PF-40-TPBLK	92.00728	106467	< 5.	UG/KG	2/06/92	TRIP BLANK	p-Dichlorobenzene (1,4)
PF-40-TPBLK	92.00728	75718	< 10.	UG/KG	2/06/92	TRIP BLANK	Dichlorodifluoromethane
PF-40-TPBLK	92.00728	75343	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethane
PF-40-TPBLK	92.00728	107062	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloroethane
PF-40-TPBLK	92.00728	75354	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethene
PF-40-TPBLK	92.00728	156605	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,2-Dichloroethene
PF-40-TPBLK	92.00728	156592	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,2-Dichloroethylene
PF-40-TPBLK	92.00728	78875	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloropropane
PF-40-TPBLK	92.00728	142289	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3-Dichloropropane
PF-40-TPBLK	92.00728	594207	< 5.	UG/KG	2/06/92	TRIP BLANK	2,2-Dichloropropane
PF-40-TPBLK	92.00728	563586	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloropropene
PF-40-TPBLK	92.00728	10061015	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,3-Dichloropropene
PF-40-TPBLK	92.00728	10061026	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,3-Dichloropropene
PF-40-TPBLK	92.00728	100414	< 5.	UG/KG	2/06/92	TRIP BLANK	Ethylbenzene
PF-40-TPBLK	92.00728	591786	< 20.	UG/KG	2/06/92	TRIP BLANK	2-Hexanone
PF-40-TPBLK	92.00728	98828	< 5.	UG/KG	2/06/92	TRIP BLANK	Isopropylbenzene
PF-40-TPBLK	92.00728	99876	< 5.	UG/KG	2/06/92	TRIP BLANK	4-Isopropyltoluene
PF-40-TPBLK	92.00728	74884	< 5.	UG/KG	2/06/92	TRIP BLANK	Methyl iodide
PF-40-TPBLK	92.00728	108101	< 20.	UG/KG	2/06/92	TRIP BLANK	4-Methyl-2-pentanone
PF-40-TPBLK	92.00728	75092	< 5.	UG/KG	2/06/92	TRIP BLANK	Methylene chloride
PF-40-TPBLK	92.00728	103651	< 5.	UG/KG	2/06/92	TRIP BLANK	Propylbenzene
PF-40-TPBLK	92.00728	100425	< 5.	UG/KG	2/06/92	TRIP BLANK	Styrene
PF-40-TPBLK	92.00728	630206	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1,2-Tetrachloroethane
PF-40-TPBLK	92.00728	79345	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2,2-Tetrachloroethane
PF-40-TPBLK	92.00728	127184	< 5.	UG/KG	2/06/92	TRIP BLANK	Tetrachloroethylene
PF-40-TPBLK	92.00728	108883	< 5.	UG/KG	2/06/92	TRIP BLANK	Toluene
PF-40-TPBLK	92.00728	76131	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-TPBLK	92.00728	71556	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1-Trichloroethane
PF-40-TPBLK	92.00728	79005	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloroethane
PF-40-TPBLK	92.00728	79016	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichloroethene
PF-40-TPBLK	92.00728	75694	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichlorofluoromethane
PF-40-TPBLK	92.00728	96184	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,3-Trichloropropane
PF-40-TPBLK	92.00728	95636	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,4-Trimethylbenzene
PF-40-TPBLK	92.00728	108678	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3,5-Trimethylbenzene
PF-40-TPBLK	92.00728	108054	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl acetate
PF-40-TPBLK	92.00728	75014	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl chloride
PF-40-TPBLK	92.00728	1330207	< 5.	UG/KG	2/06/92	TRIP BLANK	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00728

none

Customer Sample Duplicate Results for Sample # 92.00728

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00728

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00761

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/27/92 Date Analyzed: 1/27/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1A	92.00761	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BP-1A	92.00761	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BP-1A	92.00761	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BP-1A	92.00761	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BP-1A	92.00761	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BP-1A	92.00761	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BP-1A	92.00761	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BP-1A	92.00761	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BP-1A	92.00761	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BP-1A	92.00761	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BP-1A	92.00761	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BP-1A	92.00761	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BP-1A	92.00761	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BP-1A	92.00761	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BP-1A	92.00761	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BP-1A	92.00761	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BP-1A	92.00761	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BP-1A	92.00761	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BP-1A	92.00761	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BP-1A	[illegible]761	106434	< 5.		UG/KG	2/0[illegible]	CHARCOAL	p-Chlorotoluene
PF-40-BP-1A	[illegible]761	96128	< 10.		UG/KG	2/0[illegible]	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BP-1A	92.00761	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BP-1A	92.00761	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BP-1A	92.00761	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BP-1A	92.00761	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BP-1A	92.00761	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BP-1A	92.00761	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BP-1A	92.00761	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BP-1A	92.00761	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BP-1A	92.00761	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BP-1A	92.00761	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BP-1A	92.00761	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BP-1A	92.00761	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BP-1A	92.00761	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BP-1A	92.00761	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BP-1A	92.00761	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BP-1A	92.00761	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BP-1A	92.00761	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BP-1A	92.00761	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BP-1A	92.00761	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BP-1A	92.00761	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BP-1A	92.00761	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BP-1A	92.00761	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BP-1A	92.00761	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BP-1A	92.00761	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BP-1A	92.00761	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BP-1A	92.00761	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BP-1A	92.00761	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BP-1A	92.00761	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BP-1A	92.00761	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BP-1A	92.00761	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BP-1A	92.00761	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BP-1A	92.00761	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BP-1A	92.00761	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BP-1A	92.00761	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BP-1A	92.00761	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BP-1A	92.00761	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BP-1A	92.00761	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BP-1A	92.00761	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BP-1A	92.00761	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BP-1A	92.00761	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BP-1A	92.00761	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00761

none

Customer Sample Duplicate Results for Sample # 92.00761

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00761

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M948 NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00762

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/27/92 Date Analyzed: 1/27/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1B	92.00762	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BP-1B	92.00762	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BP-1B	92.00762	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BP-1B	92.00762	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BP-1B	92.00762	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BP-1B	92.00762	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BP-1B	92.00762	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BP-1B	92.00762	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BP-1B	92.00762	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BP-1B	92.00762	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BP-1B	92.00762	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BP-1B	92.00762	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BP-1B	92.00762	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BP-1B	92.00762	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BP-1B	92.00762	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BP-1B	92.00762	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BP-1B	92.00762	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BP-1B	92.00762	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BP-1B	92.00762	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BP-1B	92.00762	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-BP-1B	92.00762	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BP-1B	92.00762	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BP-1B	92.00762	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BP-1B	92.00762	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BP-1B	92.00762	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BP-1B	92.00762	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BP-1B	92.00762	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BP-1B	92.00762	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BP-1B	92.00762	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BP-1B	92.00762	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BP-1B	92.00762	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BP-1B	92.00762	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BP-1B	92.00762	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BP-1B	92.00762	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BP-1B	92.00762	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BP-1B	92.00762	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BP-1B	92.00762	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BP-1B	92.00762	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BP-1B	92.00762	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BP-1B	92.00762	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BP-1B	92.00762	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BP-1B	92.00762	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BP-1B	92.00762	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BP-1B	92.00762	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BP-1B	92.00762	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BP-1B	92.00762	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BP-1B	92.00762	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BP-1B	92.00762	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BP-1B	92.00762	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BP-1B	92.00762	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BP-1B	92.00762	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BP-1B	92.00762	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BP-1B	92.00762	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BP-1B	92.00762	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BP-1B	92.00762	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BP-1B	92.00762	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BP-1B	92.00762	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BP-1B	92.00762	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BP-1B	92.00762	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BP-1B	92.00762	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BP-1B	92.00762	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BP-1B	92.00762	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00762

none

Customer Sample Duplicate Results for Sample # 92.00762

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00762

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00763

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/28/92 Date Analyzed: 1/28/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1C	92.00763	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BP-1C	92.00763	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BP-1C	92.00763	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BP-1C	92.00763	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BP-1C	92.00763	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BP-1C	92.00763	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BP-1C	92.00763	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BP-1C	92.00763	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BP-1C	92.00763	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BP-1C	92.00763	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BP-1C	92.00763	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BP-1C	92.00763	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BP-1C	92.00763	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BP-1C	92.00763	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BP-1C	92.00763	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BP-1C	92.00763	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BP-1C	92.00763	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BP-1C	92.00763	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BP-1C	92.00763	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BP-1C	9[illegible]763	106434	< 5.		UG/KG	2/06[illegible]	CHARCOAL	p-Chlorotoluene
PF-40-BP-1C	9[illegible]763	96128	< 10.		UG/KG	2/06[illegible]	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BP-1C	92.00763	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BP-1C	92.00763	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BP-1C	92.00763	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BP-1C	92.00763	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BP-1C	92.00763	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BP-1C	92.00763	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BP-1C	92.00763	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BP-1C	92.00763	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BP-1C	92.00763	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BP-1C	92.00763	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BP-1C	92.00763	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BP-1C	92.00763	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BP-1C	92.00763	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BP-1C	92.00763	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BP-1C	92.00763	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BP-1C	92.00763	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BP-1C	92.00763	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BP-1C	92.00763	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BP-1C	92.00763	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BP-1C	92.00763	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BP-1C	92.00763	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BP-1C	92.00763	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BP-1C	92.00763	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BP-1C	92.00763	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BP-1C	92.00763	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BP-1C	92.00763	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BP-1C	92.00763	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BP-1C	92.00763	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BP-1C	92.00763	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BP-1C	92.00763	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BP-1C	92.00763	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BP-1C	92.00763	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BP-1C	92.00763	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BP-1C	92.00763	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BP-1C	92.00763	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BP-1C	92.00763	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BP-1C	92.00763	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BP-1C	92.00763	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BP-1C	92.00763	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BP-1C	92.00763	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BP-1C	92.00763	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00763

none

Customer Sample Duplicate Results for Sample # 92.00763

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00763

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00764

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/28/92 Date Analyzed: 1/28/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2A	92.00764	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BP-2A	92.00764	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BP-2A	92.00764	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BP-2A	92.00764	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BP-2A	92.00764	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BP-2A	92.00764	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BP-2A	92.00764	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BP-2A	92.00764	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BP-2A	92.00764	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BP-2A	92.00764	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BP-2A	92.00764	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BP-2A	92.00764	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BP-2A	92.00764	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BP-2A	92.00764	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BP-2A	92.00764	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BP-2A	92.00764	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BP-2A	92.00764	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BP-2A	92.00764	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BP-2A	92.00764	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BP-2A	92.00764	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-BP-2A	92.00764	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BP-2A	92.00764	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BP-2A	92.00764	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BP-2A	92.00764	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BP-2A	92.00764	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BP-2A	92.00764	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BP-2A	92.00764	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BP-2A	92.00764	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BP-2A	92.00764	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BP-2A	92.00764	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BP-2A	92.00764	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BP-2A	92.00764	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BP-2A	92.00764	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BP-2A	92.00764	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BP-2A	92.00764	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BP-2A	92.00764	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BP-2A	92.00764	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BP-2A	92.00764	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BP-2A	92.00764	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BP-2A	92.00764	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BP-2A	92.00764	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BP-2A	92.00764	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BP-2A	92.00764	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BP-2A	92.00764	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BP-2A	92.00764	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BP-2A	92.00764	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BP-2A	92.00764	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BP-2A	92.00764	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BP-2A	92.00764	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BP-2A	92.00764	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BP-2A	92.00764	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BP-2A	92.00764	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BP-2A	92.00764	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BP-2A	92.00764	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BP-2A	92.00764	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BP-2A	92.00764	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BP-2A	92.00764	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BP-2A	92.00764	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BP-2A	92.00764	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BP-2A	92.00764	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BP-2A	92.00764	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BP-2A	92.00764	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00764

none

Customer Sample Duplicate Results for Sample # 92.00764

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00764

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00765

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/28/92 Date Analyzed: 1/28/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2B	92.00765	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BP-2B	92.00765	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BP-2B	92.00765	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BP-2B	92.00765	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BP-2B	92.00765	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BP-2B	92.00765	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BP-2B	92.00765	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BP-2B	92.00765	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BP-2B	92.00765	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BP-2B	92.00765	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BP-2B	92.00765	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BP-2B	92.00765	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BP-2B	92.00765	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BP-2B	92.00765	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BP-2B	92.00765	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BP-2B	92.00765	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BP-2B	92.00765	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BP-2B	92.00765	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BP-2B	92.00765	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BP-2B	[illegible]0765	106434	< 5.		UG/KG	2/0[illegible]	CHARCOAL	p-Chlorotoluene
PF-40-BP-2B	[illegible]765	96128	< 10.		UG/KG	2/0[illegible]	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BP-2B	92.00765	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BP-2B	92.00765	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BP-2B	92.00765	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BP-2B	92.00765	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BP-2B	92.00765	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BP-2B	92.00765	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BP-2B	92.00765	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BP-2B	92.00765	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BP-2B	92.00765	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BP-2B	92.00765	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BP-2B	92.00765	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BP-2B	92.00765	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BP-2B	92.00765	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BP-2B	92.00765	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BP-2B	92.00765	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BP-2B	92.00765	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BP-2B	92.00765	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BP-2B	92.00765	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BP-2B	92.00765	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BP-2B	92.00765	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BP-2B	92.00765	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BP-2B	92.00765	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BP-2B	92.00765	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BP-2B	92.00765	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BP-2B	92.00765	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BP-2B	92.00765	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BP-2B	92.00765	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BP-2B	92.00765	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BP-2B	92.00765	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BP-2B	92.00765	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BP-2B	92.00765	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BP-2B	92.00765	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BP-2B	92.00765	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BP-2B	92.00765	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BP-2B	92.00765	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BP-2B	92.00765	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BP-2B	92.00765	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BP-2B	92.00765	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BP-2B	92.00765	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BP-2B	92.00765	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BP-2B	92.00765	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00765

none

Customer Sample Duplicate Results for Sample # 92.00765

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00765

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00766

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/28/92 Date Analyzed: 1/28/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2C	92.00766	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BP-2C	92.00766	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BP-2C	92.00766	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BP-2C	92.00766	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BP-2C	92.00766	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BP-2C	92.00766	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BP-2C	92.00766	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BP-2C	92.00766	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BP-2C	92.00766	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BP-2C	92.00766	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BP-2C	92.00766	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BP-2C	92.00766	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BP-2C	92.00766	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BP-2C	92.00766	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BP-2C	92.00766	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BP-2C	92.00766	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BP-2C	92.00766	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BP-2C	92.00766	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BP-2C	92.00766	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BP-2C	92.00766	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-BP-2C	92.00766	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BP-2C	92.00766	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BP-2C	92.00766	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BP-2C	92.00766	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BP-2C	92.00766	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BP-2C	92.00766	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BP-2C	92.00766	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BP-2C	92.00766	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BP-2C	92.00766	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BP-2C	92.00766	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BP-2C	92.00766	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BP-2C	92.00766	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BP-2C	92.00766	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BP-2C	92.00766	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BP-2C	92.00766	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BP-2C	92.00766	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BP-2C	92.00766	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BP-2C	92.00766	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BP-2C	92.00766	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BP-2C	92.00766	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BP-2C	92.00766	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BP-2C	92.00766	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BP-2C	92.00766	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BP-2C	92.00766	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BP-2C	92.00766	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BP-2C	92.00766	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BP-2C	92.00766	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BP-2C	92.00766	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BP-2C	92.00766	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BP-2C	92.00766	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BP-2C	92.00766	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BP-2C	92.00766	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BP-2C	92.00766	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BP-2C	92.00766	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BP-2C	92.00766	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BP-2C	92.00766	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BP-2C	92.00766	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BP-2C	92.00766	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BP-2C	92.00766	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BP-2C	92.00766	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BP-2C	92.00766	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BP-2C	92.00766	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00766

none

Customer Sample Duplicate Results for Sample # 92.00766

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00766

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00767

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/28/92 Date Analyzed: 1/28/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-1	92.00767	67641	< 24.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BC-1	92.00767	71432	< 6.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BC-1	92.00767	108861	< 6.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BC-1	92.00767	74975	< 6.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BC-1	92.00767	75274	< 6.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BC-1	92.00767	75252	< 6.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BC-1	92.00767	74839	< 12.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BC-1	92.00767	78933	< 24.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BC-1	92.00767	104518	< 6.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BC-1	92.00767	135988	< 6.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BC-1	92.00767	98066	< 6.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BC-1	92.00767	75150	< 6.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BC-1	92.00767	56235	< 6.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BC-1	92.00767	108907	< 6.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BC-1	92.00767	124481	< 6.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BC-1	92.00767	75003	< 12.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BC-1	92.00767	67663	< 6.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BC-1	92.00767	74873	< 12.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BC-1	92.00767	95498	< 6.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BC-1	92.00767	106434	< 6.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-BC-1	92.00767	96128	< 12.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BC-1	92.00767	106934	< 6.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BC-1	92.00767	74953	< 6.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BC-1	92.00767	95501	< 6.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BC-1	92.00767	541731	< 6.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BC-1	92.00767	106467	< 6.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BC-1	92.00767	75718	< 12.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BC-1	92.00767	75343	< 6.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BC-1	92.00767	107062	< 6.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BC-1	92.00767	75354	< 6.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BC-1	92.00767	156605	< 6.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BC-1	92.00767	156592	< 6.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BC-1	92.00767	78875	< 6.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BC-1	92.00767	142289	< 6.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BC-1	92.00767	594207	< 6.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BC-1	92.00767	563586	< 6.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BC-1	92.00767	10061015	< 6.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BC-1	92.00767	10061026	< 6.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BC-1	92.00767	100414	< 6.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BC-1	92.00767	591786	< 24.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BC-1	92.00767	98828	< 6.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BC-1	92.00767	99876	< 6.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BC-1	92.00767	74884	< 6.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BC-1	92.00767	108101	< 24.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BC-1	92.00767	75092	< 6.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BC-1	92.00767	103651	< 6.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BC-1	92.00767	100425	< 6.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BC-1	92.00767	630206	< 6.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BC-1	92.00767	79345	< 6.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BC-1	92.00767	127184	< 6.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BC-1	92.00767	108883	< 6.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BC-1	92.00767	76131	< 6.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BC-1	92.00767	71556	< 6.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BC-1	92.00767	79005	< 6.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BC-1	92.00767	79016	< 6.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BC-1	92.00767	75694	< 6.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BC-1	92.00767	96184	< 6.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BC-1	92.00767	95636	< 6.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BC-1	92.00767	108678	< 6.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BC-1	92.00767	108054	< 12.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BC-1	92.00767	75014	< 12.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BC-1	92.00767	1330207	< 6.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00767

none

Customer Sample Duplicate Results for Sample # 92.00767

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00767

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00768

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/28/92 Date Analyzed: 1/28/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3B	92.00768	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BP-3B	92.00768	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BP-3B	92.00768	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BP-3B	92.00768	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BP-3B	92.00768	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BP-3B	92.00768	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BP-3B	92.00768	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BP-3B	92.00768	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BP-3B	92.00768	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BP-3B	92.00768	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BP-3B	92.00768	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BP-3B	92.00768	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BP-3B	92.00768	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BP-3B	92.00768	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BP-3B	92.00768	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BP-3B	92.00768	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BP-3B	92.00768	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BP-3B	92.00768	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BP-3B	92.00768	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BP-3B	92.00768	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-BP-3B	92.00768	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BP-3B	92.00768	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BP-3B	92.00768	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BP-3B	92.00768	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BP-3B	92.00768	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BP-3B	92.00768	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BP-3B	92.00768	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BP-3B	92.00768	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BP-3B	92.00768	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BP-3B	92.00768	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BP-3B	92.00768	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BP-3B	92.00768	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BP-3B	92.00768	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BP-3B	92.00768	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BP-3B	92.00768	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BP-3B	92.00768	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BP-3B	92.00768	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BP-3B	92.00768	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BP-3B	92.00768	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BP-3B	92.00768	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BP-3B	92.00768	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BP-3B	92.00768	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BP-3B	92.00768	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BP-3B	92.00768	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BP-3B	92.00768	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BP-3B	92.00768	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BP-3B	92.00768	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BP-3B	92.00768	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BP-3B	92.00768	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BP-3B	92.00768	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BP-3B	92.00768	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BP-3B	92.00768	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BP-3B	92.00768	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BP-3B	92.00768	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BP-3B	92.00768	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BP-3B	92.00768	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BP-3B	92.00768	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BP-3B	92.00768	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BP-3B	92.00768	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BP-3B	92.00768	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BP-3B	92.00768	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BP-3B	92.00768	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00768

CUSTOMER	S[illegible]E	COMPLETI[illegible]	COMPOUND

NUMBER	NUMBER	ANALYSIS		RESULT	UNCERTAINTY	UNITS	DATE	COMMENT	NAME
PF-40-BP-3B	92.00768	165	TI	3400.		UG/KG	2/06/92	CHARCOAL	Saturated Hydrocarbons

Customer Sample Duplicate Results for Sample # 92.00768

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00768

none

Matrix Spike Results for Sample # 92.00768

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3B	92.00768	71432	55.12	47.	UG/KG	2/06/92	charcoal	Benzene
PF-40-BP-3B	92.00768	108907	55.12	49.	UG/KG	2/06/92	charcoal	Chlorobenzene
PF-40-BP-3B	92.00768	75343	55.12	38.	UG/KG	2/06/92	charcoal	1,1-Dichloroethane
PF-40-BP-3B	92.00768	108883	55.12	50.	UG/KG	2/06/92	charcoal	Toluene
PF-40-BP-3B	92.00768	79016	55.12	44.	UG/KG	2/06/92	charcoal	Trichloroethene

Matrix Spike Duplicate Results for Sample # 92.00768

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3B	92.00768	71432	59.33	53.	UG/KG	2/06/92	charcoal	Benzene
PF-40-BP-3B	92.00768	108907	59.33	54.	UG/KG	2/06/92	charcoal	Chlorobenzene
PF-40-BP-3B	92.00768	75343	59.33	44.	UG/KG	2/06/92	charcoal	1,1-Dichloroethane
PF-40-BP-3B	92.00768	108883	59.33	55.	UG/KG	2/06/92	charcoal	Toluene
PF-40-BP-3B	92.00768	79016	59.33	50.	UG/KG	2/06/92	charcoal	Trichloroethene

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M948 NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00769

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/28/92 Date Analyzed: 1/28/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3C	92.00769	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-BP-3C	92.00769	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-BP-3C	92.00769	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-BP-3C	92.00769	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-BP-3C	92.00769	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-BP-3C	92.00769	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-BP-3C	92.00769	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-BP-3C	92.00769	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-BP-3C	92.00769	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-BP-3C	92.00769	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-BP-3C	92.00769	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-BP-3C	92.00769	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-BP-3C	92.00769	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-BP-3C	92.00769	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-BP-3C	92.00769	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-BP-3C	92.00769	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-BP-3C	92.00769	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-BP-3C	92.00769	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-BP-3C	92.00769	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-BP-3C	92[illegible]9	106434	< 5.		UG/KG	2/06/9[illegible]	CHARCOAL	p-Chlorotoluene
PF-40-BP-3C	92.[illegible]9	96128	< 10.		UG/KG	2/06/9[illegible]	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-BP-3C	92.00769	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-BP-3C	92.00769	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-BP-3C	92.00769	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-BP-3C	92.00769	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-BP-3C	92.00769	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-BP-3C	92.00769	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-BP-3C	92.00769	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-BP-3C	92.00769	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-BP-3C	92.00769	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-BP-3C	92.00769	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-BP-3C	92.00769	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-BP-3C	92.00769	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-BP-3C	92.00769	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-BP-3C	92.00769	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-BP-3C	92.00769	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-BP-3C	92.00769	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-BP-3C	92.00769	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-BP-3C	92.00769	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-BP-3C	92.00769	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-BP-3C	92.00769	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-BP-3C	92.00769	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-BP-3C	92.00769	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-BP-3C	92.00769	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-BP-3C	92.00769	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-BP-3C	92.00769	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-BP-3C	92.00769	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-BP-3C	92.00769	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-BP-3C	92.00769	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-BP-3C	92.00769	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-BP-3C	92.00769	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-BP-3C	92.00769	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BP-3C	92.00769	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-BP-3C	92.00769	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-BP-3C	92.00769	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-BP-3C	92.00769	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-BP-3C	92.00769	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-BP-3C	92.00769	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-BP-3C	92.00769	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-BP-3C	92.00769	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-BP-3C	92.00769	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-BP-3C	92.00769	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00769

CUSTOMER	SAMPLE	COMPLETION	COMPOUND

NUMBER	NUMBER	ANALYSIS		RESULT	UNCERTAINTY	UNITS	DATE	COMMENT	NAME
PF-40-BP-3C	92.00769	165	TI	150.		UG/KG	2/06/92	CHARCOAL	Saturated Hydrocarbons

Customer Sample Duplicate Results for Sample # 92.00769

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00769

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00770

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/27/92 Date Analyzed: 1/27/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-5R	92.00770	67641	< 20.		UG/KG	2/06/92	CHARCOAL	Acetone
PF-40-FA-5R	92.00770	71432	< 5.		UG/KG	2/06/92	CHARCOAL	Benzene
PF-40-FA-5R	92.00770	108861	< 5.		UG/KG	2/06/92	CHARCOAL	Bromobenzene
PF-40-FA-5R	92.00770	74975	< 5.		UG/KG	2/06/92	CHARCOAL	Bromochloromethane
PF-40-FA-5R	92.00770	75274	< 5.		UG/KG	2/06/92	CHARCOAL	Bromodichloromethane
PF-40-FA-5R	92.00770	75252	< 5.		UG/KG	2/06/92	CHARCOAL	Bromoform
PF-40-FA-5R	92.00770	74839	< 10.		UG/KG	2/06/92	CHARCOAL	Bromomethane
PF-40-FA-5R	92.00770	78933	< 20.		UG/KG	2/06/92	CHARCOAL	2-Butanone
PF-40-FA-5R	92.00770	104518	< 5.		UG/KG	2/06/92	CHARCOAL	n-Butylbenzene
PF-40-FA-5R	92.00770	135988	< 5.		UG/KG	2/06/92	CHARCOAL	sec-Butylbenzene
PF-40-FA-5R	92.00770	98066	< 5.		UG/KG	2/06/92	CHARCOAL	tert-Butylbenzene
PF-40-FA-5R	92.00770	75150	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon disulfide
PF-40-FA-5R	92.00770	56235	< 5.		UG/KG	2/06/92	CHARCOAL	Carbon tetrachloride
PF-40-FA-5R	92.00770	108907	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorobenzene
PF-40-FA-5R	92.00770	124481	< 5.		UG/KG	2/06/92	CHARCOAL	Chlorodibromomethane
PF-40-FA-5R	92.00770	75003	< 10.		UG/KG	2/06/92	CHARCOAL	Chloroethane
PF-40-FA-5R	92.00770	67663	< 5.		UG/KG	2/06/92	CHARCOAL	Chloroform
PF-40-FA-5R	92.00770	74873	< 10.		UG/KG	2/06/92	CHARCOAL	Chloromethane
PF-40-FA-5R	92.00770	95498	< 5.		UG/KG	2/06/92	CHARCOAL	o-Chlorotoluene
PF-40-FA-5R	92.00770	106434	< 5.		UG/KG	2/06/92	CHARCOAL	p-Chlorotoluene
PF-40-FA-5R	92.00770	96128	< 10.		UG/KG	2/06/92	CHARCOAL	1,2-Dibromo-3-chloropropane

PF-40-FA-5R	92.00770	106934	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dibromoethane
PF-40-FA-5R	92.00770	74953	< 5.	UG/KG	2/06/92	CHARCOAL	Dibromomethane
PF-40-FA-5R	92.00770	95501	< 5.	UG/KG	2/06/92	CHARCOAL	o-Dichlorobenzene (1,2)
PF-40-FA-5R	92.00770	541731	< 5.	UG/KG	2/06/92	CHARCOAL	m-Dichlorobenzene (1,3)
PF-40-FA-5R	92.00770	106467	< 5.	UG/KG	2/06/92	CHARCOAL	p-Dichlorobenzene (1,4)
PF-40-FA-5R	92.00770	75718	< 10.	UG/KG	2/06/92	CHARCOAL	Dichlorodifluoromethane
PF-40-FA-5R	92.00770	75343	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethane
PF-40-FA-5R	92.00770	107062	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloroethane
PF-40-FA-5R	92.00770	75354	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloroethene
PF-40-FA-5R	92.00770	156605	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,2-Dichloroethene
PF-40-FA-5R	92.00770	156592	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,2-Dichloroethylene
PF-40-FA-5R	92.00770	78875	< 5.	UG/KG	2/06/92	CHARCOAL	1,2-Dichloropropane
PF-40-FA-5R	92.00770	142289	< 5.	UG/KG	2/06/92	CHARCOAL	1,3-Dichloropropane
PF-40-FA-5R	92.00770	594207	< 5.	UG/KG	2/06/92	CHARCOAL	2,2-Dichloropropane
PF-40-FA-5R	92.00770	563586	< 5.	UG/KG	2/06/92	CHARCOAL	1,1-Dichloropropene
PF-40-FA-5R	92.00770	10061015	< 5.	UG/KG	2/06/92	CHARCOAL	cis-1,3-Dichloropropene
PF-40-FA-5R	92.00770	10061026	< 5.	UG/KG	2/06/92	CHARCOAL	trans-1,3-Dichloropropene
PF-40-FA-5R	92.00770	100414	< 5.	UG/KG	2/06/92	CHARCOAL	Ethylbenzene
PF-40-FA-5R	92.00770	591786	< 20.	UG/KG	2/06/92	CHARCOAL	2-Hexanone
PF-40-FA-5R	92.00770	98828	< 5.	UG/KG	2/06/92	CHARCOAL	Isopropylbenzene
PF-40-FA-5R	92.00770	99876	< 5.	UG/KG	2/06/92	CHARCOAL	4-Isopropyltoluene
PF-40-FA-5R	92.00770	74884	< 5.	UG/KG	2/06/92	CHARCOAL	Methyl iodide
PF-40-FA-5R	92.00770	108101	< 20.	UG/KG	2/06/92	CHARCOAL	4-Methyl-2-pentanone
PF-40-FA-5R	92.00770	75092	< 5.	UG/KG	2/06/92	CHARCOAL	Methylene chloride
PF-40-FA-5R	92.00770	103651	< 5.	UG/KG	2/06/92	CHARCOAL	Propylbenzene
PF-40-FA-5R	92.00770	100425	< 5.	UG/KG	2/06/92	CHARCOAL	Styrene
PF-40-FA-5R	92.00770	630206	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1,2-Tetrachloroethane
PF-40-FA-5R	92.00770	79345	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2,2-Tetrachloroethane
PF-40-FA-5R	92.00770	127184	< 5.	UG/KG	2/06/92	CHARCOAL	Tetrachloroethylene
PF-40-FA-5R	92.00770	108883	< 5.	UG/KG	2/06/92	CHARCOAL	Toluene
PF-40-FA-5R	92.00770	76131	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FA-5R	92.00770	71556	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,1-Trichloroethane
PF-40-FA-5R	92.00770	79005	< 5.	UG/KG	2/06/92	CHARCOAL	1,1,2-Trichloroethane
PF-40-FA-5R	92.00770	79016	< 5.	UG/KG	2/06/92	CHARCOAL	Trichloroethene
PF-40-FA-5R	92.00770	75694	< 5.	UG/KG	2/06/92	CHARCOAL	Trichlorofluoromethane
PF-40-FA-5R	92.00770	96184	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,3-Trichloropropane
PF-40-FA-5R	92.00770	95636	< 5.	UG/KG	2/06/92	CHARCOAL	1,2,4-Trimethylbenzene
PF-40-FA-5R	92.00770	108678	< 5.	UG/KG	2/06/92	CHARCOAL	1,3,5-Trimethylbenzene
PF-40-FA-5R	92.00770	108054	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl acetate
PF-40-FA-5R	92.00770	75014	< 10.	UG/KG	2/06/92	CHARCOAL	Vinyl chloride
PF-40-FA-5R	92.00770	1330207	< 5.	UG/KG	2/06/92	CHARCOAL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00770

none

Customer Sample Duplicate Results for Sample # 92.00770

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00770

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00781

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 1/29/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FBLK	92.00781	67641	< 20.		UG/KG	2/06/92	TRIP BLANK	Acetone
PF-40-FBLK	92.00781	71432	< 5.		UG/KG	2/06/92	TRIP BLANK	Benzene
PF-40-FBLK	92.00781	108861	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromobenzene
PF-40-FBLK	92.00781	74975	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromochloromethane
PF-40-FBLK	92.00781	75274	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromodichloromethane
PF-40-FBLK	92.00781	75252	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromoform
PF-40-FBLK	92.00781	74839	< 10.		UG/KG	2/06/92	TRIP BLANK	Bromomethane
PF-40-FBLK	92.00781	78933	< 20.		UG/KG	2/06/92	TRIP BLANK	2-Butanone
PF-40-FBLK	92.00781	104518	< 5.		UG/KG	2/06/92	TRIP BLANK	n-Butylbenzene
PF-40-FBLK	92.00781	135988	< 5.		UG/KG	2/06/92	TRIP BLANK	sec-Butylbenzene
PF-40-FBLK	92.00781	98066	< 5.		UG/KG	2/06/92	TRIP BLANK	tert-Butylbenzene
PF-40-FBLK	92.00781	75150	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon disulfide
PF-40-FBLK	92.00781	56235	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon tetrachloride
PF-40-FBLK	92.00781	108907	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorobenzene
PF-40-FBLK	92.00781	124481	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorodibromomethane
PF-40-FBLK	92.00781	75003	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloroethane
PF-40-FBLK	92.00781	67663	< 5.		UG/KG	2/06/92	TRIP BLANK	Chloroform
PF-40-FBLK	92.00781	74873	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloromethane
PF-40-FBLK	92.00781	95498	< 5.		UG/KG	2/06/92	TRIP BLANK	o-Chlorotoluene
PF-40-FBLK	92[illegible]781	106434	< 5.		UG/KG	2/06/[illegible]	TRIP BLANK	p-Chlorotoluene
PF-40-FBLK	92[illegible]31	96128	< 10.		UG/KG	2/06/[illegible]	TRIP BLANK	1,2-Dibromo-3-chloropropane

PF-40-FBLK	92.00781	106934	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dibromoethane
PF-40-FBLK	92.00781	74953	< 5.	UG/KG	2/06/92	TRIP BLANK	Dibromomethane
PF-40-FBLK	92.00781	95501	< 5.	UG/KG	2/06/92	TRIP BLANK	o-Dichlorobenzene (1,2)
PF-40-FBLK	92.00781	541731	< 5.	UG/KG	2/06/92	TRIP BLANK	m-Dichlorobenzene (1,3)
PF-40-FBLK	92.00781	106467	< 5.	UG/KG	2/06/92	TRIP BLANK	p-Dichlorobenzene (1,4)
PF-40-FBLK	92.00781	75718	< 10.	UG/KG	2/06/92	TRIP BLANK	Dichlorodifluoromethane
PF-40-FBLK	92.00781	75343	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethane
PF-40-FBLK	92.00781	107062	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloroethane
PF-40-FBLK	92.00781	75354	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethene
PF-40-FBLK	92.00781	156605	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,2-Dichloroethene
PF-40-FBLK	92.00781	156592	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,2-Dichloroethylene
PF-40-FBLK	92.00781	78875	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloropropane
PF-40-FBLK	92.00781	142289	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3-Dichloropropane
PF-40-FBLK	92.00781	594207	< 5.	UG/KG	2/06/92	TRIP BLANK	2,2-Dichloropropane
PF-40-FBLK	92.00781	563586	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloropropene
PF-40-FBLK	92.00781	10061015	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,3-Dichloropropene
PF-40-FBLK	92.00781	10061026	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,3-Dichloropropene
PF-40-FBLK	92.00781	100414	< 5.	UG/KG	2/06/92	TRIP BLANK	Ethylbenzene
PF-40-FBLK	92.00781	591786	< 20.	UG/KG	2/06/92	TRIP BLANK	2-Hexanone
PF-40-FBLK	92.00781	98828	< 5.	UG/KG	2/06/92	TRIP BLANK	Isopropylbenzene
PF-40-FBLK	92.00781	99876	< 5.	UG/KG	2/06/92	TRIP BLANK	4-Isopropyltoluene
PF-40-FBLK	92.00781	74884	< 5.	UG/KG	2/06/92	TRIP BLANK	Methyl iodide
PF-40-FBLK	92.00781	108101	< 20.	UG/KG	2/06/92	TRIP BLANK	4-Methyl-2-pentanone
PF-40-FBLK	92.00781	75092	< 5.	UG/KG	2/06/92	TRIP BLANK	Methylene chloride
PF-40-FBLK	92.00781	103651	< 5.	UG/KG	2/06/92	TRIP BLANK	Propylbenzene
PF-40-FBLK	92.00781	100425	< 5.	UG/KG	2/06/92	TRIP BLANK	Styrene
PF-40-FBLK	92.00781	630206	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1,2-Tetrachloroethane
PF-40-FBLK	92.00781	79345	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2,2-Tetrachloroethane
PF-40-FBLK	92.00781	127184	< 5.	UG/KG	2/06/92	TRIP BLANK	Tetrachloroethylene
PF-40-FBLK	92.00781	108883	< 5.	UG/KG	2/06/92	TRIP BLANK	Toluene
PF-40-FBLK	92.00781	76131	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FBLK	92.00781	71556	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1-Trichloroethane
PF-40-FBLK	92.00781	79005	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloroethane
PF-40-FBLK	92.00781	79016	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichloroethene
PF-40-FBLK	92.00781	75694	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichlorofluoromethane
PF-40-FBLK	92.00781	96184	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,3-Trichloropropane
PF-40-FBLK	92.00781	95636	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,4-Trimethylbenzene
PF-40-FBLK	92.00781	108678	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3,5-Trimethylbenzene
PF-40-FBLK	92.00781	108054	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl acetate
PF-40-FBLK	92.00781	75014	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl chloride
PF-40-FBLK	92.00781	1330207	< 5.	UG/KG	2/06/92	TRIP BLANK	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00781

none

Customer Sample Duplicate Results for Sample # 92.00781

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00781

none

REPORT NUMBER: 12912

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00782

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 1/30/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-TPBLK	92.00782	67641	< 20.		UG/KG	2/06/92	TRIP BLANK	Acetone
PF-40-TPBLK	92.00782	71432	< 5.		UG/KG	2/06/92	TRIP BLANK	Benzene
PF-40-TPBLK	92.00782	108861	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromobenzene
PF-40-TPBLK	92.00782	74975	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromochloromethane
PF-40-TPBLK	92.00782	75274	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromodichloromethane
PF-40-TPBLK	92.00782	75252	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromoform
PF-40-TPBLK	92.00782	74839	< 10.		UG/KG	2/06/92	TRIP BLANK	Bromomethane
PF-40-TPBLK	92.00782	78933	< 20.		UG/KG	2/06/92	TRIP BLANK	2-Butanone
PF-40-TPBLK	92.00782	104518	< 5.		UG/KG	2/06/92	TRIP BLANK	n-Butylbenzene
PF-40-TPBLK	92.00782	135988	< 5.		UG/KG	2/06/92	TRIP BLANK	sec-Butylbenzene
PF-40-TPBLK	92.00782	98066	< 5.		UG/KG	2/06/92	TRIP BLANK	tert-Butylbenzene
PF-40-TPBLK	92.00782	75150	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon disulfide
PF-40-TPBLK	92.00782	56235	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon tetrachloride
PF-40-TPBLK	92.00782	108907	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorobenzene
PF-40-TPBLK	92.00782	124481	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorodibromomethane
PF-40-TPBLK	92.00782	75003	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloroethane
PF-40-TPBLK	92.00782	67663	< 5.		UG/KG	2/06/92	TRIP BLANK	Chloroform
PF-40-TPBLK	92.00782	74873	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloromethane
PF-40-TPBLK	92.00782	95498	< 5.		UG/KG	2/06/92	TRIP BLANK	o-Chlorotoluene
PF-40-TPBLK	92.00782	106434	< 5.		UG/KG	2/06/92	TRIP BLANK	p-Chlorotoluene
PF-40-TPBLK	92.00782	96128	< 10.		UG/KG	2/06/92	TRIP BLANK	1,2-Dibromo-3-chloropropane

PF-40-TPBLK	92.00782	106934	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dibromoethane
PF-40-TPBLK	92.00782	74953	< 5.	UG/KG	2/06/92	TRIP BLANK	Dibromomethane
PF-40-TPBLK	92.00782	95501	< 5.	UG/KG	2/06/92	TRIP BLANK	o-Dichlorobenzene (1,2)
PF-40-TPBLK	92.00782	541731	< 5.	UG/KG	2/06/92	TRIP BLANK	m-Dichlorobenzene (1,3)
PF-40-TPBLK	92.00782	106467	< 5.	UG/KG	2/06/92	TRIP BLANK	p-Dichlorobenzene (1,4)
PF-40-TPBLK	92.00782	75718	< 10.	UG/KG	2/06/92	TRIP BLANK	Dichlorodifluoromethane
PF-40-TPBLK	92.00782	75343	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethane
PF-40-TPBLK	92.00782	107062	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloroethane
PF-40-TPBLK	92.00782	75354	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethene
PF-40-TPBLK	92.00782	156605	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,2-Dichloroethene
PF-40-TPBLK	92.00782	156592	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,2-Dichloroethylene
PF-40-TPBLK	92.00782	78875	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloropropane
PF-40-TPBLK	92.00782	142289	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3-Dichloropropane
PF-40-TPBLK	92.00782	594207	< 5.	UG/KG	2/06/92	TRIP BLANK	2,2-Dichloropropane
PF-40-TPBLK	92.00782	563586	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloropropene
PF-40-TPBLK	92.00782	10061015	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,3-Dichloropropene
PF-40-TPBLK	92.00782	10061026	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,3-Dichloropropene
PF-40-TPBLK	92.00782	100414	< 5.	UG/KG	2/06/92	TRIP BLANK	Ethylbenzene
PF-40-TPBLK	92.00782	591786	< 20.	UG/KG	2/06/92	TRIP BLANK	2-Hexanone
PF-40-TPBLK	92.00782	98828	< 5.	UG/KG	2/06/92	TRIP BLANK	Isopropylbenzene
PF-40-TPBLK	92.00782	99876	< 5.	UG/KG	2/06/92	TRIP BLANK	4-Isopropyltoluene
PF-40-TPBLK	92.00782	74884	< 5.	UG/KG	2/06/92	TRIP BLANK	Methyl iodide
PF-40-TPBLK	92.00782	108101	< 20.	UG/KG	2/06/92	TRIP BLANK	4-Methyl-2-pentanone
PF-40-TPBLK	92.00782	75092	< 5.	UG/KG	2/06/92	TRIP BLANK	Methylene chloride
PF-40-TPBLK	92.00782	103651	< 5.	UG/KG	2/06/92	TRIP BLANK	Propylbenzene
PF-40-TPBLK	92.00782	100425	< 5.	UG/KG	2/06/92	TRIP BLANK	Styrene
PF-40-TPBLK	92.00782	630206	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1,2-Tetrachloroethane
PF-40-TPBLK	92.00782	79345	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2,2-Tetrachloroethane
PF-40-TPBLK	92.00782	127184	< 5.	UG/KG	2/06/92	TRIP BLANK	Tetrachloroethylene
PF-40-TPBLK	92.00782	108883	< 5.	UG/KG	2/06/92	TRIP BLANK	Toluene
PF-40-TPBLK	92.00782	76131	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-TPBLK	92.00782	71556	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1-Trichloroethane
PF-40-TPBLK	92.00782	79005	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloroethane
PF-40-TPBLK	92.00782	79016	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichloroethene
PF-40-TPBLK	92.00782	75694	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichlorofluoromethane
PF-40-TPBLK	92.00782	96184	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,3-Trichloropropane
PF-40-TPBLK	92.00782	95636	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,4-Trimethylbenzene
PF-40-TPBLK	92.00782	108678	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3,5-Trimethylbenzene
PF-40-TPBLK	92.00782	108054	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl acetate
PF-40-TPBLK	92.00782	75014	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl chloride
PF-40-TPBLK	92.00782	1330207	< 5.	UG/KG	2/06/92	TRIP BLANK	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00782

none

Customer Sample Duplicate Results for Sample # 92.00782

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00782

none

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REPORT NUMBER: 12912 (continued)

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUN
00.20227	92.00743	67641	< 20.		UG/KG	0.0		2/06/92	UNDER CONTROL	Acetone
00.20227	92.00743	71432	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Benzene
00.20227	92.00743	108861	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromobenzene
00.20227	92.00743	74975	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromochloromethane
00.20227	92.00743	75274	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromodichloromethane
00.20227	92.00743	75252	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromoform
00.20227	92.00743	74839	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromomethane
00.20227	92.00743	78933	< 20.		UG/KG	0.0		2/06/92	UNDER CONTROL	2-Butanone
00.20227	92.00743	104518	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	n-Butylbenzene
00.20227	92.00743	135988	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	sec-Butylbenzene
00.20227	92.00743	98066	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.00743	75150	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Carbon disulfide
00.20227	92.00743	56235	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.00743	108907	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chlorobenzene
00.20227	92.00743	124481	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chlorodibromomethane
00.20227	92.00743	75003	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloroethane
00.20227	92.00743	67663	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloroform
00.20227	92.00743	74873	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloromethane
00.20227	92.00743	95498	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	o-Chlorotoluene
00.20227	92.00743	106434	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	p-Chlorotoluene
00.20227	92.00743	96128	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20227	92.00743	106934	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dibromoethane
00.20227	92.00743	74953	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Dibromomethane
00.20227	92.00743	95501	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.00743	541731	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.00743	106467	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.00743	75718	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Dichlorodifluoromethane
00.20227	92.00743	75343	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloroethane
00.20227	92.00743	107062	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dichloroethane
00.20227	92.00743	75354	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloroethene
00.20227	92.00743	156605	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
00.20227	92.00743	156592	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20227	92.00743	78875	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dichloropropane

00.20227	92.00743	142289	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3-Dichloroprop[illegible]
00.20227	92.00743	594207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	2,2-Dichloropropane
00.20227	92.00743	563586	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloropropene
00.20227	92.00743	10061015	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
00.20227	92.00743	10061026	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
00.20227	92.00743	100414	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Ethylbenzene
00.20227	92.00743	591786	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Hexanone
00.20227	92.00743	98828	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Isopropylbenzene
00.20227	92.00743	99876	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Isopropyltoluene
00.20227	92.00743	74884	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methyl iodide
00.20227	92.00743	108101	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
00.20227	92.00743	75092	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methylene chloride
00.20227	92.00743	103651	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Propylbenzene
00.20227	92.00743	100425	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Styrene
00.20227	92.00743	630206	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20227	92.00743	79345	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20227	92.00743	127184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Tetrachloroethylene
00.20227	92.00743	108883	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Toluene
00.20227	92.00743	76131	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
00.20227	92.00743	71556	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
00.20227	92.00743	79005	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
00.20227	92.00743	79016	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichloroethene
00.20227	92.00743	75694	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichlorofluoromethane
00.20227	92.00743	96184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
00.20227	92.00743	95636	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20227	92.00743	108678	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20227	92.00743	108054	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl acetate
00.20227	92.00743	75014	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl chloride
00.20227	92.00743	1330207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)
00.20227	92.00744	67641	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	Acetone
00.20227	92.00744	71432	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Benzene
00.20227	92.00744	108861	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromobenzene
00.20227	92.00744	74975	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromochloromethane
00.20227	92.00744	75274	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromodichloromethane
00.20227	92.00744	75252	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromoform
00.20227	92.00744	74839	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromomethane
00.20227	92.00744	78933	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Butanone
00.20227	92.00744	104518	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	n-Butylbenzene
00.20227	92.00744	135988	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	sec-Butylbenzene
00.20227	92.00744	98066	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.00744	75150	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon disulfide
00.20227	92.00744	56235	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.00744	108907	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorobenzene
00.20227	92.00744	124481	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorodibromomethan
00.20227	92.00744	75003	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroethane

00.20227	92.00744	67663	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroform
00.20227	92.00744	74873	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloromethane
00.20227	92.00744	95498	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Chlorotoluene
00.20227	92.00744	106434	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Chlorotoluene
00.20227	92.00744	96128	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20227	92.00744	106934	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromoethane
00.20227	92.00744	74953	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dibromomethane
00.20227	92.00744	95501	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.00744	541731	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.00744	106467	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.00744	75718	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dichlorodifluoromethane
00.20227	92.00744	75343	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethane
00.20227	92.00744	107062	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloroethane
00.20227	92.00744	75354	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethene
00.20227	92.00744	156605	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
00.20227	92.00744	156592	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20227	92.00744	78875	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloropropane
00.20227	92.00744	142289	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3-Dichloropropane
00.20227	92.00744	594207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	2,2-Dichloropropane
00.20227	92.00744	563586	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloropropene
00.20227	92.00744	10061015	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
00.20227	92.00744	10061026	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
00.20227	92.00744	100414	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Ethylbenzene
00.20227	92.00744	591786	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Hexanone
00.20227	92.00744	98828	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Isopropylbenzene
00.20227	92.00744	99876	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Isopropyltoluene
00.20227	92.00744	74884	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methyl iodide
00.20227	92.00744	108101	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
00.20227	92.00744	75092	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methylene chloride
00.20227	92.00744	103651	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Propylbenzene
00.20227	92.00744	100425	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Styrene
00.20227	92.00744	630206	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20227	92.00744	79345	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20227	92.00744	127184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Tetrachloroethylene
00.20227	92.00744	108883	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Toluene
00.20227	92.00744	76131	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
00.20227	92.00744	71556	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
00.20227	92.00744	79005	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
00.20227	92.00744	79016	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichloroethene
00.20227	92.00744	75694	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichlorofluoromethane
00.20227	92.00744	96184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
00.20227	92.00744	95636	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20227	92.00744	108678	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20227	92.00744	108054	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl acetate
00.20227	92.00744	75014	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl chloride

00.20227	92.00744	1330207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Mixed-Xylenes (o [illegible] ± p)
00.20227	92.01178	67641	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	Acetone
00.20227	92.01178	71432	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Benzene
00.20227	92.01178	108861	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromobenzene
00.20227	92.01178	74975	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromochloromethane
00.20227	92.01178	75274	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromodichloromethane
00.20227	92.01178	75252	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromoform
00.20227	92.01178	74839	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromomethane
00.20227	92.01178	78933	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Butanone
00.20227	92.01178	104518	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	n-Butylbenzene
00.20227	92.01178	135988	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	sec-Butylbenzene
00.20227	92.01178	98066	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.01178	75150	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon disulfide
00.20227	92.01178	56235	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.01178	108907	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorobenzene
00.20227	92.01178	124481	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorodibromomethane
00.20227	92.01178	75003	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroethane
00.20227	92.01178	67663	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroform
00.20227	92.01178	74873	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloromethane
00.20227	92.01178	95498	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Chlorotoluene
00.20227	92.01178	106434	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Chlorotoluene
00.20227	92.01178	96128	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20227	92.01178	106934	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromoethane
00.20227	92.01178	74953	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dibromomethane
00.20227	92.01178	95501	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.01178	541731	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.01178	106467	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.01178	75718	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dichlorodifluoromethane
00.20227	92.01178	75343	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethane
00.20227	92.01178	107062	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloroethane
00.20227	92.01178	75354	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethene
00.20227	92.01178	156605	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
00.20227	92.01178	156592	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20227	92.01178	78875	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloropropane
00.20227	92.01178	142289	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3-Dichloropropane
00.20227	92.01178	594207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	2,2-Dichloropropane
00.20227	92.01178	563586	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloropropene
00.20227	92.01178	10061015	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
00.20227	92.01178	10061026	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
00.20227	92.01178	100414	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Ethylbenzene
00.20227	92.01178	591786	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Hexanone
00.20227	92.01178	98828	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Isopropylbenzene
00.20227	92.01178	99876	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Isopropyltoluene
00.20227	92.01178	74884	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methyl iodide
00.20227	[illegible]178	108101	< 20.	UG/KG	[illegible].0	2/06/92	UNDER CONTROL	4-Methyl-2-pentan[illegible]

00.20227	92.01178	75092	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methylene chloride
00.20227	92.01178	103651	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Propylbenzene
00.20227	92.01178	100425	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Styrene
00.20227	92.01178	630206	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20227	92.01178	79345	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20227	92.01178	127184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Tetrachloroethylene
00.20227	92.01178	108883	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Toluene
00.20227	92.01178	76131	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
00.20227	92.01178	71556	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
00.20227	92.01178	79005	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
00.20227	92.01178	79016	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichloroethene
00.20227	92.01178	75694	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichlorofluoromethane
00.20227	92.01178	96184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
00.20227	92.01178	95636	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20227	92.01178	108678	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20227	92.01178	108054	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl acetate
00.20227	92.01178	75014	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl chloride
00.20227	92.01178	1330207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)
00.20227	92.01179	67641	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	Acetone
00.20227	92.01179	71432	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Benzene
00.20227	92.01179	108861	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromobenzene
00.20227	92.01179	74975	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromochloromethane
00.20227	92.01179	75274	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromodichloromethane
00.20227	92.01179	75252	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromoform
00.20227	92.01179	74839	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromomethane
00.20227	92.01179	78933	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Butanone
00.20227	92.01179	104518	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	n-Butylbenzene
00.20227	92.01179	135988	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	sec-Butylbenzene
00.20227	92.01179	98066	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.01179	75150	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon disulfide
00.20227	92.01179	56235	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.01179	108907	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorobenzene
00.20227	92.01179	124481	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorodibromomethane
00.20227	92.01179	75003	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroethane
00.20227	92.01179	67663	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroform
00.20227	92.01179	74873	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloromethane
00.20227	92.01179	95498	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Chlorotoluene
00.20227	92.01179	106434	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Chlorotoluene
00.20227	92.01179	96128	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20227	92.01179	106934	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromoethane
00.20227	92.01179	74953	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dibromomethane
00.20227	92.01179	95501	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.01179	541731	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.01179	106467	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.01179	75718	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dichlorodifluoromethane

00.20227	92.01179	75343	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethane
00.20227	92.01179	107062	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloroethane
00.20227	92.01179	75354	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethene
00.20227	92.01179	156605	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
00.20227	92.01179	156592	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20227	92.01179	78875	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloropropane
00.20227	92.01179	142289	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3-Dichloropropane
00.20227	92.01179	594207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	2,2-Dichloropropane
00.20227	92.01179	563586	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloropropene
00.20227	92.01179	10061015	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
00.20227	92.01179	10061026	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
00.20227	92.01179	100414	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Ethylbenzene
00.20227	92.01179	591786	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Hexanone
00.20227	92.01179	98828	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Isopropylbenzene
00.20227	92.01179	99876	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Isopropyltoluene
00.20227	92.01179	74884	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methyl iodide
00.20227	92.01179	108101	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
00.20227	92.01179	75092	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methylene chloride
00.20227	92.01179	103651	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Propylbenzene
00.20227	92.01179	100425	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Styrene
00.20227	92.01179	630206	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20227	92.01179	79345	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20227	92.01179	127184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Tetrachloroethylene
00.20227	92.01179	108883	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Toluene
00.20227	92.01179	76131	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
00.20227	92.01179	71556	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
00.20227	92.01179	79005	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
00.20227	92.01179	79016	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichloroethene
00.20227	92.01179	75694	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichlorofluoromethane
00.20227	92.01179	96184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
00.20227	92.01179	95636	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20227	92.01179	108678	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20227	92.01179	108054	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl acetate
00.20227	92.01179	75014	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl chloride
00.20227	92.01179	1330207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)
00.20227	92.01180	67641	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	Acetone
00.20227	92.01180	71432	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Benzene
00.20227	92.01180	108861	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromobenzene
00.20227	92.01180	74975	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromochloromethane
00.20227	92.01180	75274	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromodichloromethane
00.20227	92.01180	75252	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromoform
00.20227	92.01180	74839	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromomethane
00.20227	92.01180	78933	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Butanone
00.20227	[illegible]1180	104518	< 5.	UG/KG	[illegible].0	2/06/92	UNDER CONTROL	n-Butylbenzene
00.20227	[illegible]180	135988	< 5.	UG/KG	[illegible].0	2/06/92	UNDER CONTROL	sec-Butylbenzene

00.20227	92.01180	98066	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.01180	75150	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon disulfide
00.20227	92.01180	56235	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.01180	108907	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorobenzene
00.20227	92.01180	124481	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorodibromomethane
00.20227	92.01180	75003	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroethane
00.20227	92.01180	67663	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroform
00.20227	92.01180	74873	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloromethane
00.20227	92.01180	95498	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Chlorotoluene
00.20227	92.01180	106434	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Chlorotoluene
00.20227	92.01180	96128	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20227	92.01180	106934	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromoethane
00.20227	92.01180	74953	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dibromomethane
00.20227	92.01180	95501	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.01180	541731	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.01180	106467	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.01180	75718	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dichlorodifluoromethane
00.20227	92.01180	75343	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethane
00.20227	92.01180	107062	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloroethane
00.20227	92.01180	75354	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethene
00.20227	92.01180	156605	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
00.20227	92.01180	156592	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20227	92.01180	78875	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloropropane
00.20227	92.01180	142289	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3-Dichloropropane
00.20227	92.01180	594207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	2,2-Dichloropropane
00.20227	92.01180	563586	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloropropene
00.20227	92.01180	10061015	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
00.20227	92.01180	10061026	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
00.20227	92.01180	100414	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Ethylbenzene
00.20227	92.01180	591786	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Hexanone
00.20227	92.01180	98828	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Isopropylbenzene
00.20227	92.01180	99876	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Isopropyltoluene
00.20227	92.01180	74884	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methyl iodide
00.20227	92.01180	108101	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
00.20227	92.01180	75092	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methylene chloride
00.20227	92.01180	103651	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Propylbenzene
00.20227	92.01180	100425	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Styrene
00.20227	92.01180	630206	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20227	92.01180	79345	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20227	92.01180	127184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Tetrachloroethylene
00.20227	92.01180	108883	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Toluene
00.20227	92.01180	76131	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
00.20227	92.01180	71556	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
00.20227	92.01180	79005	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
00.20227	92.01180	79016	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichloroethene

00.20227	92.01180	75694	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichlorofluorome[illegible]ne
00.20227	92.01180	96184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
00.20227	92.01180	95636	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20227	92.01180	108678	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20227	92.01180	108054	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl acetate
00.20227	92.01180	75014	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl chloride
00.20227	92.01180	1330207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)
00.20227	92.01181	67641	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	Acetone
00.20227	92.01181	71432	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Benzene
00.20227	92.01181	108861	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromobenzene
00.20227	92.01181	74975	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromochloromethane
00.20227	92.01181	75274	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromodichloromethane
00.20227	92.01181	75252	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromoform
00.20227	92.01181	74839	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromomethane
00.20227	92.01181	78933	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Butanone
00.20227	92.01181	104518	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	n-Butylbenzene
00.20227	92.01181	135988	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	sec-Butylbenzene
00.20227	92.01181	98066	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.01181	75150	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon disulfide
00.20227	92.01181	56235	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.01181	108907	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorobenzene
00.20227	92.01181	124481	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorodibromomethane
00.20227	92.01181	75003	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroethane
00.20227	92.01181	67663	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroform
00.20227	92.01181	74873	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloromethane
00.20227	92.01181	95498	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Chlorotoluene
00.20227	92.01181	106434	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Chlorotoluene
00.20227	92.01181	96128	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20227	92.01181	106934	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromoethane
00.20227	92.01181	74953	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dibromomethane
00.20227	92.01181	95501	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.01181	541731	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.01181	106467	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.01181	75718	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dichlorodifluoromethane
00.20227	92.01181	75343	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethane
00.20227	92.01181	107062	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloroethane
00.20227	92.01181	75354	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethene
00.20227	92.01181	156605	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
00.20227	92.01181	156592	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20227	92.01181	78875	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloropropane
00.20227	92.01181	142289	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3-Dichloropropane
00.20227	92.01181	594207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	2,2-Dichloropropane
00.20227	92.01181	563586	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloropropene
00.20227	9[illegible]181	10061015	< 5.	UG/KG	[illegible]0	2/06/92	UNDER CONTROL	cis-1,3-Dichloropr[illegible]e
00.20227	9[illegible]181	10061026	< 5.	UG/KG	[illegible]0	2/06/92	UNDER CONTROL	trans-1,3-Dichlor[illegible]ene

00.20227	92.01181	100414	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Ethylbenzene
00.20227	92.01181	591786	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Hexanone
00.20227	92.01181	98828	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Isopropylbenzene
00.20227	92.01181	99876	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Isopropyltoluene
00.20227	92.01181	74884	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methyl iodide
00.20227	92.01181	108101	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
00.20227	92.01181	75092	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methylene chloride
00.20227	92.01181	103651	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Propylbenzene
00.20227	92.01181	100425	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Styrene
00.20227	92.01181	630206	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20227	92.01181	79345	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20227	92.01181	127184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Tetrachloroethylene
00.20227	92.01181	108883	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Toluene
00.20227	92.01181	76131	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
00.20227	92.01181	71556	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
00.20227	92.01181	79005	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
00.20227	92.01181	79016	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichloroethene
00.20227	92.01181	75694	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichlorofluoromethane
00.20227	92.01181	96184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
00.20227	92.01181	95636	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20227	92.01181	108678	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20227	92.01181	108054	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl acetate
00.20227	92.01181	75014	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl chloride
00.20227	92.01181	1330207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)

Blank Spike Results

none

Blank Spike Duplicate Results

none

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.00741

Date Collected: 1/24/92 Date Received: 1/24/92 Date Extracted: 1/25/92 Date Analyzed: 1/25/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME

92.00741	67641	56.	16.8	UG/KG	112.	11.	2/06/92	WARNING 2-3 SIG	Acetone
92.00741	71432	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Benzene
92.00741	108861	120.	36.	UG/KG	189.	19.	2/06/92	UNDER CONTROL	Bromobenzene
92.00741	74975	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromochloromethane
92.00741	75274	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromodichloromethane
92.00741	75252	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromoform
92.00741	74839	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromomethane
92.00741	78933	82.	24.6	UG/KG	139.	14.	2/06/92	WARNING 2-3 SIG	2-Butanone
92.00741	104518	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	n-Butylbenzene
92.00741	135988	120.	36.	UG/KG	163.	16.	2/06/92	UNDER CONTROL	sec-Butylbenzene
92.00741	98066	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	tert-Butylbenzene
92.00741	75150	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Carbon disulfide
92.00741	56235	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Carbon tetrachloride
92.00741	108907	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chlorobenzene
92.00741	124481	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chlorodibromomethane
92.00741	75003	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloroethane
92.00741	67663	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloroform
92.00741	74873	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloromethane
92.00741	95498	96.	28.8	UG/KG	121.	12.	2/06/92	UNDER CONTROL	o-Chlorotoluene
92.00741	106434	140.	42.	UG/KG	183.	18.	2/06/92	UNDER CONTROL	p-Chlorotoluene
92.00741	96128	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
92.00741	106934	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dibromoethane
92.00741	74953	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Dibromomethane
92.00741	95501	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
92.00741	541731	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
92.00741	106467	100.	30.	UG/KG	111.	11.	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
92.00741	75718	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Dichlorodifluoromethane
92.00741	75343	140.	42.	UG/KG	184.	18.	2/06/92	UNDER CONTROL	1,1-Dichloroethane
92.00741	107062	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dichloroethane
92.00741	75354	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloroethene
92.00741	156605	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
92.00741	156592	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
92.00741	78875	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dichloropropane
92.00741	142289	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,3-Dichloropropane
92.00741	594207	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	2,2-Dichloropropane
92.00741	563586	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloropropene
92.00741	10061015	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
92.00741	10061026	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
92.00741	100414	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Ethylbenzene
92.00741	591786	90.	27.	UG/KG	116.	12.	2/06/92	UNDER CONTROL	2-Hexanone
92.00741	98828	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Isopropylbenzene
92.00741	99876	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	4-Isopropyltoluene
92.00741	74884	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Methyl iodide
92.00741	1[illegible]	130.	39.	UG/KG	117.	12.	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
92.00741	7[illegible]	95.	28.5	UG/KG	122.	12.	2/06/92	UNDER CONTROL	Methylene chloride

92.00741	103651	120.	36.	UG/KG	162.	16.	2/06/92	UNDER CONTROL	Propylbenzene
92.00741	100425	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Styrene
92.00741	630206	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
92.00741	79345	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
92.00741	127184	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Tetrachloroethylene
92.00741	108883	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Toluene
92.00741	76131	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroethane
92.00741	71556	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
92.00741	79005	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
92.00741	79016	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Trichloroethene
92.00741	75694	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Trichlorofluoromethane
92.00741	96184	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
92.00741	95636	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
92.00741	108678	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
92.00741	108054	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Vinyl acetate
92.00741	75014	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Vinyl chloride
92.00741	1330207	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)

Blind QC Results, Sample # 92.00742

Date Collected: 1/24/92 Date Received: 1/24/92 Date Extracted: 1/26/92 Date Analyzed: 1/26/92

92.00742	67641	63.	18.9	UG/KG	132.	13.	2/06/92	OUT OF CONTROL	Acetone
92.00742	71432	100.	30.	UG/KG	114.	11.	2/06/92	UNDER CONTROL	Benzene
92.00742	108861	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromobenzene
92.00742	74975	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromochloromethane
92.00742	75274	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromodichloromethane
92.00742	75252	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromoform
92.00742	74839	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromomethane
92.00742	78933	86.	25.8	UG/KG	163.	16.	2/06/92	WARNING 2-3 SIG	2-Butanone
92.00742	104518	110.	33.	UG/KG	112.	11.	2/06/92	UNDER CONTROL	n-Butylbenzene
92.00742	135988	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	sec-Butylbenzene
92.00742	98066	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	tert-Butylbenzene
92.00742	75150	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Carbon disulfide
92.00742	56235	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Carbon tetrachloride
92.00742	108907	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chlorobenzene
92.00742	124481	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chlorodibromomethane
92.00742	75003	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloroethane
92.00742	67663	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloroform
92.00742	74873	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloromethane
92.00742	95498	140.	42.	UG/KG	142.	14.	2/06/92	UNDER CONTROL	o-Chlorotoluene
92.00742	106434	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	p-Chlorotoluene
92.00742	96128	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
92.00742	106934	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dibromoethane
92.00742	74953	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Dibromomethane
92.00742	95501	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)

92.00742	541731	140.	42.	UG/KG	142.	14.	2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
92.00742	106467	140.	42.	UG/KG	130.	13.	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
92.00742	75718	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Dichlorodifluoromethane
92.00742	75343	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloroethane
92.00742	107062	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dichloroethane
92.00742	75354	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloroethene
92.00742	156605	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
92.00742	156592	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
92.00742	78875	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dichloropropane
92.00742	142289	160.	48.	UG/KG	128.	13.	2/06/92	UNDER CONTROL	1,3-Dichloropropane
92.00742	594207	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	2,2-Dichloropropane
92.00742	563586	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloropropene
92.00742	10061015	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
92.00742	10061026	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
92.00742	100414	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Ethylbenzene
92.00742	591786	100.	30.	UG/KG	135.	14.	2/06/92	UNDER CONTROL	2-Hexanone
92.00742	98828	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Isopropylbenzene
92.00742	99876	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	4-Isopropyltoluene
92.00742	74884	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Methyl iodide
92.00742	108101	170.	51.	UG/KG	137.	14.	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
92.00742	75092	140.	42.	UG/KG	143.	14.	2/06/92	UNDER CONTROL	Methylene chloride
92.00742	103651	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Propylbenzene
92.00742	100425	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Styrene
92.00742	630206	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
92.00742	79345	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
92.00742	127184	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Tetrachloroethylene
92.00742	108883	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Toluene
92.00742	76131	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroethane
92.00742	71556	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
92.00742	79005	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
92.00742	79016	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Trichloroethene
92.00742	75694	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Trichlorofluoromethane
92.00742	96184	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
92.00742	95636	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
92.00742	108678	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
92.00742	108054	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Vinyl acetate
92.00742	75014	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Vinyl chloride
92.00742	1330207	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)

SURROGATE RESULTS FOR EPA VOLATILES

Surrogate 1 = 1,2-Dichloroethane d4 (CAS # = 17060070)
Surrogate 2 = Toluene d8 (CAS # = 2037265)
Surrogate 3 = 4-Br[illegible]uorobenzene (CAS # = 460004)

SAMPLE NUMBER	UNITS	Surrogate 1	Surrogate 2	Surrogate 3	COMPLETION DATE
92.00696	%	88.4	81.26	104.22	6-Feb-1992
92.00697	%	68.92	85.42	87.4	6-Feb-1992
92.00698	%	76.58	83.02	102.18	6-Feb-1992
92.00699	%	83.22	82.12	101.56	6-Feb-1992
92.00700	%	85.24	81.76	94.24	6-Feb-1992
92.00701	%	87.72	78.58	108.8	6-Feb-1992
92.00702	%	78.88	81.3	94.14	6-Feb-1992
92.00702	%	82.28	81.96	92.6	6-Feb-1992
92.00702	%	84.74	81.68	99.64	6-Feb-1992
92.00703	%	83.92	82.02	98.12	6-Feb-1992
92.00704	%	91.42	90.4	109.62	6-Feb-1992
92.00705	%	87.78	91.42	101.48	6-Feb-1992
92.00706	%	88.56	92.34	96.76	6-Feb-1992
92.00707	%	108.02	86.28	184.06	6-Feb-1992
92.00708	%	100.94	93.	146.88	6-Feb-1992
92.00709	%	95.04	90.1	116.86	6-Feb-1992
92.00710	%	81.38	87.24	106.36	6-Feb-1992
92.00726	%	75.82	88.	79.6	6-Feb-1992
92.00727	%	79.48	86.54	87.86	6-Feb-1992
92.00728	%	88.84	83.04	96.42	6-Feb-1992
92.00741	%	80.28	88.16	78.46	6-Feb-1992
92.00742	%	82.84	92.18	82.36	6-Feb-1992
92.00743	%	81.44	87.06	94.06	6-Feb-1992
92.00744	%	84.8	82.5	92.78	6-Feb-1992
92.00761	%	81.28	89.9	108.62	6-Feb-1992
92.00762	%	88.	84.26	121.8	6-Feb-1992
92.00763	%	76.6	91.82	96.26	6-Feb-1992
92.00764	%	81.12	83.82	105.68	6-Feb-1992
92.00765	%	83.16	90.4	102.88	6-Feb-1992
92.00766	%	79.62	84.36	101.58	6-Feb-1992
92.00767	%	103.54	84.24	268.62	6-Feb-1992
92.00768	%	82.26	84.58	110.58	6-Feb-1992
92.00768	%	83.82	84.34	109.76	6-Feb-1992
92.00768	%	81.02	83.74	119.36	6-Feb-1992
92.00769	%	76.92	83.44	110.08	6-Feb-1992
92.00770	%	81.44	86.54	109.	6-Feb-1992
92.00781	%	87.14	96.84	101.2	6-Feb-1992
92.00782	%	89.54	96.38	100.44	6-Feb-1992
92.01178	%	91.48	93.2	105.98	6-Feb-1992
92.01179	%	90.46	92.12	98.46	6-Feb-1992
92.01180	%	83.62	89.42	98.2	6-Feb-1992
92.01181	%	95.48	97.68	102.1	6-Feb-1992

EPA Limits:

Water	%	76 - 114	88 - 110	86 - 115
Soil	%	70 - 121	81 - 117	74 - 121

REPORT NUMBER: 12912

Analyst	Reviewer	Section Leader	QA Officer
2-7-92		2/7/92	2-7-92
Date	Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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VOC

To: Philip R. Fresquez
From: Don Dale, EM-9 **Organic** Analysis Section

Through: Chris Leibman, EM-9 Organic Analysis Section Leader

Date: May 27, 1992

Subject: Analytical Results, Request Sheet 12846

On 5\15\92, the following samples were received from the EM-9 Sample Receiving Section for volatile analysis:
92.06115-92.06124
These samples were analyzed using EPA method 8260, SW846. A Supelco Vocal 105 m capillary column was used. Approximately 5 grams of material was placed in a purge vessel and purged in 10 ml of water. **Analytical holding times were met.**

Summary of Results:
Target compounds were not detected in any of the samples. Significant levels of tentatively identified compounds were not detected either. See attached reports for details.

QA/QC Results:
Matrix spike recoveries for both the spike and spike dup. were within limits, with good precision. A blind QC was analyzed with this request, results are attached. All surrogate recoveries were in control.

Comments: The samples were run on a 20 to 70 ppb(ng/ml) curve. Acetone was detected in the method blank, and some samples showed similar levels. This is probably due to lab contamination. If you have any questions, please feel free to contact myself at 667-5889 or Chris Leibman at 665-6789. Thank you.

6/16/92

6/16/92

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR VOLATILES
SOIL

REQUEST #: 12846

NUMBER OF SAMPLES: 17
MATRIX s
ANALYST: dd
Date: 06/16/92

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	d4-1,2-dichloro-ethene	toluene-(d8)	4-bromo-fluoro-benzene
1	b92.06748	BLANK	106	101	103
2	b92.06156	BLANK	86	101	107
3	b92.06157	BLANK	100	98	106
4	s92.06115	SAMPLE	95	100	110
5	s92.06116	SAMPLE	97	100	108
6	s92.06117	SAMPLE	94	101	108
7	s92.06118	SAMPLE	92	102	107
8	s92.06119	SAMPLE	103	95	108
9	s92.06120	SAMPLE	102	98	103
10	s92.06121	SAMPLE	99	94	101
11	s92.06122	SAMPLE	97	95	104
12	s92.06123	SAMPLE	95	95	103
13	s92.06124	SAMPLE	98	97	104
14	s92.06125	SAMPLE	96	95	104
15	s92.06155	SAMPLE	85	95	94
16	m92.06120	MATRIX SPIK	105	100	109
17	d92.06120	MATRIX SP-D	118	101	105
18					
19					
20					
21					
22					

Average % Surrogate Recovery...	97	99	106
Defined Lower QC Limits (%)....	70	81	74
Defined Upper QC Limits (%)....	121	117	121
Observed Lower QC Limits (%)...	86	94	101
Observed Upper QC Limits (%)...	106	102	110

"*" If % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By: 6/22/92

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
MATRIX SPIKE RECOVERIES FOR VOLATILES

			DRY WT/VOL (G or ML)	DILUTION FACTOR	AMOUNT SPIKED	LOQ (UG/KG OR UG/
REQUEST #:	12846					
NUMBER OF SAMPLES:	17					
SPIKE ID: (STARTS M OR E)	m92.06120	SPIKE	5.01	1	50	5
SPIKE DUP ID: (STARTS D OR F)	d92.06120	SPIKE-DUP	5.29	1	47	5
RAW DATA WITH:	---					
ANALYST:	DD					

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW. REC. LIM.	UPP. REC. LIM.	RPD LIM.
1,1-Dichlorethene	55	50	110%	106%	4%	59	172	22
Benzene	52	50	104%	106%	2%	66	142	21
Trichlorethene	51	48	102%	102%	1%	62	137	24
Toluene	51	50	102%	106%	3%	59	139	21
Chlorobenzene	53	51	106%	108%	2%	60	133	21

DD 6/16/92

6/22/92

"*" If % Matrix Recovery is Fo. owed by a "*", it is out of QC Limits.

'eviewed By:

6/16/92

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06115 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 5/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1	92.06115	67641	< 20.		UG/KG	6/17/92		Acetone
PF-40-A-1	92.06115	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-A-1	92.06115	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-A-1	92.06115	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-A-1	92.06115	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-A-1	92.06115	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-A-1	92.06115	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-A-1	92.06115	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-A-1	92.06115	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-A-1	92.06115	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-A-1	92.06115	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-A-1	92.06115	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-A-1	92.06115	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-A-1	92.06115	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-A-1	92.06115	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-A-1	92.06115	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-A-1	92.06115	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-A-1	92.06115	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-A-1	92.06115	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-A-1	92.06115	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-A-1	92.06115	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-A-1	92.06115	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-A-1	92.06115	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-A-1	92.06115	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-A-1	92.06115	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-A-1	92.06115	106467	< 5.		UG/KG	6/17/92		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1	92.06115	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
PF-40-A-1	92.06115	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
PF-40-A-1	92.06115	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
PF-40-A-1	92.06115	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
PF-40-A-1	92.06115	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
PF-40-A-1	92.06115	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
PF-40-A-1	92.06115	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
PF-40-A-1	92.06115	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
PF-40-A-1	92.06115	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
PF-40-A-1	92.06115	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
PF-40-A-1	92.06115	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
PF-40-A-1	92.06115	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
PF-40-A-1	92.06115	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
PF-40-A-1	92.06115	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
PF-40-A-1	92.06115	591786	< 20.		UG/KG	6/17/92		2-Hexanone
PF-40-A-1	92.06115	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
PF-40-A-1	92.06115	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
PF-40-A-1	92.06115	74884	< 5.		UG/KG	6/17/92		Methyl iodide
PF-40-A-1	92.06115	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
PF-40-A-1	92.06115	75092	< 5.		UG/KG	6/17/92		Methylene chloride
PF-40-A-1	92.06115	103651	< 5.		UG/KG	6/17/92		Propylbenzene
PF-40-A-1	92.06115	100425	< 5.		UG/KG	6/17/92		Styrene
PF-40-A-1	92.06115	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
PF-40-A-1	92.06115	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
PF-40-A-1	92.06115	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
PF-40-A-1	92.06115	108883	< 5.		UG/KG	6/17/92		Toluene
PF-40-A-1	92.06115	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-A-1	92.06115	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
PF-40-A-1	92.06115	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
PF-40-A-1	92.06115	79016	< 5.		UG/KG	6/17/92		Trichloroethene
PF-40-A-1	92.06115	75694	< 5.		UG/KG	6/17/92		Trichlorofluoromethane
PF-40-A-1	92.06115	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
PF-40-A-1	92.06115	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
PF-40-A-1	92.06115	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
PF-40-A-1	[illegible]06115	108054	< 10.		UG/KG	6/17[illegible]		Vinyl acetate
PF-40-A-1	[illegible]6115	75014	< 10.		UG/KG	6/1[illegible]		Vinyl chloride

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun 1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06116 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 5/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-2	92.06116	67641	< 20.		UG/KG	6/17/92		Acetone
PF-40-A-2	92.06116	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-A-2	92.06116	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-A-2	92.06116	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-A-2	92.06116	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-A-2	92.06116	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-A-2	92.06116	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-A-2	92.06116	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-A-2	92.06116	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-A-2	92.06116	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-A-2	92.06116	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-A-2	92.06116	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-A-2	92.06116	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-A-2	92.06116	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-A-2	92.06116	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-A-2	92.06116	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-A-2	92.06116	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-A-2	92.06116	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-A-2	92.06116	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-A-2	92.06116	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-A-2	92.06116	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-A-2	92.06116	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-A-2	92.06116	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-A-2	92.06116	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-A-2	92.06116	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-A-2	92.06116	106467	< 5.		UG/KG	6/17/92		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1	92.06115	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.06115

none

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-2	92.06116	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
PF-40-A-2	92.06116	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
PF-40-A-2	92.06116	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
PF-40-A-2	92.06116	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
PF-40-A-2	92.06116	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
PF-40-A-2	92.06116	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
PF-40-A-2	92.06116	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
PF-40-A-2	92.06116	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
PF-40-A-2	92.06116	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
PF-40-A-2	92.06116	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
PF-40-A-2	92.06116	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
PF-40-A-2	92.06116	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
PF-40-A-2	92.06116	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
PF-40-A-2	92.06116	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
PF-40-A-2	92.06116	591786	< 20.		UG/KG	6/17/92		2-Hexanone
PF-40-A-2	92.06116	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
PF-40-A-2	92.06116	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
PF-40-A-2	92.06116	74884	< 5.		UG/KG	6/17/92		Methyl iodide
PF-40-A-2	92.06116	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
PF-40-A-2	92.06116	75092	< 5.		UG/KG	6/17/92		Methylene chloride
PF-40-A-2	92.06116	103651	< 5.		UG/KG	6/17/92		Propylbenzene
PF-40-A-2	92.06116	100425	< 5.		UG/KG	6/17/92		Styrene
PF-40-A-2	92.06116	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
PF-40-A-2	92.06116	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
PF-40-A-2	92.06116	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
PF-40-A-2	92.06116	108883	< 5.		UG/KG	6/17/92		Toluene
PF-40-A-2	92.06116	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-A-2	92.06116	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
PF-40-A-2	92.06116	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
PF-40-A-2	92.06116	79016	< 5.		UG/KG	6/17/92		Trichloroethene
PF-40-A-2	92.06116	75694	< [illegible].		UG/KG	6/17/92		Trichlorofluoromethane
PF-40-A-2	92.06116	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
PF-40-A-2	92.06116	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
PF-40-A-2	92.06116	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
PF-40-A-2	92.06116	108054	< 10.		UG/KG	6/17/92		Vinyl acetate
PF-40-A-2	92.06116	75014	< 10.		UG/KG	6/17/92		Vinyl chloride

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-2	92.06116	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.06116

none

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06117 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 5/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-3	92.06117	67641	< 20.		UG/KG	6/17/92		Acetone
PF-40-A-3	92.06117	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-A-3	92.06117	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-A-3	92.06117	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-A-3	92.06117	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-A-3	92.06117	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-A-3	92.06117	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-A-3	92.06117	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-A-3	92.06117	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-A-3	92.06117	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-A-3	92.06117	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-A-3	92.06117	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-A-3	92.06117	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-A-3	92.06117	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-A-3	92.06117	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-A-3	92.06117	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-A-3	92.06117	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-A-3	92.06117	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-A-3	92.06117	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-A-3	92.06117	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-A-3	92.06117	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-A-3	92.06117	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-A-3	92.06117	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-A-3	92.06117	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-A-3	92.06117	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-A-3	92.06117	106467	< 5.		UG/KG	6/17/92		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-3	92.06117	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
PF-40-A-3	92.06117	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
PF-40-A-3	92.06117	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
PF-40-A-3	92.06117	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
PF-40-A-3	92.06117	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
PF-40-A-3	92.06117	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
PF-40-A-3	92.06117	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
PF-40-A-3	92.06117	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
PF-40-A-3	92.06117	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
PF-40-A-3	92.06117	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
PF-40-A-3	92.06117	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
PF-40-A-3	92.06117	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
PF-40-A-3	92.06117	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
PF-40-A-3	92.06117	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
PF-40-A-3	92.06117	591786	< 20.		UG/KG	6/17/92		2-Hexanone
PF-40-A-3	92.06117	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
PF-40-A-3	92.06117	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
PF-40-A-3	92.06117	74884	< 5.		UG/KG	6/17/92		Methyl iodide
PF-40-A-3	92.06117	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
PF-40-A-3	92.06117	75092	< 5.		UG/KG	6/17/92		Methylene chloride
PF-40-A-3	92.06117	103651	< 5.		UG/KG	6/17/92		Propylbenzene
PF-40-A-3	92.06117	100425	< 5.		UG/KG	6/17/92		Styrene
PF-40-A-3	92.06117	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
PF-40-A-3	92.06117	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
PF-40-A-3	92.06117	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
PF-40-A-3	92.06117	108883	< 5.		UG/KG	6/17/92		Toluene
PF-40-A-3	92.06117	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-A-3	92.06117	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
PF-40-A-3	92.06117	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
PF-40-A-3	92.06117	79016	< 5.		UG/KG	6/17/92		Trichloroethene
PF-40-A-3	92.06117	75694	< 5.		UG/KG	6/17/92		Trichlorofluoromethane
PF-40-A-3	92.06117	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
PF-40-A-3	92.06117	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
PF-40-A-3	92.06117	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
PF-40-A-3	92.06117	108054	< 10.		UG/KG	6/17/92		Vinyl acetate
PF-40-A-3	92.06	75014	< 10.		UG/KG	6/17/92		Vinyl chloride

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-3	92.06117	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.06117

none

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06118 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 5/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-4	92.06118	67641	< 20.		UG/KG	6/17/92		Acetone
PF-40-A-4	92.06118	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-A-4	92.06118	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-A-4	92.06118	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-A-4	92.06118	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-A-4	92.06118	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-A-4	92.06118	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-A-4	92.06118	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-A-4	92.06118	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-A-4	92.06118	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-A-4	92.06118	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-A-4	92.06118	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-A-4	92.06118	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-A-4	92.06118	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-A-4	92.06118	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-A-4	92.06118	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-A-4	92.06118	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-A-4	92.06118	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-A-4	92.06118	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-A-4	92.06118	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-A-4	92.06118	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-A-4	92.06118	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-A-4	92.06118	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-A-4	92.06118	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-A-4	92.06118	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-A-4	92.06118	106467	< 5.		UG/KG	6/17/92		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-4	92.06118	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
PF-40-A-4	92.06118	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
PF-40-A-4	92.06118	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
PF-40-A-4	92.06118	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
PF-40-A-4	92.06118	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
PF-40-A-4	92.06118	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
PF-40-A-4	92.06118	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
PF-40-A-4	92.06118	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
PF-40-A-4	92.06118	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
PF-40-A-4	92.06118	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
PF-40-A-4	92.06118	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
PF-40-A-4	92.06118	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
PF-40-A-4	92.06118	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
PF-40-A-4	92.06118	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
PF-40-A-4	92.06118	591786	< 20.		UG/KG	6/17/92		2-Hexanone
PF-40-A-4	92.06118	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
PF-40-A-4	92.06118	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
PF-40-A-4	92.06118	74884	< 5.		UG/KG	6/17/92		Methyl iodide
PF-40-A-4	92.06118	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
PF-40-A-4	92.06118	75092	< 5.		UG/KG	6/17/92		Methylene chloride
PF-40-A-4	92.06118	103651	< 5.		UG/KG	6/17/92		Propylbenzene
PF-40-A-4	92.06118	100425	< 5.		UG/KG	6/17/92		Styrene
PF-40-A-4	92.06118	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
PF-40-A-4	92.06118	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
PF-40-A-4	92.06118	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
PF-40-A-4	92.06118	108883	< 5.		UG/KG	6/17/92		Toluene
PF-40-A-4	92.06118	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-A-4	92.06118	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
PF-40-A-4	92.06118	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
PF-40-A-4	92.06118	79016	< 5.		UG/KG	6/17/92		Trichloroethene
PF-40-A-4	92.06118	75694	< 5.		UG/KG	6/17/92		Trichlorofluoromethane
PF-40-A-4	92.06118	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
PF-40-A-4	92.06118	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
PF-40-A-4	92.06118	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
PF-40-A-4	92.06118	108054	< 10.		UG/KG	6/17/92		Vinyl acetate
PF-40-A-4	92.06118	75014	< 10.		UG/KG	6/17/92		Vinyl chloride

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-4	92.06118	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.06118

none

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06119 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-2	92.06119	67641	25.	7.5	UG/KG	6/17/92		Acetone
PF-40-CH1-2	92.06119	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-CH1-2	92.06119	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-CH1-2	92.06119	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-CH1-2	92.06119	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-CH1-2	92.06119	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-CH1-2	92.06119	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-CH1-2	92.06119	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-CH1-2	92.06119	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-CH1-2	92.06119	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-CH1-2	92.06119	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-CH1-2	92.06119	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-CH1-2	92.06119	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-CH1-2	92.06119	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-CH1-2	92.06119	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-CH1-2	92.06119	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-CH1-2	92.06119	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-CH1-2	92.06119	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-CH1-2	92.06119	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-CH1-2	92.06119	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-CH1-2	92.06119	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-CH1-2	92.06119	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-CH1-2	92.06119	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-CH1-2	92.06119	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-CH1-2	92.06119	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-CH1-2	92.06119	106467	< 5.		UG/KG	6/17/92		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-2	92.06119	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
PF-40-CH1-2	92.06119	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
PF-40-CH1-2	92.06119	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
PF-40-CH1-2	92.06119	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
PF-40-CH1-2	92.06119	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
PF-40-CH1-2	92.06119	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
PF-40-CH1-2	92.06119	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
PF-40-CH1-2	92.06119	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
PF-40-CH1-2	92.06119	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
PF-40-CH1-2	92.06119	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
PF-40-CH1-2	92.06119	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
PF-40-CH1-2	92.06119	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
PF-40-CH1-2	92.06119	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
PF-40-CH1-2	92.06119	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
PF-40-CH1-2	92.06119	591786	< 20.		UG/KG	6/17/92		2-Hexanone
PF-40-CH1-2	92.06119	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
PF-40-CH1-2	92.06119	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
PF-40-CH1-2	92.06119	74884	< 5.		UG/KG	6/17/92		Methyl iodide
PF-40-CH1-2	92.06119	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
PF-40-CH1-2	92.06119	75092	< 5.		UG/KG	6/17/92		Methylene chloride
PF-40-CH1-2	92.06119	103651	< 5.		UG/KG	6/17/92		Propylbenzene
PF-40-CH1-2	92.06119	100425	< 5.		UG/KG	6/17/92		Styrene
PF-40-CH1-2	92.06119	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
PF-40-CH1-2	92.06119	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
PF-40-CH1-2	92.06119	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
PF-40-CH1-2	92.06119	108883	< 5.		UG/KG	6/17/92		Toluene
PF-40-CH1-2	92.06119	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-CH1-2	92.06119	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
PF-40-CH1-2	92.06119	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
PF-40-CH1-2	92.06119	79016	< 5.		UG/KG	6/17/92		Trichloroethene
PF-40-CH1-2	92.06119	75694	< 5.		UG/KG	6/17/92		Trichlorofluoromethane
PF-40-CH1-2	92.06119	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
PF-40-CH1-2	92.06119	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
PF-40-CH1-2	92.06119	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
PF-40-CH1-2	92.06119	108054	< 10.		UG/KG	6/17/92		Vinyl acetate
PF-40-CH1-2	92.[illegible]19	75014	< 10.		UG/KG	6/17/[illegible]		Vinyl chloride

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-2	92.06119	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.06119

none

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06120 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-4	92.06120	67641	33.	9.9	UG/KG	6/17/92		Acetone
PF-40-CH1-4	92.06120	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-CH1-4	92.06120	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-CH1-4	92.06120	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-CH1-4	92.06120	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-CH1-4	92.06120	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-CH1-4	92.06120	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-CH1-4	92.06120	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-CH1-4	92.06120	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-CH1-4	92.06120	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-CH1-4	92.06120	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-CH1-4	92.06120	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-CH1-4	92.06120	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-CH1-4	92.06120	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-CH1-4	92.06120	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-CH1-4	92.06120	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-CH1-4	92.06120	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-CH1-4	92.06120	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-CH1-4	92.06120	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-CH1-4	92.06120	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-CH1-4	92.06120	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-CH1-4	92.06120	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-CH1-4	92.06120	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-CH1-4	92.06120	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-CH1-4	92.06120	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-CH1-4	92.06120	106467	< 5.		UG/KG	6/17/		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-4	92.06120	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
PF-40-CH1-4	92.06120	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
PF-40-CH1-4	92.06120	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
PF-40-CH1-4	92.06120	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
PF-40-CH1-4	92.06120	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
PF-40-CH1-4	92.06120	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
PF-40-CH1-4	92.06120	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
PF-40-CH1-4	92.06120	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
PF-40-CH1-4	92.06120	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
PF-40-CH1-4	92.06120	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
PF-40-CH1-4	92.06120	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
PF-40-CH1-4	92.06120	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
PF-40-CH1-4	92.06120	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
PF-40-CH1-4	92.06120	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
PF-40-CH1-4	92.06120	591786	< 20.		UG/KG	6/17/92		2-Hexanone
PF-40-CH1-4	92.06120	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
PF-40-CH1-4	92.06120	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
PF-40-CH1-4	92.06120	74884	< 5.		UG/KG	6/17/92		Methyl iodide
PF-40-CH1-4	92.06120	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
PF-40-CH1-4	92.06120	75092	< 5.		UG/KG	6/17/92		Methylene chloride
PF-40-CH1-4	92.06120	103651	< 5.		UG/KG	6/17/92		Propylbenzene
PF-40-CH1-4	92.06120	100425	< 5.		UG/KG	6/17/92		Styrene
PF-40-CH1-4	92.06120	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
PF-40-CH1-4	92.06120	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
PF-40-CH1-4	92.06120	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
PF-40-CH1-4	92.06120	108883	< 5.		UG/KG	6/17/92		Toluene
PF-40-CH1-4	92.06120	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-CH1-4	92.06120	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
PF-40-CH1-4	92.06120	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
PF-40-CH1-4	92.06120	79016	< 5.		UG/KG	6/17/92		Trichloroethene
PF-40-CH1-4	92.06120	75694	< 5.		UG/KG	6/17/92		Trichlorofluoromethane
PF-40-CH1-4	92.06120	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
PF-40-CH1-4	92.06120	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
PF-40-CH1-4	92.06120	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
PF-40-CH1-4	92.06120	108054	< 10.		UG/KG	6/17/92		Vinyl acetate
PF-40-CH1-4	92.06120	75014	< 10.		UG/KG	6/17/92		Vinyl chloride

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-4	92.06120	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.06120

none

********** EM-9 ANALYTICAL REPORT **********

Matrix Spike Results for Sample # 92.06120 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-4	92.06120	71432	49.9	52.	UG/KG	6/17/92		Benzene
PF-40-CH1-4	92.06120	108907	49.9	53.	UG/KG	6/17/92		Chlorobenzene
PF-40-CH1-4	92.06120	75343	49.9	55.	UG/KG	6/17/92		1,1-Dichloroethane
PF-40-CH1-4	92.06120	108883	49.9	51.	UG/KG	6/17/92		Toluene
PF-40-CH1-4	92.06120	79016	49.9	51.	UG/KG	6/17/92		Trichloroethene

Matrix Spike Duplicate Results for Sample # 92.06120 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-4	92.06120	71432	47.26	50.	UG/KG	6/17/92		Benzene
PF-40-CH1-4	92.06120	108907	47.26	51.	UG/KG	6/17/92		Chlorobenzene
PF-40-CH1-4	92.06120	75343	47.26	50.	UG/KG	6/17/92		1,1-Dichloroethane
PF-40-CH1-4	92.06120	108883	47.26	50.	UG/KG	6/17/92		Toluene
PF-40-CH1-4	92.06120	79016	47.26	48.	UG/KG	6/17/92		Trichloroethene

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06121 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-2	92.06121	67641	33.	9.9	UG/KG	6/17/92		Acetone
PF-40-CH2-2	92.06121	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-CH2-2	92.06121	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-CH2-2	92.06121	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-CH2-2	92.06121	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-CH2-2	92.06121	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-CH2-2	92.06121	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-CH2-2	92.06121	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-CH2-2	92.06121	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-CH2-2	92.06121	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-CH2-2	92.06121	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-CH2-2	92.06121	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-CH2-2	92.06121	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-CH2-2	92.06121	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-CH2-2	92.06121	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-CH2-2	92.06121	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-CH2-2	92:06121	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-CH2-2	92.06121	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-CH2-2	92.06121	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-CH2-2	92.06121	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-CH2-2	92.06121	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-CH2-2	92.06121	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-CH2-2	92.06121	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-CH2-2	92.06121	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-CH2-2	92.06121	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-CH2-2	92.06	106467	< 5.		UG/KG	6/17/92		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-CH2-2	92.06121	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
F-40-CH2-2	92.06121	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
F-40-CH2-2	92.06121	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
F-40-CH2-2	92.06121	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
F-40-CH2-2	92.06121	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
F-40-CH2-2	92.06121	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
F-40-CH2-2	92.06121	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
F-40-CH2-2	92.06121	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
F-40-CH2-2	92.06121	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
F-40-CH2-2	92.06121	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
F-40-CH2-2	92.06121	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
F-40-CH2-2	92.06121	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
F-40-CH2-2	92.06121	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
F-40-CH2-2	92.06121	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
F-40-CH2-2	92.06121	591786	< 20.		UG/KG	6/17/92		2-Hexanone
F-40-CH2-2	92.06121	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
F-40-CH2-2	92.06121	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
F-40-CH2-2	92.06121	74884	< 5.		UG/KG	6/17/92		Methyl iodide
F-40-CH2-2	92.06121	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
F-40-CH2-2	92.06121	75092	< 5.		UG/KG	6/17/92		Methylene chloride
F-40-CH2-2	92.06121	103651	< 5.		UG/KG	6/17/92		Propylbenzene
F-40-CH2-2	92.06121	100425	< 5.		UG/KG	6/17/92		Styrene
F-40-CH2-2	92.06121	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
F-40-CH2-2	92.06121	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
F-40-CH2-2	92.06121	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
F-40-CH2-2	92.06121	108883	< 5.		UG/KG	6/17/92		Toluene
F-40-CH2-2	92.06121	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
F-40-CH2-2	92.06121	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
F-40-CH2-2	92.06121	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
F-40-CH2-2	92.06121	79016	< 5.		UG/KG	6/17/92		Trichloroethene
F-40-CH2-2	92.06121	75694	< 5.		UG/KG	6/17/92		Trichlorofluoromethane
F-40-CH2-2	92.06121	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
F-40-CH2-2	92.06121	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
F-40-CH2-2	92.06121	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
F-40-CH2-2	92.06121	108054	< 10.		UG/KG	6/17/92		Vinyl acetate
F-40-CH2-2	92.06121	75014	< 10.		UG/KG	6/17/92		Vinyl chloride

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-2	92.06121	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.06121

none

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06122 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-4	92.06122	67641	25.	7.5	UG/KG	6/17/92		Acetone
PF-40-CH2-4	92.06122	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-CH2-4	92.06122	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-CH2-4	92.06122	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-CH2-4	92.06122	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-CH2-4	92.06122	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-CH2-4	92.06122	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-CH2-4	92.06122	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-CH2-4	92.06122	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-CH2-4	92.06122	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-CH2-4	92.06122	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-CH2-4	92.06122	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-CH2-4	92.06122	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-CH2-4	92.06122	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-CH2-4	92.06122	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-CH2-4	92.06122	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-CH2-4	92.06122	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-CH2-4	92.06122	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-CH2-4	92.06122	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-CH2-4	92.06122	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-CH2-4	92.06122	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-CH2-4	92.06122	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-CH2-4	92.06122	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-CH2-4	92.06122	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-CH2-4	92.06122	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-CH2-4	92.06122	106467	< 5.		UG/KG	6/17/92		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-4	92.06122	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
PF-40-CH2-4	92.06122	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
PF-40-CH2-4	92.06122	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
PF-40-CH2-4	92.06122	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
PF-40-CH2-4	92.06122	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
PF-40-CH2-4	92.06122	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
PF-40-CH2-4	92.06122	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
PF-40-CH2-4	92.06122	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
PF-40-CH2-4	92.06122	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
PF-40-CH2-4	92.06122	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
PF-40-CH2-4	92.06122	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
PF-40-CH2-4	92.06122	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
PF-40-CH2-4	92.06122	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
PF-40-CH2-4	92.06122	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
PF-40-CH2-4	92.06122	591786	< 20.		UG/KG	6/17/92		2-Hexanone
PF-40-CH2-4	92.06122	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
PF-40-CH2-4	92.06122	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
PF-40-CH2-4	92.06122	74884	< 5.		UG/KG	6/17/92		Methyl iodide
PF-40-CH2-4	92.06122	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
PF-40-CH2-4	92.06122	75092	< 5.		UG/KG	6/17/92		Methylene chloride
PF-40-CH2-4	92.06122	103651	< 5.		UG/KG	6/17/92		Propylbenzene
PF-40-CH2-4	92.06122	100425	< 5.		UG/KG	6/17/92		Styrene
PF-40-CH2-4	92.06122	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
PF-40-CH2-4	92.06122	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
PF-40-CH2-4	92.06122	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
PF-40-CH2-4	92.06122	108883	< 5.		UG/KG	6/17/92		Toluene
PF-40-CH2-4	92.06122	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-CH2-4	92.06122	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
PF-40-CH2-4	92.06122	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
PF-40-CH2-4	92.06122	79016	< 5.		UG/KG	6/17/92		Trichloroethene
PF-40-CH2-4	92.06122	75694	< 5.		UG/KG	6/17/92		Trichlorofluoromethane
PF-40-CH2-4	92.06122	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
PF-40-CH2-4	92.06122	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
PF-40-CH2-4	92.06122	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
PF-40-CH2-4	92.06122	108054	< 10.		UG/KG	6/17/92		Vinyl acetate
PF-40-CH2-4	92.061	75014	< 10.		UG/KG	6/17/92		Vinyl chloride

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-4	92.06122	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.06122

none

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06123 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1-QA	92.06123	67641	26.	7.8	UG/KG	6/17/92		Acetone
PF-40-A-1-QA	92.06123	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-A-1-QA	92.06123	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-A-1-QA	92.06123	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-A-1-QA	92.06123	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-A-1-QA	92.06123	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-A-1-QA	92.06123	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-A-1-QA	92.06123	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-A-1-QA	92.06123	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-A-1-QA	92.06123	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-A-1-QA	92.06123	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-A-1-QA	92.06123	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-A-1-QA	92.06123	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-A-1-QA	92.06123	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-A-1-QA	92.06123	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-A-1-QA	92.06123	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-A-1-QA	92.06123	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-A-1-QA	92.06123	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-A-1-QA	92.06123	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-A-1-QA	92.06123	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-A-1-QA	92.06123	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-A-1-QA	92.06123	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-A-1-QA	92.06123	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-A-1-QA	92.06123	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-A-1-QA	92.06123	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-A-1-QA	92.06123	106467	< 5.		UG/KG	6/17/92		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1-QA	92.06123	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
PF-40-A-1-QA	92.06123	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
PF-40-A-1-QA	92.06123	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
PF-40-A-1-QA	92.06123	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
PF-40-A-1-QA	92.06123	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
PF-40-A-1-QA	92.06123	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
PF-40-A-1-QA	92.06123	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
PF-40-A-1-QA	92.06123	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
PF-40-A-1-QA	92.06123	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
PF-40-A-1-QA	92.06123	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
PF-40-A-1-QA	92.06123	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
PF-40-A-1-QA	92.06123	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
PF-40-A-1-QA	92.06123	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
PF-40-A-1-QA	92.06123	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
PF-40-A-1-QA	92.06123	591786	< 20.		UG/KG	6/17/92		2-Hexanone
PF-40-A-1-QA	92.06123	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
PF-40-A-1-QA	92.06123	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
PF-40-A-1-QA	92.06123	74884	< 5.		UG/KG	6/17/92		Methyl iodide
PF-40-A-1-QA	92.06123	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
PF-40-A-1-QA	92.06123	75092	< 5.		UG/KG	6/17/92		Methylene chloride
PF-40-A-1-QA	92.06123	103651	< 5.		UG/KG	6/17/92		Propylbenzene
PF-40-A-1-QA	92.06123	100425	< 5.		UG/KG	6/17/92		Styrene
PF-40-A-1-QA	92.06123	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
PF-40-A-1-QA	92.06123	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
PF-40-A-1-QA	92.06123	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
PF-40-A-1-QA	92.06123	108883	< 5.		UG/KG	6/17/92		Toluene
PF-40-A-1-QA	92.06123	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-A-1-QA	92.06123	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
PF-40-A-1-QA	92.06123	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
PF-40-A-1-QA	92.06123	79016	< 5.		UG/KG	6/17/92		Trichloroethene
PF-40-A-1-QA	92.06123	75694	< 5.		UG/KG	6/17/92		Trichlorofluoromethane
PF-40-A-1-QA	92.06123	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
PF-40-A-1-QA	92.06123	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
PF-40-A-1-QA	92.06123	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
PF-40-A-1-QA	92.06123	108054	< 10.		UG/KG	6/17/92		Vinyl acetate
PF-40-A-1-QA	92.06123	75014	< 10.		UG/KG	6/17/92		Vinyl chloride

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1-QA	92.06123	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.06123

none

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06124 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-TPBLK	92.06124	67641	39.	11.7	UG/KG	6/17/92		Acetone
PF-40-TPBLK	92.06124	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-TPBLK	92.06124	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-TPBLK	92.06124	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-TPBLK	92.06124	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-TPBLK	92.06124	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-TPBLK	92.06124	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-TPBLK	92.06124	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-TPBLK	92.06124	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-TPBLK	92.06124	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-TPBLK	92.06124	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-TPBLK	92.06124	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-TPBLK	92.06124	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-TPBLK	92.06124	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-TPBLK	92.06124	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-TPBLK	92.06124	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-TPBLK	92.06124	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-TPBLK	92.06124	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-TPBLK	92.06124	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-TPBLK	92.06124	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-TPBLK	92.06124	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-TPBLK	92.06124	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-TPBLK	92.06124	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-TPBLK	92.06124	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-TPBLK	92.06124	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-TPBLK	92.06124	106467	< 5.		UG/KG	6/17/92		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-TPBLK	92.06124	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
PF-40-TPBLK	92.06124	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
PF-40-TPBLK	92.06124	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
PF-40-TPBLK	92.06124	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
PF-40-TPBLK	92.06124	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
PF-40-TPBLK	92.06124	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
PF-40-TPBLK	92.06124	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
PF-40-TPBLK	92.06124	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
PF-40-TPBLK	92.06124	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
PF-40-TPBLK	92.06124	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
PF-40-TPBLK	92.06124	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
PF-40-TPBLK	92.06124	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
PF-40-TPBLK	92.06124	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
PF-40-TPBLK	92.06124	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
PF-40-TPBLK	92.06124	591786	< 20.		UG/KG	6/17/92		2-Hexanone
PF-40-TPBLK	92.06124	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
PF-40-TPBLK	92.06124	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
PF-40-TPBLK	92.06124	74884	< 5.		UG/KG	6/17/92		Methyl iodide
PF-40-TPBLK	92.06124	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
PF-40-TPBLK	92.06124	75092	< 5.		UG/KG	6/17/92		Methylene chloride
PF-40-TPBLK	92.06124	103651	< 5.		UG/KG	6/17/92		Propylbenzene
PF-40-TPBLK	92.06124	100425	< 5.		UG/KG	6/17/92		Styrene
PF-40-TPBLK	92.06124	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
PF-40-TPBLK	92.06124	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
PF-40-TPBLK	92.06124	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
PF-40-TPBLK	92.06124	108883	< 5.		UG/KG	6/17/92		Toluene
PF-40-TPBLK	92.06124	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-TPBLK	92.06124	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
PF-40-TPBLK	92.06124	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
PF-40-TPBLK	92.06124	79016	< 5.		UG/KG	6/17/92		Trichloroethene
PF-40-TPBLK	92.06124	75694	< 5.		UG/KG	6/17/92		Trichlorofluoromethane
PF-40-TPBLK	92.06124	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
PF-40-TPBLK	92.06124	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
PF-40-TPBLK	92.06124	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
PF-40-TPBLK	92.06124	108054	< 10.		UG/KG	6/17/92		Vinyl acetate
PF-40-TPBLK	92.[illegible]	75014	< 10.		UG/KG	6/17/92		Vinyl chloride

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-TPBLK	92.06124	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.06124

none

********** EM-9 ANALYTICAL REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06125 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FDBLK	92.06125	67641	27.	8.1	UG/KG	6/17/92		Acetone
PF-40-FDBLK	92.06125	71432	< 5.		UG/KG	6/17/92		Benzene
PF-40-FDBLK	92.06125	108861	< 5.		UG/KG	6/17/92		Bromobenzene
PF-40-FDBLK	92.06125	74975	< 5.		UG/KG	6/17/92		Bromochloromethane
PF-40-FDBLK	92.06125	75274	< 5.		UG/KG	6/17/92		Bromodichloromethane
PF-40-FDBLK	92.06125	75252	< 5.		UG/KG	6/17/92		Bromoform
PF-40-FDBLK	92.06125	74839	< 10.		UG/KG	6/17/92		Bromomethane
PF-40-FDBLK	92.06125	78933	< 20.		UG/KG	6/17/92		2-Butanone
PF-40-FDBLK	92.06125	104518	< 5.		UG/KG	6/17/92		n-Butylbenzene
PF-40-FDBLK	92.06125	135988	< 5.		UG/KG	6/17/92		sec-Butylbenzene
PF-40-FDBLK	92.06125	98066	< 5.		UG/KG	6/17/92		tert-Butylbenzene
PF-40-FDBLK	92.06125	75150	< 5.		UG/KG	6/17/92		Carbon disulfide
PF-40-FDBLK	92.06125	56235	< 5.		UG/KG	6/17/92		Carbon tetrachloride
PF-40-FDBLK	92.06125	108907	< 5.		UG/KG	6/17/92		Chlorobenzene
PF-40-FDBLK	92.06125	124481	< 5.		UG/KG	6/17/92		Chlorodibromomethane
PF-40-FDBLK	92.06125	75003	< 10.		UG/KG	6/17/92		Chloroethane
PF-40-FDBLK	92.06125	67663	< 5.		UG/KG	6/17/92		Chloroform
PF-40-FDBLK	92.06125	74873	< 10.		UG/KG	6/17/92		Chloromethane
PF-40-FDBLK	92.06125	95498	< 5.		UG/KG	6/17/92		o-Chlorotoluene
PF-40-FDBLK	92.06125	106434	< 5.		UG/KG	6/17/92		p-Chlorotoluene
PF-40-FDBLK	92.06125	96128	< 10.		UG/KG	6/17/92		1,2-Dibromo-3-chloropropane
PF-40-FDBLK	92.06125	106934	< 5.		UG/KG	6/17/92		1,2-Dibromoethane
PF-40-FDBLK	92.06125	74953	< 5.		UG/KG	6/17/92		Dibromomethane
PF-40-FDBLK	92.06125	95501	< 5.		UG/KG	6/17/92		o-Dichlorobenzene (1,2)
PF-40-FDBLK	92.06125	541731	< 5.		UG/KG	6/17/92		m-Dichlorobenzene (1,3)
PF-40-FDBLK	92.06	106467	< 5.		UG/KG	6/17/92		p-Dichlorobenzene (1,4)

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FDBLK	92.06125	1330207	< 5.		UG/KG	6/17/92		Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.06125

none

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FDBLK	92.06125	75718	< 10.		UG/KG	6/17/92		Dichlorodifluoromethane
PF-40-FDBLK	92.06125	75343	< 5.		UG/KG	6/17/92		1,1-Dichloroethane
PF-40-FDBLK	92.06125	107062	< 5.		UG/KG	6/17/92		1,2-Dichloroethane
PF-40-FDBLK	92.06125	75354	< 5.		UG/KG	6/17/92		1,1-Dichloroethene
PF-40-FDBLK	92.06125	156605	< 5.		UG/KG	6/17/92		trans-1,2-Dichloroethene
PF-40-FDBLK	92.06125	156592	< 5.		UG/KG	6/17/92		cis-1,2-Dichloroethylene
PF-40-FDBLK	92.06125	78875	< 5.		UG/KG	6/17/92		1,2-Dichloropropane
PF-40-FDBLK	92.06125	142289	< 5.		UG/KG	6/17/92		1,3-Dichloropropane
PF-40-FDBLK	92.06125	594207	< 5.		UG/KG	6/17/92		2,2-Dichloropropane
PF-40-FDBLK	92.06125	563586	< 5.		UG/KG	6/17/92		1,1-Dichloropropene
PF-40-FDBLK	92.06125	10061015	< 5.		UG/KG	6/17/92		cis-1,3-Dichloropropene
PF-40-FDBLK	92.06125	10061026	< 5.		UG/KG	6/17/92		trans-1,3-Dichloropropene
PF-40-FDBLK	92.06125	100414	< 5.		UG/KG	6/17/92		Ethylbenzene
PF-40-FDBLK	92.06125	106934	< 5.		UG/KG	6/17/92		Ethylene dibromide
PF-40-FDBLK	92.06125	591786	< 20.		UG/KG	6/17/92		2-Hexanone
PF-40-FDBLK	92.06125	98828	< 5.		UG/KG	6/17/92		Isopropylbenzene
PF-40-FDBLK	92.06125	99876	< 5.		UG/KG	6/17/92		4-Isopropyltoluene
PF-40-FDBLK	92.06125	74884	< 5.		UG/KG	6/17/92		Methyl iodide
PF-40-FDBLK	92.06125	108101	< 20.		UG/KG	6/17/92		4-Methyl-2-pentanone
PF-40-FDBLK	92.06125	75092	< 5.		UG/KG	6/17/92		Methylene chloride
PF-40-FDBLK	92.06125	103651	< 5.		UG/KG	6/17/92		Propylbenzene
PF-40-FDBLK	92.06125	100425	< 5.		UG/KG	6/17/92		Styrene
PF-40-FDBLK	92.06125	630206	< 5.		UG/KG	6/17/92		1,1,1,2-Tetrachloroethane
PF-40-FDBLK	92.06125	79345	< 5.		UG/KG	6/17/92		1,1,2,2-Tetrachloroethane
PF-40-FDBLK	92.06125	127184	< 5.		UG/KG	6/17/92		Tetrachloroethylene
PF-40-FDBLK	92.06125	108883	< 5.		UG/KG	6/17/92		Toluene
PF-40-FDBLK	92.06125	76131	< 5.		UG/KG	6/17/92		1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FDBLK	92.06125	71556	< 5.		UG/KG	6/17/92		1,1,1-Trichloroethane
PF-40-FDBLK	92.06125	79005	< 5.		UG/KG	6/17/92		1,1,2-Trichloroethane
PF-40-FDBLK	92.06125	79016	< 5.		UG/KG	6/17/92		Trichloroethene
PF-40-FDBLK	92.06125	75694	< 5.		UG/KG	6/17/92		Trichlorofluoromethane
PF-40-FDBLK	92.06125	96184	< 5.		UG/KG	6/17/92		1,2,3-Trichloropropane
PF-40-FDBLK	92.06125	95636	< 5.		UG/KG	6/17/92		1,2,4-Trimethylbenzene
PF-40-FDBLK	92.06125	108678	< 5.		UG/KG	6/17/92		1,3,5-Trimethylbenzene
PF-40-FDBLK	92.06125	108054	< 10.		UG/KG	6/17/92		Vinyl acetate
PF-40-FDBLK	92.06125	75014	< 10.		UG/KG	6/17/92		Vinyl chloride

********** EM-9 QUALITY ASSURANCE REPORT **********

EPA VOLATILES Prepared by: LAT on 22-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: DAVID DOGRUEL PROGRAM CODE: M94A NOTEBOOK: NA PAGE: NA

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results, Sample # 92.06156 Date Collected: 5/05/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 5/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.20227	92.06156	67641	26.	7.8	UG/KG	0.0		6/17/92	OUT OF CONTROL	Acetone
00.20227	92.06156	71432	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Benzene
00.20227	92.06156	108861	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromobenzene
00.20227	92.06156	74975	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromochloromethane
00.20227	92.06156	75274	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromodichloromethane
00.20227	92.06156	75252	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromoform
00.20227	92.06156	74839	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromomethane
00.20227	92.06156	78933	< 20.		UG/KG	0.0		6/17/92	UNDER CONTROL	2-Butanone
00.20227	92.06156	104518	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	n-Butylbenzene
00.20227	92.06156	135988	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	sec-Butylbenzene
00.20227	92.06156	98066	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.06156	75150	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Carbon disulfide
00.20227	92.06156	56235	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.06156	108907	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chlorobenzene
00.20227	92.06156	124481	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chlorodibromomethane
00.20227	92.06156	75003	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloroethane
00.20227	92.06156	67663	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloroform
00.20227	92.06156	74873	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloromethane
00.20227	92.06156	95498	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	o-Chlorotoluene
00.20227	92.06156	106434	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	p-Chlorotoluene
00.20227	92.06156	96128	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane

********** EM-9 QUALITY ASSURANCE REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.20227	92.06156	106934	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dibromoethane
00.20227	92.06156	74953	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Dibromomethane
00.20227	92.06156	95501	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.06156	541731	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.06156	106467	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.06156	75718	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Dichlorodifluoromethane
00.20227	92.06156	75343	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloroethane
00.20227	92.06156	107062	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dichloroethane
00.20227	92.06156	75354	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloroethene
00.20227	92.06156	156605	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	trans-1,2-Dichloroethene
00.20227	92.06156	156592	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20227	92.06156	78875	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dichloropropane
00.20227	92.06156	142289	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,3-Dichloropropane
00.20227	92.06156	594207	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	2,2-Dichloropropane
00.20227	92.06156	563586	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloropropene
00.20227	92.06156	10061015	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	cis-1,3-Dichloropropene
00.20227	92.06156	10061026	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	trans-1,3-Dichloropropene
0.20227	92.06156	100414	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Ethylbenzene
0.20227	92.06156	106934	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Ethylene dibromide
0.20227	92.06156	591786	< 20.		UG/KG	0.0		6/17/92	UNDER CONTROL	2-Hexanone
0.20227	92.06156	98828	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Isopropylbenzene
0.20227	92.06156	99876	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	4-Isopropyltoluene
0.20227	92.06156	74884	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Methyl iodide
0.20227	92.06156	108101	< 20.		UG/KG	0.0		6/17/92	UNDER CONTROL	4-Methyl-2-pentanone
0.20227	92.06156	75092	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Methylene chloride
0.20227	92.06156	103651	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Propylbenzene
0.20227	92.06156	100425	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Styrene
0.20227	92.06156	630206	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
0.20227	92.06156	79345	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
0.20227	92.06156	127184	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Tetrachloroethylene
0.20227	92.06156	108883	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Toluene
0.20227	92.06156	76131	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroetha
0.20227	92.06156	71556	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,1-Trichloroethane
0.20227	92.06156	79005	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2-Trichloroethane
0.20227	92.06156	79016	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Trichloroethene
0.20227	92.06156	75694	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Trichlorofluoromethane

********** EM-9 QUALITY ASSURANCE REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.20227	92.06156	96184	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2,3-Trichloropropane
00.20227	92.06156	95636	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20227	92.06156	108678	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20227	92.06156	108054	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Vinyl acetate
00.20227	92.06156	75014	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Vinyl chloride
00.20227	92.06156	1330207	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Mixed-Xylenes (o + m + p)

Blank Results, Sample # 92.06157 Date Collected: 5/05/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.20227	92.06157	67641	24.	7.2	UG/KG	0.0		6/17/92	OUT OF CONTROL	Acetone
00.20227	92.06157	71432	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Benzene
00.20227	92.06157	108861	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromobenzene
00.20227	92.06157	74975	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromochloromethane
00.20227	92.06157	75274	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromodichloromethane
00.20227	92.06157	75252	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromoform
00.20227	92.06157	74839	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromomethane
00.20227	92.06157	78933	< 20.		UG/KG	0.0		6/17/92	UNDER CONTROL	2-Butanone
00.20227	92.06157	104518	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	n-Butylbenzene
00.20227	92.06157	135988	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	sec-Butylbenzene
00.20227	92.06157	98066	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.06157	75150	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Carbon disulfide
00.20227	92.06157	56235	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.06157	108907	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chlorobenzene
00.20227	92.06157	124481	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chlorodibromomethane

********** EM-9 QUALITY ASSURANCE REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.20227	92.06157	75003	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloroethane
00.20227	92.06157	67663	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloroform
00.20227	92.06157	74873	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloromethane
00.20227	92.06157	95498	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	o-Chlorotoluene
00.20227	92.06157	106434	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	p-Chlorotoluene
00.20227	92.06157	96128	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20227	92.06157	106934	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dibromoethane
00.20227	92.06157	74953	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Dibromomethane
00.20227	92.06157	95501	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.06157	541731	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.06157	106467	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.06157	75718	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Dichlorodifluoromethane
00.20227	92.06157	75343	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloroethane
00.20227	92.06157	107062	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dichloroethane
00.20227	92.06157	75354	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloroethene
00.20227	92.06157	156605	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	trans-1,2-Dichloroethene
00.20227	92.06157	156592	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20227	92.06157	78875	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dichloropropane
00.20227	92.06157	142289	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,3-Dichloropropane
00.20227	92.06157	594207	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	2,2-Dichloropropane
00.20227	92.06157	563586	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloropropene
00.20227	92.06157	10061015	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	cis-1,3-Dichloropropene
00.20227	92.06157	10061026	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	trans-1,3-Dichloropropene
00.20227	92.06157	100414	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Ethylbenzene
00.20227	92.06157	106934	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Ethylene dibromide
00.20227	92.06157	591786	< 20.		UG/KG	0.0		6/17/92	UNDER CONTROL	2-Hexanone
00.20227	92.06157	98828	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Isopropylbenzene
00.20227	92.06157	99876	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	4-Isopropyltoluene
00.20227	92.06157	74884	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Methyl iodide
00.20227	92.06157	108101	< 20.		UG/KG	0.0		6/17/92	UNDER CONTROL	4-Methyl-2-pentanone
00.20227	92.06157	75092	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Methylene chloride
00.20227	92.06157	103651	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Propylbenzene
00.20227	92.06157	100425	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Styrene
00.20227	92.06157	630206	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20227	92.06157	79345	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20227	92.06157	127184	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Tetrachloroethylene

********** EM-9 QUALITY ASSURANCE REPORT **********

USTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
0.20227	92.06157	108883	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Toluene
0.20227	92.06157	76131	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroetha
0.20227	92.06157	71556	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,1-Trichloroethane
0.20227	92.06157	79005	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2-Trichloroethane
0.20227	92.06157	79016	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Trichloroethene
0.20227	92.06157	75694	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Trichlorofluoromethane
0.20227	92.06157	96184	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2,3-Trichloropropane
0.20227	92.06157	95636	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2,4-Trimethylbenzene
0.20227	92.06157	108678	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,3,5-Trimethylbenzene
0.20227	92.06157	108054	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Vinyl acetate
0.20227	92.06157	75014	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Vinyl chloride
0.20227	92.06157	1330207	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Mixed-Xylenes (o + m + p)

lank Results, Sample # 92.06748 Date Collected: 5/18/92 Date Received: 5/18/92 Date Extracted: 5/18/92 Date Analyzed: 5/18/92

USTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
0.20227	92.06748	67641	27.	8.1	UG/KG	0.0		6/17/92	OUT OF CONTROL	Acetone
0.20227	92.06748	71432	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Benzene
0.20227	92.06748	108861	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromobenzene
0.20227	92.06748	74975	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromochloromethane
0.20227	92.06748	75274	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromodichloromethane
0.20227	92.06748	75252	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromoform
0.20227	92.06748	74839	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromomethane
0.20227	92.06748	78933	< 20.		UG/KG	0.0		6/17/92	UNDER CONTROL	2-Butanone
0.20227	92.06748	104518	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	n-Butylbenzene

********** EM-9 QUALITY ASSURANCE REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.20227	92.06748	135988	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	sec-Butylbenzene
00.20227	92.06748	98066	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.06748	75150	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Carbon disulfide
00.20227	92.06748	56235	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.06748	108907	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chlorobenzene
00.20227	92.06748	124481	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chlorodibromomethane
00.20227	92.06748	75003	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloroethane
00.20227	92.06748	67663	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloroform
00.20227	92.06748	74873	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloromethane
00.20227	92.06748	95498	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	o-Chlorotoluene
00.20227	92.06748	106434	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	p-Chlorotoluene
00.20227	92.06748	96128	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20227	92.06748	106934	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dibromoethane
00.20227	92.06748	74953	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Dibromomethane
00.20227	92.06748	95501	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.06748	541731	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.06748	106467	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.06748	75718	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Dichlorodifluoromethane
00.20227	92.06748	75343	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloroethane
00.20227	92.06748	107062	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dichloroethane
00.20227	92.06748	75354	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloroethene
00.20227	92.06748	156605	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	trans-1,2-Dichloroethene
00.20227	92.06748	156592	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20227	92.06748	78875	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dichloropropane
00.20227	92.06748	142289	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,3-Dichloropropane
00.20227	92.06748	594207	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	2,2-Dichloropropane
00.20227	92.06748	563586	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloropropene
00.20227	92.06748	10061015	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	cis-1,3-Dichloropropene
00.20227	92.06748	10061026	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	trans-1,3-Dichloropropene
00.20227	92.06748	100414	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Ethylbenzene
00.20227	92.06748	106934	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Ethylene dibromide
00.20227	92.06748	591786	< 20.		UG/KG	0.0		6/17/92	UNDER CONTROL	2-Hexanone
00.20227	92.06748	98828	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Isopropylbenzene
00.20227	92.06748	99876	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	4-Isopropyltoluene
00.20227	92.06748	74884	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Methyl iodide
00.20227	92.06748	108101	< 20.		UG/KG	0.0		6/17/92	UNDER CONTROL	4-Methyl-2-pentanone

********** EM-9 QUALITY ASSURANCE REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.20227	92.06748	75092	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Methylene chloride
00.20227	92.06748	103651	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Propylbenzene
00.20227	92.06748	100425	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Styrene
00.20227	92.06748	630206	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20227	92.06748	79345	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20227	92.06748	127184	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Tetrachloroethylene
00.20227	92.06748	108883	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Toluene
00.20227	92.06748	76131	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroetha
00.20227	92.06748	71556	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,1-Trichloroethane
00.20227	92.06748	79005	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2-Trichloroethane
00.20227	92.06748	79016	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Trichloroethene
00.20227	92.06748	75694	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Trichlorofluoromethane
00.20227	92.06748	96184	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2,3-Trichloropropane
00.20227	92.06748	95636	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20227	92.06748	108678	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20227	92.06748	108054	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Vinyl acetate
00.20227	92.06748	75014	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Vinyl chloride
00.20227	92.06748	1330207	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Mixed-Xylenes (o + m + p)

Blank Spike Results: none

Blank Spike Duplicate Results: none

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.06155 Date Collected: 5/05/92 Date Received: 5/05/92 Date Extracted: 5/16/92 Date Analyzed: 5/16/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.06155	67641	73.	21.9	UG/KG	160.	16.	6/17/92	OUT OF CONTROL	Acetone
92.06155	71432	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Benzene
92.06155	108861	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromobenzene
92.06155	74975	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromochloromethane
92.06155	75274	99.	29.7	UG/KG	110.	11.	6/17/92	UNDER CONTROL	Bromodichloromethane
92.06155	75252	120.	36.	UG/KG	117.	12.	6/17/92	UNDER CONTROL	Bromoform
92.06155	74839	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Bromomethane
92.06155	78933	80.	24.	UG/KG	171.	17.	6/17/92	OUT OF CONTROL	2-Butanone
92.06155	104518	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	n-Butylbenzene
92.06155	135988	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	sec-Butylbenzene
92.06155	98066	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	tert-Butylbenzene
92.06155	75150	100.	30.	UG/KG	112.	11.	6/17/92	UNDER CONTROL	Carbon disulfide
92.06155	56235	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Carbon tetrachloride
92.06155	108907	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chlorobenzene
92.06155	124481	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chlorodibromomethane
92.06155	75003	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloroethane
92.06155	67663	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloroform
92.06155	74873	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Chloromethane
92.06155	95498	86.	25.8	UG/KG	143.	14.	6/17/92	UNDER CONTROL	o-Chlorotoluene
92.06155	106434	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	p-Chlorotoluene
92.06155	96128	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
92.06155	106934	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dibromoethane
92.06155	74953	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Dibromomethane
92.06155	95501	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
92.06155	541731	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
92.06155	106467	65.	19.5	UG/KG	140.	14.	6/17/92	OUT OF CONTROL	p-Dichlorobenzene (1,4)

92.06155	75	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Dichlorodifluoromethane
92.06155	75343	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloroethane
92.06155	107062	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dichloroethane
92.06155	75354	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloroethene
92.06155	156605	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	trans-1,2-Dichloroethene
92.06155	156592	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	cis-1,2-Dichloroethylene
92.06155	78875	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2-Dichloropropane
92.06155	142289	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,3-Dichloropropane
92.06155	594207	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	2,2-Dichloropropane
92.06155	563586	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1-Dichloropropene
92.06155	10061015	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	cis-1,3-Dichloropropene
92.06155	10061026	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	trans-1,3-Dichloropropene
92.06155	100414	86.	25.8	UG/KG	108.	11.	6/17/92	UNDER CONTROL	Ethylbenzene
92.06155	106934	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Ethylene dibromide
92.06155	591786	140.	42.	UG/KG	145.	14.	6/17/92	UNDER CONTROL	2-Hexanone
92.06155	98828	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Isopropylbenzene
92.06155	99876	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	4-Isopropyltoluene
92.06155	74884	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Methyl iodide
92.06155	108101	130.	39.	UG/KG	159.	16.	6/17/92	UNDER CONTROL	4-Methyl-2-pentanone
92.06155	75092	110.	33.	UG/KG	163.	16.	6/17/92	UNDER CONTROL	Methylene chloride
92.06155	103651	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Propylbenzene
92.06155	100425	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Styrene
92.06155	630206	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
92.06155	79345	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
92.06155	127184	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Tetrachloroethylene
92.06155	108883	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Toluene
92.06155	76131	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroethane
92.06155	71556	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,1-Trichloroethane
92.06155	79005	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,1,2-Trichloroethane
92.06155	79016	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Trichloroethene
92.06155	75694	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Trichlorofluoromethane
92.06155	96184	93.	27.9	UG/KG	117.	12.	6/17/92	UNDER CONTROL	1,2,3-Trichloropropane
92.06155	95636	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,2,4-Trimethylbenzene
92.06155	108678	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	1,3,5-Trimethylbenzene
92.06155	108054	140.	42.	UG/KG	160.	16.	6/17/92	UNDER CONTROL	Vinyl acetate
92.06155	75014	< 10.		UG/KG	0.0		6/17/92	UNDER CONTROL	Vinyl chloride
92.06155	1330207	< 5.		UG/KG	0.0		6/17/92	UNDER CONTROL	Mixed-Xylenes (o + m + p)

********** EM-9 QUALITY ASSURANCE REPORT **********

SURROGATE RESULTS FOR EPA VOLATILES

Surrogate 1 = 1,2-Dichloroethane d4 (CAS # = 17060070)
Surrogate 2 = Toluene d8 (CAS # = 2037265)
Surrogate 3 = 4-Bromofluorobenzene (CAS # = 460004)

SAMPLE NUMBER	UNITS	Surrogate 1	Surrogate 2	Surrogate 3	COMPLETION DATE	SAMPLE TYPE
92.06115	%	95.28	100.46	109.56	17-Jun-1992	
92.06116	%	97.2	99.5	108.12	17-Jun-1992	
92.06117	%	94.3	101.16	108.12	17-Jun-1992	
92.06118	%	91.94	101.56	107.38	17-Jun-1992	
92.06119	%	102.68	94.8	108.28	17-Jun-1992	
92.06120	%	104.6	100.24	109.04	17-Jun-1992	MS
92.06120	%	118.3	101.	105.2	17-Jun-1992	MSD
92.06120	%	102.48	98.06	102.5	17-Jun-1992	
92.06121	%	99.28	93.9	101.26	17-Jun-1992	
92.06122	%	97.2	94.94	103.58	17-Jun-1992	
92.06123	%	95.	95.16	102.88	17-Jun-1992	
92.06124	%	97.86	97.34	104.34	17-Jun-1992	
92.06125	%	95.74	94.76	103.54	17-Jun-1992	
92.06155	%	85.16	94.58	94.18	17-Jun-1992	
92.06156	%	85.54	100.6	106.56	17-Jun-1992	B
92.06157	%	99.56	98.02	105.74	17-Jun-1992	B
92.06748	%	105.8	100.52	103.3	17-Jun-1992	B

EPA Limits:

Water	%	76 - 114	88 - 110	86 - 115
Soil	%	70 - 121	81 - 117	74 - 121

********** EM-9 QUALITY ASSURANCE REPORT **********

ORT NUMBER: 14302

Analyst	Reviewer	Section Leader	QA Officer
6/22/92	6/22/92	6/30/92	7-1-92
Date	Date	Date	Date

Sample Discrepancies Noted by Sample Management Section

control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 QUALITY ASSURANCE REPORT **********

REPORT NUMBER: 14302

Analyst	Reviewer	Section Leader	QA Officer
6/22/92	6/22/92	6/30/92	7-1-92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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TO: Phil Fresquez, EM-8

FROM: Suzanne Ehart Bell, EM-9 Organic Analysis Section

THRU: Chris Leibman
Laura Tsiagkouris 1/30/92

DATE: January 30, 1992

REQUEST: 12456

The following samples were received for volatile organic analysis using SW846 purge and trap method 8260:

92.00938 and 92.00939

Five milliters of each water sample was purged as per standard procedure. Since the sample results are not blank subtracted, a copy of the method blank results have been included with this report. The 7 day holding time requirement was met.

Results: No target volatile organics or tentatively identified compounds were found in the samples.

QC Summary: All surrogate and matrix spike recoveries were within control limits. A blind QC sample was analyzed with this batch, and the results are included with this report.

equipment wash (ew)
surface debris (deb)
was

no target VOC.

2/3/92

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
MATRIX SPIKE RECOVERIES FOR VOLATILES

			DRY WT/VOL (G or ML)	DILUTION FACTOR	AMOUNT SPIKED	LOQ (UG/KG OR UG/
REQUEST #:	12456					
NUMBER OF SAMPLES:	6					
SPIKE ID: (STARTS M OR E)	m92.00939	SPIKE	5	1	50	5
SPIKE DUP ID: (STARTS D OR F)	d92.00939	SPIKE-DUP	5	1	50	5
RAW DATA WITH:	scb12456					
ANALYST:	SCB					

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW. REC. LIM.	UPP. REC. LIM.	RPD LIM.
1-Dichlorethene	32	31	64%	62%	3%	61	145	14
Benzene	42	40	84%	80%	5%	76	127	11
Trichlorethene	46	44	92%	88%	4%	71	120	14
Toluene	48	46	96%	92%	4%	76	125	13
Chlorobenzene	50	50	100%	100%	0%	75	130	13

' If % Matrix Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By: 11/30/92

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR VOLATILES
IN WATER TYPE MATRICES

REQUEST #: 12456

NUMBER OF SAMPLES: 6
MATRIX W
ANALYST: SCB
Date: 01/30/92

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	d4-1,2-dichloro-ethene	toluene-(d8)	4-bromo-fluoro-benzene
1	b92.01027	BLANK	89	93	101
2	s92.00938	SAMPLE	86	94	106
3	s92.00939	SAMPLE	81	92	98
4	m92.00939	MATRIX SPIK	81	93	102
5	d92.00939	MATRIX SP-D	84	93	99
6	s92.01026	SAMPLE	81	91	88
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Average % Surrogate Recovery...	84	93	99
Defined Lower QC Limits (%)....	76	88	86
Defined Upper QC Limits (%)....	114	110	115
Observed Lower QC Limits (%)...	81	91	88
Observed Upper QC Limits (%)...	89	94	106

If % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

eviewed By:

1/30/92

REPORT NUMBER: 12867

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 30-Jan-1992

EPA VOLATILES

REQUEST NUMBER: 12456 MATRIX: W ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00938

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 1/30/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EW	92.00938	67641	< 20.		UG/L	1/30/92	N	Acetone
PF-40-EW	92.00938	71432	< 5.		UG/L	1/30/92	N	Benzene
PF-40-EW	92.00938	108861	< 5.		UG/L	1/30/92	N	Bromobenzene
PF-40-EW	92.00938	74975	< 5.		UG/L	1/30/92	N	Bromochloromethane
PF-40-EW	92.00938	75274	< 5.		UG/L	1/30/92	N	Bromodichloromethane
PF-40-EW	92.00938	75252	< 5.		UG/L	1/30/92	N	Bromoform
PF-40-EW	92.00938	74839	< 10.		UG/L	1/30/92	N	Bromomethane
PF-40-EW	92.00938	78933	< 20.		UG/L	1/30/92	N	2-Butanone
PF-40-EW	92.00938	104518	< 5.		UG/L	1/30/92	N	n-Butylbenzene
PF-40-EW	92.00938	135988	< 5.		UG/L	1/30/92	N	sec-Butylbenzene
PF-40-EW	92.00938	98066	< 5.		UG/L	1/30/92	N	tert-Butylbenzene
PF-40-EW	92.00938	75150	< 5.		UG/L	1/30/92	N	Carbon disulfide
PF-40-EW	92.00938	56235	< 5.		UG/L	1/30/92	N	Carbon tetrachloride
PF-40-EW	92.00938	108907	< 5.		UG/L	1/30/92	N	Chlorobenzene
PF-40-EW	92.00938	124481	< 5.		UG/L	1/30/92	N	Chlorodibromomethane
PF-40-EW	92.00938	75003	< 10.		UG/L	1/30/92	N	Chloroethane
PF-40-EW	92.00938	67663	< 5.		UG/L	1/30/92	N	Chloroform
PF-40-EW	92.00938	74873	< 10.		UG/L	1/30/92	N	Chloromethane
PF-40-EW	92.00938	95498	< 5.		UG/L	1/30/92	N	o-Chlorotoluene
PF-40-EW	92.00938	106434	< 5.		UG/L	1/30/92	N	p-Chlorotoluene
PF-40-EW	92.00938	96128	< 10.		UG/L	1/30/92	N	1,2-Dibromo-3-chloropropane

PF-40-EW	92.00938	106934	< 5.	UG/L	1/30/92	N	1,2-Dibromoethane
PF-40-EW	92.00938	74953	< 5.	UG/L	1/30/92	N	Dibromomethane
PF-40-EW	92.00938	95501	< 5.	UG/L	1/30/92	N	o-Dichlorobenzene (1,2)
PF-40-EW	92.00938	541731	< 5.	UG/L	1/30/92	N	m-Dichlorobenzene (1,3)
PF-40-EW	92.00938	106467	< 5.	UG/L	1/30/92	N	p-Dichlorobenzene (1,4)
PF-40-EW	92.00938	75718	< 10.	UG/L	1/30/92	N	Dichlorodifluoromethane
PF-40-EW	92.00938	75343	< 5.	UG/L	1/30/92	N	1,1-Dichloroethane
PF-40-EW	92.00938	107062	< 5.	UG/L	1/30/92	N	1,2-Dichloroethane
PF-40-EW	92.00938	75354	< 5.	UG/L	1/30/92	N	1,1-Dichloroethene
PF-40-EW	92.00938	156605	< 5.	UG/L	1/30/92	N	trans-1,2-Dichloroethene
PF-40-EW	92.00938	156592	< 5.	UG/L	1/30/92	N	cis-1,2-Dichloroethylene
PF-40-EW	92.00938	78875	< 5.	UG/L	1/30/92	N	1,2-Dichloropropane
PF-40-EW	92.00938	142289	< 5.	UG/L	1/30/92	N	1,3-Dichloropropane
PF-40-EW	92.00938	594207	< 5.	UG/L	1/30/92	N	2,2-Dichloropropane
PF-40-EW	92.00938	563586	< 5.	UG/L	1/30/92	N	1,1-Dichloropropene
PF-40-EW	92.00938	10061015	< 5.	UG/L	1/30/92	N	cis-1,3-Dichloropropene
PF-40-EW	92.00938	10061026	< 5.	UG/L	1/30/92	N	trans-1,3-Dichloropropene
PF-40-EW	92.00938	100414	< 5.	UG/L	1/30/92	N	Ethylbenzene
PF-40-EW	92.00938	591786	< 20.	UG/L	1/30/92	N	2-Hexanone
PF-40-EW	92.00938	98828	< 5.	UG/L	1/30/92	N	Isopropylbenzene
PF-40-EW	92.00938	99876	< 5.	UG/L	1/30/92	N	4-Isopropyltoluene
PF-40-EW	92.00938	74884	< 5.	UG/L	1/30/92	N	Methyl iodide
PF-40-EW	92.00938	108101	< 20.	UG/L	1/30/92	N	4-Methyl-2-pentanone
PF-40-EW	92.00938	75092	< 5.	UG/L	1/30/92	N	Methylene chloride
PF-40-EW	92.00938	103651	< 5.	UG/L	1/30/92	N	Propylbenzene
PF-40-EW	92.00938	100425	< 5.	UG/L	1/30/92	N	Styrene
PF-40-EW	92.00938	630206	< 5.	UG/L	1/30/92	N	1,1,1,2-Tetrachloroethane
PF-40-EW	92.00938	79345	< 5.	UG/L	1/30/92	N	1,1,2,2-Tetrachloroethane
PF-40-EW	92.00938	127184	< 5.	UG/L	1/30/92	N	Tetrachloroethylene
PF-40-EW	92.00938	108883	< 5.	UG/L	1/30/92	N	Toluene
PF-40-EW	92.00938	76131	< 5.	UG/L	1/30/92	N	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-EW	92.00938	71556	< 5.	UG/L	1/30/92	N	1,1,1-Trichloroethane
PF-40-EW	92.00938	79005	< 5.	UG/L	1/30/92	N	1,1,2-Trichloroethane
PF-40-EW	92.00938	79016	< 5.	UG/L	1/30/92	N	Trichloroethene
PF-40-EW	92.00938	75694	< 5.	UG/L	1/30/92	N	Trichlorofluoromethane
PF-40-EW	92.00938	96184	< 5.	UG/L	1/30/92	N	1,2,3-Trichloropropane
PF-40-EW	92.00938	95636	< 5.	UG/L	1/30/92	N	1,2,4-Trimethylbenzene
PF-40-EW	92.00938	108678	< 5.	UG/L	1/30/92	N	1,3,5-Trimethylbenzene
PF-40-EW	92.00938	108054	< 10.	UG/L	1/30/92	N	Vinyl acetate
PF-40-EW	92.00938	75014	< 10.	UG/L	1/30/92	N	Vinyl chloride
PF-40-EW	92.00938	1330207	< 5.	UG/L	1/30/92	N	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00938

none

Customer Sample Duplicate Results for Sample # 92.00938

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00938

none

REPORT NUMBER: 12867

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 30-Jan-1992

EPA VOLATILES

REQUEST NUMBER: 12456 MATRIX: W ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00939

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/29/92 Date Analyzed: 1/29/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DEB	92.00939	67641	< 20.		UG/L	1/30/92	N	Acetone
PF-40-DEB	92.00939	71432	< 5.		UG/L	1/30/92	N	Benzene
PF-40-DEB	92.00939	108861	< 5.		UG/L	1/30/92	N	Bromobenzene
PF-40-DEB	92.00939	74975	< 5.		UG/L	1/30/92	N	Bromochloromethane
PF-40-DEB	92.00939	75274	< 5.		UG/L	1/30/92	N	Bromodichloromethane
PF-40-DEB	92.00939	75252	< 5.		UG/L	1/30/92	N	Bromoform
PF-40-DEB	92.00939	74839	< 10.		UG/L	1/30/92	N	Bromomethane
PF-40-DEB	92.00939	78933	< 20.		UG/L	1/30/92	N	2-Butanone
PF-40-DEB	92.00939	104518	< 5.		UG/L	1/30/92	N	n-Butylbenzene
PF-40-DEB	92.00939	135988	< 5.		UG/L	1/30/92	N	sec-Butylbenzene
PF-40-DEB	92.00939	98066	< 5.		UG/L	1/30/92	N	tert-Butylbenzene
PF-40-DEB	92.00939	75150	< 5.		UG/L	1/30/92	N	Carbon disulfide
PF-40-DEB	92.00939	56235	< 5.		UG/L	1/30/92	N	Carbon tetrachloride
PF-40-DEB	92.00939	108907	< 5.		UG/L	1/30/92	N	Chlorobenzene
PF-40-DEB	92.00939	124481	< 5.		UG/L	1/30/92	N	Chlorodibromomethane
PF-40-DEB	92.00939	75003	< 10.		UG/L	1/30/92	N	Chloroethane
PF-40-DEB	92.00939	67663	< 5.		UG/L	1/30/92	N	Chloroform
PF-40-DEB	92.00939	74873	< 10.		UG/L	1/30/92	N	Chloromethane
PF-40-DEB	92.00939	95498	< 5.		UG/L	1/30/92	N	o-Chlorotoluene
PF-40-DEB	92.00[illegible]	106434	< 5.		UG/L	1/30/92	[illegible]	p-Chlorotoluene
PF-40-DE[illegible]	2.00939	96128	< 10.		UG/L	1/[illegible]/92	N	1,2-Dibromo-3-chloropropane

PF-40-DEB	92.00939	106934	< 5.	UG/L	1/30/92	N	1,2-Dibromoethane
PF-40-DEB	92.00939	74953	< 5.	UG/L	1/30/92	N	Dibromomethane
PF-40-DEB	92.00939	95501	< 5.	UG/L	1/30/92	N	o-Dichlorobenzene (1,2)
PF-40-DEB	92.00939	541731	< 5.	UG/L	1/30/92	N	m-Dichlorobenzene (1,3)
PF-40-DEB	92.00939	106467	< 5.	UG/L	1/30/92	N	p-Dichlorobenzene (1,4)
PF-40-DEB	92.00939	75718	< 10.	UG/L	1/30/92	N	Dichlorodifluoromethane
PF-40-DEB	92.00939	75343	< 5.	UG/L	1/30/92	N	1,1-Dichloroethane
PF-40-DEB	92.00939	107062	< 5.	UG/L	1/30/92	N	1,2-Dichloroethane
PF-40-DEB	92.00939	75354	< 5.	UG/L	1/30/92	N	1,1-Dichloroethene
PF-40-DEB	92.00939	156605	< 5.	UG/L	1/30/92	N	trans-1,2-Dichloroethene
PF-40-DEB	92.00939	156592	< 5.	UG/L	1/30/92	N	cis-1,2-Dichloroethylene
PF-40-DEB	92.00939	78875	< 5.	UG/L	1/30/92	N	1,2-Dichloropropane
PF-40-DEB	92.00939	142289	< 5.	UG/L	1/30/92	N	1,3-Dichloropropane
PF-40-DEB	92.00939	594207	< 5.	UG/L	1/30/92	N	2,2-Dichloropropane
PF-40-DEB	92.00939	563586	< 5.	UG/L	1/30/92	N	1,1-Dichloropropene
PF-40-DEB	92.00939	10061015	< 5.	UG/L	1/30/92	N	cis-1,3-Dichloropropene
PF-40-DEB	92.00939	10061026	< 5.	UG/L	1/30/92	N	trans-1,3-Dichloropropene
PF-40-DEB	92.00939	100414	< 5.	UG/L	1/30/92	N	Ethylbenzene
PF-40-DEB	92.00939	591786	< 20.	UG/L	1/30/92	N	2-Hexanone
PF-40-DEB	92.00939	98828	< 5.	UG/L	1/30/92	N	Isopropylbenzene
PF-40-DEB	92.00939	99876	< 5.	UG/L	1/30/92	N	4-Isopropyltoluene
PF-40-DEB	92.00939	74884	< 5.	UG/L	1/30/92	N	Methyl iodide
PF-40-DEB	92.00939	108101	< 20.	UG/L	1/30/92	N	4-Methyl-2-pentanone
PF-40-DEB	92.00939	75092	< 5.	UG/L	1/30/92	N	Methylene chloride
PF-40-DEB	92.00939	103651	< 5.	UG/L	1/30/92	N	Propylbenzene
PF-40-DEB	92.00939	100425	< 5.	UG/L	1/30/92	N	Styrene
PF-40-DEB	92.00939	630206	< 5.	UG/L	1/30/92	N	1,1,1,2-Tetrachloroethane
PF-40-DEB	92.00939	79345	< 5.	UG/L	1/30/92	N	1,1,2,2-Tetrachloroethane
PF-40-DEB	92.00939	127184	< 5.	UG/L	1/30/92	N	Tetrachloroethylene
PF-40-DEB	92.00939	108883	< 5.	UG/L	1/30/92	N	Toluene
PF-40-DEB	92.00939	76131	< 5.	UG/L	1/30/92	N	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-DEB	92.00939	71556	< 5.	UG/L	1/30/92	N	1,1,1-Trichloroethane
PF-40-DEB	92.00939	79005	< 5.	UG/L	1/30/92	N	1,1,2-Trichloroethane
PF-40-DEB	92.00939	79016	< 5.	UG/L	1/30/92	N	Trichloroethene
PF-40-DEB	92.00939	75694	< 5.	UG/L	1/30/92	N	Trichlorofluoromethane
PF-40-DEB	92.00939	96184	< 5.	UG/L	1/30/92	N	1,2,3-Trichloropropane
PF-40-DEB	92.00939	95636	< 5.	UG/L	1/30/92	N	1,2,4-Trimethylbenzene
PF-40-DEB	92.00939	108678	< 5.	UG/L	1/30/92	N	1,3,5-Trimethylbenzene
PF-40-DEB	92.00939	108054	< 10.	UG/L	1/30/92	N	Vinyl acetate
PF-40-DEB	92.00939	75014	< 10.	UG/L	1/30/92	N	Vinyl chloride
PF-40-DEB	92.00939	1330207	< 5.	UG/L	1/30/92	N	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00939

none

Customer Sample Duplicate Results for Sample # 92.00939

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00939

none

Matrix Spike Results for Sample # 92.00939

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DEB	92.00939	71432	50.	42.	UG/L	1/30/92		Benzene
PF-40-DEB	92.00939	108907	50.	50.	UG/L	1/30/92		Chlorobenzene
PF-40-DEB	92.00939	75343	50.	32.	UG/L	1/30/92		1,1-Dichloroethane
PF-40-DEB	92.00939	108883	50.	48.	UG/L	1/30/92		Toluene
PF-40-DEB	92.00939	79016	50.	46.	UG/L	1/30/92		Trichloroethene

Matrix Spike Duplicate Results for Sample # 92.00939

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DEB	92.00939	71432	50.	40.	UG/L	1/30/92		Benzene
PF-40-DEB	92.00939	108907	50.	50.	UG/L	1/30/92		Chlorobenzene
PF-40-DEB	92.00939	75343	50.	31.	UG/L	1/30/92		1,1-Dichloroethane
PF-40-DEB	92.00939	108883	50.	46.	UG/L	1/30/92		Toluene
PF-40-DEB	92.00939	79016	50.	44.	UG/L	1/30/92		Trichloroethene

****

REPORT NUMBER: 12867 (continued)

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: LAT on 30-Jan-1992

EPA VOLATILES

REQUEST NUMBER: 12456 MATRIX: W ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: none PAGE: non

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

UMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

ank Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUN
.20226	92.01027	67641	< 20.		UG/L	0.0		1/30/92	UNDER CONTROL	Acetone
.20226	92.01027	71432	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Benzene
.20226	92.01027	108861	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Bromobenzene
.20226	92.01027	74975	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Bromochloromethane
.20226	92.01027	75274	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Bromodichloromethane
.20226	92.01027	75252	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Bromoform
20226	92.01027	74839	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	Bromomethane
.20226	92.01027	78933	< 20.		UG/L	0.0		1/30/92	UNDER CONTROL	2-Butanone
.20226	92.01027	104518	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	n-Butylbenzene
.20226	92.01027	135988	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	sec-Butylbenzene
.20226	92.01027	98066	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	tert-Butylbenzene
.20226	92.01027	75150	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Carbon disulfide
20226	92.01027	56235	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Carbon tetrachloride
.20226	92.01027	108907	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Chlorobenzene
.20226	92.01027	124481	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Chlorodibromomethane
.20226	92.01027	75003	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	Chloroethane
.20226	92.01027	67663	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Chloroform
.20226	92.01027	74873	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	Chloromethane
.20226	92.01027	95498	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	o-Chlorotoluene
.20226	92.01027	106434	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	p-Chlorotoluene
.20226	92.01027	96128	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
.20226	92.01027	106934	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,2-Dibromoethane
.20226	92.01027	74953	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Dibromomethane
.20226	92.01027	95501	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
.20226	92.01027	541731	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
.20226	92.01027	106467	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
.20226	92.01027	75718	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	Dichlorodifluoromethane
.20226	92.01027	75343	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,1-Dichloroethane
.20226	92.01027	107062	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,2-Dichloroethane
.20226	92.01027	75354	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,1-Dichloroethene
.20226	92.01027	156605	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	trans-1,2-Dichloroethene
.20226	92.0102	156592	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	cis-1,2-Dichloroethylen
.20226	2.0102	78875	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,2-Dichloropropar

00.20226	92.01027	142289	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	1,3-Dichloropropane
00.20226	92.01027	594207	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	2,2-Dichloropropane
00.20226	92.01027	563586	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	1,1-Dichloropropene
00.20226	92.01027	10061015	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	cis-1,3-Dichloropropene
00.20226	92.01027	10061026	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	trans-1,3-Dichloropropene
00.20226	92.01027	100414	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Ethylbenzene
00.20226	92.01027	591786	< 20.	UG/L	0.0	1/30/92	UNDER CONTROL	2-Hexanone
00.20226	92.01027	98828	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Isopropylbenzene
00.20226	92.01027	99876	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	4-Isopropyltoluene
00.20226	92.01027	74884	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Methyl iodide
00.20226	92.01027	108101	< 20.	UG/L	0.0	1/30/92	UNDER CONTROL	4-Methyl-2-pentanone
00.20226	92.01027	75092	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Methylene chloride
00.20226	92.01027	103651	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Propylbenzene
00.20226	92.01027	100425	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Styrene
00.20226	92.01027	630206	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20226	92.01027	79345	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20226	92.01027	127184	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Tetrachloroethylene
00.20226	92.01027	108883	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Toluene
00.20226	92.01027	76131	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
00.20226	92.01027	71556	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	1,1,1-Trichloroethane
00.20226	92.01027	79005	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	1,1,2-Trichloroethane
00.20226	92.01027	79016	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Trichloroethene
00.20226	92.01027	75694	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Trichlorofluoromethane
00.20226	92.01027	96184	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	1,2,3-Trichloropropane
00.20226	92.01027	95636	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20226	92.01027	108678	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20226	92.01027	108054	< 10.	UG/L	0.0	1/30/92	UNDER CONTROL	Vinyl acetate
00.20226	92.01027	75014	< 10.	UG/L	0.0	1/30/92	UNDER CONTROL	Vinyl chloride
00.20226	92.01027	1330207	< 5.	UG/L	0.0	1/30/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)

Blank Spike Results

none

Blank Spike Duplicate Results

none

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.01026

Date Col : 1/29/92 Date Received: 1/29/92 Date Extracted: 1/29/92 te Analyzed: 1/29/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.01026	67641	31.	9.3	UG/L	84.	8.	1/30/92	OUT OF CONTROL	Acetone
92.01026	71432	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Benzene
92.01026	108861	62.	18.6	UG/L	94.	9.	1/30/92	UNDER CONTROL	Bromobenzene
92.01026	74975	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Bromochloromethane
92.01026	75274	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Bromodichloromethane
92.01026	75252	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Bromoform
92.01026	74839	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	Bromomethane
92.01026	78933	42.	12.6	UG/L	100.	10.	1/30/92	OUT OF CONTROL	2-Butanone
92.01026	104518	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	n-Butylbenzene
92.01026	135988	57.	17.1	UG/L	81.	8.	1/30/92	UNDER CONTROL	sec-Butylbenzene
92.01026	98066	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	tert-Butylbenzene
92.01026	75150	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Carbon disulfide
92.01026	56235	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Carbon tetrachloride
92.01026	108907	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Chlorobenzene
92.01026	124481	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Chlorodibromomethane
92.01026	75003	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	Chloroethane
92.01026	67663	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Chloroform
92.01026	74873	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	Chloromethane
92.01026	95498	70.	21.	UG/L	90.	9.	1/30/92	UNDER CONTROL	o-Chlorotoluene
92.01026	106434	74.	22.2	UG/L	90.	9.	1/30/92	UNDER CONTROL	p-Chlorotoluene
92.01026	96128	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
92.01026	106934	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,2-Dibromoethane
92.01026	74953	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Dibromomethane
92.01026	95501	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
92.01026	541731	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
92.01026	106467	75.	22.5	UG/L	83.	8.	1/30/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
92.01026	75718	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	Dichlorodifluoromethane
92.01026	75343	61.	18.3	UG/L	91.	9.	1/30/92	UNDER CONTROL	1,1-Dichloroethane
92.01026	107062	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,2-Dichloroethane
92.01026	75354	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,1-Dichloroethene
92.01026	156605	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	trans-1,2-Dichloroethene
92.01026	156592	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	cis-1,2-Dichloroethylene
92.01026	78875	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,2-Dichloropropane
92.01026	142289	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,3-Dichloropropane
92.01026	594207	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	2,2-Dichloropropane
92.01026	563586	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,1-Dichloropropene
92.01026	10061015	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	cis-1,3-Dichloropropene
92.01026	10061026	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	trans-1,3-Dichloropropene
92.01026	10041	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Ethylbenzene
92.01026	1786	37.	11.1	UG/L	86.	9.	1/30/92	OUT OF CONTROL	2-Hexanone

92.01026	98828	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Isopropylbenzene
92.01026	99876	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	4-Isopropyltoluene
92.01026	74884	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Methyl iodide
92.01026	108101	65.	19.5	UG/L	87.	9.	1/30/92	UNDER CONTROL	4-Methyl-2-pentanone
92.01026	75092	65.	19.5	UG/L	91.	9.	1/30/92	UNDER CONTROL	Methylene chloride
92.01026	103651	55.	16.5	UG/L	80.	8.	1/30/92	UNDER CONTROL	Propylbenzene
92.01026	100425	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Styrene
92.01026	630206	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
92.01026	79345	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
92.01026	127184	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Tetrachloroethylene
92.01026	108883	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Toluene
92.01026	76131	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroethane
92.01026	71556	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,1,1-Trichloroethane
92.01026	79005	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,1,2-Trichloroethane
92.01026	79016	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Trichloroethene
92.01026	75694	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Trichlorofluoromethane
92.01026	96184	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,2,3-Trichloropropane
92.01026	95636	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,2,4-Trimethylbenzene
92.01026	108678	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	1,3,5-Trimethylbenzene
92.01026	108054	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	Vinyl acetate
92.01026	75014	< 10.		UG/L	0.0		1/30/92	UNDER CONTROL	Vinyl chloride
92.01026	1330207	< 5.		UG/L	0.0		1/30/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)

SURROGATE RESULTS FOR EPA VOLATILES

Surrogate 1 = 1,2-Dichloroethane d4 (CAS # = 17060070)
Surrogate 2 = Toluene d8 (CAS # = 2037265)
Surrogate 3 = 4-Bromofluorobenzene (CAS # = 460004)

SAMPLE NUMBER	UNITS	Surrogate 1	Surrogate 2	Surrogate 3	COMPLETION DATE
92.00938	%	86.12	94.44	106.36	30-Jan-1992
92.00939	%	80.5	92.92	101.68	30-Jan-1992
92.00939	%	83.62	93.12	99.38	30-Jan-1992
92.00939	%	80.66	92.28	97.62	30-Jan-1992
92.01026	%	80.82	90.98	88.42	30-Jan-1992
92.01027	%	89.32	92.58	100.96	30-Jan-1992
EPA Limits:					
Water	%	76 - 114	88 - 110	86 - 115	
Soil	%	70 - 121	81 - 117	74 - 121	

REPORT NUMBER: 12867

Analyst	Reviewer	Section Leader	QA Officer
1-30-92	1/30/92	1/30/92	1/31/91
Date	Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

TO: Phil Fresquez, EM-8

FROM: Suzanne Ehart Bell, EM-9 Organic Analysis Section

THRU: Chris Leibman SBU for CL 2/7/92
Laura Tsiagkouris 2/6/92

DATE: January 31, 1991

REQUEST: 12454

The following samples were received for volatile organic analysis using SW846 purge and trap method 8260:

92.00913 through 92.00921
92.00931 and 92.00932 trip blanks

Five grams of the samples were analyzed by standard purge-and trap protocols. Since the sample results are not blank subtracted, a copy of the method blank results have been included with this report. The 14 day holding time requirement was met.

Results: No target compounds were detected in any of the samples. Traces of tetrahydrofuran were detected in one trip blank. The soil samples contained variable amounts of burnt material.

QC Summary: A few samples had surrogate recoveries out-of-control, attributed directly to the charcoal in the samples. It is possible that the presence of the charcoal may mask the presence of low-level target volatiles. Matrix spike recoveries were within control limits. A blind QC sample was analyzed with these samples and the results are included in the final report. Please call if you have any questions.

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR VOLATILES
SOIL

REQUEST #: 12454

NUMBER OF SAMPLES: 18
MATRIX S
ANALYST: SCB
Date: 02/05/92

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	d4-1,2-dichloro-ethene	toluene-(d8)	4-bromo-fluoro-benzene
1	s92.00964	SAMPLE	86	98	89
2	m92.00917	MATRIX SPIK	98	93	118
3	d92.00917	MATRIX SP-D	98	91	119
4	b92.00965	BLANK	95	98	102
	b92.00966	BLANK	86	92	97
6	s92.00931	SAMPLE	101	90	108
7	s92.00932	SAMPLE	93	94	109
8	s92.00913	SAMPLE	93	94	148 *
9	s92.00914	SAMPLE	77	88	108
10	s92.00915	SAMPLE	88	88	124 *
11	s92.00916	SAMPLE	86	96	116
12	s92.00917	SAMPLE	93	85	113
13	s92.00918	SAMPLE	86	97	109
14	s92.00919	SAMPLE	91	90	118
15	s92.00920	SAMPLE	90	90	122 *
16	s92.00921	SAMPLE	92	88	125 *
17	b92.01251	BLANK	90	97	102
18	b92.01252	BLANK	98	91	108
19					
20					
21					
22					

Average % Surrogate Recovery...	92	92	112
Defined Lower QC Limits (%)....	70	81	74
Defined Upper QC Limits (%)....	121	117	121
Observed Lower QC Limits (%)...	77	88	89
Observed Upper QC Limits (%)...	101	98	148

2-5-92

"*" If % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By: 2/4/92 2/7/92

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
MATRIX SPIKE RECOVERIES FOR VOLATILES

		DRY WT/VOL (G or ML)	DILUTION FACTOR	AMOUNT SPIKED	LOQ (UG/KG OR UG/
REQUEST #:	12454				
NUMBER OF SAMPLES:	18				
SPIKE ID: (STARTS M OR E)	m92.00917	SPIKE 4.5484	1	55	5
SPIKE DUP ID: (STARTS D OR F)	d92.00917	SPIKE-DUP4.5538	1	55	5
RAW DATA WITH:	scb12454				
ANALYST:	SCB				

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW. REC. LIM.	UPP. REC. LIM.	RPD LIM.
1,1-Dichlorethene	43	41	78%	75%	5%	59	172	22
Benzene	50	50	91%	91%	0%	66	142	21
Trichlorethene	51	50	93%	91%	2%	62	137	24
Toluene	55	54	100%	98%	2%	59	139	21
Chlorobenzene	55	53	100%	97%	4%	60	133	21

2/4/92

2/7/92

2-5-92

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00913

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/31/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-1	92.00913	67641	< 20.		UG/KG	2/06/92		Acetone
PF-40-BAW-1	92.00913	71432	< 5.		UG/KG	2/06/92		Benzene
PF-40-BAW-1	92.00913	108861	< 5.		UG/KG	2/06/92		Bromobenzene
PF-40-BAW-1	92.00913	74975	< 5.		UG/KG	2/06/92		Bromochloromethane
PF-40-BAW-1	92.00913	75274	< 5.		UG/KG	2/06/92		Bromodichloromethane
PF-40-BAW-1	92.00913	75252	< 5.		UG/KG	2/06/92		Bromoform
PF-40-BAW-1	92.00913	74839	< 10.		UG/KG	2/06/92		Bromomethane
PF-40-BAW-1	92.00913	78933	< 20.		UG/KG	2/06/92		2-Butanone
PF-40-BAW-1	92.00913	104518	< 5.		UG/KG	2/06/92		n-Butylbenzene
PF-40-BAW-1	92.00913	135988	< 5.		UG/KG	2/06/92		sec-Butylbenzene
PF-40-BAW-1	92.00913	98066	< 5.		UG/KG	2/06/92		tert-Butylbenzene
PF-40-BAW-1	92.00913	75150	< 5.		UG/KG	2/06/92		Carbon disulfide
PF-40-BAW-1	92.00913	56235	< 5.		UG/KG	2/06/92		Carbon tetrachloride
PF-40-BAW-1	92.00913	108907	< 5.		UG/KG	2/06/92		Chlorobenzene
PF-40-BAW-1	92.00913	124481	< 5.		UG/KG	2/06/92		Chlorodibromomethane
PF-40-BAW-1	92.00913	75003	< 10.		UG/KG	2/06/92		Chloroethane
PF-40-BAW-1	92.00913	67663	< 5.		UG/KG	2/06/92		Chloroform
PF-40-BAW-1	92.00913	74873	< 10.		UG/KG	2/06/92		Chloromethane
PF-40-BAW-1	92.00913	95498	< 5.		UG/KG	2/06/92		o-Chlorotoluene
PF-40-BAW-1	9[illegible]913	106434	< 5.		UG/KG	2/0[illegible]		p-Chlorotoluene
PF-40-BAW-1	9[illegible]913	96128	< 10.		UG/KG	2/06[illegible]		1,2-Dibromo-3-chloropropane

PF-40-BAW-1	92.00913	106934	< 5.	UG/KG	2/06/92	1,2-Dibromoethane
PF-40-BAW-1	92.00913	74953	< 5.	UG/KG	2/06/92	Dibromomethane
PF-40-BAW-1	92.00913	95501	< 5.	UG/KG	2/06/92	o-Dichlorobenzene (1,2)
PF-40-BAW-1	92.00913	541731	< 5.	UG/KG	2/06/92	m-Dichlorobenzene (1,3)
PF-40-BAW-1	92.00913	106467	< 5.	UG/KG	2/06/92	p-Dichlorobenzene (1,4)
PF-40-BAW-1	92.00913	75718	< 10.	UG/KG	2/06/92	Dichlorodifluoromethane
PF-40-BAW-1	92.00913	75343	< 5.	UG/KG	2/06/92	1,1-Dichloroethane
PF-40-BAW-1	92.00913	107062	< 5.	UG/KG	2/06/92	1,2-Dichloroethane
PF-40-BAW-1	92.00913	75354	< 5.	UG/KG	2/06/92	1,1-Dichloroethene
PF-40-BAW-1	92.00913	156605	< 5.	UG/KG	2/06/92	trans-1,2-Dichloroethene
PF-40-BAW-1	92.00913	156592	< 5.	UG/KG	2/06/92	cis-1,2-Dichloroethylene
PF-40-BAW-1	92.00913	78875	< 5.	UG/KG	2/06/92	1,2-Dichloropropane
PF-40-BAW-1	92.00913	142289	< 5.	UG/KG	2/06/92	1,3-Dichloropropane
PF-40-BAW-1	92.00913	594207	< 5.	UG/KG	2/06/92	2,2-Dichloropropane
PF-40-BAW-1	92.00913	563586	< 5.	UG/KG	2/06/92	1,1-Dichloropropene
PF-40-BAW-1	92.00913	10061015	< 5.	UG/KG	2/06/92	cis-1,3-Dichloropropene
PF-40-BAW-1	92.00913	10061026	< 5.	UG/KG	2/06/92	trans-1,3-Dichloropropene
PF-40-BAW-1	92.00913	100414	< 5.	UG/KG	2/06/92	Ethylbenzene
PF-40-BAW-1	92.00913	591786	< 20.	UG/KG	2/06/92	2-Hexanone
PF-40-BAW-1	92.00913	98828	< 5.	UG/KG	2/06/92	Isopropylbenzene
PF-40-BAW-1	92.00913	99876	< 5.	UG/KG	2/06/92	4-Isopropyltoluene
PF-40-BAW-1	92.00913	74884	< 5.	UG/KG	2/06/92	Methyl iodide
PF-40-BAW-1	92.00913	108101	< 20.	UG/KG	2/06/92	4-Methyl-2-pentanone
PF-40-BAW-1	92.00913	75092	< 5.	UG/KG	2/06/92	Methylene chloride
PF-40-BAW-1	92.00913	103651	< 5.	UG/KG	2/06/92	Propylbenzene
PF-40-BAW-1	92.00913	100425	< 5.	UG/KG	2/06/92	Styrene
PF-40-BAW-1	92.00913	630206	< 5.	UG/KG	2/06/92	1,1,1,2-Tetrachloroethane
PF-40-BAW-1	92.00913	79345	< 5.	UG/KG	2/06/92	1,1,2,2-Tetrachloroethane
PF-40-BAW-1	92.00913	127184	< 5.	UG/KG	2/06/92	Tetrachloroethylene
PF-40-BAW-1	92.00913	108883	< 5.	UG/KG	2/06/92	Toluene
PF-40-BAW-1	92.00913	76131	< 5.	UG/KG	2/06/92	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BAW-1	92.00913	71556	< 5.	UG/KG	2/06/92	1,1,1-Trichloroethane
PF-40-BAW-1	92.00913	79005	< 5.	UG/KG	2/06/92	1,1,2-Trichloroethane
PF-40-BAW-1	92.00913	79016	< 5.	UG/KG	2/06/92	Trichloroethene
PF-40-BAW-1	92.00913	75694	< 5.	UG/KG	2/06/92	Trichlorofluoromethane
PF-40-BAW-1	92.00913	96184	< 5.	UG/KG	2/06/92	1,2,3-Trichloropropane
PF-40-BAW-1	92.00913	95636	< 5.	UG/KG	2/06/92	1,2,4-Trimethylbenzene
PF-40-BAW-1	92.00913	108678	< 5.	UG/KG	2/06/92	1,3,5-Trimethylbenzene
PF-40-BAW-1	92.00913	108054	< 10.	UG/KG	2/06/92	Vinyl acetate
PF-40-BAW-1	92.00913	75014	< 10.	UG/KG	2/06/92	Vinyl chloride
PF-40-BAW-1	92.00913	1330207	< 5.	UG/KG	2/06/92	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00913

none

Customer Sample Duplicate Results for Sample # 92.00913

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00913

none

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00914

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 1/30/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-1	92.00914	67641	< 20.		UG/KG	2/06/92		Acetone
PF-40-BAE-1	92.00914	71432	< 5.		UG/KG	2/06/92		Benzene
PF-40-BAE-1	92.00914	108861	< 5.		UG/KG	2/06/92		Bromobenzene
PF-40-BAE-1	92.00914	74975	< 5.		UG/KG	2/06/92		Bromochloromethane
PF-40-BAE-1	92.00914	75274	< 5.		UG/KG	2/06/92		Bromodichloromethane
PF-40-BAE-1	92.00914	75252	< 5.		UG/KG	2/06/92		Bromoform
PF-40-BAE-1	92.00914	74839	< 10.		UG/KG	2/06/92		Bromomethane
PF-40-BAE-1	92.00914	78933	< 20.		UG/KG	2/06/92		2-Butanone
PF-40-BAE-1	92.00914	104518	< 5.		UG/KG	2/06/92		n-Butylbenzene
PF-40-BAE-1	92.00914	135988	< 5.		UG/KG	2/06/92		sec-Butylbenzene
PF-40-BAE-1	92.00914	98066	< 5.		UG/KG	2/06/92		tert-Butylbenzene
PF-40-BAE-1	92.00914	75150	< 5.		UG/KG	2/06/92		Carbon disulfide
PF-40-BAE-1	92.00914	56235	< 5.		UG/KG	2/06/92		Carbon tetrachloride
PF-40-BAE-1	92.00914	108907	< 5.		UG/KG	2/06/92		Chlorobenzene
PF-40-BAE-1	92.00914	124481	< 5.		UG/KG	2/06/92		Chlorodibromomethane
PF-40-BAE-1	92.00914	75003	< 10.		UG/KG	2/06/92		Chloroethane
PF-40-BAE-1	92.00914	67663	< 5.		UG/KG	2/06/92		Chloroform
PF-40-BAE-1	92.00914	74873	< 10.		UG/KG	2/06/92		Chloromethane
PF-40-BAE-1	92.00914	95498	< 5.		UG/KG	2/06/92		o-Chlorotoluene
PF-40-BAE-1	92.00914	106434	< 5.		UG/KG	2/06/92		p-Chlorotoluene
PF-40-BAE-1	92.00914	96128	< 10.		UG/KG	2/06/92		1,2-Dibromo-3-chloropropane

PF-40-BAE-1	92.00914	106934	< 5.	UG/KG	2/06/92	1,2-Dibromoethane
PF-40-BAE-1	92.00914	74953	< 5.	UG/KG	2/06/92	Dibromomethane
PF-40-BAE-1	92.00914	95501	< 5.	UG/KG	2/06/92	o-Dichlorobenzene (1,2)
PF-40-BAE-1	92.00914	541731	< 5.	UG/KG	2/06/92	m-Dichlorobenzene (1,3)
PF-40-BAE-1	92.00914	106467	< 5.	UG/KG	2/06/92	p-Dichlorobenzene (1,4)
PF-40-BAE-1	92.00914	75718	< 10.	UG/KG	2/06/92	Dichlorodifluoromethane
PF-40-BAE-1	92.00914	75343	< 5.	UG/KG	2/06/92	1,1-Dichloroethane
PF-40-BAE-1	92.00914	107062	< 5.	UG/KG	2/06/92	1,2-Dichloroethane
PF-40-BAE-1	92.00914	75354	< 5.	UG/KG	2/06/92	1,1-Dichloroethene
PF-40-BAE-1	92.00914	156605	< 5.	UG/KG	2/06/92	trans-1,2-Dichloroethene
PF-40-BAE-1	92.00914	156592	< 5.	UG/KG	2/06/92	cis-1,2-Dichloroethylene
PF-40-BAE-1	92.00914	78875	< 5.	UG/KG	2/06/92	1,2-Dichloropropane
PF-40-BAE-1	92.00914	142289	< 5.	UG/KG	2/06/92	1,3-Dichloropropane
PF-40-BAE-1	92.00914	594207	< 5.	UG/KG	2/06/92	2,2-Dichloropropane
PF-40-BAE-1	92.00914	563586	< 5.	UG/KG	2/06/92	1,1-Dichloropropene
PF-40-BAE-1	92.00914	10061015	< 5.	UG/KG	2/06/92	cis-1,3-Dichloropropene
PF-40-BAE-1	92.00914	10061026	< 5.	UG/KG	2/06/92	trans-1,3-Dichloropropene
PF-40-BAE-1	92.00914	100414	< 5.	UG/KG	2/06/92	Ethylbenzene
PF-40-BAE-1	92.00914	591786	< 20.	UG/KG	2/06/92	2-Hexanone
PF-40-BAE-1	92.00914	98828	< 5.	UG/KG	2/06/92	Isopropylbenzene
PF-40-BAE-1	92.00914	99876	< 5.	UG/KG	2/06/92	4-Isopropyltoluene
PF-40-BAE-1	92.00914	74884	< 5.	UG/KG	2/06/92	Methyl iodide
PF-40-BAE-1	92.00914	108101	< 20.	UG/KG	2/06/92	4-Methyl-2-pentanone
PF-40-BAE-1	92.00914	75092	< 5.	UG/KG	2/06/92	Methylene chloride
PF-40-BAE-1	92.00914	103651	< 5.	UG/KG	2/06/92	Propylbenzene
PF-40-BAE-1	92.00914	100425	< 5.	UG/KG	2/06/92	Styrene
PF-40-BAE-1	92.00914	630206	< 5.	UG/KG	2/06/92	1,1,1,2-Tetrachloroethane
PF-40-BAE-1	92.00914	79345	< 5.	UG/KG	2/06/92	1,1,2,2-Tetrachloroethane
PF-40-BAE-1	92.00914	127184	< 5.	UG/KG	2/06/92	Tetrachloroethylene
PF-40-BAE-1	92.00914	108883	< 5.	UG/KG	2/06/92	Toluene
PF-40-BAE-1	92.00914	76131	< 5.	UG/KG	2/06/92	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-BAE-1	92.00914	71556	< 5.	UG/KG	2/06/92	1,1,1-Trichloroethane
PF-40-BAE-1	92.00914	79005	< 5.	UG/KG	2/06/92	1,1,2-Trichloroethane
PF-40-BAE-1	92.00914	79016	< 5.	UG/KG	2/06/92	Trichloroethene
PF-40-BAE-1	92.00914	75694	< 5.	UG/KG	2/06/92	Trichlorofluoromethane
PF-40-BAE-1	92.00914	96184	< 5.	UG/KG	2/06/92	1,2,3-Trichloropropane
PF-40-BAE-1	92.00914	95636	< 5.	UG/KG	2/06/92	1,2,4-Trimethylbenzene
PF-40-BAE-1	92.00914	108678	< 5.	UG/KG	2/06/92	1,3,5-Trimethylbenzene
PF-40-BAE-1	92.00914	108054	< 10.	UG/KG	2/06/92	Vinyl acetate
PF-40-BAE-1	92.00914	75014	< 10.	UG/KG	2/06/92	Vinyl chloride
PF-40-BAE-1	92.00914	1330207	< 5.	UG/KG	2/06/92	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00914

none

Customer Sample Duplicate Results for Sample # 92.00914

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00914

none

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: [illegible] on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00915

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 1/30/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EBX-W	92.00915	67641	< 20.		UG/KG	2/06/92		Acetone
PF-40-EBX-W	92.00915	71432	< 5.		UG/KG	2/06/92		Benzene
PF-40-EBX-W	92.00915	108861	< 5.		UG/KG	2/06/92		Bromobenzene
PF-40-EBX-W	92.00915	74975	< 5.		UG/KG	2/06/92		Bromochloromethane
PF-40-EBX-W	92.00915	75274	< 5.		UG/KG	2/06/92		Bromodichloromethane
PF-40-EBX-W	92.00915	75252	< 5.		UG/KG	2/06/92		Bromoform
PF-40-EBX-W	92.00915	74839	< 10.		UG/KG	2/06/92		Bromomethane
PF-40-EBX-W	92.00915	78933	< 20.		UG/KG	2/06/92		2-Butanone
PF-40-EBX-W	92.00915	104518	< 5.		UG/KG	2/06/92		n-Butylbenzene
PF-40-EBX-W	92.00915	135988	< 5.		UG/KG	2/06/92		sec-Butylbenzene
PF-40-EBX-W	92.00915	98066	< 5.		UG/KG	2/06/92		tert-Butylbenzene
PF-40-EBX-W	92.00915	75150	< 5.		UG/KG	2/06/92		Carbon disulfide
PF-40-EBX-W	92.00915	56235	< 5.		UG/KG	2/06/92		Carbon tetrachloride
PF-40-EBX-W	92.00915	108907	< 5.		UG/KG	2/06/92		Chlorobenzene
PF-40-EBX-W	92.00915	124481	< 5.		UG/KG	2/06/92		Chlorodibromomethane
PF-40-EBX-W	92.00915	75003	< 10.		UG/KG	2/06/92		Chloroethane
PF-40-EBX-W	92.00915	67663	< 5.		UG/KG	2/06/92		Chloroform
PF-40-EBX-W	92.00915	74873	< 10.		UG/KG	2/06/92		Chloromethane
PF-40-EBX-W	92.00915	95498	< 5.		UG/KG	2/06/92		o-Chlorotoluene
PF-40-EBX-W	92.0[illegible]	106434	< 5.		UG/KG	2/06/92		p-Chlorotoluene
PF-40-EBX-W	92.[illegible]	96128	< 10.		UG/KG	2/06/92		1,2-Dibromo-3-chloropropane

PF-40-EBX-W	92.00915	106934	< 5.	UG/KG	2/06/92	1,2-Dibromoethane
PF-40-EBX-W	92.00915	74953	< 5.	UG/KG	2/06/92	Dibromomethane
PF-40-EBX-W	92.00915	95501	< 5.	UG/KG	2/06/92	o-Dichlorobenzene (1,2)
PF-40-EBX-W	92.00915	541731	< 5.	UG/KG	2/06/92	m-Dichlorobenzene (1,3)
PF-40-EBX-W	92.00915	106467	< 5.	UG/KG	2/06/92	p-Dichlorobenzene (1,4)
PF-40-EBX-W	92.00915	75718	< 10.	UG/KG	2/06/92	Dichlorodifluoromethane
PF-40-EBX-W	92.00915	75343	< 5.	UG/KG	2/06/92	1,1-Dichloroethane
PF-40-EBX-W	92.00915	107062	< 5.	UG/KG	2/06/92	1,2-Dichloroethane
PF-40-EBX-W	92.00915	75354	< 5.	UG/KG	2/06/92	1,1-Dichloroethene
PF-40-EBX-W	92.00915	156605	< 5.	UG/KG	2/06/92	trans-1,2-Dichloroethene
PF-40-EBX-W	92.00915	156592	< 5.	UG/KG	2/06/92	cis-1,2-Dichloroethylene
PF-40-EBX-W	92.00915	78875	< 5.	UG/KG	2/06/92	1,2-Dichloropropane
PF-40-EBX-W	92.00915	142289	< 5.	UG/KG	2/06/92	1,3-Dichloropropane
PF-40-EBX-W	92.00915	594207	< 5.	UG/KG	2/06/92	2,2-Dichloropropane
PF-40-EBX-W	92.00915	563586	< 5.	UG/KG	2/06/92	1,1-Dichloropropene
PF-40-EBX-W	92.00915	10061015	< 5.	UG/KG	2/06/92	cis-1,3-Dichloropropene
PF-40-EBX-W	92.00915	10061026	< 5.	UG/KG	2/06/92	trans-1,3-Dichloropropene
PF-40-EBX-W	92.00915	100414	< 5.	UG/KG	2/06/92	Ethylbenzene
PF-40-EBX-W	92.00915	591786	< 20.	UG/KG	2/06/92	2-Hexanone
PF-40-EBX-W	92.00915	98828	< 5.	UG/KG	2/06/92	Isopropylbenzene
PF-40-EBX-W	92.00915	99876	< 5.	UG/KG	2/06/92	4-Isopropyltoluene
PF-40-EBX-W	92.00915	74884	< 5.	UG/KG	2/06/92	Methyl iodide
PF-40-EBX-W	92.00915	108101	< 20.	UG/KG	2/06/92	4-Methyl-2-pentanone
PF-40-EBX-W	92.00915	75092	< 5.	UG/KG	2/06/92	Methylene chloride
PF-40-EBX-W	92.00915	103651	< 5.	UG/KG	2/06/92	Propylbenzene
PF-40-EBX-W	92.00915	100425	< 5.	UG/KG	2/06/92	Styrene
PF-40-EBX-W	92.00915	630206	< 5.	UG/KG	2/06/92	1,1,1,2-Tetrachloroethane
PF-40-EBX-W	92.00915	79345	< 5.	UG/KG	2/06/92	1,1,2,2-Tetrachloroethane
PF-40-EBX-W	92.00915	127184	< 5.	UG/KG	2/06/92	Tetrachloroethylene
PF-40-EBX-W	92.00915	108883	< 5.	UG/KG	2/06/92	Toluene
PF-40-EBX-W	92.00915	76131	< 5.	UG/KG	2/06/92	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-EBX-W	92.00915	71556	< 5.	UG/KG	2/06/92	1,1,1-Trichloroethane
PF-40-EBX-W	92.00915	79005	< 5.	UG/KG	2/06/92	1,1,2-Trichloroethane
PF-40-EBX-W	92.00915	79016	< 5.	UG/KG	2/06/92	Trichloroethene
PF-40-EBX-W	92.00915	75694	< 5.	UG/KG	2/06/92	Trichlorofluoromethane
PF-40-EBX-W	92.00915	96184	< 5.	UG/KG	2/06/92	1,2,3-Trichloropropane
PF-40-EBX-W	92.00915	95636	< 5.	UG/KG	2/06/92	1,2,4-Trimethylbenzene
PF-40-EBX-W	92.00915	108678	< 5.	UG/KG	2/06/92	1,3,5-Trimethylbenzene
PF-40-EBX-W	92.00915	108054	< 10.	UG/KG	2/06/92	Vinyl acetate
PF-40-EBX-W	92.00915	75014	< 10.	UG/KG	2/06/92	Vinyl chloride
PF-40-EBX-W	92.00915	1330207	< 5.	UG/KG	2/06/92	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00915

none

Customer Sample Duplicate Results for Sample # 92.00915

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00915

none

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00916

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/31/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EBX-E	92.00916	67641	< 20.		UG/KG	2/06/92		Acetone
PF-40-EBX-E	92.00916	71432	< 5.		UG/KG	2/06/92		Benzene
PF-40-EBX-E	92.00916	108861	< 5.		UG/KG	2/06/92		Bromobenzene
PF-40-EBX-E	92.00916	74975	< 5.		UG/KG	2/06/92		Bromochloromethane
PF-40-EBX-E	92.00916	75274	< 5.		UG/KG	2/06/92		Bromodichloromethane
PF-40-EBX-E	92.00916	75252	< 5.		UG/KG	2/06/92		Bromoform
PF-40-EBX-E	92.00916	74839	< 10.		UG/KG	2/06/92		Bromomethane
PF-40-EBX-E	92.00916	78933	< 20.		UG/KG	2/06/92		2-Butanone
PF-40-EBX-E	92.00916	104518	< 5.		UG/KG	2/06/92		n-Butylbenzene
PF-40-EBX-E	92.00916	135988	< 5.		UG/KG	2/06/92		sec-Butylbenzene
PF-40-EBX-E	92.00916	98066	< 5.		UG/KG	2/06/92		tert-Butylbenzene
PF-40-EBX-E	92.00916	75150	< 5.		UG/KG	2/06/92		Carbon disulfide
PF-40-EBX-E	92.00916	56235	< 5.		UG/KG	2/06/92		Carbon tetrachloride
PF-40-EBX-E	92.00916	108907	< 5.		UG/KG	2/06/92		Chlorobenzene
PF-40-EBX-E	92.00916	124481	< 5.		UG/KG	2/06/92		Chlorodibromomethane
PF-40-EBX-E	92.00916	75003	< 10.		UG/KG	2/06/92		Chloroethane
PF-40-EBX-E	92.00916	67663	< 5.		UG/KG	2/06/92		Chloroform
PF-40-EBX-E	92.00916	74873	< 10.		UG/KG	2/06/92		Chloromethane
PF-40-EBX-E	92.00916	95498	< 5.		UG/KG	2/06/92		o-Chlorotoluene
PF-40-EBX-E	92.00916	106434	< 5.		UG/KG	2/06/92		p-Chlorotoluene
PF-40-EBX-E	92.00916	96128	< 10.		UG/KG	2/06/92		1,2-Dibromo-3-chloropropane

PF-40-EBX-E	92.00916	106934	< 5.	UG/KG	2/06/92	1,2-Dibromoethane
PF-40-EBX-E	92.00916	74953	< 5.	UG/KG	2/06/92	Dibromomethane
PF-40-EBX-E	92.00916	95501	< 5.	UG/KG	2/06/92	o-Dichlorobenzene (1,2)
PF-40-EBX-E	92.00916	541731	< 5.	UG/KG	2/06/92	m-Dichlorobenzene (1,3)
PF-40-EBX-E	92.00916	106467	< 5.	UG/KG	2/06/92	p-Dichlorobenzene (1,4)
PF-40-EBX-E	92.00916	75718	< 10.	UG/KG	2/06/92	Dichlorodifluoromethane
PF-40-EBX-E	92.00916	75343	< 5.	UG/KG	2/06/92	1,1-Dichloroethane
PF-40-EBX-E	92.00916	107062	< 5.	UG/KG	2/06/92	1,2-Dichloroethane
PF-40-EBX-E	92.00916	75354	< 5.	UG/KG	2/06/92	1,1-Dichloroethene
PF-40-EBX-E	92.00916	156605	< 5.	UG/KG	2/06/92	trans-1,2-Dichloroethene
PF-40-EBX-E	92.00916	156592	< 5.	UG/KG	2/06/92	cis-1,2-Dichloroethylene
PF-40-EBX-E	92.00916	78875	< 5.	UG/KG	2/06/92	1,2-Dichloropropane
PF-40-EBX-E	92.00916	142289	< 5.	UG/KG	2/06/92	1,3-Dichloropropane
PF-40-EBX-E	92.00916	594207	< 5.	UG/KG	2/06/92	2,2-Dichloropropane
PF-40-EBX-E	92.00916	563586	< 5.	UG/KG	2/06/92	1,1-Dichloropropene
PF-40-EBX-E	92.00916	10061015	< 5.	UG/KG	2/06/92	cis-1,3-Dichloropropene
PF-40-EBX-E	92.00916	10061026	< 5.	UG/KG	2/06/92	trans-1,3-Dichloropropene
PF-40-EBX-E	92.00916	100414	< 5.	UG/KG	2/06/92	Ethylbenzene
PF-40-EBX-E	92.00916	591786	< 20.	UG/KG	2/06/92	2-Hexanone
PF-40-EBX-E	92.00916	98828	< 5.	UG/KG	2/06/92	Isopropylbenzene
PF-40-EBX-E	92.00916	99876	< 5.	UG/KG	2/06/92	4-Isopropyltoluene
PF-40-EBX-E	92.00916	74884	< 5.	UG/KG	2/06/92	Methyl iodide
PF-40-EBX-E	92.00916	108101	< 20.	UG/KG	2/06/92	4-Methyl-2-pentanone
PF-40-EBX-E	92.00916	75092	< 5.	UG/KG	2/06/92	Methylene chloride
PF-40-EBX-E	92.00916	103651	< 5.	UG/KG	2/06/92	Propylbenzene
PF-40-EBX-E	92.00916	100425	< 5.	UG/KG	2/06/92	Styrene
PF-40-EBX-E	92.00916	630206	< 5.	UG/KG	2/06/92	1,1,1,2-Tetrachloroethane
PF-40-EBX-E	92.00916	79345	< 5.	UG/KG	2/06/92	1,1,2,2-Tetrachloroethane
PF-40-EBX-E	92.00916	127184	< 5.	UG/KG	2/06/92	Tetrachloroethylene
PF-40-EBX-E	92.00916	108883	< 5.	UG/KG	2/06/92	Toluene
PF-40-EBX-E	92.00916	76131	< 5.	UG/KG	2/06/92	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-EBX-E	92.00916	71556	< 5.	UG/KG	2/06/92	1,1,1-Trichloroethane
PF-40-EBX-E	92.00916	79005	< 5.	UG/KG	2/06/92	1,1,2-Trichloroethane
PF-40-EBX-E	92.00916	79016	< 5.	UG/KG	2/06/92	Trichloroethene
PF-40-EBX-E	92.00916	75694	< 5.	UG/KG	2/06/92	Trichlorofluoromethane
PF-40-EBX-E	92.00916	96184	< 5.	UG/KG	2/06/92	1,2,3-Trichloropropane
PF-40-EBX-E	92.00916	95636	< 5.	UG/KG	2/06/92	1,2,4-Trimethylbenzene
PF-40-EBX-E	92.00916	108678	< 5.	UG/KG	2/06/92	1,3,5-Trimethylbenzene
PF-40-EBX-E	92.00916	108054	< 10.	UG/KG	2/06/92	Vinyl acetate
PF-40-EBX-E	92.00916	75014	< 10.	UG/KG	2/06/92	Vinyl chloride
PF-40-EBX-E	92.00916	1330207	< 5.	UG/KG	2/06/92	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00916

none

Customer Sample Duplicate Results for Sample # 92.00916

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00916

none

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00917

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 1/30/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SPS	92.00917	67641	< 20.		UG/KG	2/06/92		Acetone
PF-40-SPS	92.00917	71432	< 5.		UG/KG	2/06/92		Benzene
PF-40-SPS	92.00917	108861	< 5.		UG/KG	2/06/92		Bromobenzene
PF-40-SPS	92.00917	74975	< 5.		UG/KG	2/06/92		Bromochloromethane
PF-40-SPS	92.00917	75274	< 5.		UG/KG	2/06/92		Bromodichloromethane
PF-40-SPS	92.00917	75252	< 5.		UG/KG	2/06/92		Bromoform
PF-40-SPS	92.00917	74839	< 10.		UG/KG	2/06/92		Bromomethane
PF-40-SPS	92.00917	78933	< 20.		UG/KG	2/06/92		2-Butanone
PF-40-SPS	92.00917	104518	< 5.		UG/KG	2/06/92		n-Butylbenzene
PF-40-SPS	92.00917	135988	< 5.		UG/KG	2/06/92		sec-Butylbenzene
PF-40-SPS	92.00917	98066	< 5.		UG/KG	2/06/92		tert-Butylbenzene
PF-40-SPS	92.00917	75150	< 5.		UG/KG	2/06/92		Carbon disulfide
PF-40-SPS	92.00917	56235	< 5.		UG/KG	2/06/92		Carbon tetrachloride
PF-40-SPS	92.00917	108907	< 5.		UG/KG	2/06/92		Chlorobenzene
PF-40-SPS	92.00917	124481	< 5.		UG/KG	2/06/92		Chlorodibromomethane
PF-40-SPS	92.00917	75003	< 10.		UG/KG	2/06/92		Chloroethane
PF-40-SPS	92.00917	67663	< 5.		UG/KG	2/06/92		Chloroform
PF-40-SPS	92.00917	74873	< 10.		UG/KG	2/06/92		Chloromethane
PF-40-SPS	92.00917	95498	< 5.		UG/KG	2/06/92		o-Chlorotoluene
PF-40-SPS	92.00	106434	< 5.		UG/KG	2/06/92		p-Chlorotoluene
PF-40-SPS	92.00	96128	< 10.		UG/KG	2/06/92		1,2-Dibromo-3-chloropropane

PF-40-SPS	92.00917	106934	< 5.	UG/KG	2/06/92	1,2-Dibromoethane
PF-40-SPS	92.00917	74953	< 5.	UG/KG	2/06/92	Dibromomethane
PF-40-SPS	92.00917	95501	< 5.	UG/KG	2/06/92	o-Dichlorobenzene (1,2)
PF-40-SPS	92.00917	541731	< 5.	UG/KG	2/06/92	m-Dichlorobenzene (1,3)
PF-40-SPS	92.00917	106467	< 5.	UG/KG	2/06/92	p-Dichlorobenzene (1,4)
PF-40-SPS	92.00917	75718	< 10.	UG/KG	2/06/92	Dichlorodifluoromethane
PF-40-SPS	92.00917	75343	< 5.	UG/KG	2/06/92	1,1-Dichloroethane
PF-40-SPS	92.00917	107062	< 5.	UG/KG	2/06/92	1,2-Dichloroethane
PF-40-SPS	92.00917	75354	< 5.	UG/KG	2/06/92	1,1-Dichloroethene
PF-40-SPS	92.00917	156605	< 5.	UG/KG	2/06/92	trans-1,2-Dichloroethene
PF-40-SPS	92.00917	156592	< 5.	UG/KG	2/06/92	cis-1,2-Dichloroethylene
PF-40-SPS	92.00917	78875	< 5.	UG/KG	2/06/92	1,2-Dichloropropane
PF-40-SPS	92.00917	142289	< 5.	UG/KG	2/06/92	1,3-Dichloropropane
PF-40-SPS	92.00917	594207	< 5.	UG/KG	2/06/92	2,2-Dichloropropane
PF-40-SPS	92.00917	563586	< 5.	UG/KG	2/06/92	1,1-Dichloropropene
PF-40-SPS	92.00917	10061015	< 5.	UG/KG	2/06/92	cis-1,3-Dichloropropene
PF-40-SPS	92.00917	10061026	< 5.	UG/KG	2/06/92	trans-1,3-Dichloropropene
PF-40-SPS	92.00917	100414	< 5.	UG/KG	2/06/92	Ethylbenzene
PF-40-SPS	92.00917	591786	< 20.	UG/KG	2/06/92	2-Hexanone
PF-40-SPS	92.00917	98828	< 5.	UG/KG	2/06/92	Isopropylbenzene
PF-40-SPS	92.00917	99876	< 5.	UG/KG	2/06/92	4-Isopropyltoluene
PF-40-SPS	92.00917	74884	< 5.	UG/KG	2/06/92	Methyl iodide
PF-40-SPS	92.00917	108101	< 20.	UG/KG	2/06/92	4-Methyl-2-pentanone
PF-40-SPS	92.00917	75092	< 5.	UG/KG	2/06/92	Methylene chloride
PF-40-SPS	92.00917	103651	< 5.	UG/KG	2/06/92	Propylbenzene
PF-40-SPS	92.00917	100425	< 5.	UG/KG	2/06/92	Styrene
PF-40-SPS	92.00917	630206	< 5.	UG/KG	2/06/92	1,1,1,2-Tetrachloroethane
PF-40-SPS	92.00917	79345	< 5.	UG/KG	2/06/92	1,1,2,2-Tetrachloroethane
PF-40-SPS	92.00917	127184	< 5.	UG/KG	2/06/92	Tetrachloroethylene
PF-40-SPS	92.00917	108883	< 5.	UG/KG	2/06/92	Toluene
PF-40-SPS	92.00917	76131	< 5.	UG/KG	2/06/92	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-SPS	92.00917	71556	< 5.	UG/KG	2/06/92	1,1,1-Trichloroethane
PF-40-SPS	92.00917	79005	< 5.	UG/KG	2/06/92	1,1,2-Trichloroethane
PF-40-SPS	92.00917	79016	< 5.	UG/KG	2/06/92	Trichloroethene
PF-40-SPS	92.00917	75694	< 5.	UG/KG	2/06/92	Trichlorofluoromethane
PF-40-SPS	92.00917	96184	< 5.	UG/KG	2/06/92	1,2,3-Trichloropropane
PF-40-SPS	92.00917	95636	< 5.	UG/KG	2/06/92	1,2,4-Trimethylbenzene
PF-40-SPS	92.00917	108678	< 5.	UG/KG	2/06/92	1,3,5-Trimethylbenzene
PF-40-SPS	92.00917	108054	< 10.	UG/KG	2/06/92	Vinyl acetate
PF-40-SPS	92.00917	75014	< 10.	UG/KG	2/06/92	Vinyl chloride
PF-40-SPS	92.00917	1330207	< 5.	UG/KG	2/06/92	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00917

none

Customer Sample Duplicate Results for Sample # 92.00917

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00917

none

Matrix Spike Results for Sample # 92.00917

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SPS	92.00917	71432	54.96	50.	UG/KG	2/06/92		Benzene
PF-40-SPS	92.00917	108907	54.96	55.	UG/KG	2/06/92		Chlorobenzene
PF-40-SPS	92.00917	75343	54.96	43.	UG/KG	2/06/92		1,1-Dichloroethane
PF-40-SPS	92.00917	108883	54.96	55.	UG/KG	2/06/92		Toluene
PF-40-SPS	92.00917	79016	54.96	51.	UG/KG	2/06/92		Trichloroethene

Matrix Spike Duplicate Results for Sample # 92.00917

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SPS	92.00917	71432	54.9	50.	UG/KG	2/06/92		Benzene
PF-40-SPS	92.00917	108907	54.9	53.	UG/KG	2/06/92		Chlorobenzene
PF-40-SPS	92.00917	75343	54.9	41.	UG/KG	2/06/92		1,1-Dichloroethane
PF-40-SPS	92.00917	108883	54.9	54.	UG/KG	2/06/92		Toluene
PF-40-SPS	92.00917	79016	54.9	50.	UG/KG	2/06/92		Trichloroethene

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00918

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/31/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DP	92.00918	67641	< 40.		UG/KG	2/06/92		Acetone
PF-40-DP	92.00918	71432	< 10.		UG/KG	2/06/92		Benzene
PF-40-DP	92.00918	108861	< 10.		UG/KG	2/06/92		Bromobenzene
PF-40-DP	92.00918	74975	< 10.		UG/KG	2/06/92		Bromochloromethane
PF-40-DP	92.00918	75274	< 10.		UG/KG	2/06/92		Bromodichloromethane
PF-40-DP	92.00918	75252	< 10.		UG/KG	2/06/92		Bromoform
PF-40-DP	92.00918	74839	< 20.		UG/KG	2/06/92		Bromomethane
PF-40-DP	92.00918	78933	< 40.		UG/KG	2/06/92		2-Butanone
PF-40-DP	92.00918	104518	< 10.		UG/KG	2/06/92		n-Butylbenzene
PF-40-DP	92.00918	135988	< 10.		UG/KG	2/06/92		sec-Butylbenzene
PF-40-DP	92.00918	98066	< 10.		UG/KG	2/06/92		tert-Butylbenzene
PF-40-DP	92.00918	75150	< 10.		UG/KG	2/06/92		Carbon disulfide
PF-40-DP	92.00918	56235	< 10.		UG/KG	2/06/92		Carbon tetrachloride
PF-40-DP	92.00918	108907	< 10.		UG/KG	2/06/92		Chlorobenzene
PF-40-DP	92.00918	124481	< 10.		UG/KG	2/06/92		Chlorodibromomethane
PF-40-DP	92.00918	75003	< 20.		UG/KG	2/06/92		Chloroethane
PF-40-DP	92.00918	67663	< 10.		UG/KG	2/06/92		Chloroform
PF-40-DP	92.00918	74873	< 20.		UG/KG	2/06/92		Chloromethane
PF-40-DP	92.00918	95498	< 10.		UG/KG	2/06/92		o-Chlorotoluene
PF-40-DP	92.00918	106434	< 10.		UG/KG	2/06/92		p-Chlorotoluene
PF-40-DP	92.00918	96128	< 20.		UG/KG	2/06/92		1,2-Dibromo-3-chloropropane

PF-40-DP	92.00918	106934	< 10.	UG/KG	2/06/92	1,2-Dibromoethane
PF-40-DP	92.00918	74953	< 10.	UG/KG	2/06/92	Dibromomethane
PF-40-DP	92.00918	95501	< 10.	UG/KG	2/06/92	o-Dichlorobenzene (1,2)
PF-40-DP	92.00918	541731	< 10.	UG/KG	2/06/92	m-Dichlorobenzene (1,3)
PF-40-DP	92.00918	106467	< 10.	UG/KG	2/06/92	p-Dichlorobenzene (1,4)
PF-40-DP	92.00918	75718	< 20.	UG/KG	2/06/92	Dichlorodifluoromethane
PF-40-DP	92.00918	75343	< 10.	UG/KG	2/06/92	1,1-Dichloroethane
PF-40-DP	92.00918	107062	< 10.	UG/KG	2/06/92	1,2-Dichloroethane
PF-40-DP	92.00918	75354	< 10.	UG/KG	2/06/92	1,1-Dichloroethene
PF-40-DP	92.00918	156605	< 10.	UG/KG	2/06/92	trans-1,2-Dichloroethene
PF-40-DP	92.00918	156592	< 10.	UG/KG	2/06/92	cis-1,2-Dichloroethylene
PF-40-DP	92.00918	78875	< 10.	UG/KG	2/06/92	1,2-Dichloropropane
PF-40-DP	92.00918	142289	< 10.	UG/KG	2/06/92	1,3-Dichloropropane
PF-40-DP	92.00918	594207	< 10.	UG/KG	2/06/92	2,2-Dichloropropane
PF-40-DP	92.00918	563586	< 10.	UG/KG	2/06/92	1,1-Dichloropropene
PF-40-DP	92.00918	10061015	< 10.	UG/KG	2/06/92	cis-1,3-Dichloropropene
PF-40-DP	92.00918	10061026	< 10.	UG/KG	2/06/92	trans-1,3-Dichloropropene
PF-40-DP	92.00918	100414	< 10.	UG/KG	2/06/92	Ethylbenzene
PF-40-DP	92.00918	591786	< 40.	UG/KG	2/06/92	2-Hexanone
PF-40-DP	92.00918	98828	< 10.	UG/KG	2/06/92	Isopropylbenzene
PF-40-DP	92.00918	99876	< 10.	UG/KG	2/06/92	4-Isopropyltoluene
PF-40-DP	92.00918	74884	< 10.	UG/KG	2/06/92	Methyl iodide
PF-40-DP	92.00918	108101	< 40.	UG/KG	2/06/92	4-Methyl-2-pentanone
PF-40-DP	92.00918	75092	< 10.	UG/KG	2/06/92	Methylene chloride
PF-40-DP	92.00918	103651	< 10.	UG/KG	2/06/92	Propylbenzene
PF-40-DP	92.00918	100425	< 10.	UG/KG	2/06/92	Styrene
PF-40-DP	92.00918	630206	< 10.	UG/KG	2/06/92	1,1,1,2-Tetrachloroethane
PF-40-DP	92.00918	79345	< 10.	UG/KG	2/06/92	1,1,2,2-Tetrachloroethane
PF-40-DP	92.00918	127184	< 10.	UG/KG	2/06/92	Tetrachloroethylene
PF-40-DP	92.00918	108883	< 10.	UG/KG	2/06/92	Toluene
PF-40-DP	92.00918	76131	< 10.	UG/KG	2/06/92	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-DP	92.00918	71556	< 10.	UG/KG	2/06/92	1,1,1-Trichloroethane
PF-40-DP	92.00918	79005	< 10.	UG/KG	2/06/92	1,1,2-Trichloroethane
PF-40-DP	92.00918	79016	< 10.	UG/KG	2/06/92	Trichloroethene
PF-40-DP	92.00918	75694	< 10.	UG/KG	2/06/92	Trichlorofluoromethane
PF-40-DP	92.00918	96184	< 10.	UG/KG	2/06/92	1,2,3-Trichloropropane
PF-40-DP	92.00918	95636	< 10.	UG/KG	2/06/92	1,2,4-Trimethylbenzene
PF-40-DP	92.00918	108678	< 10.	UG/KG	2/06/92	1,3,5-Trimethylbenzene
PF-40-DP	92.00918	108054	< 20.	UG/KG	2/06/92	Vinyl acetate
PF-40-DP	92.00918	75014	< 20.	UG/KG	2/06/92	Vinyl chloride
PF-40-DP	92.00918	1330207	< 10.	UG/KG	2/06/92	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00918

none

Customer Sample Duplicate Results for Sample # 92.00918

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00918

none

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00919

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 1/30/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-SD-W	92.00919	67641	< 20.		UG/KG	2/06/92		Acetone
F-40-SD-W	92.00919	71432	< 5.		UG/KG	2/06/92		Benzene
F-40-SD-W	92.00919	108861	< 5.		UG/KG	2/06/92		Bromobenzene
F-40-SD-W	92.00919	74975	< 5.		UG/KG	2/06/92		Bromochloromethane
F-40-SD-W	92.00919	75274	< 5.		UG/KG	2/06/92		Bromodichloromethane
F-40-SD-W	92.00919	75252	< 5.		UG/KG	2/06/92		Bromoform
F-40-SD-W	92.00919	74839	< 10.		UG/KG	2/06/92		Bromomethane
F-40-SD-W	92.00919	78933	< 20.		UG/KG	2/06/92		2-Butanone
F-40-SD-W	92.00919	104518	< 5.		UG/KG	2/06/92		n-Butylbenzene
F-40-SD-W	92.00919	135988	< 5.		UG/KG	2/06/92		sec-Butylbenzene
F-40-SD-W	92.00919	98066	< 5.		UG/KG	2/06/92		tert-Butylbenzene
F-40-SD-W	92.00919	75150	< 5.		UG/KG	2/06/92		Carbon disulfide
F-40-SD-W	92.00919	56235	< 5.		UG/KG	2/06/92		Carbon tetrachloride
F-40-SD-W	92.00919	108907	< 5.		UG/KG	2/06/92		Chlorobenzene
F-40-SD-W	92.00919	124481	< 5.		UG/KG	2/06/92		Chlorodibromomethane
F-40-SD-W	92.00919	75003	< 10.		UG/KG	2/06/92		Chloroethane
F-40-SD-W	92.00919	67663	< 5.		UG/KG	2/06/92		Chloroform
F-40-SD-W	92.00919	74873	< 10.		UG/KG	2/06/92		Chloromethane
F-40-SD-W	92.00919	95498	< 5.		UG/KG	2/06/92		o-Chlorotoluene
F-40-SD-W	92.009	106434	< 5.		UG/KG	2/06/92		p-Chlorotoluene
F-40-SD-W	92.009	96128	< 10.		UG/KG	2/06/92		1,2-Dibromo-3-chloropropane

PF-40-SD-W	92.00919	106934	< 5.	UG/KG	2/06/92	1,2-Dibromoethane
PF-40-SD-W	92.00919	74953	< 5.	UG/KG	2/06/92	Dibromomethane
PF-40-SD-W	92.00919	95501	< 5.	UG/KG	2/06/92	o-Dichlorobenzene (1,2)
PF-40-SD-W	92.00919	541731	< 5.	UG/KG	2/06/92	m-Dichlorobenzene (1,3)
PF-40-SD-W	92.00919	106467	< 5.	UG/KG	2/06/92	p-Dichlorobenzene (1,4)
PF-40-SD-W	92.00919	75718	< 10.	UG/KG	2/06/92	Dichlorodifluoromethane
PF-40-SD-W	92.00919	75343	< 5.	UG/KG	2/06/92	1,1-Dichloroethane
PF-40-SD-W	92.00919	107062	< 5.	UG/KG	2/06/92	1,2-Dichloroethane
PF-40-SD-W	92.00919	75354	< 5.	UG/KG	2/06/92	1,1-Dichloroethene
PF-40-SD-W	92.00919	156605	< 5.	UG/KG	2/06/92	trans-1,2-Dichloroethene
PF-40-SD-W	92.00919	156592	< 5.	UG/KG	2/06/92	cis-1,2-Dichloroethylene
PF-40-SD-W	92.00919	78875	< 5.	UG/KG	2/06/92	1,2-Dichloropropane
PF-40-SD-W	92.00919	142289	< 5.	UG/KG	2/06/92	1,3-Dichloropropane
PF-40-SD-W	92.00919	594207	< 5.	UG/KG	2/06/92	2,2-Dichloropropane
PF-40-SD-W	92.00919	563586	< 5.	UG/KG	2/06/92	1,1-Dichloropropene
PF-40-SD-W	92.00919	10061015	< 5.	UG/KG	2/06/92	cis-1,3-Dichloropropene
PF-40-SD-W	92.00919	10061026	< 5.	UG/KG	2/06/92	trans-1,3-Dichloropropene
PF-40-SD-W	92.00919	100414	< 5.	UG/KG	2/06/92	Ethylbenzene
PF-40-SD-W	92.00919	591786	< 20.	UG/KG	2/06/92	2-Hexanone
PF-40-SD-W	92.00919	98828	< 5.	UG/KG	2/06/92	Isopropylbenzene
PF-40-SD-W	92.00919	99876	< 5.	UG/KG	2/06/92	4-Isopropyltoluene
PF-40-SD-W	92.00919	74884	< 5.	UG/KG	2/06/92	Methyl iodide
PF-40-SD-W	92.00919	108101	< 20.	UG/KG	2/06/92	4-Methyl-2-pentanone
PF-40-SD-W	92.00919	75092	< 5.	UG/KG	2/06/92	Methylene chloride
PF-40-SD-W	92.00919	103651	< 5.	UG/KG	2/06/92	Propylbenzene
PF-40-SD-W	92.00919	100425	< 5.	UG/KG	2/06/92	Styrene
PF-40-SD-W	92.00919	630206	< 5.	UG/KG	2/06/92	1,1,1,2-Tetrachloroethane
PF-40-SD-W	92.00919	79345	< 5.	UG/KG	2/06/92	1,1,2,2-Tetrachloroethane
PF-40-SD-W	92.00919	127184	< 5.	UG/KG	2/06/92	Tetrachloroethylene
PF-40-SD-W	92.00919	108883	< 5.	UG/KG	2/06/92	Toluene
PF-40-SD-W	92.00919	76131	< 5.	UG/KG	2/06/92	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-SD-W	92.00919	71556	< 5.	UG/KG	2/06/92	1,1,1-Trichloroethane
PF-40-SD-W	92.00919	79005	< 5.	UG/KG	2/06/92	1,1,2-Trichloroethane
PF-40-SD-W	92.00919	79016	< 5.	UG/KG	2/06/92	Trichloroethene
PF-40-SD-W	92.00919	75694	< 5.	UG/KG	2/06/92	Trichlorofluoromethane
PF-40-SD-W	92.00919	96184	< 5.	UG/KG	2/06/92	1,2,3-Trichloropropane
PF-40-SD-W	92.00919	95636	< 5.	UG/KG	2/06/92	1,2,4-Trimethylbenzene
PF-40-SD-W	92.00919	108678	< 5.	UG/KG	2/06/92	1,3,5-Trimethylbenzene
PF-40-SD-W	92.00919	108054	< 10.	UG/KG	2/06/92	Vinyl acetate
PF-40-SD-W	92.00919	75014	< 10.	UG/KG	2/06/92	Vinyl chloride
PF-40-SD-W	92.00919	1330207	< 5.	UG/KG	2/06/92	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00919

none

Customer Sample Duplicate Results for Sample # 92.00919

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00919

none

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00920

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 1/30/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-M	92.00920	67641	< 20.		UG/KG	2/06/92		Acetone
PF-40-SD-M	92.00920	71432	< 5.		UG/KG	2/06/92		Benzene
PF-40-SD-M	92.00920	108861	< 5.		UG/KG	2/06/92		Bromobenzene
PF-40-SD-M	92.00920	74975	< 5.		UG/KG	2/06/92		Bromochloromethane
PF-40-SD-M	92.00920	75274	< 5.		UG/KG	2/06/92		Bromodichloromethane
PF-40-SD-M	92.00920	75252	< 5.		UG/KG	2/06/92		Bromoform
PF-40-SD-M	92.00920	74839	< 10.		UG/KG	2/06/92		Bromomethane
PF-40-SD-M	92.00920	78933	< 20.		UG/KG	2/06/92		2-Butanone
PF-40-SD-M	92.00920	104518	< 5.		UG/KG	2/06/92		n-Butylbenzene
PF-40-SD-M	92.00920	135988	< 5.		UG/KG	2/06/92		sec-Butylbenzene
PF-40-SD-M	92.00920	98066	< 5.		UG/KG	2/06/92		tert-Butylbenzene
PF-40-SD-M	92.00920	75150	< 5.		UG/KG	2/06/92		Carbon disulfide
PF-40-SD-M	92.00920	56235	< 5.		UG/KG	2/06/92		Carbon tetrachloride
PF-40-SD-M	92.00920	108907	< 5.		UG/KG	2/06/92		Chlorobenzene
PF-40-SD-M	92.00920	124481	< 5.		UG/KG	2/06/92		Chlorodibromomethane
PF-40-SD-M	92.00920	75003	< 10.		UG/KG	2/06/92		Chloroethane
PF-40-SD-M	92.00920	67663	< 5.		UG/KG	2/06/92		Chloroform
PF-40-SD-M	92.00920	74873	< 10.		UG/KG	2/06/92		Chloromethane
PF-40-SD-M	92.00920	95498	< 5.		UG/KG	2/06/92		o-Chlorotoluene
PF-40-SD-M	92.00920	106434	< 5.		UG/KG	2/06/92		p-Chlorotoluene
PF-40-SD-M	92.00920	96128	< 10.		UG/KG	2/06/92		1,2-Dibromo-3-chloropropane

PF-40-SD-M	92.00920	106934	< 5.	UG/KG	2/06/92	1,2-Dibromoethane
PF-40-SD-M	92.00920	74953	< 5.	UG/KG	2/06/92	Dibromomethane
PF-40-SD-M	92.00920	95501	< 5.	UG/KG	2/06/92	o-Dichlorobenzene (1,2)
PF-40-SD-M	92.00920	541731	< 5.	UG/KG	2/06/92	m-Dichlorobenzene (1,3)
PF-40-SD-M	92.00920	106467	< 5.	UG/KG	2/06/92	p-Dichlorobenzene (1,4)
PF-40-SD-M	92.00920	75718	< 10.	UG/KG	2/06/92	Dichlorodifluoromethane
PF-40-SD-M	92.00920	75343	< 5.	UG/KG	2/06/92	1,1-Dichloroethane
PF-40-SD-M	92.00920	107062	< 5.	UG/KG	2/06/92	1,2-Dichloroethane
PF-40-SD-M	92.00920	75354	< 5.	UG/KG	2/06/92	1,1-Dichloroethene
PF-40-SD-M	92.00920	156605	< 5.	UG/KG	2/06/92	trans-1,2-Dichloroethene
PF-40-SD-M	92.00920	156592	< 5.	UG/KG	2/06/92	cis-1,2-Dichloroethylene
PF-40-SD-M	92.00920	78875	< 5.	UG/KG	2/06/92	1,2-Dichloropropane
PF-40-SD-M	92.00920	142289	< 5.	UG/KG	2/06/92	1,3-Dichloropropane
PF-40-SD-M	92.00920	594207	< 5.	UG/KG	2/06/92	2,2-Dichloropropane
PF-40-SD-M	92.00920	563586	< 5.	UG/KG	2/06/92	1,1-Dichloropropene
PF-40-SD-M	92.00920	10061015	< 5.	UG/KG	2/06/92	cis-1,3-Dichloropropene
PF-40-SD-M	92.00920	10061026	< 5.	UG/KG	2/06/92	trans-1,3-Dichloropropene
PF-40-SD-M	92.00920	100414	< 5.	UG/KG	2/06/92	Ethylbenzene
PF-40-SD-M	92.00920	591786	< 20.	UG/KG	2/06/92	2-Hexanone
PF-40-SD-M	92.00920	98828	< 5.	UG/KG	2/06/92	Isopropylbenzene
PF-40-SD-M	92.00920	99876	< 5.	UG/KG	2/06/92	4-Isopropyltoluene
PF-40-SD-M	92.00920	74884	< 5.	UG/KG	2/06/92	Methyl iodide
PF-40-SD-M	92.00920	108101	< 20.	UG/KG	2/06/92	4-Methyl-2-pentanone
PF-40-SD-M	92.00920	75092	< 5.	UG/KG	2/06/92	Methylene chloride
PF-40-SD-M	92.00920	103651	< 5.	UG/KG	2/06/92	Propylbenzene
PF-40-SD-M	92.00920	100425	< 5.	UG/KG	2/06/92	Styrene
PF-40-SD-M	92.00920	630206	< 5.	UG/KG	2/06/92	1,1,1,2-Tetrachloroethane
PF-40-SD-M	92.00920	79345	< 5.	UG/KG	2/06/92	1,1,2,2-Tetrachloroethane
PF-40-SD-M	92.00920	127184	< 5.	UG/KG	2/06/92	Tetrachloroethylene
PF-40-SD-M	92.00920	108883	< 5.	UG/KG	2/06/92	Toluene
PF-40-SD-M	92.00920	76131	< 5.	UG/KG	2/06/92	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-SD-M	92.00920	71556	< 5.	UG/KG	2/06/92	1,1,1-Trichloroethane
PF-40-SD-M	92.00920	79005	< 5.	UG/KG	2/06/92	1,1,2-Trichloroethane
PF-40-SD-M	92.00920	79016	< 5.	UG/KG	2/06/92	Trichloroethene
PF-40-SD-M	92.00920	75694	< 5.	UG/KG	2/06/92	Trichlorofluoromethane
PF-40-SD-M	92.00920	96184	< 5.	UG/KG	2/06/92	1,2,3-Trichloropropane
PF-40-SD-M	92.00920	95636	< 5.	UG/KG	2/06/92	1,2,4-Trimethylbenzene
PF-40-SD-M	92.00920	108678	< 5.	UG/KG	2/06/92	1,3,5-Trimethylbenzene
PF-40-SD-M	92.00920	108054	< 10.	UG/KG	2/06/92	Vinyl acetate
PF-40-SD-M	92.00920	75014	< 10.	UG/KG	2/06/92	Vinyl chloride
PF-40-SD-M	92.00920	1330207	< 5.	UG/KG	2/06/92	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00920

none

Customer Sample Duplicate Results for Sample # 92.00920

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00920

none

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00921

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 1/30/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-E	92.00921	67641	< 20.		UG/KG	2/06/92		Acetone
PF-40-SD-E	92.00921	71432	< 5.		UG/KG	2/06/92		Benzene
PF-40-SD-E	92.00921	108861	< 5.		UG/KG	2/06/92		Bromobenzene
PF-40-SD-E	92.00921	74975	< 5.		UG/KG	2/06/92		Bromochloromethane
PF-40-SD-E	92.00921	75274	< 5.		UG/KG	2/06/92		Bromodichloromethane
PF-40-SD-E	92.00921	75252	< 5.		UG/KG	2/06/92		Bromoform
PF-40-SD-E	92.00921	74839	< 10.		UG/KG	2/06/92		Bromomethane
PF-40-SD-E	92.00921	78933	< 20.		UG/KG	2/06/92		2-Butanone
PF-40-SD-E	92.00921	104518	< 5.		UG/KG	2/06/92		n-Butylbenzene
PF-40-SD-E	92.00921	135988	< 5.		UG/KG	2/06/92		sec-Butylbenzene
PF-40-SD-E	92.00921	98066	< 5.		UG/KG	2/06/92		tert-Butylbenzene
PF-40-SD-E	92.00921	75150	< 5.		UG/KG	2/06/92		Carbon disulfide
PF-40-SD-E	92.00921	56235	< 5.		UG/KG	2/06/92		Carbon tetrachloride
PF-40-SD-E	92.00921	108907	< 5.		UG/KG	2/06/92		Chlorobenzene
PF-40-SD-E	92.00921	124481	< 5.		UG/KG	2/06/92		Chlorodibromomethane
PF-40-SD-E	92.00921	75003	< 10.		UG/KG	2/06/92		Chloroethane
PF-40-SD-E	92.00921	67663	< 5.		UG/KG	2/06/92		Chloroform
PF-40-SD-E	92.00921	74873	< 10.		UG/KG	2/06/92		Chloromethane
PF-40-SD-E	92.00921	95498	< 5.		UG/KG	2/06/92		o-Chlorotoluene
PF-40-SD-E	9[illegible]21	106434	< 5.		UG/KG	2/06[illegible]		p-Chlorotoluene
PF-40-SD-E	9[illegible]921	96128	< 10.		UG/KG	2/06[illegible]		1,2-Dibromo-3-chloropropane

PF-40-SD-E	92.00921	106934	< 5.	UG/KG	2/06/92	1,2-Dibromoethane
PF-40-SD-E	92.00921	74953	< 5.	UG/KG	2/06/92	Dibromomethane
PF-40-SD-E	92.00921	95501	< 5.	UG/KG	2/06/92	o-Dichlorobenzene (1,2)
PF-40-SD-E	92.00921	541731	< 5.	UG/KG	2/06/92	m-Dichlorobenzene (1,3)
PF-40-SD-E	92.00921	106467	< 5.	UG/KG	2/06/92	p-Dichlorobenzene (1,4)
PF-40-SD-E	92.00921	75718	< 10.	UG/KG	2/06/92	Dichlorodifluoromethane
PF-40-SD-E	92.00921	75343	< 5.	UG/KG	2/06/92	1,1-Dichloroethane
PF-40-SD-E	92.00921	107062	< 5.	UG/KG	2/06/92	1,2-Dichloroethane
PF-40-SD-E	92.00921	75354	< 5.	UG/KG	2/06/92	1,1-Dichloroethene
PF-40-SD-E	92.00921	156605	< 5.	UG/KG	2/06/92	trans-1,2-Dichloroethene
PF-40-SD-E	92.00921	156592	< 5.	UG/KG	2/06/92	cis-1,2-Dichloroethylene
PF-40-SD-E	92.00921	78875	< 5.	UG/KG	2/06/92	1,2-Dichloropropane
PF-40-SD-E	92.00921	142289	< 5.	UG/KG	2/06/92	1,3-Dichloropropane
PF-40-SD-E	92.00921	594207	< 5.	UG/KG	2/06/92	2,2-Dichloropropane
PF-40-SD-E	92.00921	563586	< 5.	UG/KG	2/06/92	1,1-Dichloropropene
PF-40-SD-E	92.00921	10061015	< 5.	UG/KG	2/06/92	cis-1,3-Dichloropropene
PF-40-SD-E	92.00921	10061026	< 5.	UG/KG	2/06/92	trans-1,3-Dichloropropene
PF-40-SD-E	92.00921	100414	< 5.	UG/KG	2/06/92	Ethylbenzene
PF-40-SD-E	92.00921	591786	< 20.	UG/KG	2/06/92	2-Hexanone
PF-40-SD-E	92.00921	98828	< 5.	UG/KG	2/06/92	Isopropylbenzene
PF-40-SD-E	92.00921	99876	< 5.	UG/KG	2/06/92	4-Isopropyltoluene
PF-40-SD-E	92.00921	74884	< 5.	UG/KG	2/06/92	Methyl iodide
PF-40-SD-E	92.00921	108101	< 20.	UG/KG	2/06/92	4-Methyl-2-pentanone
PF-40-SD-E	92.00921	75092	< 5.	UG/KG	2/06/92	Methylene chloride
PF-40-SD-E	92.00921	103651	< 5.	UG/KG	2/06/92	Propylbenzene
PF-40-SD-E	92.00921	100425	< 5.	UG/KG	2/06/92	Styrene
PF-40-SD-E	92.00921	630206	< 5.	UG/KG	2/06/92	1,1,1,2-Tetrachloroethane
PF-40-SD-E	92.00921	79345	< 5.	UG/KG	2/06/92	1,1,2,2-Tetrachloroethane
PF-40-SD-E	92.00921	127184	< 5.	UG/KG	2/06/92	Tetrachloroethylene
PF-40-SD-E	92.00921	108883	< 5.	UG/KG	2/06/92	Toluene
PF-40-SD-E	92.00921	76131	< 5.	UG/KG	2/06/92	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-SD-E	92.00921	71556	< 5.	UG/KG	2/06/92	1,1,1-Trichloroethane
PF-40-SD-E	92.00921	79005	< 5.	UG/KG	2/06/92	1,1,2-Trichloroethane
PF-40-SD-E	92.00921	79016	< 5.	UG/KG	2/06/92	Trichloroethene
PF-40-SD-E	92.00921	75694	< 5.	UG/KG	2/06/92	Trichlorofluoromethane
PF-40-SD-E	92.00921	96184	< 5.	UG/KG	2/06/92	1,2,3-Trichloropropane
PF-40-SD-E	92.00921	95636	< 5.	UG/KG	2/06/92	1,2,4-Trimethylbenzene
PF-40-SD-E	92.00921	108678	< 5.	UG/KG	2/06/92	1,3,5-Trimethylbenzene
PF-40-SD-E	92.00921	108054	< 10.	UG/KG	2/06/92	Vinyl acetate
PF-40-SD-E	92.00921	75014	< 10.	UG/KG	2/06/92	Vinyl chloride
PF-40-SD-E	92.00921	1330207	< 5.	UG/KG	2/06/92	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 92.00921

none

Customer Sample Duplicate Results for Sample # 92.00921

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00921

none

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00931

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 1/30/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-TPBLK	92.00931	67641	< 20.		UG/KG	2/06/92	TRIP BLANK	Acetone
PF-40-TPBLK	92.00931	71432	< 5.		UG/KG	2/06/92	TRIP BLANK	Benzene
PF-40-TPBLK	92.00931	108861	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromobenzene
PF-40-TPBLK	92.00931	74975	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromochloromethane
PF-40-TPBLK	92.00931	75274	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromodichloromethane
PF-40-TPBLK	92.00931	75252	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromoform
PF-40-TPBLK	92.00931	74839	< 10.		UG/KG	2/06/92	TRIP BLANK	Bromomethane
PF-40-TPBLK	92.00931	78933	< 20.		UG/KG	2/06/92	TRIP BLANK	2-Butanone
PF-40-TPBLK	92.00931	104518	< 5.		UG/KG	2/06/92	TRIP BLANK	n-Butylbenzene
PF-40-TPBLK	92.00931	135988	< 5.		UG/KG	2/06/92	TRIP BLANK	sec-Butylbenzene
PF-40-TPBLK	92.00931	98066	< 5.		UG/KG	2/06/92	TRIP BLANK	tert-Butylbenzene
PF-40-TPBLK	92.00931	75150	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon disulfide
PF-40-TPBLK	92.00931	56235	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon tetrachloride
PF-40-TPBLK	92.00931	108907	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorobenzene
PF-40-TPBLK	92.00931	124481	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorodibromomethane
PF-40-TPBLK	92.00931	75003	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloroethane
PF-40-TPBLK	92.00931	67663	< 5.		UG/KG	2/06/92	TRIP BLANK	Chloroform
PF-40-TPBLK	92.00931	74873	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloromethane
PF-40-TPBLK	92.00931	95498	< 5.		UG/KG	2/06/92	TRIP BLANK	o-Chlorotoluene
PF-40-TPBLK	92.00931	106434	< 5.		UG/KG	2/06/92	TRIP BLANK	p-Chlorotoluene
PF-40-TPBLK	92.00931	96128	< 10.		UG/KG	2/06/92	TRIP BLANK	1,2-Dibromo-3-chloropropane

PF-40-TPBLK	92.00931	106934	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dibromoethane
PF-40-TPBLK	92.00931	74953	< 5.	UG/KG	2/06/92	TRIP BLANK	Dibromomethane
PF-40-TPBLK	92.00931	95501	< 5.	UG/KG	2/06/92	TRIP BLANK	o-Dichlorobenzene (1,2)
PF-40-TPBLK	92.00931	541731	< 5.	UG/KG	2/06/92	TRIP BLANK	m-Dichlorobenzene (1,3)
PF-40-TPBLK	92.00931	106467	< 5.	UG/KG	2/06/92	TRIP BLANK	p-Dichlorobenzene (1,4)
PF-40-TPBLK	92.00931	75718	< 10.	UG/KG	2/06/92	TRIP BLANK	Dichlorodifluoromethane
PF-40-TPBLK	92.00931	75343	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethane
PF-40-TPBLK	92.00931	107062	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloroethane
PF-40-TPBLK	92.00931	75354	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethene
PF-40-TPBLK	92.00931	156605	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,2-Dichloroethene
PF-40-TPBLK	92.00931	156592	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,2-Dichloroethylene
PF-40-TPBLK	92.00931	78875	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloropropane
PF-40-TPBLK	92.00931	142289	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3-Dichloropropane
PF-40-TPBLK	92.00931	594207	< 5.	UG/KG	2/06/92	TRIP BLANK	2,2-Dichloropropane
PF-40-TPBLK	92.00931	563586	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloropropene
PF-40-TPBLK	92.00931	10061015	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,3-Dichloropropene
PF-40-TPBLK	92.00931	10061026	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,3-Dichloropropene
PF-40-TPBLK	92.00931	100414	< 5.	UG/KG	2/06/92	TRIP BLANK	Ethylbenzene
PF-40-TPBLK	92.00931	591786	< 20.	UG/KG	2/06/92	TRIP BLANK	2-Hexanone
PF-40-TPBLK	92.00931	98828	< 5.	UG/KG	2/06/92	TRIP BLANK	Isopropylbenzene
PF-40-TPBLK	92.00931	99876	< 5.	UG/KG	2/06/92	TRIP BLANK	4-Isopropyltoluene
PF-40-TPBLK	92.00931	74884	< 5.	UG/KG	2/06/92	TRIP BLANK	Methyl iodide
PF-40-TPBLK	92.00931	108101	< 20.	UG/KG	2/06/92	TRIP BLANK	4-Methyl-2-pentanone
PF-40-TPBLK	92.00931	75092	< 5.	UG/KG	2/06/92	TRIP BLANK	Methylene chloride
PF-40-TPBLK	92.00931	103651	< 5.	UG/KG	2/06/92	TRIP BLANK	Propylbenzene
PF-40-TPBLK	92.00931	100425	< 5.	UG/KG	2/06/92	TRIP BLANK	Styrene
PF-40-TPBLK	92.00931	630206	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1,2-Tetrachloroethane
PF-40-TPBLK	92.00931	79345	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2,2-Tetrachloroethane
PF-40-TPBLK	92.00931	127184	< 5.	UG/KG	2/06/92	TRIP BLANK	Tetrachloroethylene
PF-40-TPBLK	92.00931	108883	< 5.	UG/KG	2/06/92	TRIP BLANK	Toluene
PF-40-TPBLK	92.00931	76131	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-TPBLK	92.00931	71556	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1-Trichloroethane
PF-40-TPBLK	92.00931	79005	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloroethane
PF-40-TPBLK	92.00931	79016	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichloroethene
PF-40-TPBLK	92.00931	75694	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichlorofluoromethane
PF-40-TPBLK	92.00931	96184	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,3-Trichloropropane
PF-40-TPBLK	92.00931	95636	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,4-Trimethylbenzene
PF-40-TPBLK	92.00931	108678	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3,5-Trimethylbenzene
PF-40-TPBLK	92.00931	108054	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl acetate
PF-40-TPBLK	92.00931	75014	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl chloride
PF-40-TPBLK	92.00931	1330207	< 5.	UG/KG	2/06/92	TRIP BLANK	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00931

CUSTOMER	SAM.	COMPLETION	COMPOUND

NUMBER	NUMBER	ANALYSIS		RESULT	UNCERTAINTY	UNITS	DATE	COMMENT	NAME
PF-40-TPBLK	92.00931	109999	TI	13.		UG/KG	2/06/92	TRIP BLANK	Tetrahydrofuran

Customer Sample Duplicate Results for Sample # 92.00931

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00931

none

REPORT NUMBER: 12911

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00932

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 1/30/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FPBLK	92.00932	67641	< 20.		UG/KG	2/06/92	TRIP BLANK	Acetone
PF-40-FPBLK	92.00932	71432	< 5.		UG/KG	2/06/92	TRIP BLANK	Benzene
PF-40-FPBLK	92.00932	108861	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromobenzene
PF-40-FPBLK	92.00932	74975	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromochloromethane
PF-40-FPBLK	92.00932	75274	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromodichloromethane
PF-40-FPBLK	92.00932	75252	< 5.		UG/KG	2/06/92	TRIP BLANK	Bromoform
PF-40-FPBLK	92.00932	74839	< 10.		UG/KG	2/06/92	TRIP BLANK	Bromomethane
PF-40-FPBLK	92.00932	78933	< 20.		UG/KG	2/06/92	TRIP BLANK	2-Butanone
PF-40-FPBLK	92.00932	104518	< 5.		UG/KG	2/06/92	TRIP BLANK	n-Butylbenzene
PF-40-FPBLK	92.00932	135988	< 5.		UG/KG	2/06/92	TRIP BLANK	sec-Butylbenzene
PF-40-FPBLK	92.00932	98066	< 5.		UG/KG	2/06/92	TRIP BLANK	tert-Butylbenzene
PF-40-FPBLK	92.00932	75150	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon disulfide
PF-40-FPBLK	92.00932	56235	< 5.		UG/KG	2/06/92	TRIP BLANK	Carbon tetrachloride
PF-40-FPBLK	92.00932	108907	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorobenzene
PF-40-FPBLK	92.00932	124481	< 5.		UG/KG	2/06/92	TRIP BLANK	Chlorodibromomethane
PF-40-FPBLK	92.00932	75003	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloroethane
PF-40-FPBLK	92.00932	67663	< 5.		UG/KG	2/06/92	TRIP BLANK	Chloroform
PF-40-FPBLK	92.00932	74873	< 10.		UG/KG	2/06/92	TRIP BLANK	Chloromethane
PF-40-FPBLK	92.00932	95498	< 5.		UG/KG	2/06/92	TRIP BLANK	o-Chlorotoluene
PF-40-FPBLK	92.0[illegible]	106434	< 5.		UG/KG	2/06/92	TRIP BLANK	p-Chlorotoluene
PF-40-FPBLK	92.0[illegible]	96128	< 10.		UG/KG	2/06/92	TRIP BLANK	1,2-Dibromo-3-chloropropane

PF-40-FPBLK	92.00932	106934	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dibromoethane
PF-40-FPBLK	92.00932	74953	< 5.	UG/KG	2/06/92	TRIP BLANK	Dibromomethane
PF-40-FPBLK	92.00932	95501	< 5.	UG/KG	2/06/92	TRIP BLANK	o-Dichlorobenzene (1,2)
PF-40-FPBLK	92.00932	541731	< 5.	UG/KG	2/06/92	TRIP BLANK	m-Dichlorobenzene (1,3)
PF-40-FPBLK	92.00932	106467	< 5.	UG/KG	2/06/92	TRIP BLANK	p-Dichlorobenzene (1,4)
PF-40-FPBLK	92.00932	75718	< 10.	UG/KG	2/06/92	TRIP BLANK	Dichlorodifluoromethane
PF-40-FPBLK	92.00932	75343	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethane
PF-40-FPBLK	92.00932	107062	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloroethane
PF-40-FPBLK	92.00932	75354	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloroethene
PF-40-FPBLK	92.00932	156605	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,2-Dichloroethene
PF-40-FPBLK	92.00932	156592	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,2-Dichloroethylene
PF-40-FPBLK	92.00932	78875	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2-Dichloropropane
PF-40-FPBLK	92.00932	142289	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3-Dichloropropane
PF-40-FPBLK	92.00932	594207	< 5.	UG/KG	2/06/92	TRIP BLANK	2,2-Dichloropropane
PF-40-FPBLK	92.00932	563586	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1-Dichloropropene
PF-40-FPBLK	92.00932	10061015	< 5.	UG/KG	2/06/92	TRIP BLANK	cis-1,3-Dichloropropene
PF-40-FPBLK	92.00932	10061026	< 5.	UG/KG	2/06/92	TRIP BLANK	trans-1,3-Dichloropropene
PF-40-FPBLK	92.00932	100414	< 5.	UG/KG	2/06/92	TRIP BLANK	Ethylbenzene
PF-40-FPBLK	92.00932	591786	< 20.	UG/KG	2/06/92	TRIP BLANK	2-Hexanone
PF-40-FPBLK	92.00932	98828	< 5.	UG/KG	2/06/92	TRIP BLANK	Isopropylbenzene
PF-40-FPBLK	92.00932	99876	< 5.	UG/KG	2/06/92	TRIP BLANK	4-Isopropyltoluene
PF-40-FPBLK	92.00932	74884	< 5.	UG/KG	2/06/92	TRIP BLANK	Methyl iodide
PF-40-FPBLK	92.00932	108101	< 20.	UG/KG	2/06/92	TRIP BLANK	4-Methyl-2-pentanone
PF-40-FPBLK	92.00932	75092	< 5.	UG/KG	2/06/92	TRIP BLANK	Methylene chloride
PF-40-FPBLK	92.00932	103651	< 5.	UG/KG	2/06/92	TRIP BLANK	Propylbenzene
PF-40-FPBLK	92.00932	100425	< 5.	UG/KG	2/06/92	TRIP BLANK	Styrene
PF-40-FPBLK	92.00932	630206	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1,2-Tetrachloroethane
PF-40-FPBLK	92.00932	79345	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2,2-Tetrachloroethane
PF-40-FPBLK	92.00932	127184	< 5.	UG/KG	2/06/92	TRIP BLANK	Tetrachloroethylene
PF-40-FPBLK	92.00932	108883	< 5.	UG/KG	2/06/92	TRIP BLANK	Toluene
PF-40-FPBLK	92.00932	76131	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloro-1,2,2-trifluoroethane
PF-40-FPBLK	92.00932	71556	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,1-Trichloroethane
PF-40-FPBLK	92.00932	79005	< 5.	UG/KG	2/06/92	TRIP BLANK	1,1,2-Trichloroethane
PF-40-FPBLK	92.00932	79016	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichloroethene
PF-40-FPBLK	92.00932	75694	< 5.	UG/KG	2/06/92	TRIP BLANK	Trichlorofluoromethane
PF-40-FPBLK	92.00932	96184	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,3-Trichloropropane
PF-40-FPBLK	92.00932	95636	< 5.	UG/KG	2/06/92	TRIP BLANK	1,2,4-Trimethylbenzene
PF-40-FPBLK	92.00932	108678	< 5.	UG/KG	2/06/92	TRIP BLANK	1,3,5-Trimethylbenzene
PF-40-FPBLK	92.00932	108054	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl acetate
PF-40-FPBLK	92.00932	75014	< 10.	UG/KG	2/06/92	TRIP BLANK	Vinyl chloride
PF-40-FPBLK	92.00932	1330207	< 5.	UG/KG	2/06/92	TRIP BLANK	Mixed-Xylenes (o + m + p)

Tentatively Identified Compounds in Customer Sample # 92.00932

none

Customer Sample Duplicate Results for Sample # 92.00932

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00932

none

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REPORT NUMBER: 12911 (continued)

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: LAT on 6-Feb-1992

EPA VOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: Suzanne Bell PROGRAM CODE: M94B NOTEBOOK: na PAGE: na

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: PTGC ANALYTICAL PROCEDURE: EPA SW-846 3RD

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUN
00.20227	92.00965	67641	< 20.		UG/KG	0.0		2/06/92	UNDER CONTROL	Acetone
00.20227	92.00965	71432	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Benzene
00.20227	92.00965	108861	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromobenzene
00.20227	92.00965	74975	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromochloromethane
00.20227	92.00965	75274	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromodichloromethane
00.20227	92.00965	75252	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromoform
00.20227	92.00965	74839	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromomethane
0.20227	92.00965	78933	< 20.		UG/KG	0.0		2/06/92	UNDER CONTROL	2-Butanone
0.20227	92.00965	104518	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	n-Butylbenzene
00.20227	92.00965	135988	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	sec-Butylbenzene
00.20227	92.00965	98066	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.00965	75150	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Carbon disulfide
00.20227	92.00965	56235	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.00965	108907	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chlorobenzene
00.20227	92.00965	124481	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chlorodibromomethane
00.20227	92.00965	75003	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloroethane
00.20227	92.00965	67663	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloroform
00.20227	92.00965	74873	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloromethane
00.20227	92.00965	95498	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	o-Chlorotoluene
00.20227	92.00965	106434	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	p-Chlorotoluene
00.20227	92.00965	96128	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20227	92.00965	106934	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dibromoethane
00.20227	92.00965	74953	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Dibromomethane
00.20227	92.00965	95501	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.00965	541731	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.00965	106467	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.00965	75718	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Dichlorodifluoromethane
00.20227	92.00965	75343	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloroethane
00.20227	92.00965	107062	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dichloroethane
00.20227	92.00965	75354	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloroethene
00.20227	92.00965	156605	< 5.		UG/KG	0.0		[illegible]	UNDER CONTROL	trans-1,2-Dichloroethene
00.20227	92.00[illegible]	156592	< 5.		UG/KG	0.[illegible]			UNDER CONTROL	cis-1,2-Dichloroethylene
00.20227	92.00[illegible]	78875	< 5.		UG/KG	0[illegible]		2/06/92	UNDER CONTROL	1,2-Dichloropropane

00.20227	92.00965	142289	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3-Dichloropropa...
00.20227	92.00965	594207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	2,2-Dichloropropane
00.20227	92.00965	563586	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloropropene
00.20227	92.00965	10061015	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
00.20227	92.00965	10061026	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
00.20227	92.00965	100414	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Ethylbenzene
00.20227	92.00965	591786	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Hexanone
00.20227	92.00965	98828	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Isopropylbenzene
00.20227	92.00965	99876	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Isopropyltoluene
00.20227	92.00965	74884	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methyl iodide
00.20227	92.00965	108101	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
00.20227	92.00965	75092	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methylene chloride
00.20227	92.00965	103651	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Propylbenzene
00.20227	92.00965	100425	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Styrene
00.20227	92.00965	630206	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20227	92.00965	79345	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20227	92.00965	127184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Tetrachloroethylene
00.20227	92.00965	108883	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Toluene
00.20227	92.00965	76131	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
00.20227	92.00965	71556	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
00.20227	92.00965	79005	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
00.20227	92.00965	79016	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichloroethene
00.20227	92.00965	75694	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichlorofluoromethane
00.20227	92.00965	96184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
00.20227	92.00965	95636	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20227	92.00965	108678	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20227	92.00965	108054	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl acetate
00.20227	92.00965	75014	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl chloride
00.20227	92.00965	1330207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)
00.20227	92.00966	67641	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	Acetone
00.20227	92.00966	71432	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Benzene
00.20227	92.00966	108861	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromobenzene
00.20227	92.00966	74975	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromochloromethane
00.20227	92.00966	75274	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromodichloromethane
00.20227	92.00966	75252	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromoform
00.20227	92.00966	74839	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromomethane
00.20227	92.00966	78933	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Butanone
00.20227	92.00966	104518	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	n-Butylbenzene
00.20227	92.00966	135988	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	sec-Butylbenzene
00.20227	92.00966	98066	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	tert-Butylbenzene
00.20227	92.00966	75150	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon disulfide
00.20227	92.00966	56235	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon tetrachloride
00.20227	92.00966	108907	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorobenzene
00.20227	92.00966	124481	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorodibromomethane
00.20227	92.00966	75003	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroethane

.20227	92.00966	67663	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroform
.20227	92.00966	74873	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloromethane
.20227	92.00966	95498	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Chlorotoluene
.20227	92.00966	106434	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Chlorotoluene
.20227	92.00966	96128	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
.20227	92.00966	106934	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromoethane
.20227	92.00966	74953	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dibromomethane
.20227	92.00966	95501	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
.20227	92.00966	541731	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
.20227	92.00966	106467	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
.20227	92.00966	75718	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dichlorodifluoromethane
.20227	92.00966	75343	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethane
.20227	92.00966	107062	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloroethane
.20227	92.00966	75354	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethene
.20227	92.00966	156605	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
.20227	92.00966	156592	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
.20227	92.00966	78875	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloropropane
.20227	92.00966	142289	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3-Dichloropropane
.20227	92.00966	594207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	2,2-Dichloropropane
.20227	92.00966	563586	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloropropene
.20227	92.00966	10061015	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
.20227	92.00966	10061026	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
.20227	92.00966	100414	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Ethylbenzene
.20227	92.00966	591786	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Hexanone
.20227	92.00966	98828	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Isopropylbenzene
.20227	92.00966	99876	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Isopropyltoluene
.20227	92.00966	74884	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methyl iodide
.20227	92.00966	108101	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
.20227	92.00966	75092	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methylene chloride
.20227	92.00966	103651	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Propylbenzene
.20227	92.00966	100425	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Styrene
.20227	92.00966	630206	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
.20227	92.00966	79345	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
.20227	92.00966	127184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Tetrachloroethylene
.20227	92.00966	108883	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Toluene
.20227	92.00966	76131	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
.20227	92.00966	71556	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
.20227	92.00966	79005	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
.20227	92.00966	79016	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichloroethene
.20227	92.00966	75694	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichlorofluoromethane
.20227	92.00966	96184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
.20227	92.00966	95636	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
.20227	92.00966	108678	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
.20227	92.009	108054	< 10.	UG/KG	0.	2/06/92	UNDER CONTROL	Vinyl acetate
.20227	92.009	75014	< 10.	UG/KG	0.	2/06/92	UNDER CONTROL	Vinyl chloride

0.20227	92.00966	1330207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Mixed-Xylenes (o + m + p)
0.20227	92.01251	67641	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	Acetone
0.20227	92.01251	71432	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Benzene
0.20227	92.01251	108861	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromobenzene
0.20227	92.01251	74975	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromochloromethane
0.20227	92.01251	75274	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromodichloromethane
0.20227	92.01251	75252	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromoform
0.20227	92.01251	74839	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromomethane
0.20227	92.01251	78933	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Butanone
0.20227	92.01251	104518	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	n-Butylbenzene
0.20227	92.01251	135988	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	sec-Butylbenzene
0.20227	92.01251	98066	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	tert-Butylbenzene
0.20227	92.01251	75150	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon disulfide
0.20227	92.01251	56235	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon tetrachloride
0.20227	92.01251	108907	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorobenzene
0.20227	92.01251	124481	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorodibromomethane
0.20227	92.01251	75003	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroethane
0.20227	92.01251	67663	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroform
0.20227	92.01251	74873	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloromethane
0.20227	92.01251	95498	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Chlorotoluene
0.20227	92.01251	106434	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Chlorotoluene
0.20227	92.01251	96128	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
0.20227	92.01251	106934	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromoethane
0.20227	92.01251	74953	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dibromomethane
0.20227	92.01251	95501	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
0.20227	92.01251	541731	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
0.20227	92.01251	106467	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
0.20227	92.01251	75718	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dichlorodifluoromethane
0.20227	92.01251	75343	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethane
0.20227	92.01251	107062	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloroethane
0.20227	92.01251	75354	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethene
0.20227	92.01251	156605	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
0.20227	92.01251	156592	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
0.20227	92.01251	78875	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloropropane
0.20227	92.01251	142289	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3-Dichloropropane
0.20227	92.01251	594207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	2,2-Dichloropropane
0.20227	92.01251	563586	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloropropene
0.20227	92.01251	10061015	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
0.20227	92.01251	10061026	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
0.20227	92.01251	100414	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Ethylbenzene
0.20227	92.01251	591786	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Hexanone
0.20227	92.01251	98828	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Isopropylbenzene
0.20227	92.01251	99876	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Isopropyltoluene
0.20227	92.01251	74884	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methyl iodide
0.20227	92.01251	108101	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone

0.20227	92.01251	75092	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methylene chloride
0.20227	92.01251	103651	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Propylbenzene
0.20227	92.01251	100425	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Styrene
0.20227	92.01251	630206	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
0.20227	92.01251	79345	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
0.20227	92.01251	127184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Tetrachloroethylene
0.20227	92.01251	108883	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Toluene
0.20227	92.01251	76131	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
0.20227	92.01251	71556	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
0.20227	92.01251	79005	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
0.20227	92.01251	79016	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichloroethene
0.20227	92.01251	75694	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichlorofluoromethane
0.20227	92.01251	96184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
0.20227	92.01251	95636	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
0.20227	92.01251	108678	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
0.20227	92.01251	108054	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl acetate
0.20227	92.01251	75014	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl chloride
0.20227	92.01251	1330207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Mixed-Xylenes (o + m + p)
0.20227	92.01252	67641	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	Acetone
0.20227	92.01252	71432	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Benzene
0.20227	92.01252	108861	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromobenzene
0.20227	92.01252	74975	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromochloromethane
0.20227	92.01252	75274	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromodichloromethane
0.20227	92.01252	75252	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromoform
0.20227	92.01252	74839	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Bromomethane
0.20227	92.01252	78933	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Butanone
0.20227	92.01252	104518	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	n-Butylbenzene
0.20227	92.01252	135988	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	sec-Butylbenzene
0.20227	92.01252	98066	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	tert-Butylbenzene
0.20227	92.01252	75150	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon disulfide
0.20227	92.01252	56235	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Carbon tetrachloride
0.20227	92.01252	108907	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorobenzene
0.20227	92.01252	124481	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chlorodibromomethane
0.20227	92.01252	75003	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroethane
0.20227	92.01252	67663	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloroform
0.20227	92.01252	74873	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Chloromethane
0.20227	92.01252	95498	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Chlorotoluene
0.20227	92.01252	106434	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Chlorotoluene
0.20227	92.01252	96128	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
0.20227	92.01252	106934	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dibromoethane
0.20227	92.01252	74953	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Dibromomethane
0.20227	92.01252	95501	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
0.20227	92.01252	541731	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
0.20227	92.01252	106467	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
0.20227	92.01	75718	< 10.	UG/KG	0	2/06/92	UNDER CONTROL	Dichlorodifluoromethan

.20227	92.01252	75343	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethane
.20227	92.01252	107062	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloroethane
.20227	92.01252	75354	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloroethene
.20227	92.01252	156605	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
.20227	92.01252	156592	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
.20227	92.01252	78875	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2-Dichloropropane
.20227	92.01252	142289	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3-Dichloropropane
.20227	92.01252	594207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	2,2-Dichloropropane
.20227	92.01252	563586	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1-Dichloropropene
.20227	92.01252	10061015	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
.20227	92.01252	10061026	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
.20227	92.01252	100414	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Ethylbenzene
.20227	92.01252	591786	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	2-Hexanone
.20227	92.01252	98828	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Isopropylbenzene
.20227	92.01252	99876	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Isopropyltoluene
.20227	92.01252	74884	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methyl iodide
.20227	92.01252	108101	< 20.	UG/KG	0.0	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
.20227	92.01252	75092	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Methylene chloride
.20227	92.01252	103651	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Propylbenzene
.20227	92.01252	100425	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Styrene
.20227	92.01252	630206	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
.20227	92.01252	79345	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
.20227	92.01252	127184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Tetrachloroethylene
.20227	92.01252	108883	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Toluene
.20227	92.01252	76131	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
.20227	92.01252	71556	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
.20227	92.01252	79005	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
.20227	92.01252	79016	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichloroethene
.20227	92.01252	75694	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Trichlorofluoromethane
.20227	92.01252	96184	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
.20227	92.01252	95636	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
.20227	92.01252	108678	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
.20227	92.01252	108054	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl acetate
.20227	92.01252	75014	< 10.	UG/KG	0.0	2/06/92	UNDER CONTROL	Vinyl chloride
.20227	92.01252	1330207	< 5.	UG/KG	0.0	2/06/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)

ank Spike Results

one

ank Spike Duplicate Results

one

UMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

lind QC Results, Sample # 92.00964

ate Collected: 1/27/92 Date Received: 1/29/92 Date Extracted: 1/29/92 Date Analyzed: 1/29/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
2.00964	67641	64.	19.2	UG/KG	120.	12.	2/06/92	WARNING 2-3 SIG	Acetone
2.00964	71432	120.	36.	UG/KG	130.	13.	2/06/92	UNDER CONTROL	Benzene
2.00964	108861	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromobenzene
2.00964	74975	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromochloromethane
2.00964	75274	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromodichloromethane
2.00964	75252	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromoform
2.00964	74839	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Bromomethane
2.00964	78933	93.	27.9	UG/KG	150.	15.	2/06/92	UNDER CONTROL	2-Butanone
2.00964	104518	120.	36.	UG/KG	120.	12.	2/06/92	UNDER CONTROL	n-Butylbenzene
2.00964	135988	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	sec-Butylbenzene
2.00964	98066	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	tert-Butylbenzene
2.00964	75150	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Carbon disulfide
2.00964	56235	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Carbon tetrachloride
2.00964	108907	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chlorobenzene
2.00964	124481	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chlorodibromomethane
2.00964	75003	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloroethane
2.00964	67663	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloroform
2.00964	74873	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Chloromethane
2.00964	95498	120.	36.	UG/KG	130.	13.	2/06/92	UNDER CONTROL	o-Chlorotoluene
2.00964	106434	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	p-Chlorotoluene
2.00964	96128	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dibromo-3-chloropropane
2.00964	106934	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dibromoethane
2.00964	74953	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Dibromomethane
2.00964	95501	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
2.00964	541731	160.	48.	UG/KG	160.	16.	2/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
2.00964	106467	130.	39.	UG/KG	120.	12.	2/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
2.00964	75718	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Dichlorodifluoromethane
2.00964	75343	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloroethane
2.00964	107062	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dichloroethane
2.00964	75354	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloroethene
2.00964	156605	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	trans-1,2-Dichloroethene
2.00964	156592	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	cis-1,2-Dichloroethylene
2.00964	78875	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2-Dichloropropane
2.00964	142289	200.	60.	UG/KG	140.	14	2/06/92	UNDER CONTROL	1,3-Dichloropropane

.00964	594207	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	2,2-Dichloropropane
.00964	563586	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1-Dichloropropene
.00964	10061015	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	cis-1,3-Dichloropropene
.00964	10061026	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	trans-1,3-Dichloropropene
.00964	100414	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Ethylbenzene
.00964	591786	97.	29.1	UG/KG	120.	12.	2/06/92	UNDER CONTROL	2-Hexanone
.00964	98828	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Isopropylbenzene
.00964	99876	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	4-Isopropyltoluene
.00964	74884	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Methyl iodide
.00964	108101	160.	48.	UG/KG	120.	12.	2/06/92	UNDER CONTROL	4-Methyl-2-pentanone
.00964	75092	120.	36.	UG/KG	130.	13.	2/06/92	UNDER CONTROL	Methylene chloride
.00964	103651	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Propylbenzene
.00964	100425	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Styrene
.00964	630206	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,1,2-Tetrachloroethane
.00964	79345	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,2,2-Tetrachloroethane
.00964	127184	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Tetrachloroethylene
.00964	108883	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Toluene
.00964	76131	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroethane
.00964	71556	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,1-Trichloroethane
.00964	79005	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,1,2-Trichloroethane
.00964	79016	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Trichloroethene
.00964	75694	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Trichlorofluoromethane
.00964	96184	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2,3-Trichloropropane
.00964	95636	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,2,4-Trimethylbenzene
.00964	108678	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	1,3,5-Trimethylbenzene
.00964	108054	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Vinyl acetate
.00964	75014	< 10.		UG/KG	0.0		2/06/92	UNDER CONTROL	Vinyl chloride
.00964	1330207	< 5.		UG/KG	0.0		2/06/92	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)

URROGATE RESULTS FOR EPA VOLATILES

urrogate 1 = 1,2-Dichloroethane d4 (CAS # = 17060070)
urrogate 2 = Toluene d8 (CAS # = 2037265)
urrogate 3 = 4-Bromofluorobenzene (CAS # = 460004)

AMPLE UMBER	UNITS	Surrogate 1	Surrogate 2	Surrogate 3	COMPLETION DATE
2.00913	%	93.28	93.9	147.86	6-Feb-1992
2.00914	%	77.48	88.06	107.98	6-Feb-1992
2.00915	%	87.98	87.58	124.26	6-Feb-1992
2.00916	%	86.12	96.46	116.14	6-Feb-1992
2.00917	%	97.88	92.94	117.64	6-Feb-1992
2.00917	%	98.04	91.28	119.46	6-Feb-1992
2.00917	%	92.84	85.38	113.26	6-Feb-1992

92.00918	%	86.04	96.7	109.44	6-Feb-1992
92.00919	%	90.66	90.36	118.24	6-Feb-1992
92.00920	%	89.76	89.72	122.34	6-Feb-1992
92.00921	%	92.34	87.9	124.96	6-Feb-1992
92.00931	%	101.4	89.6	107.8	6-Feb-1992
92.00932	%	93.38	93.62	108.88	6-Feb-1992
92.00964	%	85.64	98.16	88.72	6-Feb-1992
92.00965	%	95.48	97.68	102.1	6-Feb-1992
92.00966	%	86.04	91.84	96.88	6-Feb-1992
92.01251	%	90.12	96.66	102.2	6-Feb-1992
92.01252	%	98.	90.84	107.84	6-Feb-1992

PA Limits:

Water	%	76 - 114	88 - 110	86 - 115
Soil	%	70 - 121	81 - 117	74 - 121

EPORT NUMBER: 12911

Analyst	Reviewer	Section Leader for CL	QA Officer
2-6-92	2/.../92	2/7/92	2-7-92
Date	Date	Date	Date

he control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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SVOC Analyses

30121511019-
SVOC DATA
TA-40 SDJ

SVOC

HSE-9 SEMIVOLATILE ORGANIC ANALYSIS
SUMMARY OF ANALYTICAL RESULTS

To: Phil Fresquez
From: Martin Koby

Request Number: 12439
Matrix: Soil
Summary Date: 2/6/92

ppb

Sample ID	Target Compounds Found	Amount (ug/Kg)	LOQ (ug/Kg)	TICs (Y/N)
Blank 1/28/92	NONE	<330	330	N
92.00696	NONE	<330	330	N
92.00697	NONE	<1300	1300	Y
92.00698	NONE	<330	330	N
92.00699	NONE	<330	330	Y
92.00700	NONE	<330	330	N
92.00701	NONE	<330	330	N
92.00702	NONE	<330	330	N
92.00703	NONE	<330	330	N
92.00704	NONE	<330	330	N
92.00705	NONE	<330	330	N
92.00706	NONE	<330	330	N
92.00707	NONE	<330	330	Y
BLANK 1/29/92	NONE	<330	330	N
92.00708	NONE	<330	330	N
92.00709	NONE	<330	330	N
92.00710	NONE	<330	330	N
92.00761	NONE	<330	330	N
92.00762	NONE	<330	330	Y
92.00763	NONE	<330	330	N
92.00764	**Phenol***	1500	660	Y
	Benzoic Acid*	2100	660	
92.00765	NONE	<330	330	Y
92.00766	NONE	<330	330	N
92.00767	Benzo(b)fluoranthene	1800	1300	Y
92.00768	NONE	<330	330	N
92.00769	NONE	<330	330	N
92.00770	NONE	<3300	3300	N

(*) Sample contaminant introduced during gel permeation cleanup. These were present in the GPC reagent blank and <u>are not</u> present in the sample.

The samples were extracted by mixing approximately 30 g of sample with 60 g sodium sulfate and sonicating with 100 ml of methylene chloride. This was repeated two more times. Sample extracts were centrifuged, combined, and concentrated to a 1.0 ml final volume. Sample 92.00764 was concentrated to 10.0 ml prior to GPC cleanup. Appropriate surrogate standards were added prior to extraction as a check of method efficiency. Analysis was performed by capillary column GC/MS methods. These methods are consistent with EPA SW-846 protocol.

Sample 92.00767 was found to contain benzo(b)fluoranthene. All other extracts were found to be absent of HSL target compounds above the specified limit of quantitation. Several samples contained appreciable concentrations of saturated hydrocarbons, some of which were not chromatographable.

Surrogate recoveries were within control limits for all samples except for sample 92.00706. At your discression this sample may need to be resubmitted for analysis.

All analytical holding times were satisfied regarding this request. If you have any questions concerning this data, please do not hesitate to call either Tony Lombardo or Laura Tsiagkouris at 667-5889.

Sample 92.00770 extract was dark and somewhat viscous. The sample was analyzed at a 1:10 dilution. Although no target compounds were found, the sample was not analyzed at a higher concentration since a more concentrated analysis may have adversely effected analytical system performance.

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR SEMI-VOLATILES
IN SOIL TYPE MATRICES

REQUEST #: 12439

NUMBER OF SAMPLES: 17
MATRIX S
ANALYST: AJL
Date: 01/06/92

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	2-FLUORO-PHENOL	PHENOL (D6)	NITRO-BENZENE (D5)	2-FLUORO-BIPHENYL	2,4,6-TRIBROMO-PHENOL	TERPHENYL (D14)
1	S92.00752	BLANK	47	38	65	77	71	109
2	M92.00708	MATRIX SPIK	39	41	57	72	78	118
3	D92.00708	MATRIX SP-D	50	49	68	82	79	107
4	S92.00703	SAMPLE	43	42	56	70	77	86
	S92.00709	SAMPLE	46	49	78	84	73	112
	S92.00710	SAMPLE	42	42	57	69	80	97
7	S92.00761	SAMPLE	46	49	67	89	90	90
8	S92.00762	SAMPLE	43	45	67	88	91	89
9	S92.00763	SAMPLE	38	39	54	63	71	95
10	S92.00764	SAMPLE	55	65	89	109	93	127
11	S92.00765	SAMPLE	35	42	61	84	81	93
12	S92.00766	SAMPLE	51	51	69	60	66	101
13	S92.00767	SAMPLE	40	55	65	100	74	114
14	S92.00768	SAMPLE	42	45	63	82	87	100
15	S92.00769	SAMPLE	33	40	57	70	82	103
16	S92.00751	SAMPLE	53	51	70	85	67	84
17	S92.00770	SAMPLE	55	64	84	119 *	70	134
18								
19								
20								
21								
22								
	Average % Surrogate Recovery...		45	46	66	30	80	103
	Defined Lower QC Limits (%)....		23	24	23	30	19	18
	Defined Upper QC Limits (%)....		121	113	120	115	132	137
	Observed Lower QC Limits (%)...		38	38	54	63	71	86
	Observed Upper QC Limits (%)...		55	65	89	109	93	127

"* if % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By:

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
MATRIX SPIKE RECOVERIES FOR SEMI-VOLATILES

		DRY WT/VOL (G or L)		AMOUNT SPIKED IN UG/KG ACIDS	BASES	LOQ (UG/KG)
REQUEST #:	12439					
NUMBER OF SAMPLES:	17					
SPIKE ID: (STARTS M OR E)	M92.00708	SPIKE	26.7	3745	1873	330
SPIKE DUP ID: (STARTS D OR F)	D92.00708	SPIKE-DUP	27.056	3696	1848	330
RAW DATA WITH:	12439					
ANALYST:	AJL					

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW. REC. LIM.	UPP. REC. LIM.	RPD LIM.
PHENOL	1600	1800	43%	49%	13%	26	90	35
2-CHLOROPHENOL	1500	1900	40%	51%	25%	25	102	50
1,4-DICHLOROBENZENE	840	1000	45%	54%	19%	28	104	27
N-NITROSO-DI-N-PROPYLAMINE	1100	1200	59%	65%	10%	41	126	38
1,2,4-TRICLOROBENZENE	910	1100	49%	60%	20%	38	107	23
4-CHLORO-3-METHYLPHENOL	2000	2200	53%	60%	11%	26	103	33
ACENAPHTHENE	1200	1300	64%	70%	9%	31	137	19
4-NITROPHENOL	2500	2200	67%	60%	11%	11	114	50
2,4-DINITROTOLUENE	1500	1500	80%	81%	1%	28	89	47
PENTACHLOROPHENOL	2400	1800	64%	49%	27%	17	109	47
PYRENE	1800	1700	96%	92%	4%	35	142	36

"+" If % Matrix Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By:

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR SEMI-VOLATILES
IN SOIL TYPE MATRICES

REQUEST #: 12439

NUMBER OF SAMPLES: 16
MATRIX S
ANALYST: AJL
Date: 01/06/92

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	2-FLUORO-PHENOL	PHENOL (D6)	NITRO-BENZENE (D5)	2-FLUORO-BIPHENYL	2,4,6-TRIBROMO-PHENOL	TERPHENYL (D14)
1	S92.00746	BLANK	49	47	70	80	71	118
2	M92.00695	MATRIX SPIK	71	69	91	100	80	107
3	D92.00696	MATRIX SP-D	61	59	77	91	74	112
4	S92.00696	SAMPLE	38	40	53	66	67	113
5	S92.00697	SAMPLE	52	62	84	120 *	74	140 *
6	S92.00698	SAMPLE	41	41	59	75	70	115
7	S92.00699	SAMPLE	24	34	46	65	72	113
8	S92.00700	SAMPLE	43	46	65	72	69	123
9	S92.00701	SAMPLE	40	40	58	68	75	110
10	S92.00702	SAMPLE	43	44	64	75	71	103
11	S92.00703	SAMPLE	44	49	63	88	79	114
12	S92.00704	SAMPLE	48	59	73	95	83	122
13	S92.00705	SAMPLE	37	40	58	69	70	95
14	S92.00706	SAMPLE	7 *	18 *	20 *	59	80	111
15	S92.00707	SAMPLE	26	31	57	71	44	78
16	S92.00745	SAMPLE	52	50	70	85	78	118
17								
18								
19								
20								
21								
22								

Average % Surrogate Recovery...	46	48	67	82	72	115
Defined Lower QC Limits (%)....	23	24	23	30	19	18
Defined Upper QC Limits (%)....	121	113	120	115	132	137
Observed Lower QC Limits (%)...	24	34	46	65	67	103
Observed Upper QC Limits (%)...	71	69	91	120	80	140

If % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By:

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
MATRIX SPIKE RECOVERIES FOR SEMI-VOLATILES

		DRY WT/VOL (G or L)	AMOUNT SPIKED IN UG/KG ACIDS	BASES	LOQ (UG/M3)
REQUEST #:	12439				
NUMBER OF SAMPLES:	16				
SPIKE ID: (STARTS M OR E)	M92.00696	SPIKE 26.984	3706	1853	330
SPIKE DUP ID: (STARTS D OR F)	D92.00696	SPIKE-DUP27.297	3663	1832	330
RAW DATA WITH:	12439				
ANALYST:	AJL				

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW. REC. LIM.	UPP. REC. LIM.	RPD LIM.
PHENOL	2600	2300	70%	60%	16%	26	90	35
2-CHLOROPHENOL	2500	2100	67%	57%	16%	25	102	50
1,4-DICHLOROBENZENE	1400	1100	76%	60%	23%	28	104	27
N-NITROSO-DI-N-PROPYLAMINE	1300	1200	70%	66%	7%	41	126	38
1,2,4-TRICLOROBENZENE	1400	1200	76%	66%	14%	38	107	23
4-CHLORO-3-METHYLPHENOL	2600	2400	70%	66%	7%	26	103	33
ACENAPHTHENE	1500	1400	81%	76%	6%	31	137	19
4-NITROPHENOL	2300	2500	62%	68%	9%	11	114	50
2,4-DINITROTOLUENE	1400	1400	76%	76%	1%	28	89	47
PENTACHLOROPHENOL	2900	2800	78%	76%	2%	17	109	47
PYRENE	1700	1700	92%	93%	1%	35	142	36

"*" If % Matrix Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By:

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00696

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/01/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-FA-1A	92.00696	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-FA-1A	92.00696	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-FA-1A	92.00696	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-FA-1A	92.00696	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-FA-1A	92.00696	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-FA-1A	92.00696	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-FA-1A	92.00696	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-FA-1A	92.00696	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-FA-1A	92.00696	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-FA-1A	92.00696	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-FA-1A	92.00696	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-FA-1A	92.00696	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-FA-1A	92.00696	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-FA-1A	92.00696	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-FA-1A	92.00696	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-FA-1A	92.00696	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-FA-1A	92.00696	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-FA-1A	92.00696	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-FA-1A	92.00696	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-FA-1A	92.00696	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-FA-1A	92.00696	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-FA-1A	92.00696	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-FA-1A	92.00696	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-FA-1A	92.00696	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-FA-1A	92.00696	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-FA-1A	92.00696	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-FA-1A	92.00696	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-FA-1A	92.00696	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-FA-1A	92.00696	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-FA-1A	92.00696	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-FA-1A	92.00696	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-FA-1A	92.00696	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-FA-1A	92.00696	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-FA-1A	92.00696	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-FA-1A	92.00696	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-FA-1A	92.00696	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-FA-1A	92.00696	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-FA-1A	92.00696	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-FA-1A	92.00696	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-FA-1A	92.00696	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-FA-1A	92.00696	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-FA-1A	92.00696	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-FA-1A	92.00696	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-FA-1A	92.00696	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-FA-1A	92.00696	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-FA-1A	92.00696	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-FA-1A	92.00696	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-FA-1A	92.00696	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-FA-1A	92.00696	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-FA-1A	92.00696	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-FA-1A	92.00696	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-FA-1A	92.00696	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-FA-1A	92.00696	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-FA-1A	92.00696	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-FA-1A	92.00696	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-FA-1A	92.00696	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-FA-1A	92.00696	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-FA-1A	92.00696	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-FA-1A	92.00696	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
-40-FA-1A	92.00696	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
F-40-FA-1A	92.00696	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
F-40-FA-1A	92.00696	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
F-40-FA-1A	92.00696	85018	< 330.	UG/KG	2/14/92	Phenanthrene
F-40-FA-1A	92.00[illegible]	108952	< 330.	UG/KG	2/14/92	Phenol
F-40-FA-1A	92.006[illegible]	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-FA-1A	92.00696	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-FA-1A	92.00696	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-FA-1A	92.00696	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00696

none

Customer Sample Duplicate Results for Sample # 92.00696

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00696

none

Matrix Spike Results for Sample # 92.00696

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	83329	1852.93	1500.	UG/KG	2/14/92	MATRIX SPIKE	Acenaphthene
PF-40-FA-1A	92.00696	59507	3705.87	2600.	UG/KG	2/14/92	MATRIX SPIKE	4-Chloro-3-methylphenol
PF-40-FA-1A	92.00696	95578	3705.87	2500.	UG/KG	2/14/92	MATRIX SPIKE	o-Chlorophenol
PF-40-FA-1A	92.00696	106467	1852.93	1400.	UG/KG	2/14/92	MATRIX SPIKE	p-Dichlorobenzene (1,4)
PF-40-FA-1A	92.00696	121142	1852.93	1400.	UG/KG	2/14/92	MATRIX SPIKE	2,4-Dinitrotoluene
PF-40-FA-1A	92.00696	100027	3705.87	2300.	UG/KG	2/14/92	MATRIX SPIKE	4-Nitrophenol
PF-40-FA-1A	92.00696	621647	1852.93	1300.	UG/KG	2/14/92	MATRIX SPIKE	N-Nitrosodi-n-propylamine
PF-40-FA-1A	92.00696	87865	3705.87	2900.	UG/KG	2/14/92	MATRIX SPIKE	Pentachlorophenol
PF-40-FA-1A	92.00696	108952	3705.87	2600.	UG/KG	2/14/92	MATRIX SPIKE	Phenol
PF-40-FA-1A	92.00696	129000	1852.93	1700.	UG/KG	2/14/92	MATRIX SPIKE	Pyrene
PF-40-FA-1A	92.00696	120821	1852.93	1400.	UG/KG	2/14/92	MATRIX SPIKE	1,2,4-Trichlorobenzene

Matrix Spike Duplicate Results for Sample # 92.00696

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	83329	1831.67	1400.	UG/KG	2/14/92	SPIKE DUPLICATE	Acenaphthene
PF-40-FA-1A	92.00696	59507	3663.34	2400.	UG/KG	2/14/92	SPIKE DUPLICATE	4-Chloro-3-methylphenol
PF-40-FA-1A	92.00696	95578	3663.34	2100.	UG/KG	2/14/92	SPIKE DUPLICATE	o-Chlorophenol
PF-40-FA-1A	92.00696	106467	1831.67	1100.	UG/KG	2/14/92	SPIKE DUPLICATE	p-Dichlorobenzene (1,4)
PF-40-FA-1A	92.00696	121142	1831.67	1400.	UG/KG	2/14/92	SPIKE DUPLICATE	2,4-Dinitrotoluene
PF-40-FA-1A	92.00696	100027	3663.34	2500.	UG/KG	2/14/92	SPIKE DUPLICATE	4-Nitrophenol
PF-40-FA-1A	92.00696	621647	1831.67	1200.	UG/KG	2/14/92	SPIKE DUPLICATE	N-Nitrosodi-n-propylamine

PF-40-FA-1A	92.00696	87865	3663.34	2800.	UG/KG	2/14/92	SPIKE DUPLICATE Pentachlorophenol
PF-40-FA-1A	92.00696	108952	3663.34	2200.	UG/KG	2/14/92	SPIKE DUPLICATE Phenol
PF-40-FA-1A	92.00696	129000	1831.67	1700.	UG/KG	2/14/92	SPIKE DUPLICATE Pyrene
PF-40-FA-1A	92.00696	120821	1831.67	1200.	UG/KG	2/14/92	SPIKE DUPLICATE 1,2,4-Trichlorobenzene

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00697

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-4A	92.00697	83329	< 1300.		UG/KG	2/14/92		Acenaphthene
PF-40-FA-4A	92.00697	208968	< 1300.		UG/KG	2/14/92		Acenaphthylene
PF-40-FA-4A	92.00697	62533	< 1300.		UG/KG	2/14/92		Aniline
PF-40-FA-4A	92.00697	120127	< 1300.		UG/KG	2/14/92		Anthracene
PF-40-FA-4A	92.00697	103333	< 1300.		UG/KG	2/14/92		Azobenzene
PF-40-FA-4A	92.00697	92875	< 1300.		UG/KG	2/14/92		m-Benzidine
PF-40-FA-4A	92.00697	56553	< 1300.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-FA-4A	92.00697	50328	< 1300.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-FA-4A	92.00697	205992	< 1300.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-FA-4A	92.00697	191242	< 1300.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-FA-4A	92.00697	207089	< 1300.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-FA-4A	92.00697	65850	< 1300.		UG/KG	2/14/92		Benzoic acid
PF-40-FA-4A	92.00697	100516	< 1300.		UG/KG	2/14/92		Benzyl alcohol
PF-40-FA-4A	92.00697	111911	< 1300.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-FA-4A	92.00697	111444	< 1300.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-FA-4A	92.00697	108601	< 1300.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-FA-4A	92.00697	117817	< 1300.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-FA-4A	92.00697	101553	< 1300.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-FA-4A	92.00697	85687	< 1300.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-FA-4A	92.00697	59507	< 1300.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-FA-4A	92.00697	106478	< 1300.		UG/KG	2/14/92		4-Chloroaniline

PF-40-FA-4A	92.00697	91587	< 1300.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-FA-4A	92.00697	95578	< 1300.	UG/KG	2/14/92	o-Chlorophenol
PF-40-FA-4A	92.00697	7005723	< 1300.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-FA-4A	92.00697	218019	< 1300.	UG/KG	2/14/92	Chrysene
PF-40-FA-4A	92.00697	84742	< 1300.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-FA-4A	92.00697	117840	< 1300.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-FA-4A	92.00697	53703	< 1300.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-FA-4A	92.00697	132649	< 1300.	UG/KG	2/14/92	Dibenzofuran
PF-40-FA-4A	92.00697	95501	< 1300.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-FA-4A	92.00697	541731	< 1300.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-FA-4A	92.00697	106467	< 1300.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-FA-4A	92.00697	91941	< 1300.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-FA-4A	92.00697	120832	< 1300.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-FA-4A	92.00697	84662	< 1300.	UG/KG	2/14/92	Diethyl phthalate
PF-40-FA-4A	92.00697	131113	< 1300.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-FA-4A	92.00697	105679	< 1300.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-FA-4A	92.00697	51285	< 1300.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-FA-4A	92.00697	121142	< 1300.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-FA-4A	92.00697	606202	< 1300.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-FA-4A	92.00697	206440	< 1300.	UG/KG	2/14/92	Fluoranthene
PF-40-FA-4A	92.00697	86737	< 1300.	UG/KG	2/14/92	Fluorene
PF-40-FA-4A	92.00697	118741	< 1300.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-FA-4A	92.00697	87683	< 1300.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-FA-4A	92.00697	77474	< 1300.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-FA-4A	92.00697	67721	< 1300.	UG/KG	2/14/92	Hexachloroethane
PF-40-FA-4A	92.00697	193395	< 1300.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-FA-4A	92.00697	78591	< 1300.	UG/KG	2/14/92	Isophorone
PF-40-FA-4A	92.00697	534521	< 1300.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-FA-4A	92.00697	91576	< 1300.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-FA-4A	92.00697	95487	< 1300.	UG/KG	2/14/92	2-Methylphenol
PF-40-FA-4A	92.00697	106445	< 1300.	UG/KG	2/14/92	4-Methylphenol
PF-40-FA-4A	92.00697	91203	< 1300.	UG/KG	2/14/92	Naphthalene
PF-40-FA-4A	92.00697	88744	< 1300.	UG/KG	2/14/92	2-Nitroaniline
PF-40-FA-4A	92.00697	99092	< 1300.	UG/KG	2/14/92	3-Nitroaniline
PF-40-FA-4A	92.00697	100016	< 1300.	UG/KG	2/14/92	4-Nitroaniline
PF-40-FA-4A	92.00697	98953	< 1300.	UG/KG	2/14/92	Nitrobenzene
PF-40-FA-4A	92.00697	88755	< 1300.	UG/KG	2/14/92	2-Nitrophenol
PF-40-FA-4A	92.00697	100027	< 1300.	UG/KG	2/14/92	4-Nitrophenol
PF-40-FA-4A	92.00697	621647	< 1300.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-FA-4A	92.00697	62759	< 1300.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-FA-4A	92.00697	86306	< 1300.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-FA-4A	92.00697	87865	< 1300.	UG/KG	2/14/92	Pentachlorophenol
PF-40-FA-4A	92.00697	85018	< 1300.	UG/KG	2/14/92	Phenanthrene
PF-40-FA-4A	92.00697	108952	< 1300.	UG/KG	2/14/92	Phenol
PF-40-FA-4A	92.00697	129000	< 1300.	UG/KG	2/14/92	Pyrene

PF-40-FA-4A	92.00697	120821	< 1300.		UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-FA-4A	92.00697	95954	< 1300.		UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-FA-4A	92.00697	88062	< 1300.		UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00697

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-4A	92.00697	100	TI	5600.		UG/KG	2/14/92		Unknown organic compound

Customer Sample Duplicate Results for Sample # 92.00697

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00697

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00698

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/01/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-5A	92.00698	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-FA-5A	92.00698	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-FA-5A	92.00698	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-FA-5A	92.00698	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-FA-5A	92.00698	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-FA-5A	92.00698	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-FA-5A	92.00698	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-FA-5A	92.00698	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-FA-5A	92.00698	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-FA-5A	92.00698	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-FA-5A	92.00698	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-FA-5A	92.00698	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-FA-5A	92.00698	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-FA-5A	92.00698	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-FA-5A	92.00698	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-FA-5A	92.00698	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-FA-5A	92.00698	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-FA-5A	92.00698	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-FA-5A	92.00[illegible]	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-FA-5A	92.00[illegible]	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-FA-5A	92.00698	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-FA-5A	92.00698	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-FA-5A	92.00698	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-FA-5A	92.00698	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-FA-5A	92.00698	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-FA-5A	92.00698	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-FA-5A	92.00698	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-FA-5A	92.00698	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-FA-5A	92.00698	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-FA-5A	92.00698	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-FA-5A	92.00698	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-FA-5A	92.00698	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-FA-5A	92.00698	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-FA-5A	92.00698	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-FA-5A	92.00698	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-FA-5A	92.00698	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-FA-5A	92.00698	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-FA-5A	92.00698	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-FA-5A	92.00698	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-FA-5A	92.00698	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-FA-5A	92.00698	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-FA-5A	92.00698	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-FA-5A	92.00698	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-FA-5A	92.00698	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-FA-5A	92.00698	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-FA-5A	92.00698	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-FA-5A	92.00698	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-FA-5A	92.00698	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-FA-5A	92.00698	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-FA-5A	92.00698	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-FA-5A	92.00698	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-FA-5A	92.00698	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-FA-5A	92.00698	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-FA-5A	92.00698	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-FA-5A	92.00698	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-FA-5A	92.00698	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-FA-5A	92.00698	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-FA-5A	92.00698	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-FA-5A	92.00698	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-FA-5A	92.00698	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-FA-5A	92.00698	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-FA-5A	92.00698	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-FA-5A	92.00698	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-FA-5A	92.00698	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-FA-5A	92.00698	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-FA-5A	92.00698	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-FA-5A	92.00698	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-FA-5A	92.00698	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-FA-5A	92.00698	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00698

none

Customer Sample Duplicate Results for Sample # 92.00698

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00698

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: NSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00699

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-2A	92.00699	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-FA-2A	92.00699	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-FA-2A	92.00699	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-FA-2A	92.00699	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-FA-2A	92.00699	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-FA-2A	92.00699	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-FA-2A	92.00699	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-FA-2A	92.00699	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-FA-2A	92.00699	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-FA-2A	92.00699	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-FA-2A	92.00699	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-FA-2A	92.00699	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-FA-2A	92.00699	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-FA-2A	92.00699	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-FA-2A	92.00699	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-FA-2A	92.00699	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-FA-2A	92.00699	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-FA-2A	92.00699	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-FA-2A	92.00699	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-FA-2A	92.00699	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
F-40-FA-2A	92.00699	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-FA-2A	92.00699	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-FA-2A	92.00699	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-FA-2A	92.00699	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-FA-2A	92.00699	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-FA-2A	92.00699	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-FA-2A	92.00699	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-FA-2A	92.00699	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-FA-2A	92.00699	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-FA-2A	92.00699	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-FA-2A	92.00699	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-FA-2A	92.00699	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-FA-2A	92.00699	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-FA-2A	92.00699	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-FA-2A	92.00699	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-FA-2A	92.00699	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-FA-2A	92.00699	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-FA-2A	92.00699	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-FA-2A	92.00699	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-FA-2A	92.00699	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-FA-2A	92.00699	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-FA-2A	92.00699	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-FA-2A	92.00699	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-FA-2A	92.00699	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-FA-2A	92.00699	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-FA-2A	92.00699	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-FA-2A	92.00699	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-FA-2A	92.00699	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-FA-2A	92.00699	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-FA-2A	92.00699	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-FA-2A	92.00699	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-FA-2A	92.00699	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-FA-2A	92.00699	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-FA-2A	92.00699	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-FA-2A	92.00699	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-FA-2A	92.00699	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-FA-2A	92.00699	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-FA-2A	92.00699	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-FA-2A	92.00699	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-FA-2A	92.00699	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-FA-2A	92.00699	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-FA-2A	92.00699	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-FA-2A	92.00699	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-FA-2A	92.00699	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-FA-2A	92.[illegible]	108952	< 330.	UG/KG	2/14/9[illegible]	Phenol
PF-40-FA-2A	92.[illegible]99	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-FA-2A	92.00699	120821	< 330.		UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-FA-2A	92.00699	95954	< 330.		UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-FA-2A	92.00699	88062	< 330.		UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00699

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-2A	92.00699	100	TI	2700.		UG/KG	2/14/92		Unknown organic compound

Customer Sample Duplicate Results for Sample # 92.00699

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00699

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00700

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-15A	92.00700	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-FA-15A	92.00700	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-FA-15A	92.00700	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-FA-15A	92.00700	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-FA-15A	92.00700	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-FA-15A	92.00700	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-FA-15A	92.00700	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-FA-15A	92.00700	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-FA-15A	92.00700	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-FA-15A	92.00700	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-FA-15A	92.00700	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-FA-15A	92.00700	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-FA-15A	92.00700	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-FA-15A	92.00700	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-FA-15A	92.00700	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-FA-15A	92.00700	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-FA-15A	92.00700	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-FA-15A	92.00700	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-FA-15A	92.00700	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-FA-15A	92.0[illegible]	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-FA-15A	92.00[illegible]	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

40-FA-15A	92.00700	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
40-FA-15A	92.00700	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
40-FA-15A	92.00700	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
40-FA-15A	92.00700	218019	< 330.	UG/KG	2/14/92	Chrysene
40-FA-15A	92.00700	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
40-FA-15A	92.00700	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
40-FA-15A	92.00700	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
40-FA-15A	92.00700	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
40-FA-15A	92.00700	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
40-FA-15A	92.00700	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
40-FA-15A	92.00700	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
40-FA-15A	92.00700	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
40-FA-15A	92.00700	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
40-FA-15A	92.00700	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
40-FA-15A	92.00700	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
40-FA-15A	92.00700	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
40-FA-15A	92.00700	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
40-FA-15A	92.00700	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
40-FA-15A	92.00700	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
40-FA-15A	92.00700	206440	< 330.	UG/KG	2/14/92	Fluoranthene
40-FA-15A	92.00700	86737	< 330.	UG/KG	2/14/92	Fluorene
40-FA-15A	92.00700	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
40-FA-15A	92.00700	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
40-FA-15A	92.00700	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
40-FA-15A	92.00700	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
40-FA-15A	92.00700	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
40-FA-15A	92.00700	78591	< 330.	UG/KG	2/14/92	Isophorone
40-FA-15A	92.00700	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
40-FA-15A	92.00700	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
40-FA-15A	92.00700	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
40-FA-15A	92.00700	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
40-FA-15A	92.00700	91203	< 330.	UG/KG	2/14/92	Naphthalene
40-FA-15A	92.00700	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
40-FA-15A	92.00700	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
40-FA-15A	92.00700	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
40-FA-15A	92.00700	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
40-FA-15A	92.00700	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
40-FA-15A	92.00700	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
40-FA-15A	92.00700	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
40-FA-15A	92.00700	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
40-FA-15A	92.00700	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
40-FA-15A	92.00700	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
40-FA-15A	92.00700	85018	< 330.	UG/KG	2/14/92	Phenanthrene
0-FA-15A	92.00700	108952	< 330.	UG/KG	2/14/92	Phenol
-FA-15A	92.00700	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-FA-15A 92.00700	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-FA-15A 92.00700	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-FA-15A 92.00700	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00700

none

Customer Sample Duplicate Results for Sample # 92.00700

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00700

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00701

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-13A	92.00701	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-FA-13A	92.00701	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-FA-13A	92.00701	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-FA-13A	92.00701	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-FA-13A	92.00701	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-FA-13A	92.00701	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-FA-13A	92.00701	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-FA-13A	92.00701	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-FA-13A	92.00701	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-FA-13A	92.00701	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-FA-13A	92.00701	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-FA-13A	92.00701	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-FA-13A	92.00701	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-FA-13A	92.00701	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-FA-13A	92.00701	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-FA-13A	92.00701	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-FA-13A	92.00701	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-FA-13A	92.00701	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-FA-13A	92.00701	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-FA-13A	92.00701	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
F-40-FA-13A	92.00701	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-FA-13A	92.00701	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-FA-13A	92.00701	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-FA-13A	92.00701	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-FA-13A	92.00701	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-FA-13A	92.00701	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-FA-13A	92.00701	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-FA-13A	92.00701	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-FA-13A	92.00701	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-FA-13A	92.00701	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-FA-13A	92.00701	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-FA-13A	92.00701	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-FA-13A	92.00701	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-FA-13A	92.00701	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-FA-13A	92.00701	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-FA-13A	92.00701	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-FA-13A	92.00701	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-FA-13A	92.00701	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-FA-13A	92.00701	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-FA-13A	92.00701	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-FA-13A	92.00701	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-FA-13A	92.00701	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-FA-13A	92.00701	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-FA-13A	92.00701	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-FA-13A	92.00701	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-FA-13A	92.00701	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-FA-13A	92.00701	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-FA-13A	92.00701	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-FA-13A	92.00701	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-FA-13A	92.00701	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-FA-13A	92.00701	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-FA-13A	92.00701	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-FA-13A	92.00701	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-FA-13A	92.00701	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-FA-13A	92.00701	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-FA-13A	92.00701	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-FA-13A	92.00701	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-FA-13A	92.00701	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-FA-13A	92.00701	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-FA-13A	92.00701	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-FA-13A	92.00701	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-FA-13A	92.00701	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-FA-13A	92.00701	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-FA-13A	92.00701	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-FA-13A	92.00701	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-FA-13A	92.00701	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-FA-13A	92.00701	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-FA-13A	92.00701	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-FA-13A	92.00701	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00701

none

Customer Sample Duplicate Results for Sample # 92.00701

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00701

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00702

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/03/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-16A	92.00702	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-FA-16A	92.00702	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-FA-16A	92.00702	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-FA-16A	92.00702	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-FA-16A	92.00702	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-FA-16A	92.00702	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-FA-16A	92.00702	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-FA-16A	92.00702	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-FA-16A	92.00702	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-FA-16A	92.00702	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-FA-16A	92.00702	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-FA-16A	92.00702	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-FA-16A	92.00702	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-FA-16A	92.00702	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-FA-16A	92.00702	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-FA-16A	92.00702	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-FA-16A	92.00702	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-FA-16A	92.00702	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-FA-16A	92.00702	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-FA-16A	92.00	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-FA-16A	92.00	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-FA-16A	92.00702	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-FA-16A	92.00702	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-FA-16A	92.00702	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-FA-16A	92.00702	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-FA-16A	92.00702	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-FA-16A	92.00702	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-FA-16A	92.00702	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-FA-16A	92.00702	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-FA-16A	92.00702	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-FA-16A	92.00702	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-FA-16A	92.00702	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-FA-16A	92.00702	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-FA-16A	92.00702	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-FA-16A	92.00702	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-FA-16A	92.00702	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-FA-16A	92.00702	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-FA-16A	92.00702	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-FA-16A	92.00702	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-FA-16A	92.00702	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-FA-16A	92.00702	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-FA-16A	92.00702	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-FA-16A	92.00702	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-FA-16A	92.00702	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-FA-16A	92.00702	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-FA-16A	92.00702	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-FA-16A	92.00702	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-FA-16A	92.00702	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-FA-16A	92.00702	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-FA-16A	92.00702	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-FA-16A	92.00702	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-FA-16A	92.00702	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-FA-16A	92.00702	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-FA-16A	92.00702	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-FA-16A	92.00702	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-FA-16A	92.00702	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-FA-16A	92.00702	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-FA-16A	92.00702	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-FA-16A	92.00702	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-FA-16A	92.00702	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-FA-16A	92.00702	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-FA-16A	92.00702	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-FA-16A	92.00702	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-FA-16A	92.00702	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-FA-16A	92.00702	108952	< 330.	UG/KG	2/14/92	Phenol
F-40-FA-16A	92.00702	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-FA-16A	92.00702	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-FA-16A	92.00702	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-FA-16A	92.00702	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00702

none

Customer Sample Duplicate Results for Sample # 92.00702

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00702

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00703

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/03/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-18A	92.00703	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-FA-18A	92.00703	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-FA-18A	92.00703	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-FA-18A	92.00703	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-FA-18A	92.00703	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-FA-18A	92.00703	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-FA-18A	92.00703	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-FA-18A	92.00703	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-FA-18A	92.00703	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-FA-18A	92.00703	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-FA-18A	92.00703	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-FA-18A	92.00703	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-FA-18A	92.00703	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-FA-18A	92.00703	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-FA-18A	92.00703	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-FA-18A	92.00703	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-FA-18A	92.00703	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-FA-18A	92.00703	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-FA-18A	92.00703	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-FA-18A	92.00703	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-FA-18A	92.00703	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-FA-18A	92.00703	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-FA-18A	92.00703	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-FA-18A	92.00703	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-FA-18A	92.00703	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-FA-18A	92.00703	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-FA-18A	92.00703	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-FA-18A	92.00703	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-FA-18A	92.00703	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-FA-18A	92.00703	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-FA-18A	92.00703	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-FA-18A	92.00703	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-FA-18A	92.00703	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-FA-18A	92.00703	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-FA-18A	92.00703	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-FA-18A	92.00703	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-FA-18A	92.00703	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-FA-18A	92.00703	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-FA-18A	92.00703	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-FA-18A	92.00703	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-FA-18A	92.00703	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-FA-18A	92.00703	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-FA-18A	92.00703	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-FA-18A	92.00703	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-FA-18A	92.00703	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-FA-18A	92.00703	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-FA-18A	92.00703	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-FA-18A	92.00703	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-FA-18A	92.00703	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-FA-18A	92.00703	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-FA-18A	92.00703	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-FA-18A	92.00703	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-FA-18A	92.00703	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-FA-18A	92.00703	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-FA-18A	92.00703	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-FA-18A	92.00703	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-FA-18A	92.00703	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-FA-18A	92.00703	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-FA-18A	92.00703	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-FA-18A	92.00703	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-FA-18A	92.00703	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-FA-18A	92.00703	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-FA-18A	92.00703	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-FA-18A	92.00703	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-FA-18A	92.00703	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-FA-18A	92.00703	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-FA-18A 92.00703	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-FA-18A 92.00703	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-FA-18A 92.00703	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00703

none

Customer Sample Duplicate Results for Sample # 92.00703

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00703

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00704

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/05/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-19A	92.00704	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-FA-19A	92.00704	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-FA-19A	92.00704	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-FA-19A	92.00704	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-FA-19A	92.00704	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-FA-19A	92.00704	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-FA-19A	92.00704	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-FA-19A	92.00704	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-FA-19A	92.00704	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-FA-19A	92.00704	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-FA-19A	92.00704	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-FA-19A	92.00704	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-FA-19A	92.00704	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-FA-19A	92.00704	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-FA-19A	92.00704	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-FA-19A	92.00704	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-FA-19A	92.00704	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-FA-19A	92.00704	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-FA-19A	92.00704	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-FA-19A	92.0[illegible]	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-FA-19A	92.00[illegible]	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-FA-19A	92.00704	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-FA-19A	92.00704	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-FA-19A	92.00704	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-FA-19A	92.00704	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-FA-19A	92.00704	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-FA-19A	92.00704	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-FA-19A	92.00704	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-FA-19A	92.00704	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-FA-19A	92.00704	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-FA-19A	92.00704	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-FA-19A	92.00704	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-FA-19A	92.00704	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-FA-19A	92.00704	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-FA-19A	92.00704	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-FA-19A	92.00704	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-FA-19A	92.00704	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-FA-19A	92.00704	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-FA-19A	92.00704	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-FA-19A	92.00704	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-FA-19A	92.00704	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-FA-19A	92.00704	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-FA-19A	92.00704	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-FA-19A	92.00704	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-FA-19A	92.00704	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-FA-19A	92.00704	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-FA-19A	92.00704	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-FA-19A	92.00704	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-FA-19A	92.00704	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-FA-19A	92.00704	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-EA-19A	92.00704	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-FA-19A	92.00704	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-FA-19A	92.00704	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-FA-19A	92.00704	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-FA-19A	92.00704	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-FA-19A	92.00704	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-FA-19A	92.00704	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-FA-19A	92.00704	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-FA-19A	92.00704	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-FA-19A	92.00704	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-FA-19A	92.00704	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-FA-19A	92.00704	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-FA-19A	92.00704	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-FA-19A	92.00704	85018	< 330.	UG/KG	2/14/92	Phenanthrene
F-40-FA-19A	92.00704	108952	< 330.	UG/KG	2/14/92	Phenol
-40-FA-19A	92.00704	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-FA-19A 92.00704	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-FA-19A 92.00704	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-FA-19A 92.00704	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00704

none

Customer Sample Duplicate Results for Sample # 92.00704

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00704

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R9720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00705

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/03/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-2	92.00705	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-BC-2	92.00705	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-BC-2	92.00705	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-BC-2	92.00705	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-BC-2	92.00705	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-BC-2	92.00705	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-BC-2	92.00705	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-BC-2	92.00705	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-BC-2	92.00705	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-BC-2	92.00705	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-BC-2	92.00705	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-BC-2	92.00705	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-BC-2	92.00705	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-BC-2	92.00705	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-BC-2	92.00705	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-BC-2	92.00705	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-BC-2	92.00705	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-BC-2	92.00705	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-BC-2	92.00705	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
F-40-BC-2	92.00705	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
-40-BC-2	92.00705	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BC-2	92.00705	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BC-2	92.00705	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BC-2	92.00705	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BC-2	92.00705	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BC-2	92.00705	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BC-2	92.00705	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BC-2	92.00705	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BC-2	92.00705	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BC-2	92.00705	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BC-2	92.00705	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BC-2	92.00705	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BC-2	92.00705	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BC-2	92.00705	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BC-2	92.00705	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BC-2	92.00705	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BC-2	92.00705	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BC-2	92.00705	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BC-2	92.00705	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BC-2	92.00705	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BC-2	92.00705	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BC-2	92.00705	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BC-2	92.00705	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BC-2	92.00705	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BC-2	92.00705	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BC-2	92.00705	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BC-2	92.00705	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BC-2	92.00705	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BC-2	92.00705	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BC-2	92.00705	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BC-2	92.00705	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BC-2	92.00705	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BC-2	92.00705	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BC-2	92.00705	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BC-2	92.00705	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BC-2	92.00705	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BC-2	92.00705	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BC-2	92.00705	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BC-2	92.00705	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BC-2	92.00705	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BC-2	92.00705	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BC-2	92.00705	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BC-2	92.00705	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BC-2	92.00705	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-BC-2	9[illegible]05	108952	< 330.	UG/KG	2/14[illegible]	Phenol
PF-40-BC-2	92.[illegible]705	129000	< 330.	UG/KG	2/14/[illegible]	Pyrene

PF-40-BC-2	92.00705	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BC-2	92.00705	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BC-2	92.00705	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00705

none

Customer Sample Duplicate Results for Sample # 92.00705

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00705

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00706

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-3	92.00706	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-BC-3	92.00706	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-BC-3	92.00706	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-BC-3	92.00706	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-BC-3	92.00706	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-BC-3	92.00706	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-BC-3	92.00706	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-BC-3	92.00706	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-BC-3	92.00706	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-BC-3	92.00706	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-BC-3	92.00706	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-BC-3	92.00706	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-BC-3	92.00706	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-BC-3	92.00706	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-BC-3	92.00706	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-BC-3	92.00706	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-BC-3	92.00706	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-BC-3	92.00706	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-BC-3	92.00706	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-BC-3	92[illegible]	59507	< 330.		UG/KG	2/14/[illegible]		4-Chloro-3-methylphenol
PF-40-BC-3	92.[illegible]06	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BC-3	92.00706	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BC-3	92.00706	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BC-3	92.00706	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BC-3	92.00706	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BC-3	92.00706	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BC-3	92.00706	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BC-3	92.00706	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BC-3	92.00706	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BC-3	92.00706	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BC-3	92.00706	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BC-3	92.00706	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BC-3	92.00706	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BC-3	92.00706	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BC-3	92.00706	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BC-3	92.00706	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BC-3	92.00706	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BC-3	92.00706	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BC-3	92.00706	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BC-3	92.00706	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BC-3	92.00706	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BC-3	92.00706	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BC-3	92.00706	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BC-3	92.00706	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BC-3	92.00706	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BC-3	92.00706	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BC-3	92.00706	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BC-3	92.00706	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BC-3	92.00706	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BC-3	92.00706	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BC-3	92.00706	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BC-3	92.00706	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BC-3	92.00706	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BC-3	92.00706	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BC-3	92.00706	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BC-3	92.00706	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BC-3	92.00706	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BC-3	92.00706	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BC-3	92.00706	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BC-3	92.00706	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BC-3	92.00706	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BC-3	92.00706	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BC-3	92.00706	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BC-3	92.00706	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-BC-3	92.00706	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-BC-3	92.00706	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-BC-3	92.00706	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BC-3	92.00706	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BC-3	92.00706	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00706

none

Customer Sample Duplicate Results for Sample # 92.00706

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00706

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00707

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/03/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-2	92.00707	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-BAE-2	92.00707	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-BAE-2	92.00707	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-BAE-2	92.00707	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-BAE-2	92.00707	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-BAE-2	92.00707	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-BAE-2	92.00707	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-BAE-2	92.00707	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-BAE-2	92.00707	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-BAE-2	92.00707	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-BAE-2	92.00707	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-BAE-2	92.00707	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-BAE-2	92.00707	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-BAE-2	92.00707	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-BAE-2	92.00707	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-BAE-2	92.00707	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-BAE-2	92.00707	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-BAE-2	92.00707	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-BAE-2	92.00707	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-BAE-2	92.00707	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-BAE-2	92.00707	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BAE-2	92.00707	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BAE-2	92.00707	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BAE-2	92.00707	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BAE-2	92.00707	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BAE-2	92.00707	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BAE-2	92.00707	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BAE-2	92.00707	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BAE-2	92.00707	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BAE-2	92.00707	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BAE-2	92.00707	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BAE-2	92.00707	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BAE-2	92.00707	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BAE-2	92.00707	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BAE-2	92.00707	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BAE-2	92.00707	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BAE-2	92.00707	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BAE-2	92.00707	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BAE-2	92.00707	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BAE-2	92.00707	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BAE-2	92.00707	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BAE-2	92.00707	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BAE-2	92.00707	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BAE-2	92.00707	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BAE-2	92.00707	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BAE-2	92.00707	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BAE-2	92.00707	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BAE-2	92.00707	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BAE-2	92.00707	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BAE-2	92.00707	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BAE-2	92.00707	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BAE-2	92.00707	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BAE-2	92.00707	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BAE-2	92.00707	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BAE-2	92.00707	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BAE-2	92.00707	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BAE-2	92.00707	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BAE-2	92.00707	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BAE-2	92.00707	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BAE-2	92.00707	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BAE-2	92.00707	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BAE-2	92.00707	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BAE-2	92.00707	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BAE-2	92.00707	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-BAE-2	92.0[illegible]	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-BAE-2	92.00[illegible]	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-BAE-2	92.00707	120821	< 330.		UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BAE-2	92.00707	95954	< 330.		UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BAE-2	92.00707	88062	< 330.		UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00707

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-2	92.00707	32	TI	6500.		UG/KG	2/14/92		Esters
PF-40-BAE-2	92.00707	171	TI	1000.		UG/KG	2/14/92		Oxygenated Hydrocarbon
PF-40-BAE-2	92.00707	165	TI	410.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BAE-2	92.00707	165	TI	430.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BAE-2	92.00707	165	TI	410.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BAE-2	92.00707	100	TI	490.		UG/KG	2/14/92		Unknown organic compound

Customer Sample Duplicate Results for Sample # 92.00707

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00707

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00708

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/29/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-3	92.00708	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-BAE-3	92.00708	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-BAE-3	92.00708	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-BAE-3	92.00708	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-BAE-3	92.00708	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-BAE-3	92.00708	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-BAE-3	92.00708	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-BAE-3	92.00708	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-BAE-3	92.00708	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-BAE-3	92.00708	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-BAE-3	92.00708	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-BAE-3	92.00708	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-BAE-3	92.00708	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-BAE-3	92.00708	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-BAE-3	92.00708	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-BAE-3	92.00708	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-BAE-3	92.00708	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-BAE-3	92.00708	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-BAE-3	92.00708	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-BAE-3	92.00	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-BAE-3	92.00	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BAE-3	92.00708	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BAE-3	92.00708	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BAE-3	92.00708	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BAE-3	92.00708	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BAE-3	92.00708	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BAE-3	92.00708	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BAE-3	92.00708	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BAE-3	92.00708	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BAE-3	92.00708	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BAE-3	92.00708	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BAE-3	92.00708	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BAE-3	92.00708	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BAE-3	92.00708	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BAE-3	92.00708	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BAE-3	92.00708	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BAE-3	92.00708	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BAE-3	92.00708	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BAE-3	92.00708	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BAE-3	92.00708	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BAE-3	92.00708	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BAE-3	92.00708	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BAE-3	92.00708	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BAE-3	92.00708	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BAE-3	92.00708	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
F-40-BAE-3	92.00708	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
-40-BAE-3	92.00708	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
-40-BAE-3	92.00708	78591	< 330.	UG/KG	2/14/92	Isophorone
F-40-BAE-3	92.00708	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
F-40-BAE-3	92.00708	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
F-40-BAE-3	92.00708	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
F-40-BAE-3	92.00708	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
F-40-BAE-3	92.00708	91203	< 330.	UG/KG	2/14/92	Naphthalene
F-40-BAE-3	92.00708	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
F-40-BAE-3	92.00708	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
F-40-BAE-3	92.00708	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
F-40-BAE-3	92.00708	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
F-40-BAE-3	92.00708	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
F-40-BAE-3	92.00708	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
F-40-BAE-3	92.00708	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
F-40-BAE-3	92.00708	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
F-40-BAE-3	92.00708	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
F-40-BAE-3	92.00708	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
F-40-BAE-3	92.00708	85018	< 330.	UG/KG	2/14/92	Phenanthrene
40-BAE-3	92.00708	108952	< 330.	UG/KG	2/14/92	Phenol
40-BAE-3	92.00708	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-BAE-3	92.00708	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BAE-3	92.00708	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BAE-3	92.00708	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00708

none

Customer Sample Duplicate Results for Sample # 92.00708

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00708

none

Matrix Spike Results for Sample # 92.00708

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-3	92.00708	83329	1872.66	1200.	UG/KG	2/14/92	MATRIX SPIKE	Acenaphthene
PF-40-BAE-3	92.00708	59507	3745.32	2000.	UG/KG	2/14/92	MATRIX SPIKE	4-Chloro-3-methylphenol
PF-40-BAE-3	92.00708	95578	3745.32	1500.	UG/KG	2/14/92	MATRIX SPIKE	o-Chlorophenol
PF-40-BAE-3	92.00708	106467	1872.66	840.	UG/KG	2/14/92	MATRIX SPIKE	p-Dichlorobenzene (1,4)
PF-40-BAE-3	92.00708	121142	1872.66	1500.	UG/KG	2/14/92	MATRIX SPIKE	2,4-Dinitrotoluene
PF-40-BAE-3	92.00708	100027	3745.32	2500.	UG/KG	2/14/92	MATRIX SPIKE	4-Nitrophenol
PF-40-BAE-3	92.00708	621647	1872.66	1100.	UG/KG	2/14/92	MATRIX SPIKE	N-Nitrosodi-n-propylamine
PF-40-BAE-3	92.00708	87865	3745.32	2400.	UG/KG	2/14/92	MATRIX SPIKE	Pentachlorophenol
PF-40-BAE-3	92.00708	108952	3745.32	1600.	UG/KG	2/14/92	MATRIX SPIKE	Phenol
PF-40-BAE-3	92.00708	129000	1872.66	1800.	UG/KG	2/14/92	MATRIX SPIKE	Pyrene
PF-40-BAE-3	92.00708	120821	1872.66	910.	UG/KG	2/14/92	MATRIX SPIKE	1,2,4-Trichlorobenzene

Matrix Spike Duplicate Results for Sample # 92.00708

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-3	92.00708	83329	1848.02	1300.	UG/KG	2/14/92	SPIKE DUPLICATE	Acenaphthene
PF-40-BAE-3	92.00708	59507	3696.04	2200.	UG/KG	2/14/92	SPIKE DUPLICATE	4-Chloro-3-methylphenol
PF-40-BAE-3	92.00708	95578	3696.04	1900.	UG/KG	2/14/92	SPIKE DUPLICATE	o-Chlorophenol
PF-40-BAE-3	92.00708	106467	1848.02	1000.	UG/KG	2/14/92	SPIKE DUPLICATE	p-Dichlorobenzene (1,4)
PF-40-BAE-3	92.00708	121142	1848.02	1500.	UG/KG	2/14/92	SPIKE DUPLICATE	2,4-Dinitrotoluene
PF-40-BAE-3	92.00	100027	3696.04	2200.	UG/KG	2/14/92	PIKE DUPLICATE	4-Nitrophenol
PF-40-BAE-3	92.00	621647	1848.02	1200.	UG/KG	2/14/92	SPIKE DUPLICATE	N-Nitrosodi-n-propylamine

PF-40-BAE-3	92.00708	87865	3696.04	1800.	UG/KG	2/14/92	SPIKE DUPLICATE Pentachlorophenol
PF-40-BAE-3	92.00708	108952	3696.04	1800.	UG/KG	2/14/92	SPIKE DUPLICATE Phenol
PF-40-BAE-3	92.00708	129000	1848.02	1700.	UG/KG	2/14/92	SPIKE DUPLICATE Pyrene
PF-40-BAE-3	92.00708	120821	1848.02	1100.	UG/KG	2/14/92	SPIKE DUPLICATE 1,2,4-Trichlorobenzene

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00709

Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/29/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-2	92.00709	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-BAW-2	92.00709	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-BAW-2	92.00709	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-BAW-2	92.00709	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-BAW-2	92.00709	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-BAW-2	92.00709	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-BAW-2	92.00709	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-BAW-2	92.00709	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-BAW-2	92.00709	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-BAW-2	92.00709	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-BAW-2	92.00709	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-BAW-2	92.00709	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-BAW-2	92.00709	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-BAW-2	92.00709	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-BAW-2	92.00709	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-BAW-2	92.00709	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-BAW-2	92.00709	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-BAW-2	92.00709	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-BAW-2	92.00709	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-BAW-2	92.0[illegible]	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-BAW-2	92.00[illegible]	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BAW-2	92.00709	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BAW-2	92.00709	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BAW-2	92.00709	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BAW-2	92.00709	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BAW-2	92.00709	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BAW-2	92.00709	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BAW-2	92.00709	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BAW-2	92.00709	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BAW-2	92.00709	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BAW-2	92.00709	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BAW-2	92.00709	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BAW-2	92.00709	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BAW-2	92.00709	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BAW-2	92.00709	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BAW-2	92.00709	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BAW-2	92.00709	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
F-40-BAW-2	92.00709	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
F-40-BAW-2	92.00709	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
F-40-BAW-2	92.00709	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
F-40-BAW-2	92.00709	206440	< 330.	UG/KG	2/14/92	Fluoranthene
F-40-BAW-2	92.00709	86737	< 330.	UG/KG	2/14/92	Fluorene
F-40-BAW-2	92.00709	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
F-40-BAW-2	92.00709	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
F-40-BAW-2	92.00709	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
F-40-BAW-2	92.00709	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
F-40-BAW-2	92.00709	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
F-40-BAW-2	92.00709	78591	< 330.	UG/KG	2/14/92	Isophorone
F-40-BAW-2	92.00709	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
F-40-BAW-2	92.00709	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
F-40-BAW-2	92.00709	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
F-40-BAW-2	92.00709	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
F-40-BAW-2	92.00709	91203	< 330.	UG/KG	2/14/92	Naphthalene
F-40-BAW-2	92.00709	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
F-40-BAW-2	92.00709	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
-40-BAW-2	92.00709	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
-40-BAW-2	92.00709	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
-40-BAW-2	92.00709	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
-40-BAW-2	92.00709	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
-40-BAW-2	92.00709	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
-40-BAW-2	92.00709	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
-40-BAW-2	92.00709	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
-40-BAW-2	92.00709	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
40-BAW-2	92.00709	85018	< 330.	UG/KG	2/14/92	Phenanthrene
40-BAW-2	92.00709	108952	< 330.	UG/KG	2/14/92	Phenol
0-BAW-2	92.00709	129000	< 330.	UG/KG	2/14/92	Pyrene

F-40-BAW-2	92.00709	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
F-40-BAW-2	92.00709	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
F-40-BAW-2	92.00709	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

entatively Identified Compounds in Customer Sample # 92.00709

one

ustomer Sample Duplicate Results for Sample # 92.00709

one

entatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00709

one

ORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

EST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

R: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

omer Sample Results, Sample # 92.00710

Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/29/92 Date Analyzed: 1/31/92

OMER BER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
)-BAW-3	92.00710	83329	< 330.		UG/KG	2/14/92		Acenaphthene
)-BAW-3	92.00710	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
)-BAW-3	92.00710	62533	< 330.		UG/KG	2/14/92		Aniline
)-BAW-3	92.00710	120127	< 330.		UG/KG	2/14/92		Anthracene
)-BAW-3	92.00710	103333	< 330.		UG/KG	2/14/92		Azobenzene
)-BAW-3	92.00710	92875	< 330.		UG/KG	2/14/92		m-Benzidine
)-BAW-3	92.00710	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
)-BAW-3	92.00710	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
)-BAW-3	92.00710	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
)-BAW-3	92.00710	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
)-BAW-3	92.00710	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
)-BAW-3	92.00710	65850	< 330.		UG/KG	2/14/92		Benzoic acid
)-BAW-3	92.00710	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
)-BAW-3	92.00710	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
)-BAW-3	92.00710	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
)-BAW-3	92.00710	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
)-BAW-3	92.00710	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
)-BAW-3	92.00710	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
)-BAW-3	92.00710	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
)-BAW-3	92.00710	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
-BAW-3	92.00710	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BAW-3	92.00710	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BAW-3	92.00710	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BAW-3	92.00710	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BAW-3	92.00710	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BAW-3	92.00710	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BAW-3	92.00710	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BAW-3	92.00710	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BAW-3	92.00710	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BAW-3	92.00710	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BAW-3	92.00710	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BAW-3	92.00710	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BAW-3	92.00710	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BAW-3	92.00710	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BAW-3	92.00710	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BAW-3	92.00710	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BAW-3	92.00710	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BAW-3	92.00710	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BAW-3	92.00710	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BAW-3	92.00710	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BAW-3	92.00710	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BAW-3	92.00710	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BAW-3	92.00710	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BAW-3	92.00710	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BAW-3	92.00710	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BAW-3	92.00710	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BAW-3	92.00710	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BAW-3	92.00710	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BAW-3	92.00710	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BAW-3	92.00710	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BAW-3	92.00710	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BAW-3	92.00710	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BAW-3	92.00710	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BAW-3	92.00710	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BAW-3	92.00710	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BAW-3	92.00710	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BAW-3	92.00710	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BAW-3	92.00710	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BAW-3	92.00710	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BAW-3	92.00710	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BAW-3	92.00710	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BAW-3	92.00710	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BAW-3	92.00710	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BAW-3	92.00710	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-BAW-3	92.00710	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-BAW-3	92.00710	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-BAW-3	92.00710	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BAW-3	92.00710	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BAW-3	92.00710	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00710

none

Customer Sample Duplicate Results for Sample # 92.00710

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00710

none

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00761

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1A	92.00761	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-BP-1A	92.00761	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-BP-1A	92.00761	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-BP-1A	92.00761	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-BP-1A	92.00761	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-BP-1A	92.00761	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-BP-1A	92.00761	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-BP-1A	92.00761	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-BP-1A	92.00761	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-BP-1A	92.00761	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-BP-1A	92.00761	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-BP-1A	92.00761	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-BP-1A	92.00761	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-BP-1A	92.00761	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-BP-1A	92.00761	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-BP-1A	92.00761	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-BP-1A	92.00761	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-BP-1A	92.00761	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-BP-1A	92.00761	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-BP-1A	92.[illegible]	59507	< 330.		UG/KG	2/14/9[illegible]		4-Chloro-3-methylphenol
PF-40-BP-1A	92.[illegible]1	106478	< 330.		UG/KG	2/14/9[illegible]		4-Chloroaniline

Los Alamos National Laboratories
June 1, 1992
Project Number 281.01

II. Analytical Results/Methodology

USEPA methods published in SW-846 (3rd Edition, Revision 0) were followed in the analysis these samples. Organochlorine pesticides were analyzed by Method 8080 (no PCB analysis was requested), and Method 8150 was followed to analyze for the chlorinated herbicides 2,4-D, 2,4,5-T, and 2,4,5-TP (silvex). The results are presented in the attached "CLP" package, with modifications made to the pesticide forms to reflect the requirements of the SW 846 method. The herbicide package follows the general requirements for GC Chlorinated Herbicides Final Reports which was provided by LANL. CLP organics conventions have been used in presenting and flagging data.

III. Quality Control

Sample 92.06115 (2027-001) was chosen for matrix spike/matrix spike duplicate analysis for pesticides and herbicides. The matrix spike/matrix spike duplicate for pesticides showed that the spike had mistakenly been added to the samples at a concentration ten times the normal level. The samples were diluted for analysis and the recoveries calculated based on this assumption. A non-conformance report (SL-92-0235) was filed to document this event.

Duplicate Laboratory Control Samples (LCS) were requested for this sample batch. These LCS were prepared and analyzed for the herbicide samples. For pesticides, however, the two LCS reported represent only one spike, each being spiked with one of two mixes that together comprise all of the target analytes. A nonconformance report (SL-92-0243) was filed to document this event.

A CLP convention has been followed in presenting the quality control data, and no sample results have been adjusted to reflect QC sample recoveries. All samples were extracted and analyzed with the required SW-846 holding times.

Los Alamos National Laboratories
June 1, 1992
Project Number 281.01

IV. Analysis Comments

(A) Herbicide Analysis

SW-846 Practical Quantitation Limits (PQL's) have been used as reporting limits for this project. However, we have found that on our instrumentation, the normal dilution factor for Method 8150 (50 g. or 1000 ml. going to 10 ml. final extract) results in extracts with levels at the PQL which are at least 50 times higher than the normal calibration range. Therefore, for these analyses, a dilution factor of 50 will lead to detection limits at the PQL when 50 grams of soil are used.

(B) Pesticide Analysis

The pesticide samples were run in two analytical sequences. The first sequence was run May 11 to May 12, 1992, and included the original injection of every sample and QC sample. A second sequence was run on May 13 which included the dilutions of the matrix spike, the matrix spike duplicate, and sample 92.06161. All spiked compounds on the matrix spikes were quantitated from the diluted samples, but because not all standards were run with them, the detection limits for the other compounds were taken from the earlier undiluted runs. 4,4'-DDE and Endrin were over the calibration range on the undiluted run of 92.06161, and were quantitated from a 1:5 dilution run on May 13. Both runs are submitted.

Because of sample matrix interferences, concentrations or detection limits given for each sample on the Form I's may not come from a single run which covers every compound. Attached to this narrative in an Appendix consisting of a Table showing the data file numbers for each run used for quantifying the individual target compounds for each sample. In some cases both the primary and secondary column may have contributed to the total list of compounds in a single sample. Injections on the two columns were run simultaneously with a split injection for all standards and samples.

TCMX and DBC were both spiked into the samples as surrogates. DBC is reported as the surrogate of choice unless matrix interference is suspected, in which case we have reported the TCMX recovery. The recovery of both surrogates is reported in the method blank.

Los Alamos National Laboratories
June 1, 1992
Project Number 281.01

I certify that these analysis results are in compliance with the terms and conditions of the contact, both technically and for completeness, with the exception of the items detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory manager or his designee, as verified by the following signature.

Reviewed and Approved:

Robert E. White

Robert E. White
Project Manager

2F

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: ____ SDG No.: _____

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (DBC)#	S2 (TCMX)#
01	PBLK01	73	74
02	PSPK01A	74	
03	PSPK01ADL	78	
04	PSPK01B	74	
05	92.06115	69	
06	92.06115MS	68	
07	92.06115MSDL	68	
08	92.06115MSD	64	
09	92.06115MSD	66	
10	92.06116		79
11	92.06117	70	
12	92.06118	68	
13	92.06119	69	
14	92.06120		80
15	92.06121	74	
16	92.06122	29	
17	92.06123	36	
18	92.06161	68	
19	92.06161DL	62	
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

	ADVISORY QC LIMITS
S1 (DBC) = Dibutylchlorendate	(24-150)
S2 (TCMX) = Tetrachloro-m-xylene	not determined

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogates diluted out

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: ____ SDG No.: _____

Matrix Spike - EPA Sample No.: 92.06115 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	73	0	61	84	32-127
Heptachlor	73	0	74	102	34-111
Aldrin	73	0	72	98	42-122
Dieldrin	180	0	140	75	36-146
Endrin	180	0	150	81	30-147
4,4'-DDT	180	0	170	94	25-160

COMPOUND	SPIKE ADDED (ug/kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC	73	62	85	1	nd	32-127
Heptahclor	73	74	101	1	nd	34-111
Aldrin	73	75	102	4	nd	42-122
Dieldrin	180	140	76	1	nd	36-146
Endrin	180	150	82	1	nd	30-147
4,4'-DDT	180	200	110	16	nd	25-160

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits
nd Limits have not been determined

RPD: _____ out of _____ outside limits
Spike Recovery: 0 out of 12 outside limits

COMMENTS: See non conformance memo #0235.

000002

SOIL PESTICIDE SPIKE BLANK (LCS) RECOVERY

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: ____ SDG No.: _____

Spike Blank No.: SPK13055-1

COMPOUND	SPIKE ADDED (ug/Kg)	SPIKE CONCENTRATION (ug/Kg)	SPK % REC #	QC LIMITS REC.
alpha-BHC				37-134
beta-BHC				17-147
delta-BHC				19-140
gamma-BHC (Lindane)	6.7	6.1	92	32-127
Heptachlor	6.7	7.5	112	D-221
Aldrin	6.7	7.4	110	42-122
Heptachlor epoxide	33	35	106	37-142
Endosulfan I	6.7	8.3	124	45-153
Dieldrin	6.7	7.6	114	36-146
4,4'-DDE				30-145
Endrin				30-147
Endosulfan II	33	30	89	D-202
4,4'-DDD				31-141
Endosulfan sulfate				26-144
4,4'-DDT	33	39	117	25-160
Methoxychlor	100	99	99	nd
Endrin Aldehyde	17	17	100	nd

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 10 outside limits

NOTE: Because Heptachlor was spiked with 0.2 ug/ml instead of 2.0ug/ml the recovery limits were recalculated, new limits are D-221

COMMENTS: nd: not determined

SOIL PESTICIDE SPIKE BLANK (LCS) RECOVERY

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: ____ SDG No.: _____

Spike Blank No.: SPK13055-2

COMPOUND	SPIKE ADDED (ug/Kg)	SPIKE CONCENTRATION (ug/Kg)	SPK % REC #	QC LIMITS REC.
alpha-BHC	6.7	7.3	110	37-134
beta-BHC	6.7	7.5	113	17-147
delta-BHC	6.7	7.6	114	19-140
gamma-BHC (Lindane)				32-127
Heptachlor				34-111
Aldrin				42-122
Heptachlor epoxide				37-142
Endosulfan I				45-153
Dieldrin				36-146
4,4'-DDE	6.7	7.0	106	30-145
Endrin	6.7	6.9	103	30-147
Endosulfan II				D-202
4,4'-DDD	33	33	99	31-141
Endosulfan sulfate	33	35	105	26-144
4,4'-DDT				25-160
Methoxychlor				nd
Endrin Aldehyde				nd

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS: nd: not determined

FORM III PEST

000004

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: ____ SDG No.: _____

Lab Sample ID: BLK13055 Lab File ID: _____

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

Date Extracted: 05-08-92 Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed (1): 05-11-92 Date Analyzed (2): 05-11-92

Time Analyzed (1): 14:33 Time Analyzed (2): 14:33

Instrument ID (1): GCA Instrument ID (2): GCA

GC Column ID (1): SE-54 GC Column ID (2): DB-1701

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	PSPK01A	SPK13055-1	05-11-92	
02	PSPK01B	SPK13055-2	05-11-92	
03	PSPK01ADL	SPK10355-1DL	05-11-92	
04	92.06115	2027-001	05-11-92	05-11-92
05	92.06115MS	2027-001MS	05-11-92	
06	92.06115MSDL	2027-001MSDL	05-13-92	
07	92.06115MSD	2027-001MSD	05-11-92	05-11-92
08	92.06115MSD	2027-001MSDDL	05-13-92	
09	92.06116	2027-002	05-11-92	
10	92.06117	2027-003	05-11-92	05-11-92
11	92.06118	2027-004	05-11-92	
12	92.06119	2027-005	05-11-92	
13	92.06120	2027-006	05-11-92	
14	92.06121	2027-007	05-11-92	
15	92.06122	2027-008	05-11-92	
16	92.06123	2027-009	05-11-92	
17	92.06161	2027-010	05-11-92	05-11-92
18	92.06161DL	2027-010DL	05-13-92	05-13-92
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS: _____

FORM IV PEST 1/87 Rev.

500000

INTERNATIONAL TECHNOLOGY CORPORATION

CASE NARRATIVE

IT Corporation - Los Alamos
557 Oppenheimer Road
Suite 200
Los Alamos, New Mexico 87545

June 1, 1992

Attention: Dr. Sylvan Hersh

Purchase Order Number: 92-019

This is a case narrative for the following:

Project Number : 281.01
Date Received by Lab: May 6, 1992
Number of Samples : Eleven (11)
Sample Matrix : see below

I. Introduction

On May 6, 1992, eleven soil samples were received at ITAS - St. Louis from PRF TA-40 Scrap Detonation Site at Los Alamos National Laboratory. The following is a list of the samples received, analyses requested, along with the ITAS - St. Louis identification numbers, and the matrix for each sample:

CLIENT ID	ITAS ID	MATRIX	ANALYSES REQUESTED
92.06115	2027-001	Soil	Herb, Pest
92.06116	2027-002	Soil	Herb, Pest
92.06117	2027-003	Soil	Herb, Pest
92.06118	2027-004	Soil	Herb, Pest
92.06119	2027-005	Soil	Herb, Pest
92.06120	2027-006	Soil	Herb, Pest
92.06121	2027-007	Soil	Herb, Pest
92.06122	2027-008	Soil	Herb, Pest
92.06123	2027-009	Soil	Herb, Pest
92.06161	2027-010	Soil	Pest
92.06162	2027-011	Soil	Herb

********** EM-9 QUALITY ASSURANCE REPORT **********

EPORT NUMBER: 13355

	F Bighouse		mag
Analyst	Reviewer	Section Leader	QA Officer
	3/16/92		3-16-92
Date	Date	Date	Date

Sample Discrepancies Noted by Sample Management Section

Samples analyzed by contract laboratory.

e control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 QUALITY ASSURANCE REPORT **********

for EPA PESTICIDES

Dibutyl chlorendate (CAS # = 96); EPA Range Limits: Water = 24 - 150 %, Soil = 24 - 154 %

SAMPLE NUMBER	RESULT	UNITS	COMPLETION DATE	COMMENT	SAMPLE TYPE
00.24612	88.	%	3/02/92		B
00.24612	92.5	%	3/02/92		BS
00.24612	93.	%	3/02/92		BSD
92.00938	67.	%	3/02/92		
92.00939	67.	%	3/02/92		
92.01032	83.	%	3/02/92		

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.01032 Date Collected: 1/29/92 Date Received: 1/29/92 Date Extracted: 2/03/92 Date Analyzed: 2/08/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.01032	309002	< 0.08		UG/L	0.0		3/02/92	UNDER CONTROL	Aldrin
92.01032	319846	0.22	0.05	UG/L	0.26	0.03	3/02/92	UNDER CONTROL	alpha-BHC
92.01032	319857	< 0.12		UG/L	0.0		3/02/92	UNDER CONTROL	beta-BHC
92.01032	319868	< 0.18		UG/L	0.0		3/02/92	UNDER CONTROL	delta-BHC
92.01032	57749	< 0.28		UG/L	0.0		3/02/92	UNDER CONTROL	Chlordane
92.01032	72548	0.34	0.08	UG/L	0.41	0.04	3/02/92	UNDER CONTROL	p,p'-DDD
92.01032	72559	< 0.08		UG/L	0.0		3/02/92	UNDER CONTROL	p,p'-DDE
92.01032	50293	0.33	0.08	UG/L	0.38	0.04	3/02/92	UNDER CONTROL	p,p'-DDT
92.01032	60571	< 0.04		UG/L	0.0		3/02/92	UNDER CONTROL	Dieldrin
92.01032	959988	< 0.28		UG/L	0.0		3/02/92	UNDER CONTROL	Endosulfan I
92.01032	33213659	< 0.08		UG/L	0.0		3/02/92	UNDER CONTROL	Endosulfan II
92.01032	1031078	< 1.3		UG/L	0.0		3/02/92	UNDER CONTROL	Endosulfan sulfate
92.01032	72208	0.23	0.05	UG/L	0.28	0.03	3/02/92	UNDER CONTROL	Endrin
92.01032	7421934	< 0.46		UG/L	0.0		3/02/92	UNDER CONTROL	Endrin aldehyde
92.01032	76448	< 0.06		UG/L	0.0		3/02/92	UNDER CONTROL	Heptachlor
92.01032	1024573	< 1.7		UG/L	0.84	0.08	3/02/92	UNDER CONTROL	Heptachlor epoxide
92.01032	58899	< 0.08		UG/L	0.0		3/02/92	UNDER CONTROL	Lindane
92.01032	72435	< 3.5		UG/L	1.14	0.1	3/02/92	UNDER CONTROL	Methoxychlor
92.01032	8001352	< 4.8		UG/L	0.0		3/02/92	UNDER CONTROL	Toxaphene

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Duplicate Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND
00.24612	00.24612	309002	0.2	0.19	UG/L	3/02/92		Aldrin
00.24612	00.24612	319846	0.2	0.2	UG/L	3/02/92		alpha-BHC
00.24612	00.24612	319857	0.2	0.18	UG/L	3/02/92		beta-BHC
00.24612	00.24612	319868	0.2	0.24	UG/L	3/02/92		delta-BHC
00.24612	00.24612	72548	1.	1.	UG/L	3/02/92		p,p'-DDD
00.24612	00.24612	72559	0.2	0.18	UG/L	3/02/92		p,p'-DDE
00.24612	00.24612	50293	1.	1.07	UG/L	3/02/92		p,p'-DDT
00.24612	00.24612	60571	0.2	0.24	UG/L	3/02/92		Dieldrin
00.24612	00.24612	959988	0.2	0.27	UG/L	3/02/92		Endosulfan I
00.24612	00.24612	33213659	1.	1.16	UG/L	3/02/92		Endosulfan II
00.24612	00.24612	1031078	1.	0.86	UG/L	3/02/92		Endosulfan sulfate
00.24612	00.24612	72208	0.2	0.19	UG/L	3/02/92		Endrin
00.24612	00.24612	7421934	0.2	0.21	UG/L	3/02/92		Endrin aldehyde
00.24612	00.24612	76448	0.2	0.18	UG/L	3/02/92		Heptachlor
00.24612	00.24612	1024573	0.2	0.2	UG/L	3/02/92		Heptachlor epoxide
00.24612	00.24612	58899	0.2	0.2	UG/L	3/02/92		Lindane
00.24612	00.24612	72435	0.2	0.19	UG/L	3/02/92		Methoxychlor

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND
00.24612	00.24612	309002	0.2	0.18	UG/L	3/02/92		Aldrin
00.24612	00.24612	319846	0.2	0.18	UG/L	3/02/92		alpha-BHC
00.24612	00.24612	319857	0.2	0.17	UG/L	3/02/92		beta-BHC
00.24612	00.24612	319868	0.2	0.22	UG/L	3/02/92		delta-BHC
00.24612	00.24612	72548	1.	0.9	UG/L	3/02/92		p,p'-DDD
00.24612	00.24612	72559	0.2	0.16	UG/L	3/02/92		p,p'-DDE
00.24612	00.24612	50293	1.	1.04	UG/L	3/02/92		p,p'-DDT
00.24612	00.24612	60571	0.2	0.23	UG/L	3/02/92		Dieldrin
00.24612	00.24612	959988	0.2	0.26	UG/L	3/02/92		Endosulfan I
00.24612	00.24612	33213659	1.	1.15	UG/L	3/02/92		Endosulfan II
00.24612	00.24612	1031078	1.	0.78	UG/L	3/02/92		Endosulfan sulfate
00.24612	00.24612	72208	0.2	0.18	UG/L	3/02/92		Endrin
00.24612	00.24612	7421934	0.2	0.2	UG/L	3/02/92		Endrin aldehyde
00.24612	00.24612	76448	0.2	0.17	UG/L	3/02/92		Heptachlor
00.24612	00.24612	1024573	0.2	0.2	UG/L	3/02/92		Heptachlor epoxide
00.24612	00.24612	58899	0.2	0.19	UG/L	3/02/92		Lindane
00.24612	00.24612	72435	0.2	0.17	UG/L	3/02/92		Methoxychlor

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUN
00.24612	00.24612	309002	< 0.04		UG/L	0.0		3/02/92	UNDER CONTROL	Aldrin
00.24612	00.24612	319846	< 0.03		UG/L	0.0		3/02/92	UNDER CONTROL	alpha-BHC
00.24612	00.24612	319857	< 0.6		UG/L	0.0		3/02/92	UNDER CONTROL	beta-BHC
00.24612	00.24612	319868	< 0.09		UG/L	0.0		3/02/92	UNDER CONTROL	delta-BHC
00.24612	00.24612	57749	< 0.14		UG/L	0.0		3/02/92	UNDER CONTROL	Chlordane
00.24612	00.24612	72548	< 0.11		UG/L	0.0		3/02/92	UNDER CONTROL	p,p'-DDD
00.24612	00.24612	72559	< 0.04		UG/L	0.0		3/02/92	UNDER CONTROL	p,p'-DDE
00.24612	00.24612	50293	< 0.12		UG/L	0.0		3/02/92	UNDER CONTROL	p,p'-DDT
00.24612	00.24612	60571	< 0.02		UG/L	0.0		3/02/92	UNDER CONTROL	Dieldrin
00.24612	00.24612	959988	< 0.14		UG/L	0.0		3/02/92	UNDER CONTROL	Endosulfan I
00.24612	00.24612	33213659	< 0.04		UG/L	0.0		3/02/92	UNDER CONTROL	Endosulfan II
00.24612	00.24612	1031078	< 0.66		UG/L	0.0		3/02/92	UNDER CONTROL	Endosulfan sulfate
00.24612	00.24612	72208	< 0.06		UG/L	0.0		3/02/92	UNDER CONTROL	Endrin
00.24612	00.24612	7421934	< 0.23		UG/L	0.0		3/02/92	UNDER CONTROL	Endrin aldehyde
00.24612	00.24612	76448	< 0.03		UG/L	0.0		3/02/92	UNDER CONTROL	Heptachlor
00.24612	00.24612	1024573	< 0.83		UG/L	0.0		3/02/92	UNDER CONTROL	Heptachlor epoxide
00.24612	00.24612	58899	< 0.04		UG/L	0.0		3/02/92	UNDER CONTROL	Lindane
00.24612	00.24612	72435	< 1.8		UG/L	0.0		3/02/92	UNDER CONTROL	Methoxychlor
00.24612	00.24612	8001352	< 2.4		UG/L	0.0		3/02/92	UNDER CONTROL	Toxaphene

********** EM-9 QUALITY ASSURANCE REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12456 MATRIX: W ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12456 MATRIX: W ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00939 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/03/92 Date Analyzed: 2/08/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DEB	92.00939	309002	< 0.12		UG/L	3/02/92		Aldrin
PF-40-DEB	92.00939	319846	< 0.09		UG/L	3/02/92		alpha-BHC
PF-40-DEB	92.00939	319857	< 0.18		UG/L	3/02/92		beta-BHC
PF-40-DEB	92.00939	319868	< 0.26		UG/L	3/02/92		delta-BHC
PF-40-DEB	92.00939	57749	< 0.41		UG/L	3/02/92		Chlordane
PF-40-DEB	92.00939	72548	< 0.32		UG/L	3/02/92		p,p'-DDD
PF-40-DEB	92.00939	72559	< 0.12		UG/L	3/02/92		p,p'-DDE
PF-40-DEB	92.00939	50293	< 0.35		UG/L	3/02/92		p,p'-DDT
PF-40-DEB	92.00939	60571	< 0.06		UG/L	3/02/92		Dieldrin
PF-40-DEB	92.00939	959988	< 0.41		UG/L	3/02/92		Endosulfan I
PF-40-DEB	92.00939	33213659	< 0.12		UG/L	3/02/92		Endosulfan II
PF-40-DEB	92.00939	1031078	< 1.9		UG/L	3/02/92		Endosulfan sulfate
PF-40-DEB	92.00939	72208	< 0.18		UG/L	3/02/92		Endrin
PF-40-DEB	92.00939	7421934	< 0.68		UG/L	3/02/92		Endrin aldehyde
PF-40-DEB	92.00939	76448	< 0.09		UG/L	3/02/92		Heptachlor
PF-40-DEB	92.00939	1024573	< 2.4		UG/L	3/02/92		Heptachlor epoxide
PF-40-DEB	92.00939	58899	< 0.12		UG/L	3/02/92		Lindane
PF-40-DEB	92.00939	72435	< 5.2		UG/L	3/02/92		Methoxychlor
PF-40-DEB	92.00939	8001352	< 7.1		UG/L	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00939

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12456 MATRIX: W ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00938 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/03/92 Date Analyzed: 2/08/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EW	92.00938	309002	< 0.12		UG/L	3/02/92		Aldrin
PF-40-EW	92.00938	319846	< 0.09		UG/L	3/02/92		alpha-BHC
PF-40-EW	92.00938	319857	< 0.18		UG/L	3/02/92		beta-BHC
PF-40-EW	92.00938	319868	< 0.27		UG/L	3/02/92		delta-BHC
PF-40-EW	92.00938	57749	< 0.42		UG/L	3/02/92		Chlordane
PF-40-EW	92.00938	72548	< 0.33		UG/L	3/02/92		p,p'-DDD
PF-40-EW	92.00938	72559	< 0.12		UG/L	3/02/92		p,p'-DDE
PF-40-EW	92.00938	50293	< 0.36		UG/L	3/02/92		p,p'-DDT
PF-40-EW	92.00938	60571	< 0.06		UG/L	3/02/92		Dieldrin
PF-40-EW	92.00938	959988	< 0.42		UG/L	3/02/92		Endosulfan I
PF-40-EW	92.00938	33213659	< 0.12		UG/L	3/02/92		Endosulfan II
PF-40-EW	92.00938	1031078	< 2.		UG/L	3/02/92		Endosulfan sulfate
PF-40-EW	92.00938	72208	< 0.18		UG/L	3/02/92		Endrin
PF-40-EW	92.00938	7421934	< 0.7		UG/L	3/02/92		Endrin aldehyde
PF-40-EW	92.00938	76448	< 0.09		UG/L	3/02/92		Heptachlor
PF-40-EW	92.00938	1024573	< 2.5		UG/L	3/02/92		Heptachlor epoxide
PF-40-EW	92.00938	58899	< 0.12		UG/L	3/02/92		Lindane
PF-40-EW	92.00938	72435	< 5.3		UG/L	3/02/92		Methoxychlor
PF-40-EW	92.00938	8001352	< 7.3		UG/L	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00938

none

********** EM-9 QUALITY ASSURANCE REPORT **********

PORT NUMBER: 13357

	Analyst	Reviewer	Section Leader	QA Officer
		L. Sanchez		mag
	Date	Date	Date	Date
		3/16/92		3-16-92

Sample Discrepancies Noted by Sample Management Section Samples analyzed by contract laboratory

e control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 QUALITY ASSURANCE REPORT **********

Surrogate results for EPA PESTICIDES

)ibutyl chlorendate (CAS # = 96); EPA Range Limits: Water = 24 - 150 %, Soil = 24 - 154 %

SAMPLE NUMBER	RESULT	UNITS	COMPLETION DATE	COMMENT	SAMPLE TYPE
)0.24611	108.	%	3/02/92		B
)0.24611	109.	%	3/02/92		BS
)0.24611	110.	%	3/03/92		BSD
)2.00913	103.	%	3/02/92		
)2.00914	57.	%	3/02/92		
)2.00915	98.	%	3/02/92		
)2.00916	107.	%	3/02/92		
)2.00917	95.	%	3/02/92		
)2.00918	95.	%	3/02/92		
)2.00919	96.	%	3/02/92		
)2.00920	99.	%	3/02/92		
)2.00921	94.	%	3/02/92		
)2.00971	60.	%	3/02/92		

********** EM-9 QUALITY ASSURANCE REPORT **********

MMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

ind QC Results, Sample # 92.00971 Date Collected: 1/27/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

AMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
.00971	309002	< 3.9		UG/KG	0.0		3/02/92	UNDER CONTROL	Aldrin
.00971	319846	19.	4.5	UG/KG	32.	3.	3/02/92	WARNING 2-3 SIG	alpha-BHC
.00971	319857	< 5.9		UG/KG	0.0		3/02/92	UNDER CONTROL	beta-BHC
.00971	319868	< 8.9		UG/KG	0.0		3/02/92	UNDER CONTROL	delta-BHC
.00971	57749	< 14.		UG/KG	0.0		3/02/92	UNDER CONTROL	Chlordane
.00971	72548	28.	5.5	UG/KG	51.	5.	3/02/92	OUT OF CONTROL	p,p'-DDD
.00971	72559	< 3.9		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDE
.00971	50293	19.	5.	UG/KG	48.	5.	3/02/92	OUT OF CONTROL	p,p'-DDT
.00971	60571	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	Dieldrin
.00971	959988	< 14.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan I
.00971	33213659	< 3.9		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan II
.00971	1031078	< 65.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan sulfate
.00971	72208	23.	5.5	UG/KG	35.	4.	3/02/92	UNDER CONTROL	Endrin
.00971	7421934	< 23.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin aldehyde
.00971	76448	< 3.		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor
.00971	1024573	< 82.		UG/KG	106.	11.	3/02/92	UNDER CONTROL	Heptachlor epoxide
.00971	58899	< 3.9		UG/KG	0.0		3/02/92	UNDER CONTROL	Lindane
.00971	72435	< 170.		UG/KG	142.	14.	3/02/92	UNDER CONTROL	Methoxychlor
.00971	8001352	< 240.		UG/KG	0.0		3/02/92	UNDER CONTROL	Toxaphene

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Duplicate Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND
00.24611	00.24611	309002	6.67	6.61	UG/KG	3/03/92		Aldrin
00.24611	00.24611	319846	6.67	6.57	UG/KG	3/03/92		alpha-BHC
00.24611	00.24611	319857	6.67	6.05	UG/KG	3/03/92		beta-BHC
00.24611	00.24611	319868	6.67	8.63	UG/KG	3/03/92		delta-BHC
00.24611	00.24611	72548	33.33	32.9	UG/KG	3/03/92		p,p'-DDD
00.24611	00.24611	72559	6.67	6.53	UG/KG	3/03/92		p,p'-DDE
00.24611	00.24611	50293	33.33	34.74	UG/KG	3/03/92		p,p'-DDT
00.24611	00.24611	60571	6.67	7.86	UG/KG	3/03/92		Dieldrin
00.24611	00.24611	959988	6.67	9.27	UG/KG	3/03/92		Endosulfan I
00.24611	00.24611	33213659	33.33	38.75	UG/KG	3/03/92		Endosulfan II
00.24611	00.24611	1031078	33.33	28.14	UG/KG	3/03/92		Endosulfan sulfate
00.24611	00.24611	72208	6.67	6.57	UG/KG	3/03/92		Endrin
00.24611	00.24611	7421934	6.67	6.96	UG/KG	3/03/92		Endrin aldehyde
00.24611	00.24611	76448	6.67	6.42	UG/KG	3/03/92		Heptachlor
00.24611	00.24611	1024573	6.67	6.6	UG/KG	3/03/92		Heptachlor epoxide
00.24611	00.24611	58899	6.67	6.28	UG/KG	3/03/92		Lindane
00.24611	00.24611	72435	6.67	7.98	UG/KG	3/03/92		Methoxychlor

********** EM-9 QUALITY ASSURANCE REPORT **********

ank Spike Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND
).24611	00.24611	309002	6.67	7.17	UG/KG	3/02/92		Aldrin
).24611	00.24611	319846	6.67	6.64	UG/KG	3/02/92		alpha-BHC
).24611	00.24611	319857	6.67	6.03	UG/KG	3/02/92		beta-BHC
).24611	00.24611	319868	6.67	8.49	UG/KG	3/02/92		delta-BHC
).24611	00.24611	72548	33.33	33.1	UG/KG	3/02/92		p,p'-DDD
.24611	00.24611	72559	6.67	6.52	UG/KG	3/02/92		p,p'-DDE
.24611	00.24611	50293	33.33	39.19	UG/KG	3/02/92		p,p'-DDT
.24611	00.24611	60571	6.67	8.45	UG/KG	3/02/92		Dieldrin
.24611	00.24611	959988	6.67	9.81	UG/KG	3/02/92		Endosulfan I
.24611	00.24611	33213659	33.33	41.42	UG/KG	3/02/92		Endosulfan II
.24611	00.24611	1031078	33.33	28.13	UG/KG	3/02/92		Endosulfan sulfate
.24611	00.24611	72208	6.67	6.62	UG/KG	3/02/92		Endrin
.24611	00.24611	7421934	6.67	7.57	UG/KG	3/02/92		Endrin aldehyde
.24611	00.24611	76448	6.67	6.75	UG/KG	3/02/92		Heptachlor
.24611	00.24611	1024573	6.67	7.04	UG/KG	3/02/92		Heptachlor epoxide
.24611	00.24611	58899	6.67	6.83	UG/KG	3/02/92		Lindane
.24611	00.24611	72435	6.67	8.62	UG/KG	3/02/92		Methoxychlor

********** EM-9 QUALITY ASSURANCE REPORT **********

UMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

lank Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUN
0.24611	00.24611	309002	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Aldrin
0.24611	00.24611	319846	< 0.99		UG/KG	0.0		3/02/92	UNDER CONTROL	alpha-BHC
0.24611	00.24611	319857	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	beta-BHC
0.24611	00.24611	319868	< 3.		UG/KG	0.0		3/02/92	UNDER CONTROL	delta-BHC
0.24611	00.24611	57749	< 4.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Chlordane
0.24611	00.24611	72548	< 3.6		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDD
0.24611	00.24611	72559	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDE
0.24611	00.24611	50293	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDT
0.24611	00.24611	60571	< 0.66		UG/KG	0.0		3/02/92	UNDER CONTROL	Dieldrin
0.24611	00.24611	959988	< 4.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan I
0.24611	00.24611	33213659	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan II
0.24611	00.24611	1031078	< 22.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan sulfate
0.24611	00.24611	72208	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin
0.24611	00.24611	7421934	< 7.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin aldehyde
0.24611	00.24611	76448	< 0.99		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor
0.24611	00.24611	1024573	< 27.		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor epoxide
0.24611	00.24611	58899	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Lindane
0.24611	00.24611	72435	< 58.		UG/KG	0.0		3/02/92	UNDER CONTROL	Methoxychlor
0.24611	00.24611	8001352	< 79.		UG/KG	0.0		3/02/92	UNDER CONTROL	Toxaphene

********** EM-9 QUALITY ASSURANCE REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

QUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

NER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

stomer Sample Results, Sample # 92.00921 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/03/92 Date Analyzed: 2/08/92

STOMER UMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
-40-SD-E	92.00921	309002	< 1.7		UG/KG	3/02/92		Aldrin
-40-SD-E	92.00921	319846	< 1.3		UG/KG	3/02/92		alpha-BHC
-40-SD-E	92.00921	319857	< 2.5		UG/KG	3/02/92		beta-BHC
-40-SD-E	92.00921	319868	< 3.8		UG/KG	3/02/92		delta-BHC
-40-SD-E	92.00921	57749	< 5.9		UG/KG	3/02/92		Chlordane
-40-SD-E	92.00921	72548	< 4.6		UG/KG	3/02/92		p,p'-DDD
-40-SD-E	92.00921	72559	< 1.7		UG/KG	3/02/92		p,p'-DDE
-40-SD-E	92.00921	50293	< 5.		UG/KG	3/02/92		p,p'-DDT
-40-SD-E	92.00921	60571	< 0.84		UG/KG	3/02/92		Dieldrin
-40-SD-E	92.00921	959988	< 5.9		UG/KG	3/02/92		Endosulfan I
-40-SD-E	92.00921	33213659	< 1.7		UG/KG	3/02/92		Endosulfan II
-40-SD-E	92.00921	1031078	< 28.		UG/KG	3/02/92		Endosulfan sulfate
-40-SD-E	92.00921	72208	< 2.5		UG/KG	3/02/92		Endrin
-40-SD-E	92.00921	7421934	< 9.7		UG/KG	3/02/92		Endrin aldehyde
-40-SD-E	92.00921	76448	< 1.3		UG/KG	3/02/92		Heptachlor
-40-SD-E	92.00921	1024573	< 35.		UG/KG	3/02/92		Heptachlor epoxide
-40-SD-E	92.00921	58899	< 1.7		UG/KG	3/02/92		Lindane
-40-SD-E	92.00921	72435	< 74.		UG/KG	3/02/92		Methoxychlor
-40-SD-E	92.00921	8001352	< 100.		UG/KG	3/02/92		Toxaphene

ntatively Identified Compounds in Customer Sample # 92.00921

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REPORT NUMBER: 13357

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

EQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

WNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

ustomer Sample Results, Sample # 92.00920 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/08/92

USTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-SD-M	92.00920	309002	< 1.6		UG/KG	3/02/92		Aldrin
F-40-SD-M	92.00920	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
F-40-SD-M	92.00920	319857	< 2.4		UG/KG	3/02/92		beta-BHC
F-40-SD-M	92.00920	319868	< 3.6		UG/KG	3/02/92		delta-BHC
F-40-SD-M	92.00920	57749	< 5.7		UG/KG	3/02/92		Chlordane
F-40-SD-M	92.00920	72548	< 4.4		UG/KG	3/02/92		p,p'-DDD
F-40-SD-M	92.00920	72559	< 1.6		UG/KG	3/02/92		p,p'-DDE
F-40-SD-M	92.00920	50293	< 4.8		UG/KG	3/02/92		p,p'-DDT
F-40-SD-M	92.00920	60571	< 0.81		UG/KG	3/02/92		Dieldrin
F-40-SD-M	92.00920	959988	< 5.7		UG/KG	3/02/92		Endosulfan I
F-40-SD-M	92.00920	33213659	< 1.6		UG/KG	3/02/92		Endosulfan II
F-40-SD-M	92.00920	1031078	< 27.		UG/KG	3/02/92		Endosulfan sulfate
F-40-SD-M	92.00920	72208	< 2.4		UG/KG	3/02/92		Endrin
F-40-SD-M	92.00920	7421934	< 9.3		UG/KG	3/02/92		Endrin aldehyde
-40-SD-M	92.00920	76448	< 1.2		UG/KG	3/02/92		Heptachlor
-40-SD-M	92.00920	1024573	< 34.		UG/KG	3/02/92		Heptachlor epoxide
-40-SD-M	92.00920	58899	< 1.6		UG/KG	3/02/92		Lindane
-40-SD-M	92.00920	72435	< 71.		UG/KG	3/02/92		Methoxychlor
-40-SD-M	92.00920	8001352	< 97.		UG/KG	3/02/92		Toxaphene

ntatively Identified Compounds in Customer Sample # 92.00920

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********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00919 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-W	92.00919	309002	< 1.7		UG/KG	3/02/92		Aldrin
PF-40-SD-W	92.00919	319846	< 1.3		UG/KG	3/02/92		alpha-BHC
PF-40-SD-W	92.00919	319857	< 2.5		UG/KG	3/02/92		beta-BHC
PF-40-SD-W	92.00919	319868	< 3.8		UG/KG	3/02/92		delta-BHC
PF-40-SD-W	92.00919	57749	< 5.9		UG/KG	3/02/92		Chlordane
PF-40-SD-W	92.00919	72548	< 4.6		UG/KG	3/02/92		p,p'-DDD
PF-40-SD-W	92.00919	72559	< 1.7		UG/KG	3/02/92		p,p'-DDE
PF-40-SD-W	92.00919	50293	< 5.		UG/KG	3/02/92		p,p'-DDT
PF-40-SD-W	92.00919	60571	< 0.84		UG/KG	3/02/92		Dieldrin
PF-40-SD-W	92.00919	959988	< 5.9		UG/KG	3/02/92		Endosulfan I
PF-40-SD-W	92.00919	33213659	< 1.7		UG/KG	3/02/92		Endosulfan II
PF-40-SD-W	92.00919	1031078	< 28.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-SD-W	92.00919	72208	< 2.5		UG/KG	3/02/92		Endrin
PF-40-SD-W	92.00919	7421934	< 9.7		UG/KG	3/02/92		Endrin aldehyde
PF-40-SD-W	92.00919	76448	< 1.3		UG/KG	3/02/92		Heptachlor
PF-40-SD-W	92.00919	1024573	< 35.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-SD-W	92.00919	58899	< 1.7		UG/KG	3/02/92		Lindane
PF-40-SD-W	92.00919	72435	< 74.		UG/KG	3/02/92		Methoxychlor
PF-40-SD-W	92.00919	8001352	< 100.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00919

None

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00918 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/08/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DP	92.00918	309002	< 1.6		UG/KG	3/02/92		Aldrin
PF-40-DP	92.00918	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-DP	92.00918	319857	< 2.4		UG/KG	3/02/92		beta-BHC
PF-40-DP	92.00918	319868	< 3.6		UG/KG	3/02/92		delta-BHC
PF-40-DP	92.00918	57749	< 5.6		UG/KG	3/02/92		Chlordane
PF-40-DP	92.00918	72548	< 4.4		UG/KG	3/02/92		p,p'-DDD
PF-40-DP	92.00918	72559	< 1.6		UG/KG	3/02/92		p,p'-DDE
PF-40-DP	92.00918	50293	< 4.8		UG/KG	3/02/92		p,p'-DDT
PF-40-DP	92.00918	60571	< 0.79		UG/KG	3/02/92		Dieldrin
PF-40-DP	92.00918	959988	< 5.6		UG/KG	3/02/92		Endosulfan I
PF-40-DP	92.00918	33213659	< 1.6		UG/KG	3/02/92		Endosulfan II
PF-40-DP	92.00918	1031078	< 26.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-DP	92.00918	72208	< 2.4		UG/KG	3/02/92		Endrin
PF-40-DP	92.00918	7421934	< 9.1		UG/KG	3/02/92		Endrin aldehyde
PF-40-DP	92.00918	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-DP	92.00918	1024573	< 33.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-DP	92.00918	58899	< 1.6		UG/KG	3/02/92		Lindane
PF-40-DP	92.00918	72435	< 70.		UG/KG	3/02/92		Methoxychlor
PF-40-DP	92.00918	8001352	< 95.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00918

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00917 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SPS	92.00917	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-SPS	92.00917	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-SPS	92.00917	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-SPS	92.00917	319868	< 3.3		UG/KG	3/02/92		delta-BHC
PF-40-SPS	92.00917	57749	< 5.2		UG/KG	3/02/92		Chlordane
PF-40-SPS	92.00917	72548	< 4.		UG/KG	3/02/92		p,p'-DDD
PF-40-SPS	92.00917	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-SPS	92.00917	50293	< 4.4		UG/KG	3/02/92		p,p'-DDT
PF-40-SPS	92.00917	60571	< 0.74		UG/KG	3/02/92		Dieldrin
PF-40-SPS	92.00917	959988	< 5.2		UG/KG	3/02/92		Endosulfan I
PF-40-SPS	92.00917	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-SPS	92.00917	1031078	< 24.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-SPS	92.00917	72208	< 2.2		UG/KG	3/02/92		Endrin
PF-40-SPS	92.00917	7421934	< 8.5		UG/KG	3/02/92		Endrin aldehyde
PF-40-SPS	92.00917	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-SPS	92.00917	1024573	< 30.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-SPS	92.00917	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-SPS	92.00917	72435	< 65.		UG/KG	3/02/92		Methoxychlor
PF-40-SPS	92.00917	8001352	< 88.		UG/KG	3/02/92		Toxaphene

entatively Identified Compounds in Customer Sample # 92.00917

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********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: NSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00916 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-EBX-E	92.00916	309002	< 1.6		UG/KG	3/02/92		Aldrin
F-40-EBX-E	92.00916	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
F-40-EBX-E	92.00916	319857	< 2.5		UG/KG	3/02/92		beta-BHC
F-40-EBX-E	92.00916	319868	< 3.7		UG/KG	3/02/92		delta-BHC
F-40-EBX-E	92.00916	57749	< 5.8		UG/KG	3/02/92		Chlordane
F-40-EBX-E	92.00916	72548	< 4.5		UG/KG	3/02/92		p,p'-DDD
F-40-EBX-E	92.00916	72559	< 1.6		UG/KG	3/02/92		p,p'-DDE
F-40-EBX-E	92.00916	50293	< 5.		UG/KG	3/02/92		p,p'-DDT
F-40-EBX-E	92.00916	60571	< 0.82		UG/KG	3/02/92		Dieldrin
F-40-EBX-E	92.00916	959988	< 5.8		UG/KG	3/02/92		Endosulfan I
F-40-EBX-E	92.00916	33213659	< 1.6		UG/KG	3/02/92		Endosulfan II
F-40-EBX-E	92.00916	1031078	< 27.		UG/KG	3/02/92		Endosulfan sulfate
F-40-EBX-E	92.00916	72208	< 2.5		UG/KG	3/02/92		Endrin
F-40-EBX-E	92.00916	7421934	< 9.5		UG/KG	3/02/92		Endrin aldehyde
F-40-EBX-E	92.00916	76448	< 1.2		UG/KG	3/02/92		Heptachlor
F-40-EBX-E	92.00916	1024573	< 34.		UG/KG	3/02/92		Heptachlor epoxide
F-40-EBX-E	92.00916	58899	< 1.6		UG/KG	3/02/92		Lindane
F-40-EBX-E	92.00916	72435	< 73.		UG/KG	3/02/92		Methoxychlor
F-40-EBX-E	92.00916	8001352	< 99.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00916

None

REPORT NUMBER: 13357

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00915 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EBX-W	92.00915	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-EBX-W	92.00915	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-EBX-W	92.00915	319857	< 2.3		UG/KG	3/02/92		beta-BHC
PF-40-EBX-W	92.00915	319868	< 3.5		UG/KG	3/02/92		delta-BHC
PF-40-EBX-W	92.00915	57749	< 5.4		UG/KG	3/02/92		Chlordane
PF-40-EBX-W	92.00915	72548	< 4.2		UG/KG	3/02/92		p,p'-DDD
PF-40-EBX-W	92.00915	72559	12.	3.[illegible]	UG/KG	3/02/92		p,p'-DDE
PF-40-EBX-W	92.00915	50293	14.	4.5	UG/KG	3/02/92		p,p'-DDT
PF-40-EBX-W	92.00915	60571	< 0.77		UG/KG	3/02/92		Dieldrin
PF-40-EBX-W	92.00915	959988	< 5.4		UG/KG	3/02/92		Endosulfan I
PF-40-EBX-W	92.00915	33213659	< 1.6	1.6	UG/KG	3/02/92		Endosulfan II
PF-40-EBX-W	92.00915	1031078	< 25.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-EBX-W	92.00915	72208	< 2.3		UG/KG	3/02/92		Endrin
PF-40-EBX-W	92.00915	7421934	< 8.9		UG/KG	3/02/92		Endrin aldehyde
PF-40-EBX-W	92.00915	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-EBX-W	92.00915	1024573	< 32.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-EBX-W	92.00915	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-EBX-W	92.00915	72435	< 68.		UG/KG	3/02/92		Methoxychlor
PF-40-EBX-W	92.00915	8001352	< 92.		UG/KG	3/02/92		Toxaphene

$12 \pm 3 > 1.8$

$14 \pm 4.5 > 5.3$

Tentatively Identified Compounds in Customer Sample # 92.00915

None

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00914 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-1	92.00914	309002	< 1.7		UG/KG	3/02/92		Aldrin
PF-40-BAE-1	92.00914	319846	< 1.3		UG/KG	3/02/92		alpha-BHC
PF-40-BAE-1	92.00914	319857	< 2.6		UG/KG	3/02/92		beta-BHC
PF-40-BAE-1	92.00914	319868	< 3.8		UG/KG	3/02/92		delta-BHC
PF-40-BAE-1	92.00914	57749	< 6.		UG/KG	3/02/92		Chlordane
PF-40-BAE-1	92.00914	72548	< 4.7		UG/KG	3/02/92		p,p'-DDD
PF-40-BAE-1	92.00914	72559	< 1.7		UG/KG	3/02/92		p,p'-DDE
PF-40-BAE-1	92.00914	50293	< 5.1		UG/KG	3/02/92		p,p'-DDT
PF-40-BAE-1	92.00914	60571	< 0.86		UG/KG	3/02/92		Dieldrin
PF-40-BAE-1	92.00914	959988	< 6.		UG/KG	3/02/92		Endosulfan I
PF-40-BAE-1	92.00914	33213659	< 1.7		UG/KG	3/02/92		Endosulfan II
PF-40-BAE-1	92.00914	1031078	< 28.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BAE-1	92.00914	72208	< 2.6		UG/KG	3/02/92		Endrin
PF-40-BAE-1	92.00914	7421934	< 9.8		UG/KG	3/02/92		Endrin aldehyde
PF-40-BAE-1	92.00914	76448	< 1.3		UG/KG	3/02/92		Heptachlor
PF-40-BAE-1	92.00914	1024573	< 35.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BAE-1	92.00914	58899	< 1.7		UG/KG	3/02/92		Lindane
PF-40-BAE-1	92.00914	72435	< 75.		UG/KG	3/02/92		Methoxychlor
PF-40-BAE-1	92.00914	8001352	< 100.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00914

none

REPORT NUMBER: 13357

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 14-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00913 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-1	92.00913	309002	< 1.8		UG/KG	3/02/92		Aldrin
PF-40-BAW-1	92.00913	319846	< 1.3		UG/KG	3/02/92		alpha-BHC
PF-40-BAW-1	92.00913	319857	< 2.6		UG/KG	3/02/92		beta-BHC
PF-40-BAW-1	92.00913	319868	< 4.		UG/KG	3/02/92		delta-BHC
PF-40-BAW-1	92.00913	57749	< 6.2		UG/KG	3/02/92		Chlordane
PF-40-BAW-1	92.00913	72548	< 4.8		UG/KG	3/02/92		p,p'-DDD
PF-40-BAW-1	92.00913	72559	< 1.8		UG/KG	3/02/92		p,p'-DDE
PF-40-BAW-1	92.00913	50293	< 5.3		UG/KG	3/02/92		p,p'-DDT
PF-40-BAW-1	92.00913	60571	< 0.88		UG/KG	3/02/92		Dieldrin
PF-40-BAW-1	92.00913	959988	< 6.2		UG/KG	3/02/92		Endosulfan I
PF-40-BAW-1	92.00913	33213659	< 1.8		UG/KG	3/02/92		Endosulfan II
PF-40-BAW-1	92.00913	1031078	< 29.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BAW-1	92.00913	72208	< 2.6		UG/KG	3/02/92		Endrin
PF-40-BAW-1	92.00913	7421934	< 10.		UG/KG	3/02/92		Endrin aldehyde
PF-40-BAW-1	92.00913	76448	< 1.3		UG/KG	3/02/92		Heptachlor
PF-40-BAW-1	92.00913	1024573	< 36.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BAW-1	92.00913	58899	< 1.8		UG/KG	3/02/92		Lindane
PF-40-BAW-1	92.00913	72435	< 78.		UG/KG	3/02/92		Methoxychlor
PF-40-BAW-1	92.00913	8001352	< 100.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00913

none

********** EM-9 QUALITY ASSURANCE REPORT **********

REPORT NUMBER: 13375

Analyst	Reviewer	Section Leader	QA Officer
	[illegible]		mag
Date	3/16/92 Date	Date	3-16-92 Date

No Sample Discrepancies Noted by Sample Management Section

Samples analyzed by contract laboratory.

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 QUALITY ASSURANCE REPORT **********

Surrogate results for EPA PESTICIDES: Dibutyl chlorendate (CAS # = 96); EPA Range Limits: Water = 24 - 150 %, Soil = 24 - 154 %

SAMPLE NUMBER	RESULT	UNITS	COMPLETION DATE	COMMENT	SAMPLE TYPE
00.24611	108.	%	3/03/92		B
00.24611	109.	%	3/03/92		BS
00.24611	110.	%	3/03/92		BSD
00.24613	109.	%	3/02/92		B
00.24613	101.	%	3/02/92		BS
00.24613	99.	%	3/02/92		BSD
92.00761	91.	%	3/02/92		
92.00762	95.	%	3/02/92		
92.00763	93.	%	3/02/92		
92.00764	89.	%	3/02/92		
92.00765	93.	%	3/02/92		
92.00766	104.	%	3/02/92		
92.00767	78.	%	3/02/92		
92.00768	88.	%	3/02/92		
92.00769	98.	%	3/02/92		
92.00770	91.	%	3/02/92		
92.00971	60.	%	3/02/92		

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.00971 Date Collected: Date Received: Date Extracted: 1/30/92 Date Analyzed: 2/07/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.00971	309002	< 3.9		UG/KG	0.0		3/02/92	UNDER CONTROL	Aldrin
92.00971	319846	19.	4.5	UG/KG	32.	3.	3/02/92	WARNING 2-3 SIG	alpha-BHC
92.00971	319857	< 5.9		UG/KG	0.0		3/02/92	UNDER CONTROL	beta-BHC
92.00971	319868	< 8.9		UG/KG	0.0		3/02/92	UNDER CONTROL	delta-BHC
92.00971	57749	< 14.		UG/KG	0.0		3/02/92	UNDER CONTROL	Chlordane
92.00971	72548	28.	5.5	UG/KG	51.	5.	3/02/92	OUT OF CONTROL	p,p'-DDD
92.00971	72559	< 3.9		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDE
92.00971	50293	19.	5.	UG/KG	48.	5.	3/02/92	OUT OF CONTROL	p,p'-DDT
92.00971	60571	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	Dieldrin
92.00971	959988	< 14.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan I
92.00971	33213659	< 3.9		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan II
92.00971	1031078	< 65.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan sulfate
92.00971	72208	23.	5.5	UG/KG	35.	4.	3/02/92	UNDER CONTROL	Endrin
92.00971	7421934	< 23.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin aldehyde
92.00971	76448	< 3.		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor
92.00971	1024573	< 82.		UG/KG	106.	11.	3/02/92	UNDER CONTROL	Heptachlor epoxide
92.00971	58899	< 3.9		UG/KG	0.0		3/02/92	UNDER CONTROL	Lindane
92.00971	72435	< 170.		UG/KG	142.	14.	3/02/92	UNDER CONTROL	Methoxychlor
92.00971	8001352	< 240.		UG/KG	0.0		3/02/92	UNDER CONTROL	Toxaphene

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24613	00.24613	72548	33.33	31.76	UG/KG	0.0		3/02/92		P,p'-DDD
00.24613	00.24613	72559	6.67	6.09	UG/KG	0.0		3/02/92		P,p'-DDE
00.24613	00.24613	50293	33.33	38.43	UG/KG	0.0		3/02/92		P,p'-DDT
00.24613	00.24613	60571	6.67	7.86	UG/KG	0.0		3/02/92		Dieldrin
00.24613	00.24613	959988	6.67	8.38	UG/KG	0.0		3/02/92		Endosulfan I
00.24613	00.24613	33213659	33.33	39.13	UG/KG	0.0		3/02/92		Endosulfan II
00.24613	00.24613	1031078	33.33	27.73	UG/KG	0.0		3/02/92		Endosulfan sulfate
00.24613	00.24613	72208	6.67	6.28	UG/KG	0.0		3/02/92		Endrin
00.24613	00.24613	7421934	6.67	6.92	UG/KG	0.0		3/02/92		Endrin aldehyde
00.24613	00.24613	76448	6.67	6.4	UG/KG	0.0		3/02/92		Heptachlor
00.24613	00.24613	1024573	6.67	8.96	UG/KG	0.0		3/02/92		Heptachlor epoxide
00.24613	00.24613	58899	6.67	6.32	UG/KG	0.0		3/02/92		Lindane
00.24613	00.24613	72435	6.67	7.87	UG/KG	0.0		3/02/92		Methoxychlor

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Duplicate Results, Sample # 00.24611 Date Collected: Date Received: Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
)0.24611	00.24611	309002	6.67	6.61	UG/KG	0.0		3/03/92		Aldrin
)0.24611	00.24611	319846	6.67	6.57	UG/KG	0.0		3/03/92		alpha-BHC
)0.24611	00.24611	319857	6.67	6.05	UG/KG	0.0		3/03/92		beta-BHC
)0.24611	00.24611	319868	6.67	8.63	UG/KG	0.0		3/03/92		delta-BHC
)0.24611	00.24611	72548	33.33	32.9	UG/KG	0.0		3/03/92		p,p'-DDD
)0.24611	00.24611	72559	6.67	6.53	UG/KG	0.0		3/03/92		p,p'-DDE
)0.24611	00.24611	50293	33.33	34.74	UG/KG	0.0		3/03/92		p,p'-DDT
)0.24611	00.24611	60571	6.67	7.86	UG/KG	0.0		3/03/92		Dieldrin
)0.24611	00.24611	959988	6.67	9.27	UG/KG	0.0		3/03/92		Endosulfan I
)0.24611	00.24611	33213659	33.33	38.75	UG/KG	0.0		3/03/92		Endosulfan II
)0.24611	00.24611	1031078	33.33	28.14	UG/KG	0.0		3/03/92		Endosulfan sulfate
)0.24611	00.24611	72208	6.67	6.57	UG/KG	0.0		3/03/92		Endrin
)0.24611	00.24611	7421934	6.67	6.96	UG/KG	0.0		3/03/92		Endrin aldehyde
)0.24611	00.24611	76448	6.67	6.42	UG/KG	0.0		3/03/92		Heptachlor
)0.24611	00.24611	1024573	6.67	6.6	UG/KG	0.0		3/03/92		Heptachlor epoxide
)0.24611	00.24611	58899	6.67	6.28	UG/KG	0.0		3/03/92		Lindane
)0.24611	00.24611	72435	6.67	7.98	UG/KG	0.0		3/03/92		Methoxychlor

ank Spike Duplicate Results, Sample # 00.24613 Date Collected: Date Received: Date Extracted: 1/30/92 Date Analyzed: 2/07/92

STOMER UMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
.24613	00.24613	309002	6.67	6.6	UG/KG	0.0		3/02/92		Aldrin
.24613	00.24613	319846	6.67	6.14	UG/KG	0.0		3/02/92		alpha-BHC
24613	00.24613	319857	6.67	5.72	UG/KG	0.0		3/02/92		beta-BHC
.24613	00.24613	319868	6.67	8.46	UG/KG	0.0		3/02/92		delta-BHC

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24613	00.24613	72548	33.33	30.65	UG/KG	0.0		3/02/92		p,p'-DDD
00.24613	00.24613	72559	6.67	6.06	UG/KG	0.0		3/02/92		p,p'-DDE
00.24613	00.24613	50293	33.33	39.71	UG/KG	0.0		3/02/92		p,p'-DDT
00.24613	00.24613	60571	6.67	8.	UG/KG	0.0		3/02/92		Dieldrin
00.24613	00.24613	959988	6.67	8.42	UG/KG	0.0		3/02/92		Endosulfan I
00.24613	00.24613	33213659	33.33	40.57	UG/KG	0.0		3/02/92		Endosulfan II
00.24613	00.24613	1031078	33.33	26.73	UG/KG	0.0		3/02/92		Endosulfan sulfate
00.24613	00.24613	72208	6.67	6.	UG/KG	0.0		3/02/92		Endrin
00.24613	00.24613	7421934	6.67	6.42	UG/KG	0.0		3/02/92		Endrin aldehyde
00.24613	00.24613	76448	6.67	6.23	UG/KG	0.0		3/02/92		Heptachlor
00.24613	00.24613	1024573	6.67	6.14	UG/KG	0.0		3/02/92		Heptachlor epoxide
00.24613	00.24613	58899	6.67	6.12	UG/KG	0.0		3/02/92		Lindane
00.24613	00.24613	72435	6.67	8.17	UG/KG	0.0		3/02/92		Methoxychlor

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Results, Sample # 00.24611 Date Collected: Date Received: Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	309002	6.67	7.17	UG/KG	0.0		3/02/92		Aldrin
00.24611	00.24611	319846	6.67	6.64	UG/KG	0.0		3/02/92		alpha-BHC
00.24611	00.24611	319857	6.67	6.03	UG/KG	0.0		3/02/92		beta-BHC
00.24611	00.24611	319868	6.67	8.49	UG/KG	0.0		3/02/92		delta-BHC
00.24611	00.24611	72548	33.33	33.1	UG/KG	0.0		3/02/92		p,p'-DDD
00.24611	00.24611	72559	6.67	6.52	UG/KG	0.0		3/02/92		p,p'-DDE
00.24611	00.24611	50293	33.33	39.19	UG/KG	0.0		3/02/92		p,p'-DDT
00.24611	00.24611	60571	6.67	8.45	UG/KG	0.0		3/02/92		Dieldrin
00.24611	00.24611	959988	6.67	9.81	UG/KG	0.0		3/02/92		Endosulfan I
00.24611	00.24611	33213659	33.33	41.42	UG/KG	0.0		3/02/92		Endosulfan II
00.24611	00.24611	1031078	33.33	28.13	UG/KG	0.0		3/02/92		Endosulfan sulfate
00.24611	00.24611	72208	6.67	6.62	UG/KG	0.0		3/02/92		Endrin
00.24611	00.24611	7421934	6.67	7.57	UG/KG	0.0		3/02/92		Endrin aldehyde
00.24611	00.24611	76448	6.67	6.75	UG/KG	0.0		3/02/92		Heptachlor
00.24611	00.24611	1024573	6.67	7.04	UG/KG	0.0		3/02/92		Heptachlor epoxide
00.24611	00.24611	58899	6.67	6.83	UG/KG	0.0		3/02/92		Lindane
00.24611	00.24611	72435	6.67	8.62	UG/KG	0.0		3/02/92		Methoxychlor

Blank Spike Results, Sample # 00.24613 Date Collected: Date Received: Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24613	00.24613	309002	6.67	6.34	UG/KG	0.0		3/02/92		Aldrin
00.24613	00.24613	319846	6.67	5.92	UG/KG	0.0		3/02/92		alpha-BHC
00.24613	00.24613	319857	6.67	5.49	UG/KG	0.0		3/02/92		beta-BHC
00.24613	00.24613	319868	6.67	8.5	UG/KG	0.0		3/02/92		delta-BHC

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24613	00.24613	319857	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	beta-BHC
00.24613	00.24613	319868	< 3.		UG/KG	0.0		3/02/92	UNDER CONTROL	delta-BHC
00.24613	00.24613	57749	< 4.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Chlordane
00.24613	00.24613	72548	< 3.6		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDD
00.24613	00.24613	72559	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDE
00.24613	00.24613	50293	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDT
00.24613	00.24613	60571	< 0.66		UG/KG	0.0		3/02/92	UNDER CONTROL	Dieldrin
00.24613	00.24613	959988	< 4.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan I
00.24613	00.24613	33213659	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan II
00.24613	00.24613	1031078	< 22.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan sulfate
00.24613	00.24613	72208	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin
00.24613	00.24613	7421934	< 7.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin aldehyde
00.24613	00.24613	76448	< 0.99		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor
00.24613	00.24613	1024573	< 27.		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor epoxide
00.24613	00.24613	58899	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Lindane
00.24613	00.24613	72435	< 58.		UG/KG	0.0		3/02/92	UNDER CONTROL	Methoxychlor
00.24613	00.24613	8001352	< 79.		UG/KG	0.0		3/02/92	UNDER CONTROL	Toxaphene

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results, Sample # 00.24611 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	309002	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Aldrin
00.24611	00.24611	319846	< 0.99		UG/KG	0.0		3/02/92	UNDER CONTROL	alpha-BHC
00.24611	00.24611	319857	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	beta-BHC
00.24611	00.24611	319868	< 3.		UG/KG	0.0		3/02/92	UNDER CONTROL	delta-BHC
00.24611	00.24611	57749	< 4.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Chlordane
00.24611	00.24611	72548	< 3.6		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDD
00.24611	00.24611	72559	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDE
00.24611	00.24611	50293	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDT
00.24611	00.24611	60571	< 0.66		UG/KG	0.0		3/02/92	UNDER CONTROL	Dieldrin
00.24611	00.24611	959988	< 4.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan I
00.24611	00.24611	33213659	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan II
00.24611	00.24611	1031078	< 22.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan sulfate
00.24611	00.24611	72208	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin
00.24611	00.24611	7421934	< 7.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin aldehyde
00.24611	00.24611	76448	< 0.99		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor
00.24611	00.24611	1024573	< 27.		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor epoxide
00.24611	00.24611	58899	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Lindane
00.24611	00.24611	72435	< 58.		UG/KG	0.0		3/02/92	UNDER CONTROL	Methoxychlor
00.24611	00.24611	8001352	< 79.		UG/KG	0.0		3/02/92	UNDER CONTROL	Toxaphene

Blank Results, Sample # 00.24613 Date Collected: Date Received: Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24613	00.24613	309002	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Aldrin
00.24613	00.[illegible]	319846	< 0.99		UG/KG			3/02/92	UNDER CONTROL	alpha-BHC

********** EM-9 QUALITY ASSURANCE REPORT **********

EPA PESTICIDES Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00770 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-5R	92.00770	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-FA-5R	92.00770	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-FA-5R	92.00770	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-FA-5R	92.00770	319868	< 3.4		UG/KG	3/02/92		delta-BHC
PF-40-FA-5R	92.00770	57749	< 5.2		UG/KG	3/02/92		Chlordane
PF-40-FA-5R	92.00770	72548	< 4.1		UG/KG	3/02/92		p,p'-DDD
PF-40-FA-5R	92.00770	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-FA-5R	92.00770	50293	< 4.5		UG/KG	3/02/92		p,p'-DDT
PF-40-FA-5R	92.00770	60571	< 0.75		UG/KG	3/02/92		Dieldrin
PF-40-FA-5R	92.00770	959988	< 5.2		UG/KG	3/02/92		Endosulfan I
PF-40-FA-5R	92.00770	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-FA-5R	92.00770	1031078	< 25.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-FA-5R	92.00770	72208	< 2.2		UG/KG	3/02/92		Endrin
PF-40-FA-5R	92.00770	7421934	< 8.6		UG/KG	3/02/92		Endrin aldehyde
PF-40-FA-5R	92.00770	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-FA-5R	92.00770	1024573	< 31.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-FA-5R	92.00770	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-FA-5R	92.00770	72435	< 66.		UG/KG	3/02/92		Methoxychlor
PF-40-FA-5R	92.00770	8001352	< 90.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00770

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00769 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3C	92.00769	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-BP-3C	92.00769	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-BP-3C	92.00769	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-BP-3C	92.00769	319868	< 3.4		UG/KG	3/02/92		delta-BHC
PF-40-BP-3C	92.00769	57749	< 5.2		UG/KG	3/02/92		Chlordane
PF-40-BP-3C	92.00769	72548	< 4.1		UG/KG	3/02/92		p,p'-DDD
PF-40-BP-3C	92.00769	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-BP-3C	92.00769	50293	< 4.5		UG/KG	3/02/92		p,p'-DDT
PF-40-BP-3C	92.00769	60571	< 0.75		UG/KG	3/02/92		Dieldrin
PF-40-BP-3C	92.00769	959988	< 5.2		UG/KG	3/02/92		Endosulfan I
PF-40-BP-3C	92.00769	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-BP-3C	92.00769	1031078	< 25.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BP-3C	92.00769	72208	< 2.2		UG/KG	3/02/92		Endrin
PF-40-BP-3C	92.00769	7421934	< 8.6		UG/KG	3/02/92		Endrin aldehyde
PF-40-BP-3C	92.00769	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-BP-3C	92.00769	1024573	< 31.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BP-3C	92.00769	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-BP-3C	92.00769	72435	< 66.		UG/KG	3/02/92		Methoxychlor
PF-40-BP-3C	92.00769	8001352	< 90.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00769

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES

Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 PROGRAM CODE: M94B NOTEBOOK: PAGE: TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00768 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3B	92.00768	309002	< 1.4		UG/KG	3/02/92		Aldrin
PF-40-BP-3B	92.00768	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-BP-3B	92.00768	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-BP-3B	92.00768	319868	< 3.3		UG/KG	3/02/92		delta-BHC
PF-40-BP-3B	92.00768	57749	< 5.1		UG/KG	3/02/92		Chlordane
PF-40-BP-3B	92.00768	72548	< 4.		UG/KG	3/02/92		p,p'-DDD
F-40-BP-3B	92.00768	72559	< 1.4		UG/KG	3/02/92		p,p'-DDE
F-40-BP-3B	92.00768	50293	< 4.4		UG/KG	3/02/92		p,p'-DDT
F-40-BP-3B	92.00768	60571	< 0.72		UG/KG	3/02/92		Dieldrin
F-40-BP-3B	92.00768	959988	< 5.1		UG/KG	3/02/92		Endosulfan I
F-40-BP-3B	92.00768	33213659	< 1.4		UG/KG	3/02/92		Endosulfan II
F-40-BP-3B	92.00768	1031078	< 24.		UG/KG	3/02/92		Endosulfan sulfate
F-40-BP-3B	92.00768	72208	< 2.2		UG/KG	3/02/92		Endrin
F-40-BP-3B	92.00768	7421934	< 8.3		UG/KG	3/02/92		Endrin aldehyde
-40-BP-3B	92.00768	76448	< 1.1		UG/KG	3/02/92		Heptachlor
-40-BP-3B	92.00768	1024573	< 30.		UG/KG	3/02/92		Heptachlor epoxide
-40-BP-3B	92.00768	58899	< 1.4		UG/KG	3/02/92		Lindane
-40-BP-3B	92.00768	72435	< 64.		UG/KG	3/02/92		Methoxychlor
-40-BP-3B	92.00768	8001352	< 87.		UG/KG	3/02/92		Toxaphene

ntatively Identified Compounds in Customer Sample # 92.00768

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********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00767 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-1	92.00767	309002	< 1.7		UG/KG	3/02/92		Aldrin
PF-40-BC-1	92.00767	319846	< 1.3		UG/KG	3/02/92		alpha-BHC
PF-40-BC-1	92.00767	319857	< 2.6		UG/KG	3/02/92		beta-BHC
PF-40-BC-1	92.00767	319868	< 3.9		UG/KG	3/02/92		delta-BHC
PF-40-BC-1	92.00767	57749	< 6.		UG/KG	3/02/92		Chlordane
PF-40-BC-1	92.00767	72548	< 4.7		UG/KG	3/02/92		p,p'-DDD
PF-40-BC-1	92.00767	72559	< 1.7		UG/KG	3/02/92		p,p'-DDE
PF-40-BC-1	92.00767	50293	< 5.2		UG/KG	3/02/92		p,p'-DDT
PF-40-BC-1	92.00767	60571	< 0.86		UG/KG	3/02/92		Dieldrin
PF-40-BC-1	92.00767	959988	< 6.		UG/KG	3/02/92		Endosulfan I
PF-40-BC-1	92.00767	33213659	< 1.7		UG/KG	3/02/92		Endosulfan II
PF-40-BC-1	92.00767	1031078	< 28.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BC-1	92.00767	72208	< 2.6		UG/KG	3/02/92		Endrin
PF-40-BC-1	92.00767	7421934	< 9.9		UG/KG	3/02/92		Endrin aldehyde
PF-40-BC-1	92.00767	76448	< 1.3		UG/KG	3/02/92		Heptachlor
PF-40-BC-1	92.00767	1024573	< 36.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BC-1	92.00767	58899	< 1.7		UG/KG	3/02/92		Lindane
PF-40-BC-1	92.00767	72435	< 76.		UG/KG	3/02/92		Methoxychlor
PF-40-BC-1	92.00767	8001352	< 100.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00767

none

********** EM-9 ANALYTICAL REPORT **********

Matrix Spike Results for Sample # 92.00766 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2C	92.00766	309002	32.61	31.23	UG/KG	3/02/92		Aldrin
PF-40-BP-2C	92.00766	50293	81.52	72.79	UG/KG	3/02/92		p,p'-DDT
PF-40-BP-2C	92.00766	60571	81.52	77.88	UG/KG	3/02/92		Dieldrin
PF-40-BP-2C	92.00766	72208	81.82	66.65	UG/KG	3/02/92		Endrin
PF-40-BP-2C	92.00766	76448	32.61	30.53	UG/KG	3/02/92		Heptachlor
PF-40-BP-2C	92.00766	58899	32.61	29.59	UG/KG	3/02/92		Lindane

Matrix Spike Duplicate Results for Sample # 92.00766 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2C	92.00766	309002	32.6	31.48	UG/KG	3/02/92		Aldrin
PF-40-BP-2C	92.00766	50293	81.5	73.86	UG/KG	3/02/92		p,p'-DDT
PF-40-BP-2C	92.00766	60571	81.5	78.45	UG/KG	3/02/92		Dieldrin
PF-40-BP-2C	92.00766	72208	81.5	67.32	UG/KG	3/02/92		Endrin
PF-40-BP-2C	92.00766	76448	32.6	30.85	UG/KG	3/02/92		Heptachlor
PF-40-BP-2C	92.00766	58899	32.6	29.96	UG/KG	3/02/92		Lindane

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00766 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2C	92.00766	309002	< 1.6		UG/KG	3/02/92		Aldrin
PF-40-BP-2C	92.00766	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-BP-2C	92.00766	319857	< 2.4		UG/KG	3/02/92		beta-BHC
PF-40-BP-2C	92.00766	319868	< 3.6		UG/KG	3/02/92		delta-BHC
PF-40-BP-2C	92.00766	57749	< 5.6		UG/KG	3/02/92		Chlordane
PF-40-BP-2C	92.00766	72548	< 4.4		UG/KG	3/02/92		p,p'-DDD
PF-40-BP-2C	92.00766	72559	< 1.6		UG/KG	3/02/92		p,p'-DDE
PF-40-BP-2C	92.00766	50293	< 4.8		UG/KG	3/02/92		p,p'-DDT
PF-40-BP-2C	92.00766	60571	< 0.81		UG/KG	3/02/92		Dieldrin
PF-40-BP-2C	92.00766	959988	< 5.6		UG/KG	3/02/92		Endosulfan I
PF-40-BP-2C	92.00766	33213659	< 1.6		UG/KG	3/02/92		Endosulfan II
PF-40-BP-2C	92.00766	1031078	< 27.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BP-2C	92.00766	72208	< 2.4		UG/KG	3/02/92		Endrin
PF-40-BP-2C	92.00766	7421934	<·9.3		UG/KG	3/02/92		Endrin aldehyde
PF-40-BP-2C	92.00766	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-BP-2C	92.00766	1024573	< 33.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BP-2C	92.00766	58899	< 1.6		UG/KG	3/02/92		Lindane
PF-40-BP-2C	92.00766	72435	< 71.		UG/KG	3/02/92		Methoxychlor
PF-40-BP-2C	92.00766	8001352	< 97.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00766

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00765 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2B	92.00765	309002	< 1.7		UG/KG	3/02/92		Aldrin
PF-40-BP-2B	92.00765	319846	< 1.3		UG/KG	3/02/92		alpha-BHC
PF-40-BP-2B	92.00765	319857	< 2.6		UG/KG	3/02/92		beta-BHC
PF-40-BP-2B	92.00765	319868	< 3.9		UG/KG	3/02/92		delta-BHC
PF-40-BP-2B	92.00765	57749	< 6.1		UG/KG	3/02/92		Chlordane
PF-40-BP-2B	92.00765	72548	< 4.8		UG/KG	3/02/92		p,p'-DDD
PF-40-BP-2B	92.00765	72559	< 1.7		UG/KG	3/02/92		p,p'-DDE
PF-40-BP-2B	92.00765	50293	< 5.2		UG/KG	3/02/92		p,p'-DDT
PF-40-BP-2B	92.00765	60571	< 0.87		UG/KG	3/02/92		Dieldrin
PF-40-BP-2B	92.00765	959988	< 6.1		UG/KG	3/02/92		Endosulfan I
PF-40-BP-2B	92.00765	33213659	< 1.7		UG/KG	3/02/92		Endosulfan II
PF-40-BP-2B	92.00765	1031078	< 29.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BP-2B	92.00765	72208	< 2.6		UG/KG	3/02/92		Endrin
PF-40-BP-2B	92.00765	7421934	< 10.		UG/KG	3/02/92		Endrin aldehyde
PF-40-BP-2B	92.00765	76448	< 1.3		UG/KG	3/02/92		Heptachlor
PF-40-BP-2B	92.00765	1024573	< 36.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BP-2B	92.00765	58899	< 1.7		UG/KG	3/02/92		Lindane
PF-40-BP-2B	92.00765	72435	< 76.		UG/KG	3/02/92		Methoxychlor
PF-40-BP-2B	92.00765	8001352	< 100.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00765

none

REPORT N. _R: 13375

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00764 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2A	92.00764	309002	< 1.6		UG/KG	3/02/92		Aldrin
PF-40-BP-2A	92.00764	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-BP-2A	92.00764	319857	< 2.4		UG/KG	3/02/92		beta-BHC
PF-40-BP-2A	92.00764	319868	< 3.6		UG/KG	3/02/92		delta-BHC
PF-40-BP-2A	92.00764	57749	< 5.5		UG/KG	3/02/92		Chlordane
PF-40-BP-2A	92.00764	72548	< 4.3		UG/KG	3/02/92		p,p'-DDD
PF-40-BP-2A	92.00764	72559	< 1.6		UG/KG	3/02/92		p,p'-DDE
PF-40-BP-2A	92.00764	50293	< 4.7		UG/KG	3/02/92		p,p'-DDT
PF-40-BP-2A	92.00764	60571	< 0.79		UG/KG	3/02/92		Dieldrin
PF-40-BP-2A	92.00764	959988	< 5.5		UG/KG	3/02/92		Endosulfan I
PF-40-BP-2A	92.00764	33213659	< 1.6		UG/KG	3/02/92		Endosulfan II
PF-40-BP-2A	92.00764	1031078	< 4.7		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BP-2A	92.00764	72208	< 2.4		UG/KG	3/02/92		Endrin
PF-40-BP-2A	92.00764	7421934	< 9.1		UG/KG	3/02/92		Endrin aldehyde
PF-40-BP-2A	92.00764	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-BP-2A	92.00764	1024573	33.	5.5	UG/KG	3/02/92		Heptachlor epoxide
PF-40-BP-2A	92.00764	58899	< 1.6		UG/KG	3/02/92		Lindane
PF-40-BP-2A	92.00764	72435	< 69.		UG/KG	3/02/92		Methoxychlor
PF-40-BP-2A	92.00764	8001352	< 95.		UG/KG	3/02/92		Toxaphene

ok

33 (± 5.5) < 31

Tentatively Identified Compounds in Customer Sample # 92.00764

none

REPORT .: 13375

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00763 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1C	92.00763	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-BP-1C	92.00763	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-BP-1C	92.00763	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-BP-1C	92.00763	319868	< 3.3		UG/KG	3/02/92		delta-BHC
PF-40-BP-1C	92.00763	57749	< 5.2		UG/KG	3/02/92		Chlordane
PF-40-BP-1C	92.00763	72548	< 4.		UG/KG	3/02/92		p,p'-DDD
PF-40-BP-1C	92.00763	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-BP-1C	92.00763	50293	< 4.4		UG/KG	3/02/92		p,p'-DDT
PF-40-BP-1C	92.00763	60571	< 0.74		UG/KG	3/02/92		Dieldrin
PF-40-BP-1C	92.00763	959988	< 5.2		UG/KG	3/02/92		Endosulfan I
PF-40-BP-1C	92.00763	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-BP-1C	92.00763	1031078	< 24.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BP-1C	92.00763	72208	< 2.2		UG/KG	3/02/92		Endrin
PF-40-BP-1C	92.00763	7421934	< 8.5		UG/KG	3/02/92		Endrin aldehyde
PF-40-BP-1C	92.00763	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-BP-1C	92.00763	1024573	< 31.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BP-1C	92.00763	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-BP-1C	92.00763	72435	< 65.		UG/KG	3/02/92		Methoxychlor
PF-40-BP-1C	92.00763	8001352	< 88.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00763

None

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00762 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1B	92.00762	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-BP-1B	92.00762	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-BP-1B	92.00762	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-BP-1B	92.00762	319868	< 3.4		UG/KG	3/02/92		delta-BHC
PF-40-BP-1B	92.00762	57749	< 5.2		UG/KG	3/02/92		Chlordane
PF-40-BP-1B	92.00762	72548	< 4.1		UG/KG	3/02/92		p,p'-DDD
PF-40-BP-1B	92.00762	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-BP-1B	92.00762	50293	< 4.5		UG/KG	3/02/92		p,p'-DDT
PF-40-BP-1B	92.00762	60571	< 0.75		UG/KG	3/02/92		Dieldrin
PF-40-BP-1B	92.00762	959988	< 5.2		UG/KG	3/02/92		Endosulfan I
PF-40-BP-1B	92.00762	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-BP-1B	92.00762	1031078	< 25.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BP-1B	92.00762	72208	< 2.2		UG/KG	3/02/92		Endrin
PF-40-BP-1B	92.00762	7421934	<.8.6		UG/KG	3/02/92		Endrin aldehyde
PF-40-BP-1B	92.00762	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-BP-1B	92.00762	1024573	< 31.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BP-1B	92.00762	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-BP-1B	92.00762	72435	< 66.		UG/KG	3/02/92		Methoxychlor
PF-40-BP-1B	92.00762	8001352	< 90.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00762

none

REPORT NUMBER: 13375

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 16-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00761 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1A	92.00761	309002	< 1.6		UG/KG	3/02/92		Aldrin
PF-40-BP-1A	92.00761	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-BP-1A	92.00761	319857	< 2.5		UG/KG	3/02/92		beta-BHC
PF-40-BP-1A	92.00761	319868	< 3.7		UG/KG	3/02/92		delta-BHC
PF-40-BP-1A	92.00761	57749	< 5.8		UG/KG	3/02/92		Chlordane
PF-40-BP-1A	92.00761	72548	< 4.5		UG/KG	3/02/92		p,p'-DDD
PF-40-BP-1A	92.00761	72559	< 1.6		UG/KG	3/02/92		p,p'-DDE
PF-40-BP-1A	92.00761	50293	< 5.		UG/KG	3/02/92		p,p'-DDT
PF-40-BP-1A	92.00761	60571	< 0.83		UG/KG	3/02/92		Dieldrin
PF-40-BP-1A	92.00761	959988	< 5.8		UG/KG	3/02/92		Endosulfan I
PF-40-BP-1A	92.00761	33213659	< 1.6		UG/KG	3/02/92		Endosulfan II
PF-40-BP-1A	92.00761	1031078	< 27.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BP-1A	92.00761	72208	< 2.5		UG/KG	3/02/92		Endrin
PF-40-BP-1A	92.00761	7421934	< 9.5		UG/KG	3/02/92		Endrin aldehyde
PF-40-BP-1A	92.00761	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-BP-1A	92.00761	1024573	< 34.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BP-1A	92.00761	58899	< 1.6		UG/KG	3/02/92		Lindane
PF-40-BP-1A	92.00761	72435	< 73.		UG/KG	3/02/92		Methoxychlor
PF-40-BP-1A	92.00761	8001352	< 99.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00761

none

Los Alamos National Laboratories
February 27, 1992
Project Number 281.01

(C) Pesticide Analysis (continued)

The continuing calibration for toxaphene on 02/07/92 at 15:48 exhibited a slight retention time shift for the identification peak. Toxaphene was not detected in the samples associated with that standard; because the identification of toxaphene is based more on pattern recognition than retention time windows, the data was not compromised by this shift in the standard.

Sample 92.00971 (1775-011) contained heptachlor epoxide at 69 µg/kg, which was below the detection limit for the analysis. It should be noted that only 10 g. of this sample was made available for analysis, and that a 30 g. sample containing this concentration would have shown a result above the PQL.

Sample 92.01032 (1775-014) was analyzed twice; two Form I's are submitted for this sample, with the suffix RE attached to the reinjection. When this sample was first injected, it was suspected that excessive breakdown of DDT might be occurring (due to the presence of breakdown products in the LCS which was run just before the sample.) Both analyses of 1775-014 are submitted because the calibration factor for methoxychlor was out of control on the second analysis, and the first analysis is used to show the absence of that analyte.

Elevated detection limits were required for the water samples for pesticides due to the limited volume of sample supplied.

I certify that these analysis results are in compliance with the terms and conditions of the contact, both technically and for completeness, with the exception of the items detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory manager or his designee, as verified by the following signature.

Reviewed and Approved:

Kathy R. Giacopelli for R.E. White

Robert E. White
Project Manager

Los Alamos National Laboratories
February 27, 1992
Project Number 281.01

IV. Nonconformances and Analysis Comments

(A) Sample receipt

An ITAS - St. Louis Laboratory Nonconformance Memo (NCM SL-92-0055) was prepared to document that sample 92.00767 had leaked into the plastic bag containing it prior to receipt at the laboratory

(B) Herbicide Analysis

SW-846 Practical Quantitation Limits (PQL's) have been used as reporting limits for this project. However, we have found that on our instrumentation, the normal dilution factor for Method 8150 (50 g. or 1000 ml. going to 10 ml. final extract) results in extracts with levels at the PQL which are at least 50 times higher than the normal calibration range. Therefore, for these analyses, a dilution factor of 50 will lead to detection limits at the PQL when 50 grams of soil or 1000 ml. of water are used. When smaller aliquots of samples are extracted, a smaller dilution has been made on the extract to result in the same reporting limits.

One of the two Laboratory control samples run with the soil samples for herbicides (HSPK02B) gave no recovery of the three spiked herbicides. All of the soil samples were consequently reextracted with another two Laboratory Control Samples (HSPK02 A and B). Sample 92.00770 (1771-010) could not be reextracted due to the limited amount of sample received and is submitted from the first extraction along with the method blank and two LCS run with it. A nonconformance memo (SL-92-0105) was filed to document this analytical problem.

(C) Pesticide Analysis

Because of sample matrix interferences, concentrations or detection limits given for each sample on the Form I's may not come from a single run which covers every compound. Attached to this narrative is an Appendix consisting of a table showing the data file numbers for each run used for quantifying the individual target compounds for each sample. In some cases both the primary and secondary column may have contributed to the total list of compounds in a single sample.

Los Alamos National Laboratories
February 27, 1992
Project Number 281.01

CLIENT ID	ITAS ID	PARAMETER	MATRIX
92.00917	1775-005	Pest/Herb	Soil
92.00918	1775-006	Pest/Herb	Soil
92.00919	1775-007	Pest/Herb	Soil
92.00920	1775-008	Pest/Herb	Soil
92.00921	1775-009	Pest/Herb	Soil
92.00970	1775-010	Herb	Soil
92.00971	1775-011	Pest	Soil
92.00938	1775-012	Pest/Herb	Water
92.00939	1775-013	Pest/Herb	Water
92.01032	1775-014	Pest	Water
92.01033	1775-015	Herb	Water

All samples with ITAS laboratory numbers 1771-XXX were received on January 28, while samples numbered 1775-XXX were received on January 30.

II. Analytical Results/Methodology

USEPA methods published in SW-846 (3rd Edition, Revision 0) were followed in the analysis of these samples. Organochlorine pesticides were analyzed by Method 8080 (no PCB analysis was requested), and Method 8150 was followed to analyze for the chlorinated herbicides 2,4-D, 2,4,5-T, and 2,4,5-TP (silvex). The results are presented in the attached "CLP" package, with modifications made to the pesticide forms to reflect the requirements of the SW 846 method. The herbicide package follows the general requirements for GC Chlorinated Herbicides Final Reports which was provided by LANL. CLP organics conventions have been used in presenting and flagging data.

III. Quality Control

Sample 92.00766 (1771-006) was chosen for matrix spike/matrix spike duplicate analysis. In addition, duplicate Laboratory Control Samples (blank spikes) were prepared and analyzed with the samples, as well as a method blank for each analysis. CLP convention has been followed in presenting the quality control data, and no sample results have been adjusted to reflect QC sample recoveries.

All samples were extracted and analyzed with the required SW-846 holding times.

INTERNATIONAL TECHNOLOGY CORPORATION

CASE NARRATIVE

IT Corporation - Los Alamos
557 Oppenheimer Road
Suite 200
Los Alamos, New Mexico 87545

February 27, 1992

Attention: Dr. Sylvan Hersh

Purchase Order Number: 92-002

This is a case narrative for the following:

Project Number : 281.01
Date Received by Lab: January 28 and January 30, 1992
Number of Samples : Twenty-five (25)
Sample Matrix : see below

I. Introduction

On January 28 and January 30, 1992, twenty-one soil samples and four water samples were received at ITAS - St. Louis from PRF TA-40 Scrap Detonation Site at Los Alamos National Laboratory. These samples were batched for analysis into a single Sample Delivery Group. The following is a list of the samples received, along with the ITAS - St. Louis identification numbers, the matrix, and the analyses requested for each sample:

CLIENT ID	ITAS ID	PARAMETER	MATRIX
92.00761	1771-001	Pest/Herb	Soil
92.00762	1771-002	Pest/Herb	Soil
92.00763	1771-003	Pest/Herb	Soil
92.00764	1771-004	Pest/Herb	Soil
92.00765	1771-005	Pest/Herb	Soil
92.00766	1771-006	Pest/Herb	Soil
92.00767	1771-007	Pest/Herb	Soil
92.00768	1771-008	Pest/Herb	Soil
92.00769	1771-009	Pest/Herb	Soil
92.00770	1771-010	Pest/Herb	Soil
92.00913	1775-001	Pest/Herb	Soil
92.00914	1775-002	Pest/Herb	Soil
92.00915	1775-003	Pest/Herb	Soil
92.00916	1775-004	Pest/Herb	Soil

********** EM-9 QUALITY ASSURANCE REPORT **********

REPORT NUMBER: 13429

	WAT by [illegible]		mag
Analyst	Reviewer	Section Leader	QA Officer
	3/18/92		3-18-92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 QUALITY ASSURANCE REPORT **********

Surrogate results for EPA PESTICIDES: Dibutyl chlorendate (CAS # = 96); EPA Range Limits: Water = 24 - 150 %, Soil = 24 - 154 %

SAMPLE NUMBER	RESULT	UNITS	COMPLETION DATE	COMMENT	SAMPLE TYPE
00.24611	112.	%	3/02/92		B
00.24611	60.	%	3/02/92		BS
00.24611	112.	%	3/02/92		BSD
92.00696	74.	%	3/02/92		
92.00696	18.	%	3/02/92		MS
92.00696	99.	%	3/02/92		MSD
92.00697	102.	%	3/02/92		
92.00698	74.	%	3/02/92		
92.00699	126.	%	3/02/92		
92.00700	39.	%	3/02/92		
92.00701	90.	%	3/02/92		
92.00702	115.	%	3/02/92		
92.00703	107.	%	3/02/92		
92.00704	0.2	%	3/02/92		
92.00705	9.	%	3/02/92		
92.00706	94.	%	3/02/92		
92.00707	84.	%	3/02/92		
92.00708	101.	%	3/02/92		
92.00709	101.	%	3/02/92		
92.00710	95.	%	3/02/92		
92.00749	0.1	%	3/02/92		
92.00750	0.1	%	3/02/92		

92.00750	[illegible]68	< 8.9		UG/KG	0.0		3/02/92	UNDER CONTROL	delta-BHC
92.00750	57749	< 14.		UG/KG	0.0		3/02/92	UNDER CONTROL	Chlordane
92.00750	72548	17.	4.	UG/KG	61.	6.	3/02/92	OUT OF CONTROL	p,p'-DDD
92.00750	72559	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDE
92.00750	50293	< 12.		UG/KG	58.	6.	3/02/92	OUT OF CONTROL	p,p'-DDT
92.00750	60571	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	Dieldrin
92.00750	959988	< 14.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan I
92.00750	33213659	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan II
92.00750	1031078	< 65.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan sulfate
92.00750	72208	< 5.9		UG/KG	42.	4.	3/02/92	OUT OF CONTROL	Endrin
92.00750	7421934	< 23.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin aldehyde
92.00750	76448	< 3.		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor
92.00750	1024573	99.	50.	UG/KG	127.	13.	3/02/92	UNDER CONTROL	Heptachlor epoxide
92.00750	58899	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	Lindane
92.00750	72435	< 170.		UG/KG	170.	17.	3/02/92	UNDER CONTROL	Methoxychlor
92.00750	8001352	< 240.		UG/KG	0.0		3/02/92	UNDER CONTROL	Toxaphene

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.00749 Date Collected: 1/24/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/11/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.00749	309002	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	Aldrin
92.00749	319846	13.	3.	UG/KG	26.	3.	3/02/92	OUT OF CONTROL	alpha-BHC
92.00749	319857	< 5.9		UG/KG	0.0		3/02/92	UNDER CONTROL	beta-BHC
92.00749	319868	< 8.9		UG/KG	0.0		3/02/92	UNDER CONTROL	delta-BHC
92.00749	57749	< 14.		UG/KG	0.0		3/02/92	UNDER CONTROL	Chlordane
92.00749	72548	< 11.		UG/KG	41.	4.	3/02/92	WARNING 2-3 SIG	p,p'-DDD
92.00749	72559	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDE
92.00749	50293	< 12.		UG/KG	38.	4.	3/02/92	WARNING 2-3 SIG	p,p'-DDT
92.00749	60571	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	Dieldrin
92.00749	959988	< 14.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan I
92.00749	33213659	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan II
92.00749	1031078	< 65.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan sulfate
92.00749	72208	< 5.9		UG/KG	28.	3.	3/02/92	OUT OF CONTROL	Endrin
92.00749	7421934	< 23.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin aldehyde
92.00749	76448	< 3.		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor
92.00749	1024573	< 82.		UG/KG	85.	8.	3/02/92	UNDER CONTROL	Heptachlor epoxide
92.00749	58899	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	Lindane
92.00749	72435	< 170.		UG/KG	114.	11.	3/02/92	UNDER CONTROL	Methoxychlor
92.00749	8001352	< 240.		UG/KG	0.0		3/02/92	UNDER CONTROL	Toxaphene

Blind QC Results, Sample # 92.00750 Date Collected: 1/24/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

92.00750	309002	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	Aldrin
92.00750	319846	33.	10.	UG/KG	38.		3/02/92	UNDER CONTROL	alpha-BHC
92.00750	31985	< 5.9		UG/KG	0.0		3/02/92	UNDER CONTROL	beta-BHC

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Duplicate Results, Sample # 00.24611 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	309002	6.67	7.22	UG/KG	0.0		3/02/92		Aldrin
00.24611	00.24611	319846	6.67	6.26	UG/KG	0.0		3/02/92		alpha-BHC
00.24611	00.24611	319857	6.67	6.26	UG/KG	0.0		3/02/92		beta-BHC
00.24611	00.24611	319868	6.67	7.35	UG/KG	0.0		3/02/92		delta-BHC
00.24611	00.24611	72548	33.33	34.2	UG/KG	0.0		3/02/92		p,p'-DDD
00.24611	00.24611	72559	6.67	6.3	UG/KG	0.0		3/02/92		p,p'-DDE
00.24611	00.24611	50293	33.33	39.42	UG/KG	0.0		3/02/92		p,p'-DDT
00.24611	00.24611	60571	6.67	8.36	UG/KG	0.0		3/02/92		Dieldrin
00.24611	00.24611	959988	6.67	9.42	UG/KG	0.0		3/02/92		Endosulfan I
00.24611	00.24611	33213659	33.33	42.04	UG/KG	0.0		3/02/92		Endosulfan II
00.24611	00.24611	1031078	33.33	29.16	UG/KG	0.0		3/02/92		Endosulfan sulfate
00.24611	00.24611	72208	6.67	6.46	UG/KG	0.0		3/02/92		Endrin
00.24611	00.24611	7421934	6.67	7.71	UG/KG	0.0		3/02/92		Endrin aldehyde
00.24611	00.24611	76448	6.67	7.18	UG/KG	0.0		3/02/92		Heptachlor
00.24611	00.24611	1024573	6.67	7.53	UG/KG	0.0		3/02/92		Heptachlor epoxide
00.24611	00.24611	58899	6.67	6.84	UG/KG	0.0		3/02/92		Lindane
00.24611	00.24611	72435	6.67	7.94	UG/KG	0.0		3/02/92		Methoxychlor

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Results, Sample # 00.24611 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	309002	6.67	6.66	UG/KG	0.0		3/02/92		Aldrin
00.24611	00.24611	319846	6.67	0.71	UG/KG	0.0		3/02/92		alpha-BHC
00.24611	00.24611	319857	6.67	1.23	UG/KG	0.0		3/02/92		beta-BHC
00.24611	00.24611	319868	6.67	0.79	UG/KG	0.0		3/02/92		delta-BHC
00.24611	00.24611	72548	33.33	4.06	UG/KG	0.0		3/02/92		p,p'-DDD
00.24611	00.24611	72559	6.67	0.78	UG/KG	0.0		3/02/92		p,p'-DDE
00.24611	00.24611	50293	33.33	34.31	UG/KG	0.0		3/02/92		p,p'-DDT
00.24611	00.24611	60571	6.67	7.8	UG/KG	0.0		3/02/92		Dieldrin
00.24611	00.24611	959988	6.67	8.77	UG/KG	0.0		3/02/92		Endosulfan I
00.24611	00.24611	33213659	33.33	38.66	UG/KG	0.0		3/02/92		Endosulfan II
00.24611	00.24611	1031078	33.33	2.39	UG/KG	0.0		3/02/92		Endosulfan sulfate
00.24611	00.24611	72208	6.67	0.46	UG/KG	0.0		3/02/92		Endrin
00.24611	00.24611	7421934	6.67	7.14	UG/KG	0.0		3/02/92		Endrin aldehyde
00.24611	00.24611	76448	6.67	6.57	UG/KG	0.0		3/02/92		Heptachlor
00.24611	00.24611	1024573	6.67	6.62	UG/KG	0.0		3/02/92		Heptachlor epoxide
00.24611	00.24611	58899	6.67	6.43	UG/KG	0.0		3/02/92		Lindane
00.24611	00.24611	72435	6.67	7.42	UG/KG	0.0		3/02/92		Methoxychlor

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results, Sample # 00.24611 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	309002	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Aldrin
00.24611	00.24611	319846	< 0.99		UG/KG	0.0		3/02/92	UNDER CONTROL	alpha-BHC
00.24611	00.24611	319857	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	beta-BHC
00.24611	00.24611	319868	< 3.		UG/KG	0.0		3/02/92	UNDER CONTROL	delta-BHC
00.24611	00.24611	57749	< 4.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Chlordane
00.24611	00.24611	72548	< 3.6		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDD
00.24611	00.24611	72559	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDE
00.24611	00.24611	50293	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	p,p'-DDT
00.24611	00.24611	60571	< 0.66		UG/KG	0.0		3/02/92	UNDER CONTROL	Dieldrin
00.24611	00.24611	959988	< 4.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan I
00.24611	00.24611	33213659	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan II
00.24611	00.24611	1031078	< 22.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endosulfan sulfate
00.24611	00.24611	72208	< 2.		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin
00.24611	00.24611	7421934	< 7.6		UG/KG	0.0		3/02/92	UNDER CONTROL	Endrin aldehyde
00.24611	00.24611	76448	< 0.99		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor
00.24611	00.24611	1024573	< 27.		UG/KG	0.0		3/02/92	UNDER CONTROL	Heptachlor epoxide
00.24611	00.24611	58899	< 1.3		UG/KG	0.0		3/02/92	UNDER CONTROL	Lindane
00.24611	00.24611	72435	< 58.		UG/KG	0.0		3/02/92	UNDER CONTROL	Methoxychlor
00.24611	00.24611	8001352	< 79.		UG/KG	0.0		3/02/92	UNDER CONTROL	Toxaphene

********** EM-9 QUALITY ASSURANCE REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1[illegible]

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00710 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-3	92.00710	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-BAW-3	92.00710	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-BAW-3	92.00710	319857	< 2.3		UG/KG	3/02/92		beta-BHC
PF-40-BAW-3	92.00710	319868	< 3.4		UG/KG	3/02/92		delta-BHC
PF-40-BAW-3	92.00710	57749	< 5.3		UG/KG	3/02/92		Chlordane
PF-40-BAW-3	92.00710	72548	< 4.2		UG/KG	3/02/92		p,p'-DDD
PF-40-BAW-3	92.00710	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-BAW-3	92.00710	50293	< 4.6		UG/KG	3/02/92		p,p'-DDT
PF-40-BAW-3	92.00710	60571	< 0.76		UG/KG	3/02/92		Dieldrin
PF-40-BAW-3	92.00710	959988	< 5.3		UG/KG	3/02/92		Endosulfan I
PF-40-BAW-3	92.00710	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-BAW-3	92.00710	1031078	< 25.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BAW-3	92.00710	72208	< 2.3		UG/KG	3/02/92		Endrin
PF-40-BAW-3	92.00710	7421934	< 8.8		UG/KG	3/02/92		Endrin aldehyde
PF-40-BAW-3	92.00710	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-BAW-3	92.00710	1024573	< 32.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BAW-3	92.00710	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-BAW-3	92.00710	72435	< 67.		UG/KG	3/02/92		Methoxychlor
PF-40-BAW-3	92.00710	8001352	< 91.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00710

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00709 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-2	92.00709	309002	< 1.6		UG/KG	3/02/92		Aldrin
PF-40-BAW-2	92.00709	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-BAW-2	92.00709	319857	< 2.4		UG/KG	3/02/92		beta-BHC
PF-40-BAW-2	92.00709	319868	< 3.6		UG/KG	3/02/92		delta-BHC
PF-40-BAW-2	92.00709	57749	< 5.7		UG/KG	3/02/92		Chlordane
PF-40-BAW-2	92.00709	72548	< 4.4		UG/KG	3/02/92		p,p'-DDD
PF-40-BAW-2	92.00709	72559	< 1.6		UG/KG	3/02/92		p,p'-DDE
PF-40-BAW-2	92.00709	50293	< 4.8		UG/KG	3/02/92		p,p'-DDT
PF-40-BAW-2	92.00709	60571	< 0.81		UG/KG	3/02/92		Dieldrin
PF-40-BAW-2	92.00709	959988	< 5.7		UG/KG	3/02/92		Endosulfan I
PF-40-BAW-2	92.00709	33213659	< 1.6		UG/KG	3/02/92		Endosulfan II
PF-40-BAW-2	92.00709	1031078	< 27.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BAW-2	92.00709	72208	< 2.4		UG/KG	3/02/92		Endrin
PF-40-BAW-2	92.00709	7421934	< 9.3		UG/KG	3/02/92		Endrin aldehyde
PF-40-BAW-2	92.00709	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-BAW-2	92.00709	1024573	< 34.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BAW-2	92.00709	58899	< 1.6		UG/KG	3/02/92		Lindane
PF-40-BAW-2	92.00709	72435	< 71.		UG/KG	3/02/92		Methoxychlor
PF-40-BAW-2	92.00709	8001352	< 97.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00709

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00708 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-3	92.00708	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-BAE-3	92.00708	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-BAE-3	92.00708	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-BAE-3	92.00708	319868	< 3.3		UG/KG	3/02/92		delta-BHC
PF-40-BAE-3	92.00708	57749	< 5.2		UG/KG	3/02/92		Chlordane
PF-40-BAE-3	92.00708	72548	< 4.		UG/KG	3/02/92		p,p'-DDD
PF-40-BAE-3	92.00708	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-BAE-3	92.00708	50293	< 4.4		UG/KG	3/02/92		p,p'-DDT
PF-40-BAE-3	92.00708	60571	< 0.74		UG/KG	3/02/92		Dieldrin
PF-40-BAE-3	92.00708	959988	< 5.2		UG/KG	3/02/92		Endosulfan I
PF-40-BAE-3	92.00708	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-BAE-3	92.00708	1031078	< 24.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BAE-3	92.00708	72208	< 2.2		UG/KG	3/02/92		Endrin
PF-40-BAE-3	92.00708	7421934	< 8.5		UG/KG	3/02/92		Endrin aldehyde
PF-40-BAE-3	92.00708	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-BAE-3	92.00708	1024573	< 30.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BAE-3	92.00708	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-BAE-3	92.00708	72435	< 65.		UG/KG	3/02/92		Methoxychlor
PF-40-BAE-3	92.00708	8001352	< 88.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00708

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00707 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-2	92.00707	309002	< 1.7		UG/KG	3/02/92		Aldrin
PF-40-BAE-2	92.00707	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-BAE-2	92.00707	319857	< 2.5		UG/KG	3/02/92		beta-BHC
PF-40-BAE-2	92.00707	319868	4.6	3.3	UG/KG	3/02/92		delta-BHC ?
PF-40-BAE-2	92.00707	57749	< 5.8		UG/KG	3/02/92		Chlordane
PF-40-BAE-2	92.00707	72548	< 4.6		UG/KG	3/02/92		p,p'-DDD
PF-40-BAE-2	92.00707	72559	< 1.7		UG/KG	3/02/92		p,p'-DDE
PF-40-BAE-2	92.00707	50293	< 5.		UG/KG	3/02/92		p,p'-DDT
PF-40-BAE-2	92.00707	60571	< 0.83		UG/KG	3/02/92		Dieldrin
PF-40-BAE-2	92.00707	959988	< 5.8		UG/KG	3/02/92		Endosulfan I
PF-40-BAE-2	92.00707	33213659	< 1.7		UG/KG	3/02/92		Endosulfan II
PF-40-BAE-2	92.00707	1031078	< 27.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BAE-2	92.00707	72208	< 2.5		UG/KG	3/02/92		Endrin
PF-40-BAE-2	92.00707	7421934	< 9.5		UG/KG	3/02/92		Endrin aldehyde
PF-40-BAE-2	92.00707	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-BAE-2	92.00707	1024573	< 34.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BAE-2	92.00707	58899	< 1.7		UG/KG	3/02/92		Lindane
PF-40-BAE-2	92.00707	72435	< 73.		UG/KG	3/02/92		Methoxychlor
PF-40-BAE-2	92.00707	8001352	< 100.		UG/KG	3/02/92		Toxaphene

Burn Area East

3.3 < 4.6 ± 3.3

Tentatively Identified Compounds in Customer Sample # 92.00707

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00706 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-3	92.00706	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-BC-3	92.00706	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-BC-3	92.00706	319857	< 2.3		UG/KG	3/02/92		beta-BHC
PF-40-BC-3	92.00706	319868	< 3.5		UG/KG	3/02/92		delta-BHC
PF-40-BC-3	92.00706	57749	< 5.4		UG/KG	3/02/92		Chlordane
PF-40-BC-3	92.00706	72548	< 4.2		UG/KG	3/02/92		p,p'-DDD
PF-40-BC-3	92.00706	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-BC-3	92.00706	50293	< 4.6		UG/KG	3/02/92		p,p'-DDT
PF-40-BC-3	92.00706	60571	< 0.77		UG/KG	3/02/92		Dieldrin
PF-40-BC-3	92.00706	959988	< 5.4		UG/KG	3/02/92		Endosulfan I
PF-40-BC-3	92.00706	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-BC-3	92.00706	1031078	< 26.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BC-3	92.00706	72208	< 2.3		UG/KG	3/02/92		Endrin
PF-40-BC-3	92.00706	7421934	< 8.9		UG/KG	3/02/92		Endrin aldehyde
PF-40-BC-3	92.00706	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-BC-3	92.00706	1024573	< 32.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BC-3	92.00706	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-BC-3	92.00706	72435	< 68.		UG/KG	3/02/92		Methoxychlor
PF-40-BC-3	92.00706	8001352	< 93.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00706

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00705 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-2	92.00705	309002	< 1.7		UG/KG	3/02/92		Aldrin
PF-40-BC-2	92.00705	319846	< 1.3		UG/KG	3/02/92		alpha-BHC
PF-40-BC-2	92.00705	319857	< 2.6		UG/KG	3/02/92		beta-BHC
PF-40-BC-2	92.00705	319868	< 3.9		UG/KG	3/02/92		delta-BHC
PF-40-BC-2	92.00705	57749	< 6.1		UG/KG	3/02/92		Chlordane
PF-40-BC-2	92.00705	72548	< 4.8		UG/KG	3/02/92		p,p'-DDD
PF-40-BC-2	92.00705	72559	< 1.7		UG/KG	3/02/92		p,p'-DDE
PF-40-BC-2	92.00705	50293	< 5.2		UG/KG	3/02/92		p,p'-DDT
PF-40-BC-2	92.00705	60571	< 0.87		UG/KG	3/02/92		Dieldrin
PF-40-BC-2	92.00705	959988	< 6.1		UG/KG	3/02/92		Endosulfan I
PF-40-BC-2	92.00705	33213659	< 1.7		UG/KG	3/02/92		Endosulfan II
PF-40-BC-2	92.00705	1031078	< 29.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-BC-2	92.00705	72208	< 2.6		UG/KG	3/02/92		Endrin
PF-40-BC-2	92.00705	7421934	< 10.		UG/KG	3/02/92		Endrin aldehyde
PF-40-BC-2	92.00705	76448	< 1.3		UG/KG	3/02/92		Heptachlor
PF-40-BC-2	92.00705	1024573	< 36.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-BC-2	92.00705	58899	< 1.7		UG/KG	3/02/92		Lindane
PF-40-BC-2	92.00705	72435	< 76.		UG/KG	3/02/92		Methoxychlor
PF-40-BC-2	92.00705	8001352	< 100.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00705

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00704 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-19A	92.00704	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-FA-19A	92.00704	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-FA-19A	92.00704	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-FA-19A	92.00704	319868	< 3.4		UG/KG	3/02/92		delta-BHC
PF-40-FA-19A	92.00704	57749	< 5.2		UG/KG	3/02/92		Chlordane
PF-40-FA-19A	92.00704	72548	< 4.1		UG/KG	3/02/92		p,p'-DDD
PF-40-FA-19A	92.00704	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-FA-19A	92.00704	50293	< 4.5		UG/KG	3/02/92		p,p'-DDT
PF-40-FA-19A	92.00704	60571	< 0.75		UG/KG	3/02/92		Dieldrin
PF-40-FA-19A	92.00704	959988	< 5.2		UG/KG	3/02/92		Endosulfan I
PF-40-FA-19A	92.00704	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-FA-19A	92.00704	1031078	< 25.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-FA-19A	92.00704	72208	< 2.2		UG/KG	3/02/92		Endrin
PF-40-FA-19A	92.00704	7421934	< 8.6		UG/KG	3/02/92		Endrin aldehyde
PF-40-FA-19A	92.00704	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-FA-19A	92.00704	1024573	< 31.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-FA-19A	92.00704	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-FA-19A	92.00704	72435	< 66.		UG/KG	3/02/92		Methoxychlor
PF-40-FA-19A	92.00704	8001352	< 90.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00704

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00703 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-18A	92.00703	309002	< 1.6		UG/KG	3/02/92		Aldrin
PF-40-FA-18A	92.00703	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-FA-18A	92.00703	319857	< 2.3		UG/KG	3/02/92		beta-BHC
PF-40-FA-18A	92.00703	319868	< 3.5		UG/KG	3/02/92		delta-BHC
PF-40-FA-18A	92.00703	57749	< 5.4		UG/KG	3/02/92		Chlordane
PF-40-FA-18A	92.00703	72548	< 4.3		UG/KG	3/02/92		p,p'-DDD
PF-40-FA-18A	92.00703	72559	< 1.6		UG/KG	3/02/92		p,p'-DDE
PF-40-FA-18A	92.00703	50293	< 4.7		UG/KG	3/02/92		p,p'-DDT
PF-40-FA-18A	92.00703	60571	< 0.78		UG/KG	3/02/92		Dieldrin
PF-40-FA-18A	92.00703	959988	< 5.4		UG/KG	3/02/92		Endosulfan I
PF-40-FA-18A	92.00703	33213659	< 1.6		UG/KG	3/02/92		Endosulfan II
PF-40-FA-18A	92.00703	1031078	< 26.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-FA-18A	92.00703	72208	< 2.3		UG/KG	3/02/92		Endrin
PF-40-FA-18A	92.00703	7421934	< 8.9		UG/KG	3/02/92		Endrin aldehyde
PF-40-FA-18A	92.00703	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-FA-18A	92.00703	1024573	< 32.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-FA-18A	92.00703	58899	< 1.6		UG/KG	3/02/92		Lindane
PF-40-FA-18A	92.00703	72435	< 68.		UG/KG	3/02/92		Methoxychlor
PF-40-FA-18A	92.00703	8001352	< 93.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00703

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00702 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-16A	92.00702	309002	< 1.6		UG/KG	3/02/92		Aldrin
PF-40-FA-16A	92.00702	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-FA-16A	92.00702	319857	< 2.3		UG/KG	3/02/92		beta-BHC
PF-40-FA-16A	92.00702	319868	< 3.5		UG/KG	3/02/92		delta-BHC
PF-40-FA-16A	92.00702	57749	< 5.4		UG/KG	3/02/92		Chlordane
PF-40-FA-16A	92.00702	72548	< 4.3		UG/KG	3/02/92		p,p'-DDD
PF-40-FA-16A	92.00702	72559	< 1.6		UG/KG	3/02/92		p,p'-DDE
PF-40-FA-16A	92.00702	50293	< 4.6		UG/KG	3/02/92		p,p'-DDT
PF-40-FA-16A	92.00702	60571	< 0.78		UG/KG	3/02/92		Dieldrin
PF-40-FA-16A	92.00702	959988	< 5.4		UG/KG	3/02/92		Endosulfan I
PF-40-FA-16A	92.00702	33213659	< 1.6		UG/KG	3/02/92		Endosulfan II
PF-40-FA-16A	92.00702	1031078	< 26.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-FA-16A	92.00702	72208	< 2.3		UG/KG	3/02/92		Endrin
PF-40-FA-16A	92.00702	7421934	< 8.9		UG/KG	3/02/92		Endrin aldehyde
PF-40-FA-16A	92.00702	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-FA-16A	92.00702	1024573	< 32.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-FA-16A	92.00702	58899	< 1.6		UG/KG	3/02/92		Lindane
PF-40-FA-16A	92.00702	72435	< 68.		UG/KG	3/02/92		Methoxychlor
PF-40-FA-16A	92.00702	8001352	< 93.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00702

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M948 NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00701 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-13A	92.00701	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-FA-13A	92.00701	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-FA-13A	92.00701	319857	< 2.3		UG/KG	3/02/92		beta-BHC
PF-40-FA-13A	92.00701	319868	< 3.4		UG/KG	3/02/92		delta-BHC
PF-40-FA-13A	92.00701	57749	< 5.3		UG/KG	3/02/92		Chlordane
PF-40-FA-13A	92.00701	72548	< 4.2		UG/KG	3/02/92		p,p'-DDD
PF-40-FA-13A	92.00701	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-FA-13A	92.00701	50293	< 4.6		UG/KG	3/02/92		p,p'-DDT
PF-40-FA-13A	92.00701	60571	< 0.76		UG/KG	3/02/92		Dieldrin
PF-40-FA-13A	92.00701	959988	< 5.3		UG/KG	3/02/92		Endosulfan I
PF-40-FA-13A	92.00701	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-FA-13A	92.00701	1031078	< 25.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-FA-13A	92.00701	72208	< 2.3		UG/KG	3/02/92		Endrin
PF-40-FA-13A	92.00701	7421934	< 8.8		UG/KG	3/02/92		Endrin aldehyde
PF-40-FA-13A	92.00701	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-FA-13A	92.00701	1024573	< 32.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-FA-13A	92.00701	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-FA-13A	92.00701	72435	< 67.		UG/KG	3/02/92		Methoxychlor
PF-40-FA-13A	92.00701	8001352	< 91.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00701

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00700 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-15A	92.00700	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-FA-15A	92.00700	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-FA-15A	92.00700	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-FA-15A	92.00700	319868	< 3.4		UG/KG	3/02/92		delta-BHC
PF-40-FA-15A	92.00700	57749	< 5.2		UG/KG	3/02/92		Chlordane
PF-40-FA-15A	92.00700	72548	< 4.1		UG/KG	3/02/92		p,p'-DDD
PF-40-FA-15A	92.00700	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-FA-15A	92.00700	50293	< 4.5		UG/KG	3/02/92		p,p'-DDT
PF-40-FA-15A	92.00700	60571	< 0.75		UG/KG	3/02/92		Dieldrin
PF-40-FA-15A	92.00700	959988	< 5.2		UG/KG	3/02/92		Endosulfan I
PF-40-FA-15A	92.00700	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-FA-15A	92.00700	1031078	< 25.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-FA-15A	92.00700	72208	< 2.2		UG/KG	3/02/92		Endrin
PF-40-FA-15A	92.00700	7421934	< 8.6		UG/KG	3/02/92		Endrin aldehyde
PF-40-FA-15A	92.00700	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-FA-15A	92.00700	1024573	< 31.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-FA-15A	92.00700	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-FA-15A	92.00700	72435	< 66.		UG/KG	3/02/92		Methoxychlor
PF-40-FA-15A	92.00700	8001352	< 90.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00700

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00699 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-2A	92.00699	309002	< 1.6		UG/KG	3/02/92		Aldrin
PF-40-FA-2A	92.00699	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-FA-2A	92.00699	319857	< 2.4		UG/KG	3/02/92		beta-BHC
PF-40-FA-2A	92.00699	319868	< 3.5		UG/KG	3/02/92		delta-BHC
PF-40-FA-2A	92.00699	57749	< 5.5		UG/KG	3/02/92		Chlordane
PF-40-FA-2A	92.00699	72548	< 4.3		UG/KG	3/02/92		p,p'-DDD
PF-40-FA-2A	92.00699	72559	< 1.6		UG/KG	3/02/92		p,p'-DDE
PF-40-FA-2A	92.00699	50293	< 4.7		UG/KG	3/02/92		p,p'-DDT
PF-40-FA-2A	92.00699	60571	< 0.78		UG/KG	3/02/92		Dieldrin
PF-40-FA-2A	92.00699	959988	< 5.5		UG/KG	3/02/92		Endosulfan I
PF-40-FA-2A	92.00699	33213659	< 1.6		UG/KG	3/02/92		Endosulfan II
PF-40-FA-2A	92.00699	1031078	< 26.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-FA-2A	92.00699	72208	< 2.4		UG/KG	3/02/92		Endrin
PF-40-FA-2A	92.00699	7421934	< 9.		UG/KG	3/02/92		Endrin aldehyde
PF-40-FA-2A	92.00699	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-FA-2A	92.00699	1024573	< 32.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-FA-2A	92.00699	58899	< 1.6		UG/KG	3/02/92		Lindane
PF-40-FA-2A	92.00699	72435	< 69.		UG/KG	3/02/92		Methoxychlor
PF-40-FA-2A	92.00699	8001352	< 94.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00699

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00698 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-5A	92.00698	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-FA-5A	92.00698	319846	< 1.2		UG/KG	3/02/92		alpha-BHC
PF-40-FA-5A	92.00698	319857	< 2.3		UG/KG	3/02/92		beta-BHC
PF-40-FA-5A	92.00698	319868	< 3.5		UG/KG	3/02/92		delta-BHC
PF-40-FA-5A	92.00698	57749	< 5.4		UG/KG	3/02/92		Chlordane
PF-40-FA-5A	92.00698	72548	< 4.2		UG/KG	3/02/92		p,p'-DDD
PF-40-FA-5A	92.00698	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-FA-5A	92.00698	50293	< 4.6		UG/KG	3/02/92		p,p'-DDT
PF-40-FA-5A	92.00698	60571	< 0.77		UG/KG	3/02/92		Dieldrin
PF-40-FA-5A	92.00698	959988	< 5.4		UG/KG	3/02/92		Endosulfan I
PF-40-FA-5A	92.00698	33213659	< 5.4		UG/KG	3/02/92		Endosulfan II
PF-40-FA-5A	92.00698	1031078	< 25.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-FA-5A	92.00698	72208	< 2.3		UG/KG	3/02/92		Endrin
PF-40-FA-5A	92.00698	7421934	< 8.9		UG/KG	3/02/92		Endrin aldehyde
PF-40-FA-5A	92.00698	76448	< 1.2		UG/KG	3/02/92		Heptachlor
PF-40-FA-5A	92.00698	1024573	< 32.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-FA-5A	92.00698	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-FA-5A	92.00698	72435	< 68.		UG/KG	3/02/92		Methoxychlor
PF-40-FA-5A	92.00698	8001352	< 93.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00698

none

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00697 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-4A	92.00697	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-FA-4A	92.00697	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-FA-4A	92.00697	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-FA-4A	92.00697	319868	< 3.3		UG/KG	3/02/92		delta-BHC
PF-40-FA-4A	92.00697	57749	< 5.1		UG/KG	3/02/92		Chlordane
PF-40-FA-4A	92.00697	72548	< 4.		UG/KG	3/02/92		p,p'-DDD
PF-40-FA-4A	92.00697	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-FA-4A	92.00697	50293	< 4.4		UG/KG	3/02/92		p,p'-DDT
PF-40-FA-4A	92.00697	60571	< 0.74		UG/KG	3/02/92		Dieldrin
PF-40-FA-4A	92.00697	959988	< 5.1		UG/KG	3/02/92		Endosulfan I
PF-40-FA-4A	92.00697	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-FA-4A	92.00697	1031078	< 24.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-FA-4A	92.00697	72208	< 2.2		UG/KG	3/02/92		Endrin
PF-40-FA-4A	92.00697	7421934	< 8.4		UG/KG	3/02/92		Endrin aldehyde
PF-40-FA-4A	92.00697	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-FA-4A	92.00697	1024573	< 30.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-FA-4A	92.00697	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-FA-4A	92.00697	72435	< 65.		UG/KG	3/02/92		Methoxychlor
PF-40-FA-4A	92.00697	8001352	< 88.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00697

none

********** EM-9 ANALYTICAL REPORT **********

Matrix Spike Results for Sample # 92.00696 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	309002	7.5	8.53	UG/KG	3/02/92		Aldrin
PF-40-FA-1A	92.00696	50293	18.75	16.63	UG/KG	3/02/92		p,p'-DDT
PF-40-FA-1A	92.00696	60571	18.75	19.55	UG/KG	3/02/92		Dieldrin
PF-40-FA-1A	92.00696	72208	18.75	16.34	UG/KG	3/02/92		Endrin
PF-40-FA-1A	92.00696	76448	7.5	8.31	UG/KG	3/02/92		Heptachlor
PF-40-FA-1A	92.00696	58899	7.5	7.22	UG/KG	3/02/92		Lindane

Matrix Spike Duplicate Results for Sample # 92.00696 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	309002	7.5	8.95	UG/KG	3/02/92		Aldrin
PF-40-FA-1A	92.00696	50293	18.75	20.14	UG/KG	3/02/92		p,p'-DDT
PF-40-FA-1A	92.00696	60571	18.75	19.54	UG/KG	3/02/92		Dieldrin
PF-40-FA-1A	92.00696	72208	18.75	17.02	UG/KG	3/02/92		Endrin
PF-40-FA-1A	92.00696	76448	7.5	7.98	UG/KG	3/02/92		Heptachlor
PF-40-FA-1A	92.00696	58899	7.5	7.13	UG/KG	3/02/92		Lindane

REPORT NUMBER 13429

********** EM-9 ANALYTICAL REPORT **********

EPA PESTICIDES, Prepared by: ESG on 18-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00696 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	309002	< 1.5		UG/KG	3/02/92		Aldrin
PF-40-FA-1A	92.00696	319846	< 1.1		UG/KG	3/02/92		alpha-BHC
PF-40-FA-1A	92.00696	319857	< 2.2		UG/KG	3/02/92		beta-BHC
PF-40-FA-1A	92.00696	319868	< 3.3		UG/KG	3/02/92		delta-BHC
PF-40-FA-1A	92.00696	57749	< 5.2		UG/KG	3/02/92		Chlordane
PF-40-FA-1A	92.00696	72548	< 4.1		UG/KG	3/02/92		p,p'-DDD
PF-40-FA-1A	92.00696	72559	< 1.5		UG/KG	3/02/92		p,p'-DDE
PF-40-FA-1A	92.00696	50293	< 4.4		UG/KG	3/02/92		p,p'-DDT
PF-40-FA-1A	92.00696	60571	< 0.74		UG/KG	3/02/92		Dieldrin
PF-40-FA-1A	92.00696	959988	< 5.2		UG/KG	3/02/92		Endosulfan I
PF-40-FA-1A	92.00696	33213659	< 1.5		UG/KG	3/02/92		Endosulfan II
PF-40-FA-1A	92.00696	1031078	< 24.		UG/KG	3/02/92		Endosulfan sulfate
PF-40-FA-1A	92.00696	72208	< 2.2		UG/KG	3/02/92		Endrin
PF-40-FA-1A	92.00696	7421934	< 8.5		UG/KG	3/02/92		Endrin aldehyde
PF-40-FA-1A	92.00696	76448	< 1.1		UG/KG	3/02/92		Heptachlor
PF-40-FA-1A	92.00696	1024573	< 31.		UG/KG	3/02/92		Heptachlor epoxide
PF-40-FA-1A	92.00696	58899	< 1.5		UG/KG	3/02/92		Lindane
PF-40-FA-1A	92.00696	72435	< 65.		UG/KG	3/02/92		Methoxychlor
PF-40-FA-1A	92.00696	8001352	< 89.		UG/KG	3/02/92		Toxaphene

Tentatively Identified Compounds in Customer Sample # 92.00696

none

Appendix A
Quantitation Runs by Pesticide

Client ID: Lab ID:	92.00701 1768-006	92.00702 1768-007	92.00703 1768-008	92.00704 1768-009	92.00705 1768-010	92.00706 1768-011
a-BHC	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
b-BHC	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
d-BHC	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
g-BHC	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Heptachlor	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Aldrin	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Heptachlor epoxide	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Endosulfan I	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Dieldrin	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
4,4'-DDE	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Endrin	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Endosulfan II	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
4,4'-DDD	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Endosulfan sulfate	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
4,4'-DDT	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Methoxychlor	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Endrin Aldehyde	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Chlordane (tech.)	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
Toxaphene	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320
TCMX (surr.)				DB01438	DB01439	
DBC (surr.)	DB01257	DB01258	DB01259	DB01264	DB01265	DB01320

Filename Interpretation: first letter is the instrument id (*e.g.* A = GCA), the second letter is the column id where A = DB-5/SE-54 and B = DB-1701.

Appendix A
Quantitation Runs by Pesticide

Client ID: Lab ID:	92.00696MS 1768-001 MS	92.00696MSD 1768-001 MSD	92.00697 1768-002	92.00698 1768-003	92.00699 1768-004	92.00700 1768-005
a-BHC	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
b-BHC	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
d-BHC	DA01449	DA01450	DB01246	DB01247	DA01451	DB01263
g-BHC	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Heptachlor	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Aldrin	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Heptachlor epoxide	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Endosulfan I	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Dieldrin	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
4,4'-DDE	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Endrin	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Endosulfan II	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
4,4'-DDD	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Endosulfan sulfate	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
4,4'-DDT	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Methoxychlor	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Endrin Aldehyde	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Chlordane (tech.)	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
Toxaphene	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263
TCMX (surr.)	DB01431	DB01428				
DBC (surr.)	DA01449	DA01450	DB01246	DB01247	DB01256	DB01263

Filename Interpretation: first letter is the instrument id (*e.g.* A = GCA), the second letter is the column id where A = DB-5/SE-54 and B = DB-1701.

Appendix A
Quantitation Runs by Pesticide

Client ID: Lab ID:	92.00707 1768-012	92.00708 1768-013	92.00709 1768-014	92.00710 1768-015	92.00749 1768-018	92.00750 1768-019
a-BHC	DB01321	DB01322	DB01323	DB01324	DB01417	DB01418
b-BHC	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
d-BHC	DA01321	DA01322	DB01323	DB01324	DB01417	DB01326
g-BHC	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
Heptachlor	DA01321	DB01322	DB01323	DB01324	DB01417	DB01326
Aldrin	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
Heptachlor epoxide	DB01321	DB01322	DB01323	DB01324	DB01417	DB01418
Endosulfan I	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
Dieldrin	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
4,4'-DDE	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
Endrin	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
Endosulfan II	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
4,4'-DDD	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
Endosulfan sulfate	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
4,4'-DDT	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
Methoxychlor	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
Endrin Aldehyde	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
Chlordane (tech.)	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
Toxaphene	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326
TCMX (surr.)					DB01429	DB01430
DBC (surr.)	DB01321	DB01322	DB01323	DB01324	DB01417	DB01326

Filename Interpretation: first letter is the instrument id (*e.g.* A = GCA), the second letter is the column id where A = DB-5/SE-54 and B = DB-1701.

Appendix A
Quantitation Runs by Pesticide

Client ID: Lab ID:	PBLK01 BLK 11422	PSPK01A1 SPK 11422A1	PSPK01A2 SPK 11422A2	PSPK01B1 SPK 11422B1	PSPK01B2 SPK 11422B2	92.00696 1768-001
a-BHC	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
b-BHC	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
d-BHC	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
g-BHC	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Heptachlor	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Aldrin	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Heptachlor epoxide	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Endosulfan I	DA01452	DA01380	DA01414	DB01261	DA01382	DB01243
Dieldrin	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
4,4'-DDE	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Endrin	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Endosulfan II	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
4,4'-DDD	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Endosulfan sulfate	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
4,4'-DDT	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Methoxychlor	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Endrin Aldehyde	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Chlordane (tech.)	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
Toxaphene	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243
TCMX (surr.)	DB01432					DB01436
DBC (surr.)	DB01239	DA01380	DA01414	DB01261	DA01382	DB01243

Filename Interpretation: first letter is the instrument id (*e.g.* A = GCA), the second letter is the column id where A = DB-5/SE-54 and B = DB-1701.

Los Alamos National Laboratories
February 25, 1992
Project Number 281.01

I certify that these analysis results are in compliance with the terms and conditions of the contact, both technically and for completeness, with the exception of the items detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory manager or his designee, as verified by the following signature.

Reviewed and Approved:

Robert E. White
Project Manager

********** EM-9 QUALITY ASSURANCE REPORT **********

REPORT NUMBER: 15022

Analyst	Reviewer	Section Leader	QA Officer
			mag
Date	9/29/92	Date	9/29/92

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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INTERNATIONAL TECHNOLOGY CORPORATION

CASE NARRATIVE

IT Corporation - Los Alamos
557 Oppenheimer Road
Suite 200
Los Alamos, New Mexico 87545

June 1, 1992

Attention: Dr. Sylvan Hersh

Purchase Order Number: 92-019

This is a case narrative for the following:

Project Number : 281.01
Date Received by Lab: May 6, 1992
Number of Samples : Eleven (11)
Sample Matrix : see below

I. Introduction

On May 6, 1992, eleven soil samples were received at ITAS - St. Louis from PRF TA-40 Scrap Detonation Site at Los Alamos National Laboratory. The following is a list of the samples received, analyses requested, along with the ITAS - St. Louis identification numbers, and the matrix for each sample:

CLIENT ID	ITAS ID	MATRIX	ANALYSES REQUESTED
92.06115	2027-001	Soil	Herb, Pest
92.06116	2027-002	Soil	Herb, Pest
92.06117	2027-003	Soil	Herb, Pest
92.06118	2027-004	Soil	Herb, Pest
92.06119	2027-005	Soil	Herb, Pest
92.06120	2027-006	Soil	Herb, Pest
92.06121	2027-007	Soil	Herb, Pest
92.06122	2027-008	Soil	Herb, Pest
92.06123	2027-009	Soil	Herb, Pest
92.06161	2027-010	Soil	Pest
92.06162	2027-011	Soil	Herb

INTERNATIONAL TECHNOLOGY CORPORATION

CASE NARRATIVE

IT Corporation - Los Alamos
557 Oppenheimer Road
Suite 200
Los Alamos, New Mexico 87545

February 25, 1992

Attention: Dr. Sylvan Hersh

Purchase Order Number: 92-002

This is a case narrative for the following:

Project Number : 281.01
Date Received by Lab: January 27, 1992
Number of Samples : Nineteen (19)
Sample Matrix : Soil

I. Introduction

On January 27, 1992, nineteen soil samples were received at ITAS - St. Louis from PRF TA-40 Scrap Detonation Site at Los Alamos National Laboratory. These samples were batched for analysis into a single Sample Delivery Group. The following is a list of the samples received, along with the ITAS - St. Louis identification numbers and the analyses requested for each sample:

CLIENT ID	ITAS ID	PARAMETER
92.00696	1768-001	Pest/Herb
92.00697	1768-002	Pest/Herb
92.00698	1768-003	Pest/Herb
92.00699	1768-004	Pest/Herb
92.00700	1768-005	Pest/Herb
92.00701	1768-006	Pest/Herb
92.00702	1768-007	Pest/Herb
92.00703	1768-008	Pest/Herb
92.00704	1768-009	Pest/Herb
92.00705	1768-010	Pest/Herb
92.00706	1768-011	Pest/Herb
92.00707	1768-012	Pest/Herb
92.00708	1768-013	Pest/Herb
92.00709	1768-014	Pest/Herb
92.00710	1768-015	Pest/Herb

Los Alamos National Laboratories
February 25, 1992
Project Number 281.01

CLIENT ID	ITAS ID	PARAMETER
92.00747	1768-016	Herb
92.00748	1768-017	Herb
92.00749	1768-018	Pest
92.00750	1768-019	Pest

II. Analytical Results/Methodology

USEPA methods published in SW-846 (3rd Edition, Revision 0) were followed in the analysis of these samples. Organochlorine pesticides were analyzed by Method 8080 (no PCB analysis was requested), and Method 8150 was followed to analyze for the chlorinated herbicides 2,4-D, 2,4,5-T, and 2,4,5-TP (silvex). The results are presented in the attached "CLP" package, with modifications made to the pesticide forms to reflect the requirements of the SW 846 method. The herbicide package follows the general requirements for GC Chlorinated Herbicides Final Reports which was provided by LANL. CLP organics conventions have been used in presenting and flagging data.

III. Quality Control

Sample 92.00696 (1768-001) was chosen for matrix spike/matrix spike duplicate analysis. In addition, duplicate Laboratory Control Samples (blank spikes) were prepared and analyzed with the samples, as well as a method blank for each analysis. CLP convention has been followed in presenting the quality control data, and no sample results have been adjusted to reflect QC sample recoveries.

All samples were extracted and analyzed with the required SW-846 holding times.

IV. Nonconformances and Analysis Comments

(A) Sample receipt

An ITAS - St. Louis Laboratory Nonconformance Memo (NCM SL-92-0053) was prepared to document the lack of custody seals on samples 1768-016, 1768-017, 1768-018, and 1768-019.

(B) Herbicide Analysis

SW-846 Practical Quantitation Limits (PQL's) have been used as reporting limits for this project. However, we have found that on our instrumentation, the normal dilution factor for Method 8150 (50 g. going to 10 ml. final extract) results in extracts with levels at the PQL which are at least 50 times higher than the normal calibration range. Therefore, for these analyses, a dilution factor of 50 will lead to detection limits at the PQL when the weight of soil given in the method is used.

A herbicide calibration standard run on the confirmation column (DB-5) at 22:22 on 01-31-92 had retention times outside the daily window by 0.01 minutes. The samples needing confirmation between two standards which had retention times in control later in the same analytical sequence. The only sample which required analysis before this non-conforming standard was HBLK01, which had no peaks near the herbicide retention times on this column.

(C) Pesticide Analysis

Because of sample matrix interferences, concentrations or detection limits given for each sample on the Form I's may not come from a single run which covers every compound. Attached to this narrative is an Appendix consisting of a table showing the data file numbers for each run used for quantifying the individual target compounds for each sample. In some cases both the primary and secondary column may have contributed to the total list of compounds in a single sample.

The blank spike 11422B1 (PSPK01B1) showed very low recoveries of all the spiked analytes. Upon examination, it was observed that the extract contained both a water and a hexane layer. It is suspected that water leaked into the Kuderna-Danish concentrator tube during concentration, which led to loss of the spiked compounds and surrogates. NCM SL-92-0073 addresses this problem. Samples were not re-extracted because the holding times had expired.

(C) Pesticide Analysis (con't)

All samples were spiked with both DBC and TCMX surrogates. TCMX recoveries are reported for samples in which interference prevented quantitation of DBC recovery or in which the DBC recovery was high due to interference.

The continuing calibration for toxaphene on 02/04/92 at 07:31 exhibited a slight retention time shift for the identification peak. Toxaphene was not detected in the samples associated with that standard; because the identification of toxaphene is based more on pattern recognition than retention time windows, the data was not compromised by this shift in the standard.

Two samples had confirmed pesticide hits that are not reported on the Forms because the levels were below the reporting limits. The first of these pesticides is p,p'-DDT in sample 1768-019 (92.00750), which was present at 9.6 µg/kg (DB-1701 column) and 10.1 µg/kg (SE-54 column). This compound would have been above the reporting limits if a 30 g. aliquot had been available for extraction, but only 10 g. of the sample was provided. In sample 1768-018 (92.00749), heptachlor epoxide was detected at 9.1 µg/kg, which is also below the reporting limits. Only ten grams of this sample was available for extraction.

Sample 92.00707 (1768-012) gave a positive hit for δ-BHC at 4.6 µg/kg. Second column analysis (DB-1701 in this case) confirms the identification, but at a much higher concentration. It is suspected that at least one other compound is co-eluting with δ-BHC on this column. Alternatively, a contaminant may be leading to a false positive confirmation. It is beyond the scope of this method to distinguish between these possibilities.

Pesticides Analyses

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HSPK01A

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: SPK 13059-1

Sample wt/vol: 50.0 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	24	U
93-72-1	2,4,5-TP	3.4	U
93-76-5	2,4,5-T	4.0	U

U: Concentration of analyte is less than the value given.

000401

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HSPK01B

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: SPK 13059-2

Sample wt/vol: 50.0 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	24	U
93-72-1	2,4,5-TP	3.4	U
93-76-5	2,4,5-T	4.0	U

U: Concentration of analyte is less than the value given.

000401

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06115MS

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-001 MS

Sample wt/vol: 50.0 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	26	U
93-72-1	2,4,5-TP	3.7	U
93-76-5	2,4,5-T	4.4	U

U: Concentration of analyte is less than the value given.

000395

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06115 MSD

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-001 MSD

Sample wt/vol: 50.1 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

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

CAS NO.	Compound		Q
94-75-7	2,4-D	26	U
93-72-1	2,4,5-TP	3.7	U
93-76-5	2,4,5-T	4.4	U

U: Concentration of analyte is less than the value given.

000398

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06162

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-011

Sample wt/vol: 50.0545 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-04-92

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	320	
93-72-1	2,4,5-TP	90	
93-76-5	2,4,5-T	100	

U: Concentration of analyte is less than the value given.

000340

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HBLK01

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: BLK 13059

Sample wt/vol: 50.0 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	24	U
93-72-1	2,4,5-TP	3.4	U
93-76-5	2,4,5-T	4.0	U

U: Concentration of analyte is less than the value given.

000390

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06122

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-008

Sample wt/vol: 50.1 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 6 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	26	U
93-72-1	2,4,5-TP	3.6	U
93-76-5	2,4,5-T	4.3	U

U: Concentration of analyte is less than the value given.

000334

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06123

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-009

Sample wt/vol: 50.0 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	26	U
93-72-1	2,4,5-TP	3.7	U
93-76-5	2,4,5-T	4.4	U

U: Concentration of analyte is less than the value given.

000337

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06120

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-006

Sample wt/vol: 50.1 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	26	U
93-72-1	2,4,5-TP	3.8	U
93-76-5	2,4,5-T	4.4	U

U: Concentration of analyte is less than the value given.

000328

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06121

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-007

Sample wt/vol: 50.0 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 8 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

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

CAS NO.	Compound		Q
94-75-7	2,4-D	26	U
93-72-1	2,4,5-TP	3.7	U
93-76-5	2,4,5-T	4.3	U

U: Concentration of analyte is less than the value given.

000331

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06118

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-004

Sample wt/vol: 50.0 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 16 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	28	U
93-72-1	2,4,5-TP	4.0	U
93-76-5	2,4,5-T	4.7	U

U: Concentration of analyte is less than the value given.

000322

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06119

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-005

Sample wt/vol: 50.1 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 8 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	26	U
93-72-1	2,4,5-TP	3.7	U
93-76-5	2,4,5-T	4.4	U

U: Concentration of analyte is less than the value given.

000325

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06116

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-002

Sample wt/vol: 50.1 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 7 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	26	U
93-72-1	2,4,5-TP	3.6	U
93-76-5	2,4,5-T	4.3	U

U: Concentration of analyte is less than the value given.

000316

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06117

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-003

Sample wt/vol: 50.1 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 12 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	27	U
93-72-1	2,4,5-TP	3.9	U
93-76-5	2,4,5-T	4.6	U

U: Concentration of analyte is less than the value given.

000319

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

HSPK01A

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: SPK 13059-1

Sample wt/vol: 50.0 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
94-75-7	2,4-D	24	U
93-72-1	2,4,5-TP	3.4	U
93-76-5	2,4,5-T	4.0	U

U: Concentration of analyte is less than the value given.

000310

1H

HERBICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06115

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) soil Lab Sample ID: 2027-001

Sample wt/vol: 50.0 (g/ml) g Lab File ID: _____

Level: (low/med) low Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Shak/Sox/ Sonc/SPE) Shak Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 50

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

CAS NO.	Compound		Q
94-75-7	2,4-D	26	U
93-72-1	2,4,5-TP	3.7	U
93-76-5	2,4,5-T	4.4	U

U: Concentration of analyte is less than the value given.

000311

3L

SOIL HERBICIDES SPIKE BLANK (LCS) RECOVERY

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: ____ SDG No.: _____

Spike ID: SPK 13059-1

COMPOUND	SPIKE ADDED (ug/Kg)	SPIKE CONCENTRATION (ug/Kg)	SPK % REC #
2,4-D	500	420	83
2,4,5-TP	250	180	70
2,4,5-T	250	160	65

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

000308

COMMENTS: Permanent QC Limits are not established for Herbicides. QC Limits are established through control charting.

FORM III HERB-2

4E

HERBICIDE METHOD BLANK SUMMARY

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: ____ SDG No.: _____

Lab Sample ID: BLK 13059 Lab File ID: _____

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

Date Extracted: 05-08-92 Extraction: (SepF/Cont/Sonc/ Shak Shak/Sox/SPE)

Date Analyzed (1): 05-11-92 Date Analyzed (2): 05-11-92

Time Analyzed (1): 16:31 Time Analyzed (2): 16:31

Instrument ID (1): GC I Instrument ID (2): GC I

GC Column ID (1): DB-5 GC Column ID (2): DB-1701

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	HSPK01	SPK 12341-1	05-11-92	
02	HSPK02	SPK 12341-2	05-11-92	
03	92.06115	2027-001	05-11-92	
04	92.06115MS	2027-001 MS	05-11-92	
05	92.06115MSD	2027-001 MSD	05-11-92	
06	92.06116	2027-002	05-11-92	
07	92.06117	2027-003	05-11-92	
08	92.06118	2027-004	05-11-92	
09	92.06119	2027-005	05-11-92	
10	92.06120	2027-006	05-11-92	
11	92.06121	2027-007	05-11-92	
12	92.06122	2027-008	05-11-92	
13	92.06123	2027-009	05-11-92	
14	92.06162	2027-011	05-11-92	05-11-92
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

COMMENTS: _____

000309

FORM IV HERB

3N

SOIL HERBICIDES MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: ____ SDG No.: _____

Matrix Spike - EPA Sample No.: 92.06115

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #
2,4-D	550	0.0	500	92
2,4,5-TP	270	0.0	210	77
2,4,5-T	270	0.0	200	72

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #
2,4-D	550	490	90	2
2,4,5-TP	270	200	72	6
2,4,5-T	270	190	68	5

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

COMMENTS: Permanent QC Limits are not established for Herbicides. QC Limits are established through control charting.

FORM III HERB-4

000306

3L

SOIL HERBICIDES SPIKE BLANK (LCS) RECOVERY

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: ____ SDG No.: _____

Spike ID: SPK 13059-2

COMPOUND	SPIKE ADDED (ug/Kg)	SPIKE CONCENTRATION (ug/Kg)	SPK % REC #
2,4-D	500	450	90
2,4,5-TP	250	190	76
2,4,5-T	250	170	70

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

000307

COMMENTS: Permanent QC Limits are not established for Herbicides. QC Limits are established through control charting.

FORM III HERB-2

Los Alamos National Laboratories
June 1, 1992
Project Number 281.01

I certify that these analysis results are in compliance with the terms and conditions of the contact, both technically and for completeness, with the exception of the items detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory manager or his designee, as verified by the following signature.

Reviewed and Approved:

Robert E. White

Robert E. White
Project Manager

2L

SOIL HERBICIDE SURROGATE RECOVERY

Lab Name: ITAS-St. Louis Contract:

Lab Code: ITSL Case No.: SAS No.: SDG No.:

	EPA SAMPLE NO.	S1 (24DCPA)#	S2 (OTHER)#
01	HBLK01	81	
02	HSPK01A	76	
03	HSPK01B	75	
04	92.06115	88	
05	92.06115MS	88	
06	92.06115MSD	81	
07	92.06116	78	
08	92.06117	88	
09	92.06118	75	
10	92.06119	68	
11	92.06120	73	
12	92.06121	71	
13	92.06122	58	
14	92.06123	86	
15	92.06162	76	
16			
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27			
28			
29			
30			

ADVISORY
QC LIMITS
not determined

S1 (24DCPA) = 2,4-Dichlorophenylacetic acid

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogates diluted out

FORM II HERB-2

000305

Los Alamos National Laboratories
June 1, 1992
Project Number 281.01

II. Analytical Results/Methodology

USEPA methods published in SW-846 (3rd Edition, Revision 0) were followed in the analysis these samples. Organochlorine pesticides were analyzed by Method 8080 (no PCB analysis was requested), and Method 8150 was followed to analyze for the chlorinated herbicides 2,4-D, 2,4,5-T, and 2,4,5-TP (silvex). The results are presented in the attached "CLP" package, with modifications made to the pesticide forms to reflect the requirements of the SW 846 method. The herbicide package follows the general requirements for GC Chlorinated Herbicides Final Reports which was provided by LANL. CLP organics conventions have been used in presenting and flagging data.

III. Quality Control

Sample 92.06115 (2027-001) was chosen for matrix spike/matrix spike duplicate analysis for pesticides and herbicides. The matrix spike/matrix spike duplicate for pesticides showed that the spike had mistakenly been added to the samples at a concentration ten times the normal level. The samples were diluted for analysis and the recoveries calculated based on this assumption. A non-conformance report (SL-92-0235) was filed to document this event.

Duplicate Laboratory Control Samples (LCS) were requested for this sample batch. These LCS were prepared and analyzed for the herbicide samples. For pesticides, however, the two LCS reported represent only one spike, each being spiked with one of two mixes that together comprise all of the target analytes. A nonconformance report (SL-92-0243) was filed to document this event.

A CLP convention has been followed in presenting the quality control data, and no sample results have been adjusted to reflect QC sample recoveries. All samples were extracted and analyzed with the required SW-846 holding times.

Los Alamos National Laboratories
June 1, 1992
Project Number 281.01

IV. Analysis Comments

(A) Herbicide Analysis

SW-846 Practical Quantitation Limits (PQL's) have been used as reporting limits for this project. However, we have found that on our instrumentation, the normal dilution factor for Method 8150 (50 g. or 1000 ml. going to 10 ml. final extract) results in extracts with levels at the PQL which are at least 50 times higher than the normal calibration range. Therefore, for these analyses, a dilution factor of 50 will lead to detection limits at the PQL when 50 grams of soil are used.

(B) Pesticide Analysis

The pesticide samples were run in two analytical sequences. The first sequence was run May 11 to May 12, 1992, and included the original injection of every sample and QC sample. A second sequence was run on May 13 which included the dilutions of the matrix spike, the matrix spike duplicate, and sample 92.06161. All spiked compounds on the matrix spikes were quantitated from the diluted samples, but because not all standards were run with them, the detection limits for the other compounds were taken from the earlier undiluted runs. 4,4'-DDE and Endrin were over the calibration range on the undiluted run of 92.06161, and were quantitated from a 1:5 dilution run on May 13. Both runs are submitted.

Because of sample matrix interferences, concentrations or detection limits given for each sample on the Form I's may not come from a single run which covers every compound. Attached to this narrative in an Appendix consisting of a Table showing the data file numbers for each run used for quantifying the individual target compounds for each sample. In some cases both the primary and secondary column may have contributed to the total list of compounds in a single sample. Injections on the two columns were run simultaneously with a split injection for all standards and samples.

TCMX and DBC were both spiked into the samples as surrogates. DBC is reported as the surrogate of choice unless matrix interference is suspected, in which case we have reported the TCMX recovery. The recovery of both surrogates is reported in the method blank.

********** EM-9 QUALITY ASSURANCE REPORT **********

Surrogate results for EPA HERBICIDES: 2,4-Dichlorophenylacetic acid (CAS # - 19719289); EPA Range Limits: none established

SAMPLE NUMBER	RESULT	UNITS	COMPLETION DATE	COMMENT	SAMPLE TYPE
92.06115	88.	%	8/26/92		
92.06115	88.	%	8/26/92		MS
92.06115	81.	%	8/26/92		MSD
92.06116	78.	%	8/26/92		
92.06117	88.	%	8/26/92		
92.06118	75.	%	8/26/92		
92.06119	68.	%	8/26/92		
92.06120	73.	%	8/26/92		
92.06121	71.	%	8/26/92		
92.06122	58.	%	8/26/92		
92.06123	86.	%	8/26/92		
00.24611	81.	%	8/26/92		B
92.06162	76.	%	8/26/92		

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.06162 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.06162	94757	0.32	0.072	UG/G	0.32	0.03	8/26/92	UNDER CONTROL	2,4-D
92.06162	93765	0.1	0.02	UG/G	0.12	0.01	8/26/92	UNDER CONTROL	2,4,5-T
92.06162	93721	0.09	0.018	UG/G	0.1	0.01	8/26/92	UNDER CONTROL	2,4,5-TP

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results, Sample # 00.24611 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	94757	< 24.		UG/KG	0.0			UNDER CONTROL	2,4-D
00.24611	00.24611	93765	< 4.		UG/KG	0.0			UNDER CONTROL	2,4,5-T
00.24611	00.24611	93721	< 3.4		UG/KG	0.0			UNDER CONTROL	2,4,5-TP

Blank Spike Results: none

Blank Spike Duplicate Results: none

********** EM-9 QUALITY ASSURANCE REPORT **********

EPA HERBICIDES Prepared by: DMH on 27-Aug-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

___ Only qualitative data requested

___ Only Blind QC samples run with this batch.

___ No QC samples run with this sample batch.

___ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: DMH on 27-Aug-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.06123 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1-QA	92.06123	94757	< 26.		UG/KG	8/26/92		2,4-D
PF-40-A-1-QA	92.06123	93765	< 4.4		UG/KG	8/26/92		2,4,5-T
PF-40-A-1-QA	92.06123	93721	< 3.7		UG/KG	8/26/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.06123

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: DMH on 27-Aug-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.06122 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-4	92.06122	94757	< 26.		UG/KG	8/26/92		2,4-D
PF-40-CH2-4	92.06122	93765	< 4.3		UG/KG	8/26/92		2,4,5-T
PF-40-CH2-4	92.06122	93721	< 3.6		UG/KG	8/26/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.06122

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: DMH on 27-Aug-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.06121 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-2	92.06121	94757	< 26.		UG/KG	8/26/92		2,4-D
PF-40-CH2-2	92.06121	93765	< 4.3		UG/KG	8/26/92		2,4,5-T
PF-40-CH2-2	92.06121	93721	< 3.7		UG/KG	8/26/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.06121

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: DMH on 27-Aug-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.06120 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-4	92.06120	94757	< 26.		UG/KG	8/26/92		2,4-D
PF-40-CH1-4	92.06120	93765	< 4.4		UG/KG	8/26/92		2,4,5-T
PF-40-CH1-4	92.06120	93721	< 3.8		UG/KG	8/26/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.06120

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: DMI on 27-Aug-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.06119 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-2	92.06119	94757	< 26.		UG/KG	8/26/92		2,4-D
PF-40-CH1-2	92.06119	93765	< 4.4		UG/KG	8/26/92		2,4,5-T
PF-40-CH1-2	92.06119	93721	< 3.7		UG/KG	8/26/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.06119

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: DMH on 27-Aug-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.06118 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 6/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-4	92.06118	94757	< 28.		UG/KG	8/26/92		2,4-D
PF-40-A-4	92.06118	93765	< 4.7		UG/KG	8/26/92		2,4,5-T
PF-40-A-4	92.06118	93721	< 4.		UG/KG	8/26/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.06118

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: DMH on 27-Aug-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.06117 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY		COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-A-3	92.06117	94757	< 27.		UG/KG	8/26/92		2,4-D
F-40-A-3	92.06117	93765	< 4.6		UG/KG	8/26/92		2,4,5-T
F-40-A-3	92.06117	93721	< 3.9		UG/KG	8/26/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.06117

None

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: DMH on 27-Aug-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.06116 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-2	92.06116	94757	< 26.		UG/KG	8/26/92		2,4-D
PF-40-A-2	92.06116	93765	< 4.3		UG/KG	8/26/92		2,4,5-T
PF-40-A-2	92.06116	93721	< 3.6		UG/KG	8/26/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.06116

none

********** EM-9 ANALYTICAL REPORT **********

Matrix Spike Results for Sample # 92.06115 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-A-1	92.06115	94757	550.	500.	UG/KG	8/26/92		2,4-D
F-40-A-1	92.06115	93765	270.	200.	UG/KG	8/26/92		2,4,5-T
F-40-A-1	92.06115	93721	270.	210.	UG/KG	8/26/92		2,4,5-TP

Matrix Spike Duplicate Results for Sample # 92.06115 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-A-1	92.06115	94757	550.	490.	UG/KG	8/26/92		2,4-D
F-40-A-1	92.06115	93765	270.	190.	UG/KG	8/26/92		2,4,5-T
F-40-A-1	92.06115	93721	270.	200.	UG/KG	8/26/92		2,4,5-TP

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: DMH on 27-Aug-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.06115 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/08/92 Date Analyzed: 5/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PI-40-A-1	92.06115	94757	< 26.		UG/KG	8/26/92		2,4-D
PI-40-A-1	92.06115	93765	< 4.4		UG/KG	8/26/92		2,4,5-T
PI-40-A-1	92.06115	93721	< 3.7		UG/KG	8/26/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.06115

None

HERBICIDE DATA

To: Philip Fresquez, EM-8

From: Peggy Gautier, QA&DM Sec. Ldr. mag

Date: September 28, 1992

Subject: Request No. 12846

The herbicide data reported to you on Report No. 15022 on 27-Aug-1992, has been re-reported to put the 2,4-Dichlorophenylacetic acid surrogate recovery data on page 14 of the report and remove that data from the sample data.

The mixing of surrogate data and sample data was an error caused by the report writer software that currently does not automatically handle herbicide surrogates. We apologize for any problems that this may have caused you.

NOT ENTERED.

DUPLICATE of IT DATA

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.22438	92.01033	94757	3.9	0.9	UG/L	3.91	0.40	3/02/92	UNDER CONTROL	2,4-D
00.22438	92.01033	93765	0.82	0.2	UG/L	0.88	0.09	3/02/92	UNDER CONTROL	2,4,5-T
00.22438	92.01033	93721	0.49	0.13	UG/L	0.56	0.06	3/02/92	UNDER CONTROL	2,4,5-TP

REPORT NUMBER: 13403

Analyst	Reviewer	Section Leader	QA Officer
	J. Giaquinto		mag
Date	3/17/92 Date	Date	3-17-92 Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Duplicate Results, Sample # 00.24612 Date Collected: Date Received: Date Extracted: 2/03/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT REPORTED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24612	00.24612	94757	25.	25.	UG/L	3/02/92		2,4-D
00.24612	00.24612	93765	12.5	11.	UG/L	3/02/92		2,4,5-T
00.24612	00.24612	93721	12.5	11.	UG/L	3/02/92		2,4,5-TP

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Results, Sample # 00.24612 Date Collected: Date Received: Date Extracted: 2/03/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT REPORTED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24612	00.24612	94757	25.	25.	UG/L	3/02/92		2,4-D
00.24612	00.24612	93765	12.5	11.	UG/L	3/02/92		2,4,5-T
00.24612	00.24612	93721	12.5	12.	UG/L	3/02/92		2,4,5-TP

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results, Sample # 00.24612 Date Collected: Date Received: Date Extracted: 2/03/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24612	00.24612	94757	< 1.2		UG/L	0.0		3/02/92	UNDER CONTROL	2,4-D
00.24612	00.24612	93765	< 0.2		UG/L	0.0		3/02/92	UNDER CONTROL	2,4,5-T
00.24612	00.24612	93721	< 0.17		UG/L	0.0		3/02/92	UNDER CONTROL	2,4,5-TP

********** EM-9 QUALITY ASSURANCE REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12456 MATRIX: W ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 ANALYTICAL REPORT **********

ERA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12456 MATRIX: W ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00939 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/03/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DEB	92.00939	94757	< 1.2		UG/L	3/02/92		2,4-D
PF-40-DEB	92.00939	93765	< 0.2		UG/L	3/02/92		2,4,5-T
PF-40-DEB	92.00939	93721	< 0.17		UG/L	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00939

none

REPORT NUMBER: 13403

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12456 MATRIX: W ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: NSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00938 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EW	92.00938	94757	< 1.2		UG/L	3/02/92		2,4-D
PF-40-EW	92.00938	93765	< 0.2		UG/L	3/02/92		2,4,5-T
PF-40-EW	92.00938	93721	< 0.17		UG/L	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00938

none

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.00970 Date Collected: 1/27/92 Date Received: 1/29/92 Date Extracted: 2/03/92 Date Analyzed: 2/06/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.00970	94757	330.	90.	UG/KG	440.	44.	3/02/92	UNDER CONTROL	2,4-D
92.00970	93765	92.	24.	UG/KG	99.	10.	3/02/92	UNDER CONTROL	2,4,5-T
92.00970	93721	45.	15.	UG/KG	63.	6.	3/02/92	UNDER CONTROL	2,4,5-TP

REPORT NUMBER: 13404

Analyst	Reviewer	Section Leader	QA Officer
	3/17/92		3-17-92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Duplicate Results, Sample # 00.24611 Date Collected: Date Received: Date Extracted: 2/03/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	94757	500.		UG/KG	3/02/92		2,4-D
00.24611	00.24611	93765	250.		UG/KG	3/02/92		2,4,5-T
00.24611	00.24611	93721	250.		UG/KG	3/02/92		2,4,5-TP

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Results, Sample # 00.24611 Date Collected: Date Received: Date Extracted: 2/03/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	94757	500.	480.	UG/KG	3/02/92		2,4-D
00.24611	00.24611	93765	250.	220.	UG/KG	3/02/92		2,4,5-T
00.24611	00.24611	93721	250.	220.	UG/KG	3/02/92		2,4,5-TP

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results, Sample # 00.24611 Date Collected: Date Received: Date Extracted: 2/03/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	94757	< 24.		UG/KG	0.0		3/02/92	UNDER CONTROL	2,4-D
00.24611	00.24611	93765	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	2,4,5-T
00.24611	00.24611	93721	< 3.4		UG/KG	0.0		3/02/92	UNDER CONTROL	2,4,5-TP

********** EM-9 QUALITY ASSURANCE REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00921 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-E	92.00921	94757	< 30.		UG/KG	3/02/92		2,4-D
PF-40-SD-E	92.00921	93765	< 5.1		UG/KG	3/02/92		2,4,5-T
PF-40-SD-E	92.00921	93721	< 4.3		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00921

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00920 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-M	92.00920	94757	< 29.		UG/KG	3/02/92		2,4-D
PF-40-SD-M	92.00920	93765	< 4.9		UG/KG	3/02/92		2,4,5-T
PF-40-SD-M	92.00920	93721	< 4.2		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00920

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: NSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00919 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-W	92.00919	94757	< 30.		UG/KG	3/02/92		2,4-D
PF-40-SD-W	92.00919	93765	< 5.1		UG/KG	3/02/92		2,4,5-T
PF-40-SD-W	92.00919	93721	< 4.3		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00919

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00918 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DP	92.00918	94757	< 29.		UG/KG	3/02/92		2,4-D
PF-40-DP	92.00918	93765	< 4.8		UG/KG	3/02/92		2,4,5-T
PF-40-DP	92.00918	93721	< 4.1		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00918

none

REPORT Nu. .: 13404

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00917 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SPS	92.00917	94757	< 27.		UG/KG	3/02/92		2,4-D
PF-40-SPS	92.00917	93765	< 4.4		UG/KG	3/02/92		2,4,5-T
PF-40-SPS	92.00917	93721	< 3.8		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00917

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00916 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EBX-E	92.00916	94757	< 30.		UG/KG	3/02/92		2,4-D
PF-40-EBX-E	92.00916	93765	< 5.		UG/KG	3/02/92		2,4,5-T
PF-40-EBX-E	92.00916	93721	< 4.2		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00916

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00915 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EBX-W	92.00915	94757	< 28.		UG/KG	3/02/92		2,4-D
PF-40-EBX-W	92.00915	93765	< 4.7		UG/KG	3/02/92		2,4,5-T
PF-40-EBX-W	92.00915	93721	< 4.		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00915

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00914 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-1	92.00914	94757	< 31.		UG/KG	3/02/92		2,4-D
PF-40-BAE-1	92.00914	93765	< 5.2		UG/KG	3/02/92		2,4,5-T
PF-40-BAE-1	92.00914	93721	< 4.4		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00914

none

REPOR. (: 13404

********** EM-9 ANALYTICAL REPORT **********

[redacted] HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00913 Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-1	92.00913	94757	< 32.		UG/KG	3/02/92		2,4-D
PF-40-BAW-1	92.00913	93765	< 5.3		UG/KG	3/02/92		2,4,5-T
PF-40-BAW-1	92.00913	93721	< 4.5		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00913

none

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.00747 Date Collected: 1/24/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/01/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.00747	94757	400.	100.	UG/KG	391.	39.	3/02/92	UNDER CONTROL	2,4-D
92.00747	93765	100.	25.	UG/KG	88.	9.	3/02/92	UNDER CONTROL	2,4,5-T
92.00747	93721	58.	17.	UG/KG	56.	6.	3/02/92	UNDER CONTROL	2,4,5-TP

Blind QC Results, Sample # 92.00748 Date Collected: 1/24/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/01/92

92.00748	94757	430.	105.	UG/KG	587.	59.	3/02/92	UNDER CONTROL	2,4-D
92.00748	93765	110.	26.	UG/KG	132.	13.	3/02/92	UNDER CONTROL	2,4,5-T
92.00748	93721	62.	17.	UG/KG	84.	8.	3/02/92	UNDER CONTROL	2,4,5-TP

REPORT NUMBER: 13405

Analyst	Reviewer	Section Leader	QA Officer
	Bigphorus		mag
Date	3/17/92	Date	3-17-92

No Sample Discrepancies Noted by Sample Management Section

The control stat[illegible] the preceeding data was evaluated using the standard statistical [illegible]ria set forth in 'Quality [illegible]ssurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Duplicate Results, Sample # 00.24611 Date Collected: Date Received: Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	94757	500.	510.	UG/KG	3/02/92		2,4-D
00.24611	00.24611	93765	250.	220.	UG/KG	3/02/92		2,4,5-T
00.24611	00.24611	93721	250.	230.	UG/KG	3/02/92		2,4,5-TP

Blank Spike Duplicate Results, Sample # 00.24613 Date Collected: Date Received: Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24613	00.24613	94757	500.	460.	UG/KG	3/02/92		2,4-D
00.24613	00.24613	93765	250.	210.	UG/KG	3/02/92		2,4,5-T
00.24613	00.24613	93721	250.	210.	UG/KG	3/02/92		2,4,5-TP

********** EM-9 QUALITY ASSURANCE REPORT **********

Blank Spike Results, Sample # 00.24611 Date Collected: Date Received: Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	94757	500.	480.	UG/KG	3/02/92		2,4-D
00.24611	00.24611	93765	250.	210.	UG/KG	3/02/92		2,4,5-T
00.24611	00.24611	93721	250.	220.	UG/KG	3/02/92		2,4,5-TP

Blank Spike Results, Sample # 00.24613 Date Collected: Date Received: Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24613	00.24613	94757	500.	470.	UG/KG	3/02/92		2,4-D
00.24613	00.24613	93765	250.	210.	UG/KG	3/02/92		2,4,5-T
00.24613	00.24613	93721	250.	210.	UG/KG	3/02/92		2,4,5-TP

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results, Sample # 00.24611 Date Collected: Date Received: Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24611	00.24611	94757	< 24.		UG/KG	0.0		3/02/92	UNDER CONTROL	2,4-D
00.24611	00.24611	93765	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	2,4,5-T
00.24611	00.24611	93721	< 3.4		UG/KG	0.0		3/02/92	UNDER CONTROL	2,4,5-TP

Blank Results, Sample # 00.24613 Date Collected: Date Received: Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.24613	00.24613	94757	< 24.		UG/KG	0.0		3/02/92	UNDER CONTROL	2,4-D
00.24613	00.24613	93765	< 4.		UG/KG	0.0		3/02/92	UNDER CONTROL	2,4,5-T
00.24613	00.24613	93721	< 3.4		UG/KG	0.0		3/02/92	UNDER CONTROL	2,4,5-TP

********** EM-9 QUALITY ASSURANCE REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00770 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-5R	92.00770	94757	< 27.		UG/KG	3/02/92		2,4-D
PF-40-FA-5R	92.00770	93765	< 4.5		UG/KG	3/02/92		2,4,5-T
PF-40-FA-5R	92.00770	93721	< 3.9		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00770

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00769 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3C	92.00769	94757	< 27.		UG/KG	3/02/92		2,4-D
PF-40-BP-3C	92.00769	93765	< 4.5		UG/KG	3/02/92		2,4,5-T
PF-40-BP-3C	92.00769	93721	< 3.8		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00769

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00768 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3B	92.00768	94757	< 26.		UG/KG	3/02/92		2,4-D
PF-40-BP-3B	92.00768	93765	< 4.4		UG/KG	3/02/92		2,4,5-T
PF-40-BP-3B	92.00768	93721	4.7	1.3	UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00768

none

4.7 ± 1.3 < 4.4

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00767 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-1	92.00767	94757	< 31.		UG/KG	3/02/92		2,4-D
PF-40-BC-1	92.00767	93765	< 5.2		UG/KG	3/02/92		2,4,5-T
PF-40-BC-1	92.00767	93721	< 4.4		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00767

none

********** EM-9 ANALYTICAL REPORT **********

Matrix Spike Results for Sample # 92.00766 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: Date Analyzed:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2C	92.00766	94757	610.	480.	UG/KG	3/02/92		2,4-D
PF-40-BP-2C	92.00766	93765	300.	240.	UG/KG	3/02/92		2,4,5-T
PF-40-BP-2C	92.00766	93721	300.	250.	UG/KG	3/02/92		2,4,5-TP

Matrix Spike Duplicate Results for Sample # 92.00766 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: Date Analyzed:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2C	92.00766	94757	610.	540.	UG/KG	3/02/92		2,4-D
PF-40-BP-2C	92.00766	93765	300.	260.	UG/KG	3/02/92		2,4,5-T
PF-40-BP-2C	92.00766	93721	300.	260.	UG/KG	3/02/92		2,4,5-TP

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00766 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: Date Analyzed:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2C	92.00766	94757	< 29.		UG/KG	3/02/92		2,4-D
PF-40-BP-2C	92.00766	93765	< 4.9		UG/KG	3/02/92		2,4,5-T
PF-40-BP-2C	92.00766	93721	< 4.2		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00766

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00765 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2B	92.00765	94757	< 31.		UG/KG	3/02/92		2,4-D
PF-40-BP-2B	92.00765	93765	< 5.2		UG/KG	3/02/92		2,4,5-T
PF-40-BP-2B	92.00765	93721	< 4.4		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00765

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00764 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
[redacted]-2A	92.00764	94757	< 28.		UG/KG	3/02/92		2,4-D
PF-40-BP-2A	92.00764	93765	< 4.8		UG/KG	3/02/92		2,4,5-T
PF-40-BP-2A	92.00764	93721	< 4.		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00764

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: NSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00763 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1C	92.00763	94757	< 27.		UG/KG	3/02/92		2,4-D
PF-40-BP-1C	92.00763	93765	< 4.5		UG/KG	3/02/92		2,4,5-T
PF-40-BP-1C	92.00763	93721	< 3.8		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00763

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00762 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1B	92.00762	94757	< 27.		UG/KG	3/02/92		2,4-D
PF-40-BP-1B	92.00762	93765	< 4.5		UG/KG	3/02/92		2,4,5-T
PF-40-BP-1B	92.00762	93721	< 3.8		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00762

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00761 Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 2/07/92 Date Analyzed: 2/11/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1A	92.00761	94757	< 30.		UG/KG	3/02/92		2,4-D
PF-40-BP-1A	92.00761	93765	< 5.		UG/KG	3/02/92		2,4,5-T
PF-40-BP-1A	92.00761	93721	< 4.2		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00761

none

Los Alamos National Laboratories
February 27, 1992
Project Number 281.01

(C) Pesticide Analysis (continued)

The continuing calibration for toxaphene on 02/07/92 at 15:48 exhibited a slight retention time shift for the identification peak. Toxaphene was not detected in the samples associated with that standard; because the identification of toxaphene is based more on pattern recognition than retention time windows, the data was not compromised by this shift in the standard.

Sample 92.00971 (1775-011) contained heptachlor epoxide at 69 µg/kg, which was below the detection limit for the analysis. It should be noted that only 10 g. of this sample was made available for analysis, and that a 30 g. sample containing this concentration would have shown a result above the PQL.

Sample 92.01032 (1775-014) was analyzed twice; two Form I's are submitted for this sample, with the suffix RE attached to the reinjection. When this sample was first injected, it was suspected that excessive breakdown of DDT might be occurring (due to the presence of breakdown products in the LCS which was run just before the sample.) Both analyses of 1775-014 are submitted because the calibration factor for methoxychlor was out of control on the second analysis, and the first analysis is used to show the absence of that analyte.

Elevated detection limits were required for the water samples for pesticides due to the limited volume of sample supplied.

I certify that these analysis results are in compliance with the terms and conditions of the contact, both technically and for completeness, with the exception of the items detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory manager or his designee, as verified by the following signature.

Reviewed and Approved:

Kathy R. Giacopelli for R.E. White

Robert E. White
Project Manager

Los Alamos National Laboratories
February 27, 1992
Project Number 281.01

IV. Nonconformances and Analysis Comments

(A) Sample receipt

An ITAS - St. Louis Laboratory Nonconformance Memo (NCM SL-92-0055) was prepared to document that sample 92.00767 had leaked into the plastic bag containing it prior to receipt at the laboratory

(B) Herbicide Analysis

SW-846 Practical Quantitation Limits (PQL's) have been used as reporting limits for this project. However, we have found that on our instrumentation, the normal dilution factor for Method 8150 (50 g. or 1000 ml. going to 10 ml. final extract) results in extracts with levels at the PQL which are at least 50 times higher than the normal calibration range. Therefore, for these analyses, a dilution factor of 50 will lead to detection limits at the PQL when 50 grams of soil or 1000 ml. of water are used. When smaller aliquots of samples are extracted, a smaller dilution has been made on the extract to result in the same reporting limits.

One of the two Laboratory control samples run with the soil samples for herbicides (HSPK02B) gave no recovery of the three spiked herbicides. All of the soil samples were consequently reextracted with another two Laboratory Control Samples (HSPK02 A and B). Sample 92.00770 (1771-010) could not be reextracted due to the limited amount of sample received and is submitted from the first extraction along with the method blank and two LCS run with it. A nonconformance memo (SL-92-0105) was filed to document this analytical problem.

(C) Pesticide Analysis

Because of sample matrix interferences, concentrations or detection limits given for each sample on the Form I's may not come from a single run which covers every compound. Attached to this narrative is an Appendix consisting of a table showing the data file numbers for each run used for quantifying the individual target compounds for each sample. In some cases both the primary and secondary column may have contributed to the total list of compounds in a single sample.

Los Alamos National Laboratories
February 27, 1992
Project Number 281.01

CLIENT ID	ITAS ID	PARAMETER	MATRIX
92.00917	1775-005	Pest/Herb	Soil
92.00918	1775-006	Pest/Herb	Soil
92.00919	1775-007	Pest/Herb	Soil
92.00920	1775-008	Pest/Herb	Soil
92.00921	1775-009	Pest/Herb	Soil
92.00970	1775-010	Herb	Soil
92.00971	1775-011	Pest	Soil
92.00938	1775-012	Pest/Herb	Water
92.00939	1775-013	Pest/Herb	Water
92.01032	1775-014	Pest	Water
92.01033	1775-015	Herb	Water

All samples with ITAS laboratory numbers 1771-XXX were received on January 28, while samples numbered 1775-XXX were received on January 30.

II. Analytical Results/Methodology

USEPA methods published in SW-846 (3rd Edition, Revision 0) were followed in the analysis of these samples. Organochlorine pesticides were analyzed by Method 8080 (no PCB analysis was requested), and Method 8150 was followed to analyze for the chlorinated herbicides 2,4-D, 2,4,5-T, and 2,4,5-TP (silvex). The results are presented in the attached "CLP" package, with modifications made to the pesticide forms to reflect the requirements of the SW 846 method. The herbicide package follows the general requirements for GC Chlorinated Herbicides Final Reports which was provided by LANL. CLP organics conventions have been used in presenting and flagging data.

III. Quality Control

Sample 92.00766 (1771-006) was chosen for matrix spike/matrix spike duplicate analysis. In addition, duplicate Laboratory Control Samples (blank spikes) were prepared and analyzed with the samples, as well as a method blank for each analysis. CLP convention has been followed in presenting the quality control data, and no sample results have been adjusted to reflect QC sample recoveries.

All samples were extracted and analyzed with the required SW-846 holding times.

INTERNATIONAL TECHNOLOGY CORPORATION

CASE NARRATIVE

IT Corporation - Los Alamos
557 Oppenheimer Road
Suite 200
Los Alamos, New Mexico 87545

February 27, 1992

Attention: Dr. Sylvan Hersh

Purchase Order Number: 92-002

This is a case narrative for the following:

Project Number : 281.01
Date Received by Lab: January 28 and January 30, 1992
Number of Samples : Twenty-five (25)
Sample Matrix : see below

I. Introduction

On January 28 and January 30, 1992, twenty-one soil samples and four water samples were received at ITAS - St. Louis from PRF TA-40 Scrap Detonation Site at Los Alamos National Laboratory. These samples were batched for analysis into a single Sample Delivery Group. The following is a list of the samples received, along with the ITAS - St. Louis identification numbers, the matrix, and the analyses requested for each sample:

CLIENT ID	ITAS ID	PARAMETER	MATRIX
92.00761	1771-001	Pest/Herb	Soil
92.00762	1771-002	Pest/Herb	Soil
92.00763	1771-003	Pest/Herb	Soil
92.00764	1771-004	Pest/Herb	Soil
92.00765	1771-005	Pest/Herb	Soil
92.00766	1771-006	Pest/Herb	Soil
92.00767	1771-007	Pest/Herb	Soil
92.00768	1771-008	Pest/Herb	Soil
92.00769	1771-009	Pest/Herb	Soil
92.00770	1771-010	Pest/Herb	Soil
92.00913	1775-001	Pest/Herb	Soil
92.00914	1775-002	Pest/Herb	Soil
92.00915	1775-003	Pest/Herb	Soil
92.00916	1775-004	Pest/Herb	Soil

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.00747 Date Collected: 1/24/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/01/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.00747	94757	400.	100.	UG/KG	391.	39.	3/02/92	UNDER CONTROL	2,4-D
92.00747	93765	100.	25.	UG/KG	88.	9.	3/02/92	UNDER CONTROL	2,4,5-T
92.00747	93721	58.	17.	UG/KG	56.	6.	3/02/92	UNDER CONTROL	2,4,5-TP

Blind QC Results, Sample # 92.00748 Date Collected: 1/24/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/01/92

92.00748	94757	430.	105.	UG/KG	587.	59.	3/02/92	UNDER CONTROL	2,4-D
92.00748	93765	110.	26.	UG/KG	132.	13.	3/02/92	UNDER CONTROL	2,4,5-T
92.00748	93721	62.	17.	UG/KG	84.	8.	3/02/92	UNDER CONTROL	2,4,5-TP

REPORT NUMBER: 13405

Analyst	Reviewer	Section Leader	QA Officer
	Bigphorus		mag
Date	3/17/92 Date	Date	3-17-92 Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical cr ria set forth in 'Quality rance for Health and Environmental Chemistry: 1986,' LA-11114-MS, 3-4.

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00710 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/01/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-3	92.00710	94757	< 28.		UG/KG	3/02/92		2,4-D
PF-40-BAW-3	92.00710	93765	< 4.6		UG/KG	3/02/92		2,4,5-T
PF-40-BAW-3	92.00710	93721	< 3.9		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00710

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00709 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/01/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-2	92.00709	94757	< 29.		UG/KG	3/02/92		2,4-D
PF-40-BAW-2	92.00709	93765	< 4.9		UG/KG	3/02/92		2,4,5-T
PF-40-BAW-2	92.00709	93721	< 4.1		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00709

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00708 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/01/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-3	92.00708	94757	< 27.		UG/KG	3/02/92		2,4-D
PF-40-BAE-3	92.00708	93765	< 4.5		UG/KG	3/02/92		2,4,5-T
PF-40-BAE-3	92.00708	93721	< 3.8		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00708

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00707 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 2/01/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAE-2	92.00707	94757	< 30.		UG/KG	3/02/92		2,4-D
PF-40-BAE-2	92.00707	93765	< 5.		UG/KG	3/02/92		2,4,5-T
PF-40-BAE-2	92.00707	93721	< 4.3		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00707

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00706 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-3	92.00706	94757	< 28.		UG/KG	3/02/92		2,4-D
PF-40-BC-3	92.00706	93765	< 4.6		UG/KG	3/02/92		2,4,5-T
PF-40-BC-3	92.00706	93721	< 4.		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00706

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00705 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BC-2	92.00705	94757	< 32.		UG/KG	3/02/92		2,4-D
PF-40-BC-2	92.00705	93765	< 5.3		UG/KG	3/02/92		2,4,5-T
PF-40-BC-2	92.00705	93721	< 4.5		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00705

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00704 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-PA-19A	92.00704	94757	< 27.		UG/KG	3/02/92		2,4-D
PF-40-FA-19A	92.00704	93765	< 4.5		UG/KG	3/02/92		2,4,5-T
PF-40-FA-19A	92.00704	93721	< 3.9		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00704

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00703 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-18A	92.00703	94757	< 28.		UG/KG	3/02/92		2,4-D
PF-40-FA-18A	92.00703	93765	< 4.7		UG/KG	3/02/92		2,4,5-T
PF-40-FA-18A	92.00703	93721	< 4.		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00703

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00702 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-16A	92.00702	94757	< 28.		UG/KG	3/02/92		2,4-D
PF-40-FA-16A	92.00702	93765	< 4.7		UG/KG	3/02/92		2,4,5-T
PF-40-FA-16A	92.00702	93721	< 4.		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00702

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00701 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-13A	92.00701	94757	< 28.		UG/KG	3/02/92		2,4-D
PF-40-FA-13A	92.00701	93765	< 4.6		UG/KG	3/02/92		2,4,5-T
PF-40-FA-13A	92.00701	93721	< 3.9		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00701

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00700 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-15A	92.00700	94757	< 27.		UG/KG	3/02/92		2,4-D
PF-40-FA-15A	92.00700	93765	< 4.5		UG/KG	3/02/92		2,4,5-T
PF-40-FA-15A	92.00700	93721	< 3.8		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00700

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: NSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00699 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-2A	92.00699	94757	28.		UG/KG	3/02/92		2,4-D
PF-40-FA-2A	92.00699	93765	< 4.7		UG/KG	3/02/92		2,4,5-T
PF-40-FA-2A	92.00699	93721	< 4.		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00699

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00698 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-5A	92.00698	94757	< 28.		UG/KG	3/02/92		2,4-D
PF-40-FA-5A	92.00698	93765	< 4.7		UG/KG	3/02/92		2,4,5-T
PF-40-FA-5A	92.00698	93721	< 4.		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00698

none

********** EM-9 ANALYTICAL REPORT **********

EPA HERBICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00697 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-4A	92.00697	94757	< 26.		UG/KG	3/02/92		2,4-D
PF-40-FA-4A	92.00697	93765	< 4.4		UG/KG	3/02/92		2,4,5-T
PF-40-FA-4A	92.00697	93721	< 3.7		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00697

none

********** EM-9 ANALYTICAL REPORT **********

Matrix Spike Results for Sample # 92.00696 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	94757	560.	590.	UG/KG	3/02/92		2,4-D
PF-40-FA-1A	92.00696	93765	280.	260.	UG/KG	3/02/92		2,4,5-T
PF-40-FA-1A	92.00696	93721	280.	270.	UG/KG	3/02/92		2,4,5-TP

Matrix Spike Duplicate Results for Sample # 92.00696 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	94757	560.	530.	UG/KG	3/02/92		2,4-D
PF-40-FA-1A	92.00696	93765	280.	230.	UG/KG	3/02/92		2,4,5-T
PF-40-FA-1A	92.00696	93721	280.	240.	UG/KG	3/02/92		2,4,5-TP

REPORT :R: 13405

********** EM-9 ANALYTICAL REPORT **********

[redacted]ICIDES Prepared by: ESG on 17-Mar-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: 203 PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

Customer Sample Results, Sample # 92.00696 Date Collected: 1/23/92 Date Received: 1/24/92 Date Extracted: 1/30/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	94757	< 27.		UG/KG	3/02/92		2,4-D
PF-40-FA-1A	92.00696	93765	< 4.4		UG/KG	3/02/92		2,4,5-T
PF-40-FA-1A	92.00696	93721	< 3.8		UG/KG	3/02/92		2,4,5-TP

Tentatively Identified Compounds in Customer Sample # 92.00696

none

Los Alamos National Laboratories
February 25, 1992
Project Number 281.01

I certify that these analysis results are in compliance with the terms and conditions of the contact, both technically and for completeness, with the exception of the items detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory manager or his designee, as verified by the following signature.

Reviewed and Approved:

Robert E. White
Project Manager

Los Alamos National Laboratories
February 25, 1992
Project Number 281.01

(C) Pesticide Analysis (con't)

All samples were spiked with both DBC and TCMX surrogates. TCMX recoveries are reported for samples in which interference prevented quantitation of DBC recovery or in which the DBC recovery was high due to interference.

The continuing calibration for toxaphene on 02/04/92 at 07:31 exhibited a slight retention time shift for the identification peak. Toxaphene was not detected in the samples associated with that standard; because the identification of toxaphene is based more on pattern recognition than retention time windows, the data was not compromised by this shift in the standard.

Two samples had confirmed pesticide hits that are not reported on the Forms because the levels were below the reporting limits. The first of these pesticides is p,p'-DDT in sample 1768-019 (92.00750), which was present at 9.6 µg/kg (DB-1701 column) and 10.1 µg/kg (SE-54 column). This compound would have been above the reporting limits if a 30 g. aliquot had been available for extraction, but only 10 g. of the sample was provided. In sample 1768-018 (92.00749), heptachlor epoxide was detected at 9.1 µg/kg, which is also below the reporting limits. Only ten grams of this sample was available for extraction.

Sample 92.00707 (1768-012) gave a positive hit for δ-BHC at 4.6 µg/kg. Second column analysis (DB-1701 in this case) confirms the identification, but at a much higher concentration. It is suspected that at least one other compound is co-eluting with δ-BHC on this column. Alternatively, a contaminant may be leading to a false positive confirmation. It is beyond the scope of this method to distinguish between these possibilities.

(B) Herbicide Analysis

SW-846 Practical Quantitation Limits (PQL's) have been used as reporting limits for this project. However, we have found that on our instrumentation, the normal dilution factor for Method 8150 (50 g. going to 10 ml. final extract) results in extracts with levels at the PQL which are at least 50 times higher than the normal calibration range. Therefore, for these analyses, a dilution factor of 50 will lead to detection limits at the PQL when the weight of soil given in the method is used.

A herbicide calibration standard run on the confirmation column (DB-5) at 22:22 on 01-31-92 had retention times outside the daily window by 0.01 minutes. The samples needing confirmation between two standards which had retention times in control later in the same analytical sequence. The only sample which required analysis before this non-conforming standard was HBLK01, which had no peaks near the herbicide retention times on this column.

(C) Pesticide Analysis

Because of sample matrix interferences, concentrations or detection limits given for each sample on the Form I's may not come from a single run which covers every compound. Attached to this narrative is an Appendix consisting of a table showing the data file numbers for each run used for quantifying the individual target compounds for each sample. In some cases both the primary and secondary column may have contributed to the total list of compounds in a single sample.

The blank spike 11422B1 (PSPK01B1) showed very low recoveries of all the spiked analytes. Upon examination, it was observed that the extract contained both a water and a hexane layer. It is suspected that water leaked into the Kuderna-Danish concentrator tube during concentration, which led to loss of the spiked compounds and surrogates. NCM SL-92-0073 addresses this problem. Samples were not re-extracted because the holding times had expired.

Los Alamos National Laboratories
February 25, 1992
Project Number 281.01

CLIENT ID	ITAS ID	PARAMETER
92.00747	1768-016	Herb
92.00748	1768-017	Herb
92.00749	1768-018	Pest
92.00750	1768-019	Pest

II. Analytical Results/Methodology

USEPA methods published in SW-846 (3rd Edition, Revision 0) were followed in the analysis of these samples. Organochlorine pesticides were analyzed by Method 8080 (no PCB analysis was requested), and Method 8150 was followed to analyze for the chlorinated herbicides 2,4-D, 2,4,5-T, and 2,4,5-TP (silvex). The results are presented in the attached "CLP" package, with modifications made to the pesticide forms to reflect the requirements of the SW 846 method. The herbicide package follows the general requirements for GC Chlorinated Herbicides Final Reports which was provided by LANL. CLP organics conventions have been used in presenting and flagging data.

III. Quality Control

Sample 92.00696 (1768-001) was chosen for matrix spike/matrix spike duplicate analysis. In addition, duplicate Laboratory Control Samples (blank spikes) were prepared and analyzed with the samples, as well as a method blank for each analysis. CLP convention has been followed in presenting the quality control data, and no sample results have been adjusted to reflect QC sample recoveries.

All samples were extracted and analyzed with the required SW-846 holding times.

IV. Nonconformances and Analysis Comments

(A) Sample receipt

An ITAS - St. Louis Laboratory Nonconformance Memo (NCM SL-92-0053) was prepared to document the lack of custody seals on samples 1768-016, 1768-017, 1768-018, and 1768-019.

INTERNATIONAL TECHNOLOGY CORPORATION

CASE NARRATIVE

IT Corporation - Los Alamos
557 Oppenheimer Road
Suite 200
Los Alamos, New Mexico 87545

February 25, 1992

Attention: Dr. Sylvan Hersh

Purchase Order Number: 92-002

This is a case narrative for the following:

Project Number : 281.01
Date Received by Lab: January 27, 1992
Number of Samples : Nineteen (19)
Sample Matrix : Soil

I. Introduction

On January 27, 1992, nineteen soil samples were received at ITAS - St. Louis from PRF TA-40 Scrap Detonation Site at Los Alamos National Laboratory. These samples were batched for analysis into a single Sample Delivery Group. The following is a list of the samples received, along with the ITAS - St. Louis identification numbers and the analyses requested for each sample:

CLIENT ID	ITAS ID	PARAMETER
92.00696	1768-001	Pest/Herb
92.00697	1768-002	Pest/Herb
92.00698	1768-003	Pest/Herb
92.00699	1768-004	Pest/Herb
92.00700	1768-005	Pest/Herb
92.00701	1768-006	Pest/Herb
92.00702	1768-007	Pest/Herb
92.00703	1768-008	Pest/Herb
92.00704	1768-009	Pest/Herb
92.00705	1768-010	Pest/Herb
92.00706	1768-011	Pest/Herb
92.00707	1768-012	Pest/Herb
92.00708	1768-013	Pest/Herb
92.00709	1768-014	Pest/Herb
92.00710	1768-015	Pest/Herb

Herbicides Analyses

MPLE MBER	UNITS	Surrogate 1	Surrogate 2	Surrogate 3	Surrogate 4	Surrogate 5	Surrogate 6	COMPLETION DATE
.00938	%	0.0		0.0		13.93	44.06	24-Feb-1992
.00939	%	0.0		0.0		22.29	29.14	24-Feb-1992
.01029	%	0.0		0.0		43.87	75.4	24-Feb-1992
.01030	%	0.0		0.0	8.24	61.91	85.08	24-Feb-1992
.01030	%	0.0		0.0		19.11	58.36	24-Feb-1992
A Limits:								
Water	%	21 - 100	10 - 94	35 - 114	43 - 116	10 - 123	33 - 141	
Soil	%	25 - 121	24 - 113	23 - 120	30 - 115	19 - 122	18 - 137	

PORT NUMBER: 13138

Analyst	Reviewer	Section Leader	QA Officer
02/24/92	2/24/92	2/26/92	2-26-92
Date	Date	Date	Date

e control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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92.01029	120832	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2,4-Dichlorophenol
92.01029	84662	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Diethyl phthalate
92.01029	131113	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Dimethyl phthalate
92.01029	105679	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2,4-Dimethylphenol
92.01029	51285	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2,4-Dinitrophenol
92.01029	121142	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2,4-Dinitrotoluene
92.01029	606202	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2,6-Dinitrotoluene
92.01029	206440	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Fluoranthene
92.01029	86737	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Fluorene
92.01029	118741	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Hexachlorobenzene
92.01029	87683	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Hexachlorobutadiene
92.01029	77474	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Hexachlorocyclopentadiene
92.01029	67721	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Hexachloroethane
92.01029	193395	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
92.01029	78591	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Isophorone
92.01029	534521	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
92.01029	91576	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2-Methylnaphthalene
92.01029	95487	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2-Methylphenol
92.01029	106445	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	4-Methylphenol
92.01029	91203	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Naphthalene
92.01029	88744	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2-Nitroaniline
92.01029	99092	28.	8.4	UG/L	140.	14.	2/24/92	OUT OF CONTROL	3-Nitroaniline
92.01029	100016	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	4-Nitroaniline
92.01029	98953	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Nitrobenzene
92.01029	88755	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2-Nitrophenol
92.01029	100027	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	4-Nitrophenol
92.01029	621647	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
92.01029	62759	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	N-Nitrosodimethylamine
92.01029	86306	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	N-Nitrosodiphenylamine
92.01029	87865	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Pentachlorophenol
92.01029	85018	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Phenanthrene
92.01029	108952	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Phenol
92.01029	129000	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Pyrene
92.01029	120821	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	1,2,4-Trichlorobenzene
92.01029	95954	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2,4,5-Trichlorophenol
92.01029	88062	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2,4,6-Trichlorophenol

SURROGATE RESULTS FOR EPA SEMIVOLATILES

Surrogate 1 = 2-Fluorophenol (CAS # = 367124)
Surrogate 2 = Phenol-d5 (CAS # = 4165622)
Surrogate 3 = Nitrobenzene-d5 (CAS # = 4165600)
Surrogate 4 = 2-Fluorobiphenyl (CAS # = 321608)
Surrogate 5 = 2,4,6-Tribromophenol (CAS # = 118796)
Surrogate 6 = p-Terphenyl-d14 (CAS # =)

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.01029

Date Collected: 1/29/92 Date Received: 1/29/92 Date Extracted: 1/31/92 Date Analyzed: 2/07/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.01029	83329	< 10.		UG/L	140.	14.	2/24/92	OUT OF CONTROL	Acenaphthene
92.01029	208968	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Acenaphthylene
92.01029	62533	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Aniline
92.01029	120127	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Anthracene
92.01029	103333	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Azobenzene
92.01029	92875	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	m-Benzidine
92.01029	56553	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzo[a]anthracene
92.01029	50328	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzo[a]pyrene
92.01029	205992	66.	19.8	UG/L	130.	13.	2/24/92	WARNING 2-3 SIG	Benzo[b]fluoranthene
92.01029	191242	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzo[g,h,i]perylene
92.01029	207089	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzo[k]fluoranthene
92.01029	65850	12.	3.6	UG/L	140.	14.	2/24/92	OUT OF CONTROL	Benzoic acid
92.01029	100516	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzyl alcohol
92.01029	111911	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
92.01029	111444	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Bis(2-chloroethyl)ether
92.01029	108601	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
92.01029	117817	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
92.01029	101553	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	4-Bromophenylphenyl ether
92.01029	85687	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Butyl benzyl phthalate
92.01029	59507	< 10.		UG/L	130.	13.	2/24/92	OUT OF CONTROL	4-Chloro-3-methylphenol
92.01029	106478	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	4-Chloroaniline
92.01029	91587	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2-Chloronaphthalene
92.01029	95578	< 10.		UG/L	140.	14.	2/24/92	OUT OF CONTROL	o-Chlorophenol
92.01029	7005723	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	4-Chlorophenylphenyl ether
92.01029	218019	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Chrysene
92.01029	84742	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Di-n-butyl phthalate
92.01029	117840	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Di-n-octyl phthalate
92.01029	53703	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Dibenzo[a,h]anthracene
92.01029	132649	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Dibenzofuran
92.01029	95501	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
92.01029	541731	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
92.01029	106467	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
92.01029	91941	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	3,3'-Dichlorobenzidine

00.20226	92.01030	120832	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2,4-Dichlorophenol
00.20226	92.01030	84662	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Diethyl phthalate
00.20226	92.01030	131113	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Dimethyl phthalate
00.20226	92.01030	105679	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2,4-Dimethylphenol
00.20226	92.01030	51285	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2,4-Dinitrophenol
00.20226	92.01030	121142	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2,4-Dinitrotoluene
00.20226	92.01030	606202	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2,6-Dinitrotoluene
00.20226	92.01030	206440	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Fluoranthene
00.20226	92.01030	86737	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Fluorene
00.20226	92.01030	118741	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Hexachlorobenzene
00.20226	92.01030	87683	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Hexachlorobutadiene
00.20226	92.01030	77474	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Hexachlorocyclopentadiene
00.20226	92.01030	67721	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Hexachloroethane
00.20226	92.01030	193395	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
00.20226	92.01030	78591	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Isophorone
00.20226	92.01030	534521	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
00.20226	92.01030	91576	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2-Methylnaphthalene
00.20226	92.01030	95487	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2-Methylphenol
00.20226	92.01030	106445	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	4-Methylphenol
00.20226	92.01030	91203	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Naphthalene
00.20226	92.01030	88744	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2-Nitroaniline
00.20226	92.01030	99092	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	3-Nitroaniline
00.20226	92.01030	100016	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	4-Nitroaniline
00.20226	92.01030	98953	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Nitrobenzene
00.20226	92.01030	88755	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2-Nitrophenol
00.20226	92.01030	100027	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	4-Nitrophenol
00.20226	92.01030	621647	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
00.20226	92.01030	62759	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	N-Nitrosodimethylamine
00.20226	92.01030	86306	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	N-Nitrosodiphenylamine
00.20226	92.01030	87865	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Pentachlorophenol
00.20226	92.01030	85018	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Phenanthrene
00.20226	92.01030	108952	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Phenol
00.20226	92.01030	129000	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	Pyrene
00.20226	92.01030	120821	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	1,2,4-Trichlorobenzene
00.20226	92.01030	95954	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2,4,5-Trichlorophenol
00.20226	92.01030	88062	< 10.	UG/L	0.0	2/24/92	UNDER CONTROL	2,4,6-Trichlorophenol

Blank Spike Results

none

Blank Spike Duplicate Results

none

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUN
00.20226	92.01030	83329	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Acenaphthene
00.20226	92.01030	208968	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Acenaphthylene
00.20226	92.01030	62533	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Aniline
00.20226	92.01030	120127	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Anthracene
00.20226	92.01030	103333	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Azobenzene
00.20226	92.01030	92875	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	m-Benzidine
00.20226	92.01030	56553	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzo[a]anthracene
00.20226	92.01030	50328	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzo[a]pyrene
00.20226	92.01030	205992	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzo[b]fluoranthene
00.20226	92.01030	191242	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzo[g,h,i]perylene
00.20226	92.01030	207089	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzo[k]fluoranthene
00.20226	92.01030	65850	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzoic acid
00.20226	92.01030	100516	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Benzyl alcohol
00.20226	92.01030	111911	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
00.20226	92.01030	111444	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Bis(2-chloroethyl)ether
00.20226	92.01030	108601	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
00.20226	92.01030	117817	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
00.20226	92.01030	101553	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	4-Bromophenylphenyl ether
00.20226	92.01030	85687	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Butyl benzyl phthalate
00.20226	92.01030	59507	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	4-Chloro-3-methylphenol
00.20226	92.01030	106478	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	4-Chloroaniline
00.20226	92.01030	91587	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	2-Chloronaphthalene
00.20226	92.01030	95578	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	o-Chlorophenol
00.20226	92.01030	7005723	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	4-Chlorophenylphenyl ether
00.20226	92.01030	218019	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Chrysene
00.20226	92.01030	84742	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Di-n-butyl phthalate
00.20226	92.01030	117840	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Di-n-octyl phthalate
00.20226	92.01030	53703	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Dibenzo[a,h]anthracene
00.20226	92.01030	132649	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	Dibenzofuran
00.20226	92.01030	95501	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20226	92.010[illegible]	541731	< 10.		UG/L	0.[illegible]		2/24/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20226	92.010	106467	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20226	92.01030	91941	< 10.		UG/L	0.0		2/24/92	UNDER CONTROL	3,3'-Dichlorobenzidine

REPORT NUMBER: 13138 (continued)

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: LAT on 24-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12456 MATRIX: W ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: 7720 PAGE: 175

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

PF-40-DEB	92.00939	120821	< 11.	UG/L	2/24/92	1,2,4-Trichlorobenzene
PF-40-DEB	92.00939	95954	< 11.	UG/L	2/24/92	2,4,5-Trichlorophenol
PF-40-DEB	92.00939	88062	< 11.	UG/L	2/24/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00939

none

Customer Sample Duplicate Results for Sample # 92.00939

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00939

none

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PF-40-DEB	92.00939	91587	< 11.	UG/L	2/24/92	2-Chloronaphthalene
PF-40-DEB	92.00939	95578	< 11.	UG/L	2/24/92	o-Chlorophenol
PF-40-DEB	92.00939	7005723	< 11.	UG/L	2/24/92	4-Chlorophenylphenyl ether
PF-40-DEB	92.00939	218019	< 11.	UG/L	2/24/92	Chrysene
PF-40-DEB	92.00939	84742	< 11.	UG/L	2/24/92	Di-n-butyl phthalate
PF-40-DEB	92.00939	117840	< 11.	UG/L	2/24/92	Di-n-octyl phthalate
PF-40-DEB	92.00939	53703	< 11.	UG/L	2/24/92	Dibenzo[a,h]anthracene
PF-40-DEB	92.00939	132649	< 11.	UG/L	2/24/92	Dibenzofuran
PF-40-DEB	92.00939	95501	< 11.	UG/L	2/24/92	o-Dichlorobenzene (1,2)
PF-40-DEB	92.00939	541731	< 11.	UG/L	2/24/92	m-Dichlorobenzene (1,3)
PF-40-DEB	92.00939	106467	< 11.	UG/L	2/24/92	p-Dichlorobenzene (1,4)
PF-40-DEB	92.00939	91941	< 11.	UG/L	2/24/92	3,3'-Dichlorobenzidine
PF-40-DEB	92.00939	120832	< 11.	UG/L	2/24/92	2,4-Dichlorophenol
PF-40-DEB	92.00939	84662	< 11.	UG/L	2/24/92	Diethyl phthalate
PF-40-DEB	92.00939	131113	< 11.	UG/L	2/24/92	Dimethyl phthalate
PF-40-DEB	92.00939	105679	< 11.	UG/L	2/24/92	2,4-Dimethylphenol
PF-40-DEB	92.00939	51285	< 11.	UG/L	2/24/92	2,4-Dinitrophenol
PF-40-DEB	92.00939	121142	< 11.	UG/L	2/24/92	2,4-Dinitrotoluene
PF-40-DEB	92.00939	606202	< 11.	UG/L	2/24/92	2,6-Dinitrotoluene
PF-40-DEB	92.00939	206440	< 11.	UG/L	2/24/92	Fluoranthene
PF-40-DEB	92.00939	86737	< 11.	UG/L	2/24/92	Fluorene
PF-40-DEB	92.00939	118741	< 11.	UG/L	2/24/92	Hexachlorobenzene
PF-40-DEB	92.00939	87683	< 11.	UG/L	2/24/92	Hexachlorobutadiene
PF-40-DEB	92.00939	77474	< 11.	UG/L	2/24/92	Hexachlorocyclopentadiene
PF-40-DEB	92.00939	67721	< 11.	UG/L	2/24/92	Hexachloroethane
PF-40-DEB	92.00939	193395	< 11.	UG/L	2/24/92	Indeno[1,2,3-cd]pyrene
PF-40-DEB	92.00939	78591	< 11.	UG/L	2/24/92	Isophorone
PF-40-DEB	92.00939	534521	< 11.	UG/L	2/24/92	2-Methyl-4,6-dinitrophenol
PF-40-DEB	92.00939	91576	< 11.	UG/L	2/24/92	2-Methylnaphthalene
PF-40-DEB	92.00939	95487	< 11.	UG/L	2/24/92	2-Methylphenol
PF-40-DEB	92.00939	106445	< 11.	UG/L	2/24/92	4-Methylphenol
PF-40-DEB	92.00939	91203	< 11.	UG/L	2/24/92	Naphthalene
PF-40-DEB	92.00939	88744	< 11.	UG/L	2/24/92	2-Nitroaniline
PF-40-DEB	92.00939	99092	< 11.	UG/L	2/24/92	3-Nitroaniline
PF-40-DEB	92.00939	100016	< 11.	UG/L	2/24/92	4-Nitroaniline
PF-40-DEB	92.00939	98953	< 11.	UG/L	2/24/92	Nitrobenzene
PF-40-DEB	92.00939	88755	< 11.	UG/L	2/24/92	2-Nitrophenol
PF-40-DEB	92.00939	100027	< 11.	UG/L	2/24/92	4-Nitrophenol
PF-40-DEB	92.00939	621647	< 11.	UG/L	2/24/92	N-Nitrosodi-n-propylamine
PF-40-DEB	92.00939	62759	< 11.	UG/L	2/24/92	N-Nitrosodimethylamine
PF-40-DEB	92.00939	86306	< 11.	UG/L	2/24/92	N-Nitrosodiphenylamine
PF-40-DEB	92.00939	87865	< 11.	UG/L	2/24/92	Pentachlorophenol
PF-40-DEB	92.00939	85018	< 11.	UG/L	2/24/92	Phenanthrene
PF-40-DEB	92.00939	108952	< 11.	UG/L	2/24/92	Phenol
PF-40-DEB	92.00939	129000	< 11.	UG/L	2/24/92	Pyrene

REPORT NUMBER: 13138

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 24-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12456 MATRIX: W ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: 7720 PAGE: 175

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00939

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/31/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DEB	92.00939	83329	< 11.		UG/L	2/24/92		Acenaphthene
PF-40-DEB	92.00939	208968	< 11.		UG/L	2/24/92		Acenaphthylene
PF-40-DEB	92.00939	62533	< 11.		UG/L	2/24/92		Aniline
PF-40-DEB	92.00939	120127	< 11.		UG/L	2/24/92		Anthracene
PF-40-DEB	92.00939	103333	< 11.		UG/L	2/24/92		Azobenzene
PF-40-DEB	92.00939	92875	< 11.		UG/L	2/24/92		m-Benzidine
PF-40-DEB	92.00939	56553	< 11.		UG/L	2/24/92		Benzo[a]anthracene
PF-40-DEB	92.00939	50328	< 11.		UG/L	2/24/92		Benzo[a]pyrene
PF-40-DEB	92.00939	205992	< 11.		UG/L	2/24/92		Benzo[b]fluoranthene
PF-40-DEB	92.00939	191242	< 11.		UG/L	2/24/92		Benzo[g,h,i]perylene
PF-40-DEB	92.00939	207089	< 11.		UG/L	2/24/92		Benzo[k]fluoranthene
PF-40-DEB	92.00939	65850	< 11.		UG/L	2/24/92		Benzoic acid
PF-40-DEB	92.00939	100516	< 11.		UG/L	2/24/92		Benzyl alcohol
PF-40-DEB	92.00939	111911	< 11.		UG/L	2/24/92		Bis(2-chloroethoxy)methane
PF-40-DEB	92.00939	111444	< 11.		UG/L	2/24/92		Bis(2-chloroethyl)ether
PF-40-DEB	92.00939	108601	< 11.		UG/L	2/24/92		Bis(2-chloroisopropyl)ether
PF-40-DEB	92.00939	117817	< 11.		UG/L	2/24/92		Bis(2-ethylhexyl)phthalate
PF-40-DEB	92.00939	101553	< 11.		UG/L	2/24/92		4-Bromophenylphenyl ether
PF-40-DEB	92.00939	85687	< 11.		UG/L	2/24/92		Butyl benzyl phthalate
PF-40-DEB	92 9	59507	< 11.		UG/L	2/24/		4-Chloro-3-methylphenol
PF-40-DEB	92. 9	106478	< 11.		UG/L	2/24/92		4-Chloroaniline

PF-40-EW	92.00938	120821	< 10.	UG/L	2/24/92	1,2,4-Trichlorobenzene
PF-40-EW	92.00938	95954	< 10.	UG/L	2/24/92	2,4,5-Trichlorophenol
PF-40-EW	92.00938	88062	< 10.	UG/L	2/24/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00938

none

Customer Sample Duplicate Results for Sample # 92.00938

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00938

none

PF-40-EW	92.00938	91587	< 10.	UG/L	2/24/92	2-Chloronaphthalene
PF-40-EW	92.00938	95578	< 10.	UG/L	2/24/92	o-Chlorophenol
PF-40-EW	92.00938	7005723	< 10.	UG/L	2/24/92	4-Chlorophenylphenyl ether
PF-40-EW	92.00938	218019	< 10.	UG/L	2/24/92	Chrysene
PF-40-EW	92.00938	84742	< 10.	UG/L	2/24/92	Di-n-butyl phthalate
PF-40-EW	92.00938	117840	< 10.	UG/L	2/24/92	Di-n-octyl phthalate
PF-40-EW	92.00938	53703	< 10.	UG/L	2/24/92	Dibenzo[a,h]anthracene
PF-40-EW	92.00938	132649	< 10.	UG/L	2/24/92	Dibenzofuran
PF-40-EW	92.00938	95501	< 10.	UG/L	2/24/92	o-Dichlorobenzene (1,2)
PF-40-EW	92.00938	541731	< 10.	UG/L	2/24/92	m-Dichlorobenzene (1,3)
PF-40-EW	92.00938	106467	< 10.	UG/L	2/24/92	p-Dichlorobenzene (1,4)
PF-40-EW	92.00938	91941	< 10.	UG/L	2/24/92	3,3'-Dichlorobenzidine
PF-40-EW	92.00938	120832	< 10.	UG/L	2/24/92	2,4-Dichlorophenol
PF-40-EW	92.00938	84662	< 10.	UG/L	2/24/92	Diethyl phthalate
PF-40-EW	92.00938	131113	< 10.	UG/L	2/24/92	Dimethyl phthalate
PF-40-EW	92.00938	105679	< 10.	UG/L	2/24/92	2,4-Dimethylphenol
PF-40-EW	92.00938	51285	< 10.	UG/L	2/24/92	2,4-Dinitrophenol
PF-40-EW	92.00938	121142	< 10.	UG/L	2/24/92	2,4-Dinitrotoluene
PF-40-EW	92.00938	606202	< 10.	UG/L	2/24/92	2,6-Dinitrotoluene
PF-40-EW	92.00938	206440	< 10.	UG/L	2/24/92	Fluoranthene
PF-40-EW	92.00938	86737	< 10.	UG/L	2/24/92	Fluorene
PF-40-EW	92.00938	118741	< 10.	UG/L	2/24/92	Hexachlorobenzene
PF-40-EW	92.00938	87683	< 10.	UG/L	2/24/92	Hexachlorobutadiene
PF-40-EW	92.00938	77474	< 10.	UG/L	2/24/92	Hexachlorocyclopentadiene
PF-40-EW	92.00938	67721	< 10.	UG/L	2/24/92	Hexachloroethane
PF-40-EW	92.00938	193395	< 10.	UG/L	2/24/92	Indeno[1,2,3-cd]pyrene
PF-40-EW	92.00938	78591	< 10.	UG/L	2/24/92	Isophorone
PF-40-EW	92.00938	534521	< 10.	UG/L	2/24/92	2-Methyl-4,6-dinitrophenol
PF-40-EW	92.00938	91576	< 10.	UG/L	2/24/92	2-Methylnaphthalene
PF-40-EW	92.00938	95487	< 10.	UG/L	2/24/92	2-Methylphenol
PF-40-EW	92.00938	106445	< 10.	UG/L	2/24/92	4-Methylphenol
PF-40-EW	92.00938	91203	< 10.	UG/L	2/24/92	Naphthalene
PF-40-EW	92.00938	88744	< 10.	UG/L	2/24/92	2-Nitroaniline
PF-40-EW	92.00938	99092	< 10.	UG/L	2/24/92	3-Nitroaniline
PF-40-EW	92.00938	100016	< 10.	UG/L	2/24/92	4-Nitroaniline
PF-40-EW	92.00938	98953	< 10.	UG/L	2/24/92	Nitrobenzene
PF-40-EW	92.00938	88755	< 10.	UG/L	2/24/92	2-Nitrophenol
PF-40-EW	92.00938	100027	< 10.	UG/L	2/24/92	4-Nitrophenol
PF-40-EW	92.00938	621647	< 10.	UG/L	2/24/92	N-Nitrosodi-n-propylamine
PF-40-EW	92.00938	62759	< 10.	UG/L	2/24/92	N-Nitrosodimethylamine
PF-40-EW	92.00938	86306	< 10.	UG/L	2/24/92	N-Nitrosodiphenylamine
PF-40-EW	92.00938	87865	< 10.	UG/L	2/24/92	Pentachlorophenol
PF-40-EW	92.00938	85018	< 10.	UG/L	2/24/9[illegible]	Phenanthrene
PF-40-EW	92.[illegible]	108952	< 10.	UG/L	2/24/9[illegible]	Phenol
PF-40-EW	92.00938	129000	< 10.	UG/L	2/24/92	Pyrene

REPORT NUMBER: 13138

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 24-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12456 MATRIX: W ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: 7720 PAGE: 175

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00938

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/31/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EW	92.00938	83329	< 10.		UG/L	2/24/92		Acenaphthene
PF-40-EW	92.00938	208968	< 10.		UG/L	2/24/92		Acenaphthylene
PF-40-EW	92.00938	62533	< 10.		UG/L	2/24/92		Aniline
PF-40-EW	92.00938	120127	< 10.		UG/L	2/24/92		Anthracene
PF-40-EW	92.00938	103333	< 10.		UG/L	2/24/92		Azobenzene
PF-40-EW	92.00938	92875	< 10.		UG/L	2/24/92		m-Benzidine
PF-40-EW	92.00938	56553	< 10.		UG/L	2/24/92		Benzo[a]anthracene
PF-40-EW	92.00938	50328	< 10.		UG/L	2/24/92		Benzo[a]pyrene
PF-40-EW	92.00938	205992	< 10.		UG/L	2/24/92		Benzo[b]fluoranthene
PF-40-EW	92.00938	191242	< 10.		UG/L	2/24/92		Benzo[g,h,i]perylene
PF-40-EW	92.00938	207089	< 10.		UG/L	2/24/92		Benzo[k]fluoranthene
PF-40-EW	92.00938	65850	< 10.		UG/L	2/24/92		Benzoic acid
PF-40-EW	92.00938	100516	< 10.		UG/L	2/24/92		Benzyl alcohol
PF-40-EW	92.00938	111911	< 10.		UG/L	2/24/92		Bis(2-chloroethoxy)methane
PF-40-EW	92.00938	111444	< 10.		UG/L	2/24/92		Bis(2-chloroethyl)ether
PF-40-EW	92.00938	108601	< 10.		UG/L	2/24/92		Bis(2-chloroisopropyl)ether
PF-40-EW	92.00938	117817	< 10.		UG/L	2/24/92		Bis(2-ethylhexyl)phthalate
PF-40-EW	92.00938	101553	< 10.		UG/L	2/24/92		4-Bromophenylphenyl ether
PF-40-EW	92.00938	85687	< 10.		UG/L	2/24/92		Butyl benzyl phthalate
PF-40-EW	92.00938	59507	< 10.		UG/L	2/24/92		4-Chloro-3-methylphenol
PF-40-EW	92.00938	106478	< 10.		UG/L	2/24/92		4-Chloroaniline

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
MATRIX SPIKE RECOVERIES FOR SEMI-VOLATILES

		DRY WT/VOL (G or L)		AMOUNT SPIKED (50 OR 100 ug/ml) IN UG/KG or UG/L ACIDS	BASES	LOQ (UG/KG)
REQUEST #:	12456					
NUMBER OF SAMPLES:	5					
SPIKE ID: (STARTS M OR E)	M92.01030	SPIKE	1	100	50	10
SPIKE DUP ID: (STARTS D OR F)		SPIKE-DUP		ERR	ERR	
RAW DATA WITH:	12456					
ANALYST:	AJL					

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW. REC. LIM.	UPP. REC. LIM.	RPD LIM.
PHENOL	<LOQ	<LOQ	0%*		ERR **	12	89	42
E-CHLOROPHENOL	<LOQ	<LOQ	0%*		ERR **	27	123	40
..CHLOROBENZENE	<LOQ	<LOQ	0%*		ERR **	36	97	28
-NITROSO-DI-N-PROPYLAMINE	<LOQ	<LOQ	0%*		ERR **	41	116	38
,2,4-TRICLOROBENZENE	<LOQ	<LOQ	0%*		ERR **	39	98	28
-CHLORO-3-METHYLPHENOL	20	<LOQ	20%*		200%*	23	97	42
CENAPHTHENE	<LOQ	<LOQ	0%*		ERR **	46	118	31
-NITROPHENOL	40	<LOQ	40%		200%*	10	80	50
,4-DINITROTOLUENE	21	<LOQ	42%		200%*	24	96	38
ENTACHLOROPHENOL	60	<LOQ	60%		200%*	9	103	50
YRENE	31	<LOQ	62%		200%*	26	127	31

" If % Matrix Recovery is Followed by a "", it is out of QC Limits.

e d By:

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR SEMI-VOLATILES
IN WATER

REQUEST #: 12456

NUMBER OF SAMPLES: 5
MATRIX W
ANALYST: AJL
Date: 01/15/92

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	2-FLUORO-PHENOL	PHENOL (D6)	NITRO-BENZENE (D5)	2-FLUORO-BIPHENYL	2,4,6-TRIBROMO-PHENOL	TERPHENYL (D14)
1	B92.01030	BLANK	0 *	0 *	0 *	0 *	19	58
2	M92.01030	MATRIX SPIK	0 *	0 *	0 *	3 *	62	85
3	S92.00938	SAMPLE	0 *	0 *	0 *	0 *	14	44
4	S92.00939	SAMPLE	0 *	0 *	0 *	0 *	22	39 *
5	S92.01029	SAMPLE	0 *	0 *	0 *	0 *	44	75
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Average % Surrogate Recovery...	0	0	0	2	32	58
Defined Lower QC Limits (%)....	21	10	35	43	10	33
Defined Upper QC Limits (%)....	100	94	114	116	123	141
Observed Lower QC Limits (%)...	0	0	0	0	14	29
Observed Upper QC Limits (%)...	0	0	0	8	62	85

"*" If % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By:

HSE-9 SEMIVOLATILE ORGANIC ANALYSIS
SUMMARY OF ANALYTICAL RESULTS

To: Phil Fresquez
From: Anthony Lombardo

Request Number: 12456
Matrix: Water
Summary Date: 02/21/1992

Sample ID	Target Compounds Found	Amount (ug/L)	LOQ (ug/L)	TICs (Y/N)
92.00938	NONE	<10.0	10.0	N
92.00939	NONE	<10.0	10.0	N
Reagent Blank	NONE	<10.0	10.0	N

Sample preparation was performed by extracting approximately 1.0 L of sample, in duplicate, with 250 ml methylene chloride for 18 hours per acid and base/neutral fractions in continuous liquid/liquid extractors. Appropriate surrogate standards were added prior to extraction as a check of method efficiency. Initial extracts were solvent exchanged to hexane (see below) prior to concentration to a final volume of 1.0 ml by Kuderna-Danish and nitrogen evaporation techniques. Analysis was performed by capillary column GC/MS methods. Except for the solvent exchange, the methods were consistent with EPA SW-846 protocol.

No hazardous substance list (HSL) target analytes or non target compounds were detected above the limit of quantitation in either the blank or samples.

Samples were to be analyzed for both PCBs and semi-volatile compounds. For each sample, an aliquot of the extract was to be solvent exchanged to hexane for the PCB analysis, however, the entire extract was solvent exchanged by mistake. Since only one (1) liter bottle was sampled, the extraction process could not be repeated. After discussions with the client, it was decided to report the results for these extracts.

In all analyses, surrogate recoveries were low or zero. Matrix spike recoveries were also low. Extract for the matrix spike duplicate was lost when the vessel containing the extract broke during concentrating.

All analytical holding times were satisfied regarding this request. If you have any questions concerning this data, please do not hesitate to call either myself or Laura Tsiagkouris at 667-5889.

Surrogate 1 = 2-Fluorophenol (CAS # = 367124)
Surrogate 2 = Phenol-d5 (CAS # = 4165622)
Surrogate 3 = Nitrobenzene-d5 (CAS # = 4165600)
Surrogate 4 = 2-Fluorobiphenyl (CAS # = 321608)
Surrogate 5 = 2,4,6-Tribromophenol (CAS # = 118796)
Surrogate 6 = p-Terphenyl-d14 (CAS # =)

SAMPLE NUMBER	UNITS	Surrogate 1	Surrogate 2	Surrogate 3	Surrogate 4	Surrogate 5	Surrogate 6	COMPLETION DATE
92.00708	%	38.97	41.07	57.42	72.3	77.71	118.3	21-Feb-1992
92.00708	%	49.84	48.78	67.76	82.2	79.18	106.88	21-Feb-1992
92.00745	%	51.66	50.09	70.34	84.7	78.07	117.62	14-Feb-1992
92.00751	%	52.89	50.94	70.46	84.84	66.69	83.98	14-Feb-1992
92.00913	%	43.88	46.53	58.72	68.66	69.8	89.18	21-Feb-1992
92.00914	%	33.13	39.25	46.84	68.94	64.59	92.1	21-Feb-1992
92.00915	%	40.26	43.37	54.58	69.76	67.22	88.14	21-Feb-1992
92.00916	%	30.63	38.16	50.76	74.32	69.85	91.6	21-Feb-1992
92.00917	%	41.49	42.93	55.88	69.76	70.32	92.78	21-Feb-1992
92.00918	%	0.0		0.0		0.0		21-Feb-1992
92.00919	%	37.6	41.57	50.18	67.86	80.27	95.94	21-Feb-1992
92.00920	%	34.79	38.72	48.62	69.4	87.29	85.96	21-Feb-1992
92.00921	%	39.64	43.13	54.4	73.72	86.03	84.7	21-Feb-1992
92.00967	%	43.96	44.24	58.4	73.22	73.46	118.06	21-Feb-1992
92.00968	%	36.8	30.73	52.78	65.96	70.24	114.62	21-Feb-1992
EPA Limits:								
Water	%	21 - 100	10 - 94	35 - 114	43 - 116	10 - 123	33 - 141	
Soil	%	25 - 121	24 - 113	23 - 120	30 - 115	19 - 122	18 - 137	

REPORT NUMBER: 13096

Analyst	Reviewer	Section Leader	QA Officer
02/21/92	2/21/92	2/26/92	2-26-92
Date	Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical c eria set forth in 'Qualit urance for Health and Environmental Chemistry: 1986,' LA-11114-MS, 3-4.

92.00967	117840	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Di-n-octyl phthalate
92.00967	53703	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Dibenzo[a,h]anthracene
92.00967	132649	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Dibenzofuran
92.00967	95501	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
92.00967	541731	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
92.00967	106467	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
92.00967	91941	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	3,3'-Dichlorobenzidine
92.00967	120832	0.64	0.192	MG/KG	1.1	0.1	2/21/92	WARNING 2-3 SIG	2,4-Dichlorophenol
92.00967	84662	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Diethyl phthalate
92.00967	131113	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Dimethyl phthalate
92.00967	105679	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2,4-Dimethylphenol
92.00967	51285	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2,4-Dinitrophenol
92.00967	121142	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2,4-Dinitrotoluene
92.00967	606202	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2,6-Dinitrotoluene
92.00967	206440	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Fluoranthene
92.00967	86737	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Fluorene
92.00967	118741	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Hexachlorobenzene
92.00967	87683	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Hexachlorobutadiene
92.00967	77474	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Hexachlorocyclopentadiene
92.00967	67721	0.37	0.111	MG/KG	1.	0.1	2/21/92	OUT OF CONTROL	Hexachloroethane
92.00967	193395	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
92.00967	78591	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Isophorone
92.00967	534521	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
92.00967	91576	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2-Methylnaphthalene
92.00967	95487	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2-Methylphenol
92.00967	106445	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	4-Methylphenol
92.00967	91203	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Naphthalene
92.00967	88744	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2-Nitroaniline
92.00967	99092	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	3-Nitroaniline
92.00967	100016	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	4-Nitroaniline
92.00967	98953	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Nitrobenzene
92.00967	88755	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2-Nitrophenol
92.00967	100027	0.62	0.186	MG/KG	1.1	0.1	2/21/92	WARNING 2-3 SIG	4-Nitrophenol
92.00967	621647	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
92.00967	62759	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	N-Nitrosodimethylamine
92.00967	86306	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	N-Nitrosodiphenylamine
92.00967	87865	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Pentachlorophenol
92.00967	85018	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Phenanthrene
92.00967	108952	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Phenol
92.00967	129000	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Pyrene
92.00967	120821	0.61	0.183	MG/KG	1.	0.1	2/21/92	UNDER CONTROL	1,2,4-Trichlorobenzene
92.00967	95954	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2,4,5-Trichlorophenol
92.00967	88062	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	2,4,6-Trichlorophenol

SURROGATE RESULTS FOR EPA SEMIVOLATILES

92.00751	99092	< 0.33		MG/KG	2.2	0.2	2/14/92	OUT OF CONTROL	3-Nitroaniline
92.00751	100016	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Nitroaniline
92.00751	98953	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Nitrobenzene
92.00751	88755	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Nitrophenol
92.00751	100027	3.4	1.02	MG/KG	6.	0.6	2/14/92	WARNING 2-3 SIG	4-Nitrophenol
92.00751	621647	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
92.00751	62759	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodimethylamine
92.00751	86306	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodiphenylamine
92.00751	87865	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Pentachlorophenol
92.00751	85018	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Phenanthrene
92.00751	108952	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Phenol
92.00751	129000	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Pyrene
92.00751	120821	3.1	0.93	MG/KG	5.9	0.6	2/14/92	WARNING 2-3 SIG	1,2,4-Trichlorobenzene
92.00751	95954	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4,5-Trichlorophenol
92.00751	88062	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4,6-Trichlorophenol

Blind QC Results, Sample # 92.00967

Date Collected: 1/27/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/05/92

92.00967	83329	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Acenaphthene
92.00967	208968	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Acenaphthylene
92.00967	62533	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Aniline
92.00967	120127	0.81	0.243	MG/KG	0.95	0.1	2/21/92	UNDER CONTROL	Anthracene
92.00967	103333	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Azobenzene
92.00967	92875	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	m-Benzidine
92.00967	56553	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Benzo[a]anthracene
92.00967	50328	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Benzo[a]pyrene
92.00967	205992	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Benzo[b]fluoranthene
92.00967	191242	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Benzo[g,h,i]perylene
92.00967	207089	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Benzo[k]fluoranthene
92.00967	65850	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Benzoic acid
92.00967	100516	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Benzyl alcohol
92.00967	111911	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
92.00967	111444	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Bis(2-chloroethyl)ether
92.00967	108601	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
92.00967	117817	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
92.00967	101553	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	4-Bromophenylphenyl ether
92.00967	85687	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Butyl benzyl phthalate
92.00967	59507	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	4-Chloro-3-methylphenol
92.00967	106478	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	4-Chloroaniline
92.00967	91587	0.56	0.168	MG/KG	0.99	0.1	2/21/92	WARNING 2-3 SIG	2-Chloronaphthalene
92.00967	95578	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	o-Chlorophenol
92.00967	7005723	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	4-Chlorophenylphenyl ether
92.00967	218019	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Chrysene
92.00967	84742	< 0.33		MG/KG	0.0		2/21/92	UNDER CONTROL	Di-n-butyl phthalate

92.00751	191242	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[g,h,i]perylene
92.00751	207089	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[k]fluoranthene
92.00751	65850	< 0.33		MG/KG	2.1	0.2	2/14/92	OUT OF CONTROL	Benzoic acid
92.00751	100516	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzyl alcohol
92.00751	111911	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
92.00751	111444	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroethyl)ether
92.00751	108601	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
92.00751	117817	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
92.00751	101553	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Bromophenylphenyl ether
92.00751	85687	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Butyl benzyl phthalate
92.00751	59507	1.2	0.36	MG/KG	2.	0.2	2/14/92	UNDER CONTROL	4-Chloro-3-methylphenol
92.00751	106478	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Chloroaniline
92.00751	91587	3.	0.9	MG/KG	5.6	0.6	2/14/92	WARNING 2-3 SIG	2-Chloronaphthalene
92.00751	95578	1.2	0.36	MG/KG	2.2	0.2	2/14/92	WARNING 2-3 SIG	o-Chlorophenol
92.00751	7005723	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Chlorophenylphenyl ether
92.00751	218019	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Chrysene
92.00751	84742	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Di-n-butyl phthalate
92.00751	117840	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Di-n-octyl phthalate
92.00751	53703	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dibenzo[a,h]anthracene
92.00751	132649	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dibenzofuran
92.00751	95501	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
92.00751	541731	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
92.00751	106467	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
92.00751	91941	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	3,3'-Dichlorobenzidine
92.00751	120832	2.9	0.87	MG/KG	6.	0.6	2/14/92	WARNING 2-3 SIG	2,4-Dichlorophenol
92.00751	84662	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Diethyl phthalate
92.00751	131113	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dimethyl phthalate
92.00751	105679	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dimethylphenol
92.00751	51285	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dinitrophenol
92.00751	121142	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dinitrotoluene
92.00751	606202	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,6-Dinitrotoluene
92.00751	206440	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Fluoranthene
92.00751	86737	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Fluorene
92.00751	118741	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorobenzene
92.00751	87683	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorobutadiene
92.00751	77474	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorocyclopentadiene
92.00751	67721	1.7	0.51	MG/KG	5.7	0.6	2/14/92	OUT OF CONTROL	Hexachloroethane
92.00751	193395	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
92.00751	78591	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Isophorone
92.00751	534521	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
92.00751	91576	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methylnaphthalene
92.00751	95487	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methylphenol
92.00751	106445	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Methylphenol
92.00751	91203	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Naphthalene
92.00751	88744	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Nitroaniline

92.00745	131113	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dimethyl phthalate
92.00745	105679	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dimethylphenol
92.00745	51285	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dinitrophenol
92.00745	121142	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dinitrotoluene
92.00745	606202	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,6-Dinitrotoluene
92.00745	206440	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Fluoranthene
92.00745	86737	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Fluorene
92.00745	118741	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorobenzene
92.00745	87683	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorobutadiene
92.00745	77474	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorocyclopentadiene
92.00745	67721	1.3	0.39	MG/KG	3.3	0.3	2/14/92	OUT OF CONTROL	Hexachloroethane
92.00745	193395	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
92.00745	78591	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Isophorone
92.00745	534521	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
92.00745	91576	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methylnaphthalene
92.00745	95487	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methylphenol
92.00745	106445	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Methylphenol
92.00745	91203	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Naphthalene
92.00745	88744	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Nitroaniline
92.00745	99092	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	3-Nitroaniline
92.00745	100016	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Nitroaniline
92.00745	98953	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Nitrobenzene
92.00745	88755	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Nitrophenol
92.00745	100027	2.1	0.63	MG/KG	3.5	0.4	2/14/92	UNDER CONTROL	4-Nitrophenol
92.00745	621647	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
92.00745	62759	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodimethylamine
92.00745	86306	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodiphenylamine
92.00745	87865	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Pentachlorophenol
92.00745	85018	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Phenanthrene
92.00745	108952	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Phenol
92.00745	129000	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Pyrene
92.00745	120821	2.1	0.63	MG/KG	3.4	0.3	2/14/92	UNDER CONTROL	1,2,4-Trichlorobenzene
92.00745	95954	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4,5-Trichlorophenol
92.00745	88062	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4,6-Trichlorophenol

Blind QC Results, Sample # 92.00751

92.00751	83329	1.4	0.42	MG/KG	2.2	0.2	2/14/92	UNDER CONTROL	Acenaphthene
92.00751	208968	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Acenaphthylene
92.00751	62533	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Aniline
92.00751	120127	3.5	1.05	MG/KG	5.4	0.5	2/14/92	UNDER CONTROL	Anthracene
92.00751	103333	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Azobenzene
92.00751	92875	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	m-Benzidine
92.00751	56553	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[a]anthracene
92.00751	503[illegible]	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[a]pyrene
92.00751	205[illegible]	1.5	0.45	MG/KG	2.1	0.2	2/14/92	UNDER CONTROL	Benzo[b]fluoranthene

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.00745

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.00745	83329	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Acenaphthene
92.00745	208968	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Acenaphthylene
92.00745	62533	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Aniline
92.00745	120127	2.6	0.78	MG/KG	3.2	0.3	2/14/92	UNDER CONTROL	Anthracene
92.00745	103333	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Azobenzene
92.00745	92875	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	m-Benzidine
92.00745	56553	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[a]anthracene
92.00745	50328	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[a]pyrene
92.00745	205992	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[b]fluoranthene
92.00745	191242	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[g,h,i]perylene
92.00745	207089	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[k]fluoranthene
92.00745	65850	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzoic acid
92.00745	100516	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzyl alcohol
92.00745	111911	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
92.00745	111444	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroethyl)ether
92.00745	108601	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
92.00745	117817	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
92.00745	101553	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Bromophenylphenyl ether
92.00745	85687	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Butyl benzyl phthalate
92.00745	59507	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Chloro-3-methylphenol
92.00745	106478	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Chloroaniline
92.00745	91587	1.9	0.57	MG/KG	3.3	0.3	2/14/92	WARNING 2-3 SIG	2-Chloronaphthalene
92.00745	95578	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	o-Chlorophenol
92.00745	7005723	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Chlorophenylphenyl ether
92.00745	218019	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Chrysene
92.00745	84742	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Di-n-butyl phthalate
92.00745	117840	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Di-n-octyl phthalate
92.00745	53703	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dibenzo[a,h]anthracene
92.00745	132649	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dibenzofuran
92.00745	95501	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
92.00745	541731	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
92.00745	106467	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
92.00745	91941	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	3,3'-Dichlorobenzidine
92.00745	120832	1.9	0.57	MG/KG	3.5	0.4	2/14/92	WARNING 2-3 SIG	2,4-Dichlorophenol
92.00745	84662	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Diethyl phthalate

00.20227	92.00968	120832	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2,4-Dichlorophenol
00.20227	92.00968	84662	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Diethyl phthalate
00.20227	92.00968	131113	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Dimethyl phthalate
00.20227	92.00968	105679	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2,4-Dimethylphenol
00.20227	92.00968	51285	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2,4-Dinitrophenol
00.20227	92.00968	121142	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2,4-Dinitrotoluene
00.20227	92.00968	606202	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2,6-Dinitrotoluene
00.20227	92.00968	206440	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Fluoranthene
00.20227	92.00968	86737	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Fluorene
00.20227	92.00968	118741	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Hexachlorobenzene
00.20227	92.00968	87683	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Hexachlorobutadiene
00.20227	92.00968	77474	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Hexachlorocyclopentadiene
00.20227	92.00968	67721	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Hexachloroethane
00.20227	92.00968	193395	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
00.20227	92.00968	78591	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Isophorone
00.20227	92.00968	534521	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
00.20227	92.00968	91576	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2-Methylnaphthalene
00.20227	92.00968	95487	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2-Methylphenol
00.20227	92.00968	106445	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	4-Methylphenol
00.20227	92.00968	91203	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Naphthalene
00.20227	92.00968	88744	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2-Nitroaniline
00.20227	92.00968	99092	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	3-Nitroaniline
00.20227	92.00968	100016	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	4-Nitroaniline
00.20227	92.00968	98953	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Nitrobenzene
00.20227	92.00968	88755	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2-Nitrophenol
00.20227	92.00968	100027	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	4-Nitrophenol
00.20227	92.00968	621647	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
00.20227	92.00968	62759	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	N-Nitrosodimethylamine
00.20227	92.00968	86306	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	N-Nitrosodiphenylamine
00.20227	92.00968	87865	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Pentachlorophenol
00.20227	92.00968	85018	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Phenanthrene
00.20227	92.00968	108952	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Phenol
00.20227	92.00968	129000	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	Pyrene
00.20227	92.00968	120821	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	1,2,4-Trichlorobenzene
00.20227	92.00968	95954	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2,4,5-Trichlorophenol
00.20227	92.00968	88062	< 330.	UG/KG	0.0	2/21/92	UNDER CONTROL	2,4,6-Trichlorophenol

Blank Spike Results

none

Blank Spike Duplicate Results

none

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUN
00.20227	92.00968	83329	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Acenaphthene
00.20227	92.00968	208968	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Acenaphthylene
00.20227	92.00968	62533	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Aniline
00.20227	92.00968	120127	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Anthracene
00.20227	92.00968	103333	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Azobenzene
00.20227	92.00968	92875	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	m-Benzidine
00.20227	92.00968	56553	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Benzo[a]anthracene
00.20227	92.00968	50328	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Benzo[a]pyrene
00.20227	92.00968	205992	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Benzo[b]fluoranthene
00.20227	92.00968	191242	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Benzo[g,h,i]perylene
00.20227	92.00968	207089	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Benzo[k]fluoranthene
00.20227	92.00968	65850	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Benzoic acid
00.20227	92.00968	100516	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Benzyl alcohol
00.20227	92.00968	111911	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
00.20227	92.00968	111444	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Bis(2-chloroethyl)ether
00.20227	92.00968	108601	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
00.20227	92.00968	117817	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
00.20227	92.00968	101553	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	4-Bromophenylphenyl ether
00.20227	92.00968	85687	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Butyl benzyl phthalate
00.20227	92.00968	59507	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	4-Chloro-3-methylphenol
00.20227	92.00968	106478	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	4-Chloroaniline
00.20227	92.00968	91587	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	2-Chloronaphthalene
00.20227	92.00968	95578	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	o-Chlorophenol
00.20227	92.00968	7005723	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	4-Chlorophenylphenyl ether
00.20227	92.00968	218019	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Chrysene
00.20227	92.00968	84742	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Di-n-butyl phthalate
00.20227	92.00968	117840	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Di-n-octyl phthalate
00.20227	92.00968	53703	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Dibenzo[a,h]anthracene
00.20227	92.00968	132649	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	Dibenzofuran
00.20227	92.00968	95501	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.00968	541731	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.00968	106467	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.00968	91941	< 330.		UG/KG	0.0		2/21/92	UNDER CONTROL	3,3'-Dichlorobenzidine

REPORT NUMBER: 13096 (continued)

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: LAT on 21-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

PF-40-SD-E	92.00921	120821		< 330.		UG/KG	2/21/92		1,2,4-Trichlorobenzene
PF-40-SD-E	92.00921	95954		< 330.		UG/KG	2/21/92		2,4,5-Trichlorophenol
PF-40-SD-E	92.00921	88062		< 330.		UG/KG	2/21/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00921

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-E	92.00921	165	TI	630.		UG/KG	2/21/92		Saturated Hydrocarbons
PF-40-SD-E	92.00921	100	TI	900.		UG/KG	2/21/92		Unknown organic compound

Customer Sample Duplicate Results for Sample # 92.00921

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00921

none

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PF-40-SD-E	92.00921	91587	< 330.	UG/KG	2/21/92	2-Chloronaphthalene
PF-40-SD-E	92.00921	95578	< 330.	UG/KG	2/21/92	o-Chlorophenol
PF-40-SD-E	92.00921	7005723	< 330.	UG/KG	2/21/92	4-Chlorophenylphenyl ether
PF-40-SD-E	92.00921	218019	< 330.	UG/KG	2/21/92	Chrysene
PF-40-SD-E	92.00921	84742	< 330.	UG/KG	2/21/92	Di-n-butyl phthalate
PF-40-SD-E	92.00921	117840	< 330.	UG/KG	2/21/92	Di-n-octyl phthalate
PF-40-SD-E	92.00921	53703	< 330.	UG/KG	2/21/92	Dibenzo[a,h]anthracene
PF-40-SD-E	92.00921	132649	< 330.	UG/KG	2/21/92	Dibenzofuran
PF-40-SD-E	92.00921	95501	< 330.	UG/KG	2/21/92	o-Dichlorobenzene (1,2)
PF-40-SD-E	92.00921	541731	< 330.	UG/KG	2/21/92	m-Dichlorobenzene (1,3)
PF-40-SD-E	92.00921	106467	< 330.	UG/KG	2/21/92	p-Dichlorobenzene (1,4)
PF-40-SD-E	92.00921	91941	< 330.	UG/KG	2/21/92	3,3'-Dichlorobenzidine
PF-40-SD-E	92.00921	120832	< 330.	UG/KG	2/21/92	2,4-Dichlorophenol
PF-40-SD-E	92.00921	84662	< 330.	UG/KG	2/21/92	Diethyl phthalate
PF-40-SD-E	92.00921	131113	< 330.	UG/KG	2/21/92	Dimethyl phthalate
PF-40-SD-E	92.00921	105679	< 330.	UG/KG	2/21/92	2,4-Dimethylphenol
PF-40-SD-E	92.00921	51285	< 330.	UG/KG	2/21/92	2,4-Dinitrophenol
PF-40-SD-E	92.00921	121142	< 330.	UG/KG	2/21/92	2,4-Dinitrotoluene
PF-40-SD-E	92.00921	606202	< 330.	UG/KG	2/21/92	2,6-Dinitrotoluene
PF-40-SD-E	92.00921	206440	< 330.	UG/KG	2/21/92	Fluoranthene
PF-40-SD-E	92.00921	86737	< 330.	UG/KG	2/21/92	Fluorene
PF-40-SD-E	92.00921	118741	< 330.	UG/KG	2/21/92	Hexachlorobenzene
PF-40-SD-E	92.00921	87683	< 330.	UG/KG	2/21/92	Hexachlorobutadiene
PF-40-SD-E	92.00921	77474	< 330.	UG/KG	2/21/92	Hexachlorocyclopentadiene
PF-40-SD-E	92.00921	67721	< 330.	UG/KG	2/21/92	Hexachloroethane
PF-40-SD-E	92.00921	193395	< 330.	UG/KG	2/21/92	Indeno[1,2,3-cd]pyrene
PF-40-SD-E	92.00921	78591	< 330.	UG/KG	2/21/92	Isophorone
PF-40-SD-E	92.00921	534521	< 330.	UG/KG	2/21/92	2-Methyl-4,6-dinitrophenol
PF-40-SD-E	92.00921	91576	< 330.	UG/KG	2/21/92	2-Methylnaphthalene
PF-40-SD-E	92.00921	95487	< 330.	UG/KG	2/21/92	2-Methylphenol
PF-40-SD-E	92.00921	106445	< 330.	UG/KG	2/21/92	4-Methylphenol
PF-40-SD-E	92.00921	91203	< 330.	UG/KG	2/21/92	Naphthalene
PF-40-SD-E	92.00921	88744	< 330.	UG/KG	2/21/92	2-Nitroaniline
PF-40-SD-E	92.00921	99092	< 330.	UG/KG	2/21/92	3-Nitroaniline
PF-40-SD-E	92.00921	100016	< 330.	UG/KG	2/21/92	4-Nitroaniline
PF-40-SD-E	92.00921	98953	< 330.	UG/KG	2/21/92	Nitrobenzene
PF-40-SD-E	92.00921	88755	< 330.	UG/KG	2/21/92	2-Nitrophenol
PF-40-SD-E	92.00921	100027	< 330.	UG/KG	2/21/92	4-Nitrophenol
PF-40-SD-E	92.00921	621647	< 330.	UG/KG	2/21/92	N-Nitrosodi-n-propylamine
PF-40-SD-E	92.00921	62759	< 330.	UG/KG	2/21/92	N-Nitrosodimethylamine
PF-40-SD-E	92.00921	86306	< 330.	UG/KG	2/21/92	N-Nitrosodiphenylamine
PF-40-SD-E	92.00921	87865	< 330.	UG/KG	2/21/92	Pentachlorophenol
PF-40-SD-E	92.00921	85018	< 330.	UG/KG	2/21/92	Phenanthrene
PF-40-SD-E	92[illegible]21	108952	< 330.	UG/KG	2/21/[illegible]	Phenol
PF-40-SD-E	92[illegible]21	129000	< 330.	UG/KG	2/21/92	Pyrene

REPORT NUMBER: 13096

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 21-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00921

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-E	92.00921	83329	< 330.		UG/KG	2/21/92		Acenaphthene
PF-40-SD-E	92.00921	208968	< 330.		UG/KG	2/21/92		Acenaphthylene
PF-40-SD-E	92.00921	62533	< 330.		UG/KG	2/21/92		Aniline
PF-40-SD-E	92.00921	120127	< 330.		UG/KG	2/21/92		Anthracene
PF-40-SD-E	92.00921	103333	< 330.		UG/KG	2/21/92		Azobenzene
PF-40-SD-E	92.00921	92875	< 330.		UG/KG	2/21/92		m-Benzidine
PF-40-SD-E	92.00921	56553	< 330.		UG/KG	2/21/92		Benzo[a]anthracene
PF-40-SD-E	92.00921	50328	< 330.		UG/KG	2/21/92		Benzo[a]pyrene
PF-40-SD-E	92.00921	205992	< 330.		UG/KG	2/21/92		Benzo[b]fluoranthene
PF-40-SD-E	92.00921	191242	< 330.		UG/KG	2/21/92		Benzo[g,h,i]perylene
PF-40-SD-E	92.00921	207089	< 330.		UG/KG	2/21/92		Benzo[k]fluoranthene
PF-40-SD-E	92.00921	65850	< 330.		UG/KG	2/21/92		Benzoic acid
PF-40-SD-E	92.00921	100516	< 330.		UG/KG	2/21/92		Benzyl alcohol
PF-40-SD-E	92.00921	111911	< 330.		UG/KG	2/21/92		Bis(2-chloroethoxy)methane
PF-40-SD-E	92.00921	111444	< 330.		UG/KG	2/21/92		Bis(2-chloroethyl)ether
PF-40-SD-E	92.00921	108601	< 330.		UG/KG	2/21/92		Bis(2-chloroisopropyl)ether
PF-40-SD-E	92.00921	117817	< 330.		UG/KG	2/21/92		Bis(2-ethylhexyl)phthalate
PF-40-SD-E	92.00921	101553	< 330.		UG/KG	2/21/92		4-Bromophenylphenyl ether
PF-40-SD-E	92.00921	85687	< 330.		UG/KG	2/21/92		Butyl benzyl phthalate
PF-40-SD-E	92.00921	59507	< 330.		UG/KG	2/21/92		4-Chloro-3-methylphenol
PF-40-SD-E	92.00921	106478	< 330.		UG/KG	2/21/92		4-Chloroaniline

PF-40-SD-M	92.00920	120821		< 330.		UG/KG	2/21/92		1,2,4-Trichlorobenzene
PF-40-SD-M	92.00920	95954		< 330.		UG/KG	2/21/92		2,4,5-Trichlorophenol
PF-40-SD-M	92.00920	88062		< 330.		UG/KG	2/21/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00920

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-M	92.00920	165	TI	540.		UG/KG	2/21/92		Saturated Hydrocarbons

Customer Sample Duplicate Results for Sample # 92.00920

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00920

none

PF-40-SD-M	92.00920	91587	< 330.	UG/KG	2/21/92	2-Chloronaphthalene
PF-40-SD-M	92.00920	95578	< 330.	UG/KG	2/21/92	o-Chlorophenol
PF-40-SD-M	92.00920	7005723	< 330.	UG/KG	2/21/92	4-Chlorophenylphenyl ether
PF-40-SD-M	92.00920	218019	< 330.	UG/KG	2/21/92	Chrysene
PF-40-SD-M	92.00920	84742	< 330.	UG/KG	2/21/92	Di-n-butyl phthalate
PF-40-SD-M	92.00920	117840	< 330.	UG/KG	2/21/92	Di-n-octyl phthalate
PF-40-SD-M	92.00920	53703	< 330.	UG/KG	2/21/92	Dibenzo[a,h]anthracene
PF-40-SD-M	92.00920	132649	< 330.	UG/KG	2/21/92	Dibenzofuran
PF-40-SD-M	92.00920	95501	< 330.	UG/KG	2/21/92	o-Dichlorobenzene (1,2)
PF-40-SD-M	92.00920	541731	< 330.	UG/KG	2/21/92	m-Dichlorobenzene (1,3)
PF-40-SD-M	92.00920	106467	< 330.	UG/KG	2/21/92	p-Dichlorobenzene (1,4)
PF-40-SD-M	92.00920	91941	< 330.	UG/KG	2/21/92	3,3'-Dichlorobenzidine
PF-40-SD-M	92.00920	120832	< 330.	UG/KG	2/21/92	2,4-Dichlorophenol
PF-40-SD-M	92.00920	84662	< 330.	UG/KG	2/21/92	Diethyl phthalate
PF-40-SD-M	92.00920	131113	< 330.	UG/KG	2/21/92	Dimethyl phthalate
PF-40-SD-M	92.00920	105679	< 330.	UG/KG	2/21/92	2,4-Dimethylphenol
PF-40-SD-M	92.00920	51285	< 330.	UG/KG	2/21/92	2,4-Dinitrophenol
PF-40-SD-M	92.00920	121142	< 330.	UG/KG	2/21/92	2,4-Dinitrotoluene
PF-40-SD-M	92.00920	606202	< 330.	UG/KG	2/21/92	2,6-Dinitrotoluene
PF-40-SD-M	92.00920	206440	< 330.	UG/KG	2/21/92	Fluoranthene
PF-40-SD-M	92.00920	86737	< 330.	UG/KG	2/21/92	Fluorene
PF-40-SD-M	92.00920	118741	< 330.	UG/KG	2/21/92	Hexachlorobenzene
PF-40-SD-M	92.00920	87683	< 330.	UG/KG	2/21/92	Hexachlorobutadiene
PF-40-SD-M	92.00920	77474	< 330.	UG/KG	2/21/92	Hexachlorocyclopentadiene
PF-40-SD-M	92.00920	67721	< 330.	UG/KG	2/21/92	Hexachloroethane
PF-40-SD-M	92.00920	193395	< 330.	UG/KG	2/21/92	Indeno[1,2,3-cd]pyrene
PF-40-SD-M	92.00920	78591	< 330.	UG/KG	2/21/92	Isophorone
PF-40-SD-M	92.00920	534521	< 330.	UG/KG	2/21/92	2-Methyl-4,6-dinitrophenol
PF-40-SD-M	92.00920	91576	< 330.	UG/KG	2/21/92	2-Methylnaphthalene
PF-40-SD-M	92.00920	95487	< 330.	UG/KG	2/21/92	2-Methylphenol
PF-40-SD-M	92.00920	106445	< 330.	UG/KG	2/21/92	4-Methylphenol
PF-40-SD-M	92.00920	91203	< 330.	UG/KG	2/21/92	Naphthalene
PF-40-SD-M	92.00920	88744	< 330.	UG/KG	2/21/92	2-Nitroaniline
PF-40-SD-M	92.00920	99092	< 330.	UG/KG	2/21/92	3-Nitroaniline
PF-40-SD-M	92.00920	100016	< 330.	UG/KG	2/21/92	4-Nitroaniline
PF-40-SD-M	92.00920	98953	< 330.	UG/KG	2/21/92	Nitrobenzene
PF-40-SD-M	92.00920	88755	< 330.	UG/KG	2/21/92	2-Nitrophenol
PF-40-SD-M	92.00920	100027	< 330.	UG/KG	2/21/92	4-Nitrophenol
PF-40-SD-M	92.00920	621647	< 330.	UG/KG	2/21/92	N-Nitrosodi-n-propylamine
PF-40-SD-M	92.00920	62759	< 330.	UG/KG	2/21/92	N-Nitrosodimethylamine
PF-40-SD-M	92.00920	86306	< 330.	UG/KG	2/21/92	N-Nitrosodiphenylamine
PF-40-SD-M	92.00920	87865	< 330.	UG/KG	2/21/92	Pentachlorophenol
PF-40-SD-M	92.00920	85018	< 330.	UG/KG	2/21/92	Phenanthrene
PF-40-SD-M	92.00920	108952	< 330.	UG/KG	2/21/92	Phenol
PF-40-SD-M	92.00920	129000	< 330.	UG/KG	2/21/92	Pyrene

REPORT NUMBER: 13096

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 21-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00920

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-M	92.00920	83329	< 330.		UG/KG	2/21/92		Acenaphthene
PF-40-SD-M	92.00920	208968	< 330.		UG/KG	2/21/92		Acenaphthylene
PF-40-SD-M	92.00920	62533	< 330.		UG/KG	2/21/92		Aniline
PF-40-SD-M	92.00920	120127	< 330.		UG/KG	2/21/92		Anthracene
PF-40-SD-M	92.00920	103333	< 330.		UG/KG	2/21/92		Azobenzene
PF-40-SD-M	92.00920	92875	< 330.		UG/KG	2/21/92		m-Benzidine
PF-40-SD-M	92.00920	56553	< 330.		UG/KG	2/21/92		Benzo[a]anthracene
PF-40-SD-M	92.00920	50328	< 330.		UG/KG	2/21/92		Benzo[a]pyrene
PF-40-SD-M	92.00920	205992	< 330.		UG/KG	2/21/92		Benzo[b]fluoranthene
PF-40-SD-M	92.00920	191242	< 330.		UG/KG	2/21/92		Benzo[g,h,i]perylene
PF-40-SD-M	92.00920	207089	< 330.		UG/KG	2/21/92		Benzo[k]fluoranthene
PF-40-SD-M	92.00920	65850	< 330.		UG/KG	2/21/92		Benzoic acid
PF-40-SD-M	92.00920	100516	< 330.		UG/KG	2/21/92		Benzyl alcohol
PF-40-SD-M	92.00920	111911	< 330.		UG/KG	2/21/92		Bis(2-chloroethoxy)methane
PF-40-SD-M	92.00920	111444	< 330.		UG/KG	2/21/92		Bis(2-chloroethyl)ether
PF-40-SD-M	92.00920	108601	< 330.		UG/KG	2/21/92		Bis(2-chloroisopropyl)ether
PF-40-SD-M	92.00920	117817	< 330.		UG/KG	2/21/92		Bis(2-ethylhexyl)phthalate
PF-40-SD-M	92.00920	101553	< 330.		UG/KG	2/21/92		4-Bromophenylphenyl ether
PF-40-SD-M	92.00920	85687	< 330.		UG/KG	2/21/92		Butyl benzyl phthalate
PF-40-SD-M	92.00920	59507	< 330.		UG/KG	2/21/92		4-Chloro-3-methylphenol
PF-40-SD-M	92.00920	106478	< 330.		UG/KG	2/21/92		4-Chloroaniline

PF-40-SD-W	92.00919	120821	< 330.		UG/KG	2/21/92	1,2,4-Trichlorobenzene
PF-40-SD-W	92.00919	95954	< 330.		UG/KG	2/21/92	2,4,5-Trichlorophenol
PF-40-SD-W	92.00919	88062	< 330.		UG/KG	2/21/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00919

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-W	92.00919	165	TI	510.		UG/KG	2/21/92		Saturated Hydrocarbons

Customer Sample Duplicate Results for Sample # 92.00919

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00919

none

PF-40-SD-W	92.00919	91587	< 330.	UG/KG	2/21/92	2-Chloronaphthalene
PF-40-SD-W	92.00919	95578	< 330.	UG/KG	2/21/92	o-Chlorophenol
PF-40-SD-W	92.00919	7005723	< 330.	UG/KG	2/21/92	4-Chlorophenylphenyl ether
PF-40-SD-W	92.00919	218019	< 330.	UG/KG	2/21/92	Chrysene
PF-40-SD-W	92.00919	84742	< 330.	UG/KG	2/21/92	Di-n-butyl phthalate
PF-40-SD-W	92.00919	117840	< 330.	UG/KG	2/21/92	Di-n-octyl phthalate
PF-40-SD-W	92.00919	53703	< 330.	UG/KG	2/21/92	Dibenzo[a,h]anthracene
PF-40-SD-W	92.00919	132649	< 330.	UG/KG	2/21/92	Dibenzofuran
PF-40-SD-W	92.00919	95501	< 330.	UG/KG	2/21/92	o-Dichlorobenzene (1,2)
PF-40-SD-W	92.00919	541731	< 330.	UG/KG	2/21/92	m-Dichlorobenzene (1,3)
PF-40-SD-W	92.00919	106467	< 330.	UG/KG	2/21/92	p-Dichlorobenzene (1,4)
PF-40-SD-W	92.00919	91941	< 330.	UG/KG	2/21/92	3,3'-Dichlorobenzidine
PF-40-SD-W	92.00919	120832	< 330.	UG/KG	2/21/92	2,4-Dichlorophenol
PF-40-SD-W	92.00919	84662	< 330.	UG/KG	2/21/92	Diethyl phthalate
PF-40-SD-W	92.00919	131113	< 330.	UG/KG	2/21/92	Dimethyl phthalate
PF-40-SD-W	92.00919	105679	< 330.	UG/KG	2/21/92	2,4-Dimethylphenol
PF-40-SD-W	92.00919	51285	< 330.	UG/KG	2/21/92	2,4-Dinitrophenol
PF-40-SD-W	92.00919	121142	< 330.	UG/KG	2/21/92	2,4-Dinitrotoluene
PF-40-SD-W	92.00919	606202	< 330.	UG/KG	2/21/92	2,6-Dinitrotoluene
PF-40-SD-W	92.00919	206440	< 330.	UG/KG	2/21/92	Fluoranthene
PF-40-SD-W	92.00919	86737	< 330.	UG/KG	2/21/92	Fluorene
PF-40-SD-W	92.00919	118741	< 330.	UG/KG	2/21/92	Hexachlorobenzene
PF-40-SD-W	92.00919	87683	< 330.	UG/KG	2/21/92	Hexachlorobutadiene
PF-40-SD-W	92.00919	77474	< 330.	UG/KG	2/21/92	Hexachlorocyclopentadiene
PF-40-SD-W	92.00919	67721	< 330.	UG/KG	2/21/92	Hexachloroethane
PF-40-SD-W	92.00919	193395	< 330.	UG/KG	2/21/92	Indeno[1,2,3-cd]pyrene
PF-40-SD-W	92.00919	78591	< 330.	UG/KG	2/21/92	Isophorone
PF-40-SD-W	92.00919	534521	< 330.	UG/KG	2/21/92	2-Methyl-4,6-dinitrophenol
PF-40-SD-W	92.00919	91576	< 330.	UG/KG	2/21/92	2-Methylnaphthalene
PF-40-SD-W	92.00919	95487	< 330.	UG/KG	2/21/92	2-Methylphenol
PF-40-SD-W	92.00919	106445	< 330.	UG/KG	2/21/92	4-Methylphenol
PF-40-SD-W	92.00919	91203	< 330.	UG/KG	2/21/92	Naphthalene
PF-40-SD-W	92.00919	88744	< 330.	UG/KG	2/21/92	2-Nitroaniline
PF-40-SD-W	92.00919	99092	< 330.	UG/KG	2/21/92	3-Nitroaniline
PF-40-SD-W	92.00919	100016	< 330.	UG/KG	2/21/92	4-Nitroaniline
PF-40-SD-W	92.00919	98953	< 330.	UG/KG	2/21/92	Nitrobenzene
PF-40-SD-W	92.00919	88755	< 330.	UG/KG	2/21/92	2-Nitrophenol
PF-40-SD-W	92.00919	100027	< 330.	UG/KG	2/21/92	4-Nitrophenol
PF-40-SD-W	92.00919	621647	< 330.	UG/KG	2/21/92	N-Nitrosodi-n-propylamine
PF-40-SD-W	92.00919	62759	< 330.	UG/KG	2/21/92	N-Nitrosodimethylamine
PF-40-SD-W	92.00919	86306	< 330.	UG/KG	2/21/92	N-Nitrosodiphenylamine
PF-40-SD-W	92.00919	87865	< 330.	UG/KG	2/21/92	Pentachlorophenol
PF-40-SD-W	92.00919	85018	< 330.	UG/KG	2/21/92	Phenanthrene
PF-40-SD-W	92.[illegible]	108952	< 330.	UG/KG	2/21/92	Phenol
PF-40-SD-W	92.00919	129000	< 330.	UG/KG	2/21/92	Pyrene

REPORT NUMBER: 13096

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 21-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00919

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SD-W	92.00919	83329	< 330.		UG/KG	2/21/92		Acenaphthene
PF-40-SD-W	92.00919	208968	< 330.		UG/KG	2/21/92		Acenaphthylene
PF-40-SD-W	92.00919	62533	< 330.		UG/KG	2/21/92		Aniline
PF-40-SD-W	92.00919	120127	< 330.		UG/KG	2/21/92		Anthracene
PF-40-SD-W	92.00919	103333	< 330.		UG/KG	2/21/92		Azobenzene
PF-40-SD-W	92.00919	92875	< 330.		UG/KG	2/21/92		m-Benzidine
PF-40-SD-W	92.00919	56553	< 330.		UG/KG	2/21/92		Benzo[a]anthracene
PF-40-SD-W	92.00919	50328	< 330.		UG/KG	2/21/92		Benzo[a]pyrene
PF-40-SD-W	92.00919	205992	< 330.		UG/KG	2/21/92		Benzo[b]fluoranthene
PF-40-SD-W	92.00919	191242	< 330.		UG/KG	2/21/92		Benzo[g,h,i]perylene
PF-40-SD-W	92.00919	207089	< 330.		UG/KG	2/21/92		Benzo[k]fluoranthene
PF-40-SD-W	92.00919	65850	< 330.		UG/KG	2/21/92		Benzoic acid
PF-40-SD-W	92.00919	100516	< 330.		UG/KG	2/21/92		Benzyl alcohol
PF-40-SD-W	92.00919	111911	< 330.		UG/KG	2/21/92		Bis(2-chloroethoxy)methane
PF-40-SD-W	92.00919	111444	< 330.		UG/KG	2/21/92		Bis(2-chloroethyl)ether
PF-40-SD-W	92.00919	108601	< 330.		UG/KG	2/21/92		Bis(2-chloroisopropyl)ether
PF-40-SD-W	92.00919	117817	< 330.		UG/KG	2/21/92		Bis(2-ethylhexyl)phthalate
PF-40-SD-W	92.00919	101553	< 330.		UG/KG	2/21/92		4-Bromophenylphenyl ether
PF-40-SD-W	92.00919	85687	< 330.		UG/KG	2/21/92		Butyl benzyl phthalate
PF-40-SD-W	92.00919	59507	< 330.		UG/KG	2/21/92		4-Chloro-3-methylphenol
PF-40-SD-W	92.00919	106478	< 330.		UG/KG	2/21/92		4-Chloroaniline

PF-40-DP	92.00918	120821		< 3300.		UG/KG	2/21/92	1,2,4-Trichlorobenzene
PF-40-DP	92.00918	95954		< 3300.		UG/KG	2/21/92	2,4,5-Trichlorophenol
PF-40-DP	92.00918	88062		< 3300.		UG/KG	2/21/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00918

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DP	92.00918	100	TI	8900.		UG/KG	2/21/92		Unknown organic compound

Customer Sample Duplicate Results for Sample # 92.00918

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00918

none

PF-40-DP	92.00918	91587	< 3300.	UG/KG	2/21/92	2-Chloronaphthalene
PF-40-DP	92.00918	95578	< 3300.	UG/KG	2/21/92	o-Chlorophenol
PF-40-DP	92.00918	7005723	< 3300.	UG/KG	2/21/92	4-Chlorophenylphenyl ether
PF-40-DP	92.00918	218019	< 3300.	UG/KG	2/21/92	Chrysene
PF-40-DP	92.00918	84742	< 3300.	UG/KG	2/21/92	Di-n-butyl phthalate
PF-40-DP	92.00918	117840	< 3300.	UG/KG	2/21/92	Di-n-octyl phthalate
PF-40-DP	92.00918	53703	< 3300.	UG/KG	2/21/92	Dibenzo[a,h]anthracene
PF-40-DP	92.00918	132649	< 3300.	UG/KG	2/21/92	Dibenzofuran
PF-40-DP	92.00918	95501	< 3300.	UG/KG	2/21/92	o-Dichlorobenzene (1,2)
PF-40-DP	92.00918	541731	< 3300.	UG/KG	2/21/92	m-Dichlorobenzene (1,3)
PF-40-DP	92.00918	106467	< 3300.	UG/KG	2/21/92	p-Dichlorobenzene (1,4)
PF-40-DP	92.00918	91941	< 3300.	UG/KG	2/21/92	3,3'-Dichlorobenzidine
PF-40-DP	92.00918	120832	< 3300.	UG/KG	2/21/92	2,4-Dichlorophenol
PF-40-DP	92.00918	84662	< 3300.	UG/KG	2/21/92	Diethyl phthalate
PF-40-DP	92.00918	131113	< 3300.	UG/KG	2/21/92	Dimethyl phthalate
PF-40-DP	92.00918	105679	< 3300.	UG/KG	2/21/92	2,4-Dimethylphenol
PF-40-DP	92.00918	51285	< 3300.	UG/KG	2/21/92	2,4-Dinitrophenol
PF-40-DP	92.00918	121142	< 3300.	UG/KG	2/21/92	2,4-Dinitrotoluene
PF-40-DP	92.00918	606202	< 3300.	UG/KG	2/21/92	2,6-Dinitrotoluene
PF-40-DP	92.00918	206440	< 3300.	UG/KG	2/21/92	Fluoranthene
PF-40-DP	92.00918	86737	< 3300.	UG/KG	2/21/92	Fluorene
PF-40-DP	92.00918	118741	< 3300.	UG/KG	2/21/92	Hexachlorobenzene
PF-40-DP	92.00918	87683	< 3300.	UG/KG	2/21/92	Hexachlorobutadiene
PF-40-DP	92.00918	77474	< 3300.	UG/KG	2/21/92	Hexachlorocyclopentadiene
PF-40-DP	92.00918	67721	< 3300.	UG/KG	2/21/92	Hexachloroethane
PF-40-DP	92.00918	193395	< 3300.	UG/KG	2/21/92	Indeno[1,2,3-cd]pyrene
PF-40-DP	92.00918	78591	< 3300.	UG/KG	2/21/92	Isophorone
PF-40-DP	92.00918	534521	< 3300.	UG/KG	2/21/92	2-Methyl-4,6-dinitrophenol
PF-40-DP	92.00918	91576	< 3300.	UG/KG	2/21/92	2-Methylnaphthalene
PF-40-DP	92.00918	95487	< 3300.	UG/KG	2/21/92	2-Methylphenol
PF-40-DP	92.00918	106445	< 3300.	UG/KG	2/21/92	4-Methylphenol
PF-40-DP	92.00918	91203	< 3300.	UG/KG	2/21/92	Naphthalene
PF-40-DP	92.00918	88744	< 3300.	UG/KG	2/21/92	2-Nitroaniline
PF-40-DP	92.00918	99092	< 3300.	UG/KG	2/21/92	3-Nitroaniline
PF-40-DP	92.00918	100016	< 3300.	UG/KG	2/21/92	4-Nitroaniline
PF-40-DP	92.00918	98953	< 3300.	UG/KG	2/21/92	Nitrobenzene
PF-40-DP	92.00918	88755	< 3300.	UG/KG	2/21/92	2-Nitrophenol
PF-40-DP	92.00918	100027	< 3300.	UG/KG	2/21/92	4-Nitrophenol
PF-40-DP	92.00918	621647	< 3300.	UG/KG	2/21/92	N-Nitrosodi-n-propylamine
PF-40-DP	92.00918	62759	< 3300.	UG/KG	2/21/92	N-Nitrosodimethylamine
PF-40-DP	92.00918	86306	< 3300.	UG/KG	2/21/92	N-Nitrosodiphenylamine
PF-40-DP	92.00918	87865	< 3300.	UG/KG	2/21/92	Pentachlorophenol
PF-40-DP	92.00918	85018	< 3300.	UG/KG	2/21/92	Phenanthrene
PF-40-DP	92.00918	108952	< 3300.	UG/KG	2/21/92	Phenol
PF-40-DP	92.00918	129000	< 3300.	UG/KG	2/21/92	Pyrene

REPORT NUMBER: 13096

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 21-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00918

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/07/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-DP	92.00918	83329	< 3300.		UG/KG	2/21/92		Acenaphthene
PF-40-DP	92.00918	208968	< 3300.		UG/KG	2/21/92		Acenaphthylene
PF-40-DP	92.00918	62533	< 3300.		UG/KG	2/21/92		Aniline
PF-40-DP	92.00918	120127	< 3300.		UG/KG	2/21/92		Anthracene
PF-40-DP	92.00918	103333	< 3300.		UG/KG	2/21/92		Azobenzene
PF-40-DP	92.00918	92875	< 3300.		UG/KG	2/21/92		m-Benzidine
PF-40-DP	92.00918	56553	< 3300.		UG/KG	2/21/92		Benzo[a]anthracene
PF-40-DP	92.00918	50328	< 3300.		UG/KG	2/21/92		Benzo[a]pyrene
PF-40-DP	92.00918	205992	< 3300.		UG/KG	2/21/92		Benzo[b]fluoranthene
PF-40-DP	92.00918	191242	< 3300.		UG/KG	2/21/92		Benzo[g,h,i]perylene
PF-40-DP	92.00918	207089	< 3300.		UG/KG	2/21/92		Benzo[k]fluoranthene
PF-40-DP	92.00918	65850	< 3300.		UG/KG	2/21/92		Benzoic acid
PF-40-DP	92.00918	100516	< 3300.		UG/KG	2/21/92		Benzyl alcohol
PF-40-DP	92.00918	111911	< 3300.		UG/KG	2/21/92		Bis(2-chloroethoxy)methane
PF-40-DP	92.00918	111444	< 3300.		UG/KG	2/21/92		Bis(2-chloroethyl)ether
PF-40-DP	92.00918	108601	< 3300.		UG/KG	2/21/92		Bis(2-chloroisopropyl)ether
PF-40-DP	92.00918	117817	< 3300.		UG/KG	2/21/92		Bis(2-ethylhexyl)phthalate
PF-40-DP	92.00918	101553	< 3300.		UG/KG	2/21/92		4-Bromophenylphenyl ether
PF-40-DP	92.0091[illegible]	85687	< 3300.		UG/KG	2/21/92		Butyl benzyl phthalate
PF-40-DP	92.00[illegible]	59507	< 3300.		UG/KG	2/21/92		4-Chloro-3-methylphenol
PF-40-DP	92.0091[illegible]	106478	< 3300.		UG/KG	2/21/92		4-Chloroaniline

PF-40-SPS	92.00917	120821	< 330.		UG/KG	2/21/92	1,2,4-Trichlorobenzene
PF-40-SPS	92.00917	95954	< 330.		UG/KG	2/21/92	2,4,5-Trichlorophenol
PF-40-SPS	92.00917	88062	< 330.		UG/KG	2/21/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00917

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SPS	92.00917	171	TI	720.		UG/KG	2/21/92		Oxygenated Hydrocarbon
PF-40-SPS	92.00917	169	TI	540.		UG/KG	2/21/92		Unknown Alcohol

Customer Sample Duplicate Results for Sample # 92.00917

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00917

none

PF-40-SPS	92.00917	91587	< 330.	UG/KG	2/21/92	2-Chloronaphthalene
PF-40-SPS	92.00917	95578	< 330.	UG/KG	2/21/92	o-Chlorophenol
PF-40-SPS	92.00917	7005723	< 330.	UG/KG	2/21/92	4-Chlorophenylphenyl ether
PF-40-SPS	92.00917	218019	< 330.	UG/KG	2/21/92	Chrysene
PF-40-SPS	92.00917	84742	< 330.	UG/KG	2/21/92	Di-n-butyl phthalate
PF-40-SPS	92.00917	117840	< 330.	UG/KG	2/21/92	Di-n-octyl phthalate
PF-40-SPS	92.00917	53703	< 330.	UG/KG	2/21/92	Dibenzo[a,h]anthracene
PF-40-SPS	92.00917	132649	< 330.	UG/KG	2/21/92	Dibenzofuran
PF-40-SPS	92.00917	95501	< 330.	UG/KG	2/21/92	o-Dichlorobenzene (1,2)
PF-40-SPS	92.00917	541731	< 330.	UG/KG	2/21/92	m-Dichlorobenzene (1,3)
PF-40-SPS	92.00917	106467	< 330.	UG/KG	2/21/92	p-Dichlorobenzene (1,4)
PF-40-SPS	92.00917	91941	< 330.	UG/KG	2/21/92	3,3'-Dichlorobenzidine
PF-40-SPS	92.00917	120832	< 330.	UG/KG	2/21/92	2,4-Dichlorophenol
PF-40-SPS	92.00917	84662	< 330.	UG/KG	2/21/92	Diethyl phthalate
PF-40-SPS	92.00917	131113	< 330.	UG/KG	2/21/92	Dimethyl phthalate
PF-40-SPS	92.00917	105679	< 330.	UG/KG	2/21/92	2,4-Dimethylphenol
PF-40-SPS	92.00917	51285	< 330.	UG/KG	2/21/92	2,4-Dinitrophenol
PF-40-SPS	92.00917	121142	< 330.	UG/KG	2/21/92	2,4-Dinitrotoluene
PF-40-SPS	92.00917	606202	< 330.	UG/KG	2/21/92	2,6-Dinitrotoluene
PF-40-SPS	92.00917	206440	< 330.	UG/KG	2/21/92	Fluoranthene
PF-40-SPS	92.00917	86737	< 330.	UG/KG	2/21/92	Fluorene
PF-40-SPS	92.00917	118741	< 330.	UG/KG	2/21/92	Hexachlorobenzene
PF-40-SPS	92.00917	87683	< 330.	UG/KG	2/21/92	Hexachlorobutadiene
PF-40-SPS	92.00917	77474	< 330.	UG/KG	2/21/92	Hexachlorocyclopentadiene
PF-40-SPS	92.00917	67721	< 330.	UG/KG	2/21/92	Hexachloroethane
PF-40-SPS	92.00917	193395	< 330.	UG/KG	2/21/92	Indeno[1,2,3-cd]pyrene
PF-40-SPS	92.00917	78591	< 330.	UG/KG	2/21/92	Isophorone
PF-40-SPS	92.00917	534521	< 330.	UG/KG	2/21/92	2-Methyl-4,6-dinitrophenol
PF-40-SPS	92.00917	91576	< 330.	UG/KG	2/21/92	2-Methylnaphthalene
PF-40-SPS	92.00917	95487	< 330.	UG/KG	2/21/92	2-Methylphenol
PF-40-SPS	92.00917	106445	< 330.	UG/KG	2/21/92	4-Methylphenol
PF-40-SPS	92.00917	91203	< 330.	UG/KG	2/21/92	Naphthalene
PF-40-SPS	92.00917	88744	< 330.	UG/KG	2/21/92	2-Nitroaniline
PF-40-SPS	92.00917	99092	< 330.	UG/KG	2/21/92	3-Nitroaniline
PF-40-SPS	92.00917	100016	< 330.	UG/KG	2/21/92	4-Nitroaniline
PF-40-SPS	92.00917	98953	< 330.	UG/KG	2/21/92	Nitrobenzene
PF-40-SPS	92.00917	88755	< 330.	UG/KG	2/21/92	2-Nitrophenol
PF-40-SPS	92.00917	100027	< 330.	UG/KG	2/21/92	4-Nitrophenol
PF-40-SPS	92.00917	621647	< 330.	UG/KG	2/21/92	N-Nitrosodi-n-propylamine
PF-40-SPS	92.00917	62759	< 330.	UG/KG	2/21/92	N-Nitrosodimethylamine
PF-40-SPS	92.00917	86306	< 330.	UG/KG	2/21/92	N-Nitrosodiphenylamine
PF-40-SPS	92.00917	87865	< 330.	UG/KG	2/21/92	Pentachlorophenol
PF-40-SPS	92.00917	85018	< 330.	UG/KG	2/21/92	Phenanthrene
PF-40-SPS	92.009	108952	< 330.	UG/KG	2/21/92	Phenol
PF-40-SPS	92.0091	129000	< 330.	UG/KG	2/21/92	Pyrene

REPORT NUMBER: 13096

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 21-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00917

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-SPS	92.00917	83329	< 330.		UG/KG	2/21/92		Acenaphthene
PF-40-SPS	92.00917	208968	< 330.		UG/KG	2/21/92		Acenaphthylene
PF-40-SPS	92.00917	62533	< 330.		UG/KG	2/21/92		Aniline
PF-40-SPS	92.00917	120127	< 330.		UG/KG	2/21/92		Anthracene
PF-40-SPS	92.00917	103333	< 330.		UG/KG	2/21/92		Azobenzene
PF-40-SPS	92.00917	92875	< 330.		UG/KG	2/21/92		m-Benzidine
PF-40-SPS	92.00917	56553	< 330.		UG/KG	2/21/92		Benzo[a]anthracene
PF-40-SPS	92.00917	50328	< 330.		UG/KG	2/21/92		Benzo[a]pyrene
PF-40-SPS	92.00917	205992	< 330.		UG/KG	2/21/92		Benzo[b]fluoranthene
PF-40-SPS	92.00917	191242	< 330.		UG/KG	2/21/92		Benzo[g,h,i]perylene
PF-40-SPS	92.00917	207089	< 330.		UG/KG	2/21/92		Benzo[k]fluoranthene
PF-40-SPS	92.00917	65850	< 330.		UG/KG	2/21/92		Benzoic acid
PF-40-SPS	92.00917	100516	< 330.		UG/KG	2/21/92		Benzyl alcohol
PF-40-SPS	92.00917	111911	< 330.		UG/KG	2/21/92		Bis(2-chloroethoxy)methane
PF-40-SPS	92.00917	111444	< 330.		UG/KG	2/21/92		Bis(2-chloroethyl)ether
PF-40-SPS	92.00917	108601	< 330.		UG/KG	2/21/92		Bis(2-chloroisopropyl)ether
PF-40-SPS	92.00917	117817	< 330.		UG/KG	2/21/92		Bis(2-ethylhexyl)phthalate
PF-40-SPS	92.00917	101553	< 330.		UG/KG	2/21/92		4-Bromophenylphenyl ether
PF-40-SPS	92.00917	85687	< 330.		UG/KG	2/21/92		Butyl benzyl phthalate
PF-40-SPS	92.00917	59507	< 330.		UG/KG	2/21/92		4-Chloro-3-methylphenol
PF-40-SPS	92.00917	106478	< 330.		UG/KG	2/21/92		4-Chloroaniline

PF-40-EBX-E	92.00916	120821	< 330.		UG/KG	2/21/92	1,2,4-Trichlorobenzene
PF-40-EBX-E	92.00916	95954	< 330.		UG/KG	2/21/92	2,4,5-Trichlorophenol
PF-40-EBX-E	92.00916	88062	< 330.		UG/KG	2/21/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00916

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EBX-E	92.00916	165	TI	1800.		UG/KG	2/21/92		Saturated Hydrocarbons
PF-40-EBX-E	92.00916	165	TI	1500.		UG/KG	2/21/92		Saturated Hydrocarbons
PF-40-EBX-E	92.00916	165	TI	3100.		UG/KG	2/21/92		Saturated Hydrocarbons

Customer Sample Duplicate Results for Sample # 92.00916

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00916

none

PF-40-EBX-E	92.00916	91587	< 330.	UG/KG	2/21/92	2-Chloronaphthalene
PF-40-EBX-E	92.00916	95578	< 330.	UG/KG	2/21/92	o-Chlorophenol
PF-40-EBX-E	92.00916	7005723	< 330.	UG/KG	2/21/92	4-Chlorophenylphenyl ether
PF-40-EBX-E	92.00916	218019	< 330.	UG/KG	2/21/92	Chrysene
PF-40-EBX-E	92.00916	84742	< 330.	UG/KG	2/21/92	Di-n-butyl phthalate
PF-40-EBX-E	92.00916	117840	< 330.	UG/KG	2/21/92	Di-n-octyl phthalate
PF-40-EBX-E	92.00916	53703	< 330.	UG/KG	2/21/92	Dibenzo[a,h]anthracene
PF-40-EBX-E	92.00916	132649	< 330.	UG/KG	2/21/92	Dibenzofuran
PF-40-EBX-E	92.00916	95501	< 330.	UG/KG	2/21/92	o-Dichlorobenzene (1,2)
PF-40-EBX-E	92.00916	541731	< 330.	UG/KG	2/21/92	m-Dichlorobenzene (1,3)
PF-40-EBX-E	92.00916	106467	< 330.	UG/KG	2/21/92	p-Dichlorobenzene (1,4)
PF-40-EBX-E	92.00916	91941	< 330.	UG/KG	2/21/92	3,3'-Dichlorobenzidine
PF-40-EBX-E	92.00916	120832	< 330.	UG/KG	2/21/92	2,4-Dichlorophenol
PF-40-EBX-E	92.00916	84662	< 330.	UG/KG	2/21/92	Diethyl phthalate
PF-40-EBX-E	92.00916	131113	< 330.	UG/KG	2/21/92	Dimethyl phthalate
PF-40-EBX-E	92.00916	105679	< 330.	UG/KG	2/21/92	2,4-Dimethylphenol
PF-40-EBX-E	92.00916	51285	< 330.	UG/KG	2/21/92	2,4-Dinitrophenol
PF-40-EBX-E	92.00916	121142	< 330.	UG/KG	2/21/92	2,4-Dinitrotoluene
PF-40-EBX-E	92.00916	606202	< 330.	UG/KG	2/21/92	2,6-Dinitrotoluene
PF-40-EBX-E	92.00916	206440	< 330.	UG/KG	2/21/92	Fluoranthene
PF-40-EBX-E	92.00916	86737	< 330.	UG/KG	2/21/92	Fluorene
PF-40-EBX-E	92.00916	118741	< 330.	UG/KG	2/21/92	Hexachlorobenzene
PF-40-EBX-E	92.00916	87683	< 330.	UG/KG	2/21/92	Hexachlorobutadiene
PF-40-EBX-E	92.00916	77474	< 330.	UG/KG	2/21/92	Hexachlorocyclopentadiene
PF-40-EBX-E	92.00916	67721	< 330.	UG/KG	2/21/92	Hexachloroethane
PF-40-EBX-E	92.00916	193395	< 330.	UG/KG	2/21/92	Indeno[1,2,3-cd]pyrene
PF-40-EBX-E	92.00916	78591	< 330.	UG/KG	2/21/92	Isophorone
PF-40-EBX-E	92.00916	534521	< 330.	UG/KG	2/21/92	2-Methyl-4,6-dinitrophenol
PF-40-EBX-E	92.00916	91576	< 330.	UG/KG	2/21/92	2-Methylnaphthalene
PF-40-EBX-E	92.00916	95487	< 330.	UG/KG	2/21/92	2-Methylphenol
PF-40-EBX-E	92.00916	106445	< 330.	UG/KG	2/21/92	4-Methylphenol
PF-40-EBX-E	92.00916	91203	< 330.	UG/KG	2/21/92	Naphthalene
PF-40-EBX-E	92.00916	88744	< 330.	UG/KG	2/21/92	2-Nitroaniline
PF-40-EBX-E	92.00916	99092	< 330.	UG/KG	2/21/92	3-Nitroaniline
PF-40-EBX-E	92.00916	100016	< 330.	UG/KG	2/21/92	4-Nitroaniline
PF-40-EBX-E	92.00916	98953	< 330.	UG/KG	2/21/92	Nitrobenzene
PF-40-EBX-E	92.00916	88755	< 330.	UG/KG	2/21/92	2-Nitrophenol
PF-40-EBX-E	92.00916	100027	< 330.	UG/KG	2/21/92	4-Nitrophenol
PF-40-EBX-E	92.00916	621647	< 330.	UG/KG	2/21/92	N-Nitrosodi-n-propylamine
PF-40-EBX-E	92.00916	62759	< 330.	UG/KG	2/21/92	N-Nitrosodimethylamine
PF-40-EBX-E	92.00916	86306	< 330.	UG/KG	2/21/92	N-Nitrosodiphenylamine
PF-40-EBX-E	92.00916	87865	< 330.	UG/KG	2/21/92	Pentachlorophenol
PF-40-EBX-E	92.00916	85018	< 330.	UG/KG	2/21/92	Phenanthrene
PF-40-EBX-E	92.00916	108952	< 330.	UG/KG	2/21/92	Phenol
PF-40-EBX-E	92.00916	129000	< 330.	UG/KG	2/21/92	Pyrene

REPORT NUMBER: 13096

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 21-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00916

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EBX-E	92.00916	83329	< 330.		UG/KG	2/21/92		Acenaphthene
PF-40-EBX-E	92.00916	208968	< 330.		UG/KG	2/21/92		Acenaphthylene
PF-40-EBX-E	92.00916	62533	< 330.		UG/KG	2/21/92		Aniline
PF-40-EBX-E	92.00916	120127	< 330.		UG/KG	2/21/92		Anthracene
PF-40-EBX-E	92.00916	103333	< 330.		UG/KG	2/21/92		Azobenzene
PF-40-EBX-E	92.00916	92875	< 330.		UG/KG	2/21/92		m-Benzidine
PF-40-EBX-E	92.00916	56553	< 330.		UG/KG	2/21/92		Benzo[a]anthracene
PF-40-EBX-E	92.00916	50328	< 330.		UG/KG	2/21/92		Benzo[a]pyrene
PF-40-EBX-E	92.00916	205992	< 330.		UG/KG	2/21/92		Benzo[b]fluoranthene
PF-40-EBX-E	92.00916	191242	< 330.		UG/KG	2/21/92		Benzo[g,h,i]perylene
PF-40-EBX-E	92.00916	207089	< 330.		UG/KG	2/21/92		Benzo[k]fluoranthene
PF-40-EBX-E	92.00916	65850	< 330.		UG/KG	2/21/92		Benzoic acid
PF-40-EBX-E	92.00916	100516	< 330.		UG/KG	2/21/92		Benzyl alcohol
PF-40-EBX-E	92.00916	111911	< 330.		UG/KG	2/21/92		Bis(2-chloroethoxy)methane
PF-40-EBX-E	92.00916	111444	< 330.		UG/KG	2/21/92		Bis(2-chloroethyl)ether
PF-40-EBX-E	92.00916	108601	< 330.		UG/KG	2/21/92		Bis(2-chloroisopropyl)ether
PF-40-EBX-E	92.00916	117817	< 330.		UG/KG	2/21/92		Bis(2-ethylhexyl)phthalate
PF-40-EBX-E	92.00916	101553	< 330.		UG/KG	2/21/92		4-Bromophenylphenyl ether
PF-40-EBX-E	92.00916	85687	< 330.		UG/KG	2/21/92		Butyl benzyl phthalate
PF-40-EBX-E	92.0[illegible]	59507	< 330.		UG/KG	2/21/92		4-Chloro-3-methylphenol
PF-40-EBX-E	92.00[illegible]	106478	< 330.		UG/KG	2/21/92		4-Chloroaniline

PF-40-EBX-W	92.00915	120821	< 330.	UG/KG	2/21/92	1,2,4-Trichlorobenzene
PF-40-EBX-W	92.00915	95954	< 330.	UG/KG	2/21/92	2,4,5-Trichlorophenol
PF-40-EBX-W	92.00915	88062	< 330.	UG/KG	2/21/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00915

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EBX-W	92.00915	32	TI	620.		UG/KG	2/21/92		Esters
PF-40-EBX-W	92.00915	165	TI	370.		UG/KG	2/21/92		Saturated Hydrocarbons

Customer Sample Duplicate Results for Sample # 92.00915

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00915

none

PF-40-EBX-W	92.00915	91587	< 330.	UG/KG	2/21/92	2-Chloronaphthalene
PF-40-EBX-W	92.00915	95578	< 330.	UG/KG	2/21/92	o-Chlorophenol
PF-40-EBX-W	92.00915	7005723	< 330.	UG/KG	2/21/92	4-Chlorophenylphenyl ether
PF-40-EBX-W	92.00915	218019	< 330.	UG/KG	2/21/92	Chrysene
PF-40-EBX-W	92.00915	84742	< 330.	UG/KG	2/21/92	Di-n-butyl phthalate
PF-40-EBX-W	92.00915	117840	< 330.	UG/KG	2/21/92	Di-n-octyl phthalate
PF-40-EBX-W	92.00915	53703	< 330.	UG/KG	2/21/92	Dibenzo[a,h]anthracene
PF-40-EBX-W	92.00915	132649	< 330.	UG/KG	2/21/92	Dibenzofuran
PF-40-EBX-W	92.00915	95501	< 330.	UG/KG	2/21/92	o-Dichlorobenzene (1,2)
PF-40-EBX-W	92.00915	541731	< 330.	UG/KG	2/21/92	m-Dichlorobenzene (1,3)
PF-40-EBX-W	92.00915	106467	< 330.	UG/KG	2/21/92	p-Dichlorobenzene (1,4)
PF-40-EBX-W	92.00915	91941	< 330.	UG/KG	2/21/92	3,3'-Dichlorobenzidine
PF-40-EBX-W	92.00915	120832	< 330.	UG/KG	2/21/92	2,4-Dichlorophenol
PF-40-EBX-W	92.00915	84662	< 330.	UG/KG	2/21/92	Diethyl phthalate
PF-40-EBX-W	92.00915	131113	< 330.	UG/KG	2/21/92	Dimethyl phthalate
PF-40-EBX-W	92.00915	105679	< 330.	UG/KG	2/21/92	2,4-Dimethylphenol
PF-40-EBX-W	92.00915	51285	< 330.	UG/KG	2/21/92	2,4-Dinitrophenol
PF-40-EBX-W	92.00915	121142	< 330.	UG/KG	2/21/92	2,4-Dinitrotoluene
PF-40-EBX-W	92.00915	606202	< 330.	UG/KG	2/21/92	2,6-Dinitrotoluene
PF-40-EBX-W	92.00915	206440	< 330.	UG/KG	2/21/92	Fluoranthene
PF-40-EBX-W	92.00915	86737	< 330.	UG/KG	2/21/92	Fluorene
PF-40-EBX-W	92.00915	118741	< 330.	UG/KG	2/21/92	Hexachlorobenzene
PF-40-EBX-W	92.00915	87683	< 330.	UG/KG	2/21/92	Hexachlorobutadiene
PF-40-EBX-W	92.00915	77474	< 330.	UG/KG	2/21/92	Hexachlorocyclopentadiene
PF-40-EBX-W	92.00915	67721	< 330.	UG/KG	2/21/92	Hexachloroethane
PF-40-EBX-W	92.00915	193395	< 330.	UG/KG	2/21/92	Indeno[1,2,3-cd]pyrene
PF-40-EBX-W	92.00915	78591	< 330.	UG/KG	2/21/92	Isophorone
PF-40-EBX-W	92.00915	534521	< 330.	UG/KG	2/21/92	2-Methyl-4,6-dinitrophenol
PF-40-EBX-W	92.00915	91576	< 330.	UG/KG	2/21/92	2-Methylnaphthalene
PF-40-EBX-W	92.00915	95487	< 330.	UG/KG	2/21/92	2-Methylphenol
PF-40-EBX-W	92.00915	106445	< 330.	UG/KG	2/21/92	4-Methylphenol
PF-40-EBX-W	92.00915	91203	< 330.	UG/KG	2/21/92	Naphthalene
PF-40-EBX-W	92.00915	88744	< 330.	UG/KG	2/21/92	2-Nitroaniline
PF-40-EBX-W	92.00915	99092	< 330.	UG/KG	2/21/92	3-Nitroaniline
PF-40-EBX-W	92.00915	100016	< 330.	UG/KG	2/21/92	4-Nitroaniline
PF-40-EBX-W	92.00915	98953	< 330.	UG/KG	2/21/92	Nitrobenzene
PF-40-EBX-W	92.00915	88755	< 330.	UG/KG	2/21/92	2-Nitrophenol
PF-40-EBX-W	92.00915	100027	< 330.	UG/KG	2/21/92	4-Nitrophenol
PF-40-EBX-W	92.00915	621647	< 330.	UG/KG	2/21/92	N-Nitrosodi-n-propylamine
PF-40-EBX-W	92.00915	62759	< 330.	UG/KG	2/21/92	N-Nitrosodimethylamine
PF-40-EBX-W	92.00915	86306	< 330.	UG/KG	2/21/92	N-Nitrosodiphenylamine
PF-40-EBX-W	92.00915	87865	< 330.	UG/KG	2/21/92	Pentachlorophenol
PF-40-EBX-W	92.00915	85018	< 330.	UG/KG	2/21/92	Phenanthrene
PF-40-EBX-W	92.009	108952	< 330.	UG/KG	2/21/92	Phenol
PF-40-EBX-W	92.009..	129000	< 330.	UG/KG	2/21/92	Pyrene

REPORT NUMBER: 13096

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 21-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00915

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EBX-W	92.00915	83329	< 330.		UG/KG	2/21/92		Acenaphthene
PF-40-EBX-W	92.00915	208968	< 330.		UG/KG	2/21/92		Acenaphthylene
PF-40-EBX-W	92.00915	62533	< 330.		UG/KG	2/21/92		Aniline
PF-40-EBX-W	92.00915	120127	< 330.		UG/KG	2/21/92		Anthracene
PF-40-EBX-W	92.00915	103333	< 330.		UG/KG	2/21/92		Azobenzene
PF-40-EBX-W	92.00915	92875	< 330.		UG/KG	2/21/92		m-Benzidine
PF-40-EBX-W	92.00915	56553	< 330.		UG/KG	2/21/92		Benzo[a]anthracene
PF-40-EBX-W	92.00915	50328	< 330.		UG/KG	2/21/92		Benzo[a]pyrene
PF-40-EBX-W	92.00915	205992	< 330.		UG/KG	2/21/92		Benzo[b]fluoranthene
PF-40-EBX-W	92.00915	191242	< 330.		UG/KG	2/21/92		Benzo[g,h,i]perylene
PF-40-EBX-W	92.00915	207089	< 330.		UG/KG	2/21/92		Benzo[k]fluoranthene
PF-40-EBX-W	92.00915	65850	< 330.		UG/KG	2/21/92		Benzoic acid
PF-40-EBX-W	92.00915	100516	< 330.		UG/KG	2/21/92		Benzyl alcohol
PF-40-EBX-W	92.00915	111911	< 330.		UG/KG	2/21/92		Bis(2-chloroethoxy)methane
PF-40-EBX-W	92.00915	111444	< 330.		UG/KG	2/21/92		Bis(2-chloroethyl)ether
PF-40-EBX-W	92.00915	108601	< 330.		UG/KG	2/21/92		Bis(2-chloroisopropyl)ether
PF-40-EBX-W	92.00915	117817	< 330.		UG/KG	2/21/92		Bis(2-ethylhexyl)phthalate
PF-40-EBX-W	92.00915	101553	< 330.		UG/KG	2/21/92		4-Bromophenylphenyl ether
PF-40-EBX-W	92.00915	85687	< 330.		UG/KG	2/21/92		Butyl benzyl phthalate
PF-40-EBX-W	92.00915	59507	< 330.		UG/KG	2/21/92		4-Chloro-3-methylphenol
PF-40-EBX-W	92.00915	106478	< 330.		UG/KG	2/21/92		4-Chloroaniline

PF-40-BAE-1	92.00914	120821	< 330.	UG/KG	2/21/92	1,2,4-Trichlorobenzene
PF-40-BAE-1	92.00914	95954	< 330.	UG/KG	2/21/92	2,4,5-Trichlorophenol
PF-40-BAE-1	92.00914	88062	< 330.	UG/KG	2/21/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00914

none

Customer Sample Duplicate Results for Sample # 92.00914

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00914

none

PF-40-BAE-1	92.00914	91587	< 330.	UG/KG	2/21/92	2-Chloronaphthalene
PF-40-BAE-1	92.00914	95578	< 330.	UG/KG	2/21/92	o-Chlorophenol
PF-40-BAE-1	92.00914	7005723	< 330.	UG/KG	2/21/92	4-Chlorophenylphenyl ether
PF-40-BAE-1	92.00914	218019	< 330.	UG/KG	2/21/92	Chrysene
PF-40-BAE-1	92.00914	84742	< 330.	UG/KG	2/21/92	Di-n-butyl phthalate
PF-40-BAE-1	92.00914	117840	< 330.	UG/KG	2/21/92	Di-n-octyl phthalate
PF-40-BAE-1	92.00914	53703	< 330.	UG/KG	2/21/92	Dibenzo[a,h]anthracene
PF-40-BAE-1	92.00914	132649	< 330.	UG/KG	2/21/92	Dibenzofuran
PF-40-BAE-1	92.00914	95501	< 330.	UG/KG	2/21/92	o-Dichlorobenzene (1,2)
PF-40-BAE-1	92.00914	541731	< 330.	UG/KG	2/21/92	m-Dichlorobenzene (1,3)
PF-40-BAE-1	92.00914	106467	< 330.	UG/KG	2/21/92	p-Dichlorobenzene (1,4)
PF-40-BAE-1	92.00914	91941	< 330.	UG/KG	2/21/92	3,3'-Dichlorobenzidine
PF-40-BAE-1	92.00914	120832	< 330.	UG/KG	2/21/92	2,4-Dichlorophenol
PF-40-BAE-1	92.00914	84662	< 330.	UG/KG	2/21/92	Diethyl phthalate
PF-40-BAE-1	92.00914	131113	< 330.	UG/KG	2/21/92	Dimethyl phthalate
PF-40-BAE-1	92.00914	105679	< 330.	UG/KG	2/21/92	2,4-Dimethylphenol
PF-40-BAE-1	92.00914	51285	< 330.	UG/KG	2/21/92	2,4-Dinitrophenol
PF-40-BAE-1	92.00914	121142	< 330.	UG/KG	2/21/92	2,4-Dinitrotoluene
PF-40-BAE-1	92.00914	606202	< 330.	UG/KG	2/21/92	2,6-Dinitrotoluene
PF-40-BAE-1	92.00914	206440	< 330.	UG/KG	2/21/92	Fluoranthene
PF-40-BAE-1	92.00914	86737	< 330.	UG/KG	2/21/92	Fluorene
PF-40-BAE-1	92.00914	118741	< 330.	UG/KG	2/21/92	Hexachlorobenzene
PF-40-BAE-1	92.00914	87683	< 330.	UG/KG	2/21/92	Hexachlorobutadiene
PF-40-BAE-1	92.00914	77474	< 330.	UG/KG	2/21/92	Hexachlorocyclopentadiene
PF-40-BAE-1	92.00914	67721	< 330.	UG/KG	2/21/92	Hexachloroethane
PF-40-BAE-1	92.00914	193395	< 330.	UG/KG	2/21/92	Indeno[1,2,3-cd]pyrene
PF-40-BAE-1	92.00914	78591	< 330.	UG/KG	2/21/92	Isophorone
PF-40-BAE-1	92.00914	534521	< 330.	UG/KG	2/21/92	2-Methyl-4,6-dinitrophenol
PF-40-BAE-1	92.00914	91576	< 330.	UG/KG	2/21/92	2-Methylnaphthalene
PF-40-BAE-1	92.00914	95487	< 330.	UG/KG	2/21/92	2-Methylphenol
PF-40-BAE-1	92.00914	106445	< 330.	UG/KG	2/21/92	4-Methylphenol
PF-40-BAE-1	92.00914	91203	< 330.	UG/KG	2/21/92	Naphthalene
PF-40-BAE-1	92.00914	88744	< 330.	UG/KG	2/21/92	2-Nitroaniline
PF-40-BAE-1	92.00914	99092	< 330.	UG/KG	2/21/92	3-Nitroaniline
PF-40-BAE-1	92.00914	100016	< 330.	UG/KG	2/21/92	4-Nitroaniline
PF-40-BAE-1	92.00914	98953	< 330.	UG/KG	2/21/92	Nitrobenzene
PF-40-BAE-1	92.00914	88755	< 330.	UG/KG	2/21/92	2-Nitrophenol
PF-40-BAE-1	92.00914	100027	< 330.	UG/KG	2/21/92	4-Nitrophenol
PF-40-BAE-1	92.00914	621647	< 330.	UG/KG	2/21/92	N-Nitrosodi-n-propylamine
PF-40-BAE-1	92.00914	62759	< 330.	UG/KG	2/21/92	N-Nitrosodimethylamine
PF-40-BAE-1	92.00914	86306	< 330.	UG/KG	2/21/92	N-Nitrosodiphenylamine
PF-40-BAE-1	92.00914	87865	< 330.	UG/KG	2/21/92	Pentachlorophenol
PF-40-BAE-1	92.00914	85018	< 330.	UG/KG	2/21/92	Phenanthrene
PF-40-BAE-1	92.00914	108952	< 330.	UG/KG	2/21/92	Phenol
PF-40-BAE-1	92.00914	129000	< 330.	UG/KG	2/21/92	Pyrene

REPORT NUMBER: 13096

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 21-Feb-1992

EPA SEMIVOLATILES

EQUEST NUMBER: 12454 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

WNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

ustomer Sample Results, Sample # 92.00914

ate Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/06/92

USTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-BAE-1	92.00914	83329	< 330.		UG/KG	2/21/92		Acenaphthene
F-40-BAE-1	92.00914	208968	< 330.		UG/KG	2/21/92		Acenaphthylene
F-40-BAE-1	92.00914	62533	< 330.		UG/KG	2/21/92		Aniline
F-40-BAE-1	92.00914	120127	< 330.		UG/KG	2/21/92		Anthracene
F-40-BAE-1	92.00914	103333	< 330.		UG/KG	2/21/92		Azobenzene
F-40-BAE-1	92.00914	92875	< 330.		UG/KG	2/21/92		m-Benzidine
F-40-BAE-1	92.00914	56553	< 330.		UG/KG	2/21/92		Benzo[a]anthracene
F-40-BAE-1	92.00914	50328	< 330.		UG/KG	2/21/92		Benzo[a]pyrene
F-40-BAE-1	92.00914	205992	< 330.		UG/KG	2/21/92		Benzo[b]fluoranthene
F-40-BAE-1	92.00914	191242	< 330.		UG/KG	2/21/92		Benzo[g,h,i]perylene
F-40-BAE-1	92.00914	207089	< 330.		UG/KG	2/21/92		Benzo[k]fluoranthene
-40-BAE-1	92.00914	65850	< 330.		UG/KG	2/21/92		Benzoic acid
-40-BAE-1	92.00914	100516	< 330.		UG/KG	2/21/92		Benzyl alcohol
-40-BAE-1	92.00914	111911	< 330.		UG/KG	2/21/92		Bis(2-chloroethoxy)methane
-40-BAE-1	92.00914	111444	< 330.		UG/KG	2/21/92		Bis(2-chloroethyl)ether
-40-BAE-1	92.00914	108601	< 330.		UG/KG	2/21/92		Bis(2-chloroisopropyl)ether
-40-BAE-1	92.00914	117817	< 330.		UG/KG	2/21/92		Bis(2-ethylhexyl)phthalate
-40-BAE-1	92.00914	101553	< 330.		UG/KG	2/21/92		4-Bromophenylphenyl ether
-40-BAE-1	92.00914	85687	< 330.		UG/KG	2/21/92		Butyl benzyl phthalate
-40-BAE-1	92.0091	59507	< 330.		UG/KG	2/21/92		4-Chloro-3-methylphenol
-40-BAE-1	92.00914	106478	< 330.		UG/KG	2/21/92		4-Chloroaniline

PF-40-BAW-1	92.00913	120821	< 330.		UG/KG	2/21/92	1,2,4-Trichlorobenzene
PF-40-BAW-1	92.00913	95954	< 330.		UG/KG	2/21/92	2,4,5-Trichlorophenol
PF-40-BAW-1	92.00913	88062	< 330.		UG/KG	2/21/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00913

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-1	92.00913	165	TI	860.		UG/KG	2/21/92		Saturated Hydrocarbons
PF-40-BAW-1	92.00913	165	TI	670.		UG/KG	2/21/92		Saturated Hydrocarbons

Customer Sample Duplicate Results for Sample # 92.00913

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00913

none

F-40-BAW-1	92.00913	91587	< 330.	UG/KG	2/21/92	2-Chloronaphthalene
F-40-BAW-1	92.00913	95578	< 330.	UG/KG	2/21/92	o-Chlorophenol
F-40-BAW-1	92.00913	7005723	< 330.	UG/KG	2/21/92	4-Chlorophenylphenyl ether
F-40-BAW-1	92.00913	218019	< 330.	UG/KG	2/21/92	Chrysene
F-40-BAW-1	92.00913	84742	< 330.	UG/KG	2/21/92	Di-n-butyl phthalate
F-40-BAW-1	92.00913	117840	< 330.	UG/KG	2/21/92	Di-n-octyl phthalate
F-40-BAW-1	92.00913	53703	< 330.	UG/KG	2/21/92	Dibenzo[a,h]anthracene
F-40-BAW-1	92.00913	132649	< 330.	UG/KG	2/21/92	Dibenzofuran
F-40-BAW-1	92.00913	95501	< 330.	UG/KG	2/21/92	o-Dichlorobenzene (1,2)
F-40-BAW-1	92.00913	541731	< 330.	UG/KG	2/21/92	m-Dichlorobenzene (1,3)
F-40-BAW-1	92.00913	106467	< 330.	UG/KG	2/21/92	p-Dichlorobenzene (1,4)
F-40-BAW-1	92.00913	91941	< 330.	UG/KG	2/21/92	3,3'-Dichlorobenzidine
F-40-BAW-1	92.00913	120832	< 330.	UG/KG	2/21/92	2,4-Dichlorophenol
F-40-BAW-1	92.00913	84662	< 330.	UG/KG	2/21/92	Diethyl phthalate
F-40-BAW-1	92.00913	131113	< 330.	UG/KG	2/21/92	Dimethyl phthalate
F-40-BAW-1	92.00913	105679	< 330.	UG/KG	2/21/92	2,4-Dimethylphenol
F-40-BAW-1	92.00913	51285	< 330.	UG/KG	2/21/92	2,4-Dinitrophenol
F-40-BAW-1	92.00913	121142	< 330.	UG/KG	2/21/92	2,4-Dinitrotoluene
F-40-BAW-1	92.00913	606202	< 330.	UG/KG	2/21/92	2,6-Dinitrotoluene
F-40-BAW-1	92.00913	206440	< 330.	UG/KG	2/21/92	Fluoranthene
F-40-BAW-1	92.00913	86737	< 330.	UG/KG	2/21/92	Fluorene
F-40-BAW-1	92.00913	118741	< 330.	UG/KG	2/21/92	Hexachlorobenzene
F-40-BAW-1	92.00913	87683	< 330.	UG/KG	2/21/92	Hexachlorobutadiene
F-40-BAW-1	92.00913	77474	< 330.	UG/KG	2/21/92	Hexachlorocyclopentadiene
F-40-BAW-1	92.00913	67721	< 330.	UG/KG	2/21/92	Hexachloroethane
F-40-BAW-1	92.00913	193395	< 330.	UG/KG	2/21/92	Indeno[1,2,3-cd]pyrene
F-40-BAW-1	92.00913	78591	< 330.	UG/KG	2/21/92	Isophorone
F-40-BAW-1	92.00913	534521	< 330.	UG/KG	2/21/92	2-Methyl-4,6-dinitrophenol
F-40-BAW-1	92.00913	91576	< 330.	UG/KG	2/21/92	2-Methylnaphthalene
F-40-BAW-1	92.00913	95487	< 330.	UG/KG	2/21/92	2-Methylphenol
F-40-BAW-1	92.00913	106445	< 330.	UG/KG	2/21/92	4-Methylphenol
F-40-BAW-1	92.00913	91203	< 330.	UG/KG	2/21/92	Naphthalene
F-40-BAW-1	92.00913	88744	< 330.	UG/KG	2/21/92	2-Nitroaniline
F-40-BAW-1	92.00913	99092	< 330.	UG/KG	2/21/92	3-Nitroaniline
F-40-BAW-1	92.00913	100016	< 330.	UG/KG	2/21/92	4-Nitroaniline
F-40-BAW-1	92.00913	98953	< 330.	UG/KG	2/21/92	Nitrobenzene
F-40-BAW-1	92.00913	88755	< 330.	UG/KG	2/21/92	2-Nitrophenol
F-40-BAW-1	92.00913	100027	< 330.	UG/KG	2/21/92	4-Nitrophenol
F-40-BAW-1	92.00913	621647	< 330.	UG/KG	2/21/92	N-Nitrosodi-n-propylamine
F-40-BAW-1	92.00913	62759	< 330.	UG/KG	2/21/92	N-Nitrosodimethylamine
F-40-BAW-1	92.00913	86306	< 330.	UG/KG	2/21/92	N-Nitrosodiphenylamine
F-40-BAW-1	92.00913	87865	< 330.	UG/KG	2/21/92	Pentachlorophenol
F-40-BAW-1	92.00913	85018	< 330.	UG/KG	2/21/92	Phenanthrene
F-40-BAW-1	92.00913	108952	< 330.	UG/KG	2/21/92	Phenol
F-40-BAW-1	92.0091_	129000	< 330.	UG/KG	2/21/92	Pyrene

REPORT NUMBER: 13096

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 21-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00913

Date Collected: 1/28/92 Date Received: 1/29/92 Date Extracted: 1/30/92 Date Analyzed: 2/06/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-1	92.00913	83329	< 330.		UG/KG	2/21/92		Acenaphthene
PF-40-BAW-1	92.00913	208968	< 330.		UG/KG	2/21/92		Acenaphthylene
PF-40-BAW-1	92.00913	62533	< 330.		UG/KG	2/21/92		Aniline
PF-40-BAW-1	92.00913	120127	< 330.		UG/KG	2/21/92		Anthracene
PF-40-BAW-1	92.00913	103333	< 330.		UG/KG	2/21/92		Azobenzene
PF-40-BAW-1	92.00913	92875	< 330.		UG/KG	2/21/92		m-Benzidine
PF-40-BAW-1	92.00913	56553	< 330.		UG/KG	2/21/92		Benzo[a]anthracene
PF-40-BAW-1	92.00913	50328	< 330.		UG/KG	2/21/92		Benzo[a]pyrene
PF-40-BAW-1	92.00913	205992	< 330.		UG/KG	2/21/92		Benzo[b]fluoranthene
PF-40-BAW-1	92.00913	191242	< 330.		UG/KG	2/21/92		Benzo[g,h,i]perylene
PF-40-BAW-1	92.00913	207089	< 330.		UG/KG	2/21/92		Benzo[k]fluoranthene
PF-40-BAW-1	92.00913	65850	< 330.		UG/KG	2/21/92		Benzoic acid
PF-40-BAW-1	92.00913	100516	< 330.		UG/KG	2/21/92		Benzyl alcohol
PF-40-BAW-1	92.00913	111911	< 330.		UG/KG	2/21/92		Bis(2-chloroethoxy)methane
PF-40-BAW-1	92.00913	111444	< 330.		UG/KG	2/21/92		Bis(2-chloroethyl)ether
PF-40-BAW-1	92.00913	108601	< 330.		UG/KG	2/21/92		Bis(2-chloroisopropyl)ether
PF-40-BAW-1	92.00913	117817	< 330.		UG/KG	2/21/92		Bis(2-ethylhexyl)phthalate
PF-40-BAW-1	92.00913	101553	< 330.		UG/KG	2/21/92		4-Bromophenylphenyl ether
PF-40-BAW-1	92.00913	85687	< 330.		UG/KG	2/21/92		Butyl benzyl phthalate
PF-40-BAW-1	92.00913	59507	< 330.		UG/KG	2/21/92		4-Chloro-3-methylphenol
PF-40-BAW-1	92.00913	106478	< 330.		UG/KG	2/21/92		4-Chloroaniline

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
MATRIX SPIKE RECOVERIES FOR SEMI-VOLATILES

		DRY WT/VOL (G or L)		AMOUNT SPIKED IN UG/KG ACIDS	BASES	LOQ (UG/KG)
REQUEST #:	12454					
NUMBER OF SAMPLES:	13					
SPIKE ID: (STARTS M OR E)	M92.00708	SPIKE	26.7	3745	1873	330
SPIKE DUP ID: (STARTS D OR F)	D92.00708	SPIKE-DUP	27.056	3696	1848	330
RAW DATA WITH:	12439					
ANALYST:	AJL					

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW. REC. LIM.	UPP. REC. LIM.	RPD LIM.
:	1600	1800	43%	49%	13%	26	90	35
E-CHLOROPHENOL	1500	1900	40%	51%	25%	25	102	50
.4-DICHLOROBENZENE	840	1000	45%	54%	19%	28	104	27
-NITROSO-DI-N-PROPYLAMINE	1100	1200	59%	65%	10%	41	126	38
.2,4-TRICLOROBENZENE	910	1100	49%	60%	20%	38	107	23
-CHLORO-3-METHYLPHENOL	2000	2200	53%	60%	11%	26	103	33
CENAPHTHENE	1200	1300	64%	70%	9%	31	137	19
-NITROPHENOL	2500	2200	67%	60%	11%	11	114	50
,4-DINITROTOLUENE	1500	1500	80%	81%	1%	28	89	47
ENTACHLOROPHENOL	2400	1800	64%	49%	27%	17	109	47
YRENE	1800	1700	96%	92%	4%	35	142	36

* % Matrix Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By: 2/21/92

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR SEMI-VOLATILES
IN SOIL TYPE MATRICES

REQUEST #: 12454

NUMBER OF SAMPLES: 13
MATRIX S
ANALYST: AJL
Date: 01/05/92

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	2-FLUORO-PHENOL	PHENOL (D6)	NITRO-BENZENE (D5)	2-FLUORO-BIPHENYL	2,4,6-TRIBROMO-PHENOL	TERPHENYL (D14)
1	B92.00968	BLANK	37	31	53	66	70	115
2	S92.00913	SAMPLE	44	47	59	69	70	89
	S92.00914	SAMPLE	33	39	47	69	65	92
	S92.00915	SAMPLE	40	43	55	70	67	88
	S92.00916	SAMPLE	31	38	51	74	70	92
6	S92.00917	SAMPLE	41	43	56	70	70	93
7	S92.00918	SAMPLE	0 *	0 *	0 *	0 *	0 *	0 *
8	S92.00919	SAMPLE	33	42	50	69	80	96
9	S92.00920	SAMPLE	35	39	49	69	87	86
10	S92.00921	SAMPLE	40	43	54	74	86	85
11	S92.00967	SAMPLE	44	44	58	73	73	118
12	M92.00708	MATRIX SPIK	39	41	57	73	73	118
13	D92.00708	MATRIX SP-D	50	49	68	82	79	107
14								
15								
16								
17								
18								
19								
20								
21								
22								

Average % Surrogate Recovery...	34	36	47	63	67	84
Defined Lower QC Limits (%)....	23	24	23	30	19	19
Defined Upper QC Limits (%)....	121	113	120	115	122	137
Observed Lower QC Limits (%)...	0	0	0	0	0	0
Observed Upper QC Limits (%)...	44	47	59	74	87	115

* If % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By: 1/21/92

H[redacted] SEMIVOLATILE ORGANIC ANALYSIS
SUMMARY OF ANALYTICAL RESULTS

To: Phil Fresquez 02/26/92
From: Anthony Lombardo 2/25/92
Request Number: 12454
Matrix: Soil
Summary Date: 02/19/92

Sample ID	Target Compounds Found	Amount (ug/Kg)	LOQ (ug/Kg)	TICs (Y/N)
Blank 1/30/92	NONE	<330	330	N
92.00913	NONE	<330	330	Y
92.00914	NONE	<330	330	N
92.00915	NONE	<330	330	Y
92.00916	NONE	<330	330	Y
92.00917	NONE	<330	330	Y
92.00918	NONE	<3300	3300	Y
92.00919	NONE	<330	330	Y
92.00920	NONE	<330	330	Y
92.00921	NONE	<330	330	Y

The samples were extracted by mixing approximately 30 g of sample with 60 g sodium sulfate and sonicating with 100 ml of methylene chloride. This was repeated two more times. Sample extracts were centrifuged, combined, and concentrated to a 1.0 ml final volume. Appropriate surrogate standards were added prior to extraction as a check of method efficiency. Analysis was performed by capillary column GC/MS methods. These methods are consistent with EPA SW-846 protocol.

All extracts were found to be absent of HSL target compounds above the specified limit of quantitation. Several samples contained appreciable concentrations of non target compounds. ~~some of which were not chromatographable.~~

Surrogate recoveries were within control limits for all samples.

All analytical holding times were satisfied regarding this request. If you have any questions concerning this data, please do not hesitate to call either Anthony Lombardo or Laura Tsiagkouris at 667-5889.

Sample 92.00918 extract was dark and somewhat viscous. The sample was analyzed at a 1:10 dilution. Although no target compounds were found, the sample was not analyzed at a higher concentration, since a more concentrated analysis may have adversely effected analytical system performance. Surrogates were diluted out of this sample.

********** EM-9 QUALITY ASSURANCE REPORT **********

REPORT NUMBER: 14492				
	Analyst	Reviewer	Section Leader	QA Officer
	07/07/92	7/6/92	7/10/92	
	Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 QUALITY ASSURANCE REPORT **********

SURROGATE RESULTS FOR EPA SEMIVOLATILES

Surrogate 1 = 2-Fluorophenol (CAS # = 367124)
Surrogate 2 = Phenol-d5 (CAS # = 4165622)
Surrogate 3 = Nitrobenzene-d5 (CAS # = 4165600)
Surrogate 4 = 2-Fluorobiphenyl (CAS # = 321608)
Surrogate 5 = 2,4,6-Tribromophenol (CAS # = 118796)
Surrogate 6 = p-Terphenyl-d14 (CAS # =)

SAMPLE NUMBER	UNITS	Surrogate 1	Surrogate 2	Surrogate 3	Surrogate 4	Surrogate 5	Surrogate 6	COMPLETION DATE
92.06115	%	45.16	54.04	52.7	57.36	68.01	49.52	6-Jul-1992
92.06115	%	43.9	52.34	49.5	52.7	63.67	49.44	6-Jul-1992
92.06115	%	50.93	60.64	63.58	72.86	99.84	64.1	6-Jul-1992
92.06116	%	55.13	65.86	64.46	72.04	71.48	101.32	6-Jul-1992
92.06117	%	49.93	55.97	63.6	69.54	78.59	73.84	6-Jul-1992
92.06118	%	43.8	46.34	49.9	55.52	85.86	74.14	6-Jul-1992
92.06119	%	36.78	39.83	41.74	53.18	70.43	51.14	6-Jul-1992
92.06120	%	43.19	47.92	51.08	59.58	76.99	67.78	6-Jul-1992
92.06121	%	39.93	56.44	50.14	63.24	79.31	73.88	6-Jul-1992
92.06122	%	49.98	59.89	56.22	61.64	79.47	79.3	6-Jul-1992
92.06123	%	52.1	64.25	55.	78.4	66.6	87.9	6-Jul-1992
92.06158	%	37.7	44.61	39.2	53.06	46.66	56.86	6-Jul-1992
92.06159	%	42.18	47.13	53.3	58.86	48.9	56.36	6-Jul-1992
EPA Limits:								
Water	%	21 - 100	10 - 94	35 - 114	43 - 116	10 - 123	33 - 141	
Soil	%	25 - 121	24 - 113	23 - 120	30 - 115	19 - 122	18 - 137	

92.06158	[illegible]	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Di-n-octyl phthalate
92.06158	53703	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Dibenzo[a,h]anthracene
92.06158	132649	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Dibenzofuran
92.06158	95501	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
92.06158	541731	1.8	0.54	MG/KG	5.	0.5	7/06/92	OUT OF CONTROL	m-Dichlorobenzene (1,3)
92.06158	106467	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
92.06158	91941	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	3,3'-Dichlorobenzidine
92.06158	120832	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2,4-Dichlorophenol
92.06158	84662	2.5	0.75	MG/KG	4.2	0.4	7/06/92	WARNING 2-3 SIG	Diethyl phthalate
92.06158	131113	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Dimethyl phthalate
92.06158	105679	1.8	0.54	MG/KG	3.7	0.4	7/06/92	WARNING 2-3 SIG	2,4-Dimethylphenol
92.06158	51285	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2,4-Dinitrophenol
92.06158	121142	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2,4-Dinitrotoluene
92.06158	606202	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2,6-Dinitrotoluene
92.06158	206440	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Fluoranthene
92.06158	86737	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Fluorene
92.06158	118741	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Hexachlorobenzene
92.06158	87683	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Hexachlorobutadiene
92.06158	77474	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Hexachlorocyclopentadiene
92.06158	67721	1.7	0.51	MG/KG	4.8	0.5	7/06/92	OUT OF CONTROL	Hexachloroethane
92.06158	193395	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
92.06158	78591	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Isophorone
92.06158	534521	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
92.06158	91576	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2-Methylnaphthalene
92.06158	95487	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2-Methylphenol
92.06158	106445	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	4-Methylphenol
92.06158	91203	2.1	0.63	MG/KG	4.7	0.5	7/06/92	OUT OF CONTROL	Naphthalene
92.06158	88744	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2-Nitroaniline
92.06158	99092	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	3-Nitroaniline
92.06158	100016	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	4-Nitroaniline
92.06158	98953	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Nitrobenzene
92.06158	88755	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2-Nitrophenol
92.06158	100027	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	4-Nitrophenol
92.06158	621647	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
92.06158	62759	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	N-Nitrosodimethylamine
92.06158	86306	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	N-Nitrosodiphenylamine
92.06158	87865	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Pentachlorophenol
92.06158	85018	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Phenanthrene
92.06158	108952	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Phenol
92.06158	129000	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Pyrene
92.06158	120821	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	1,2,4-Trichlorobenzene
92.06158	95954	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2,4,5-Trichlorophenol
92.06158	88062	2.6	0.78	MG/KG	4.6	0.5	7/06/92	WARNING 2-3 SIG	2,4,6-Trichlorophenol

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.06158 Date Collected: 5/05/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/12/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.06158	83329	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Acenaphthene
92.06158	208968	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Acenaphthylene
92.06158	62533	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Aniline
92.06158	120127	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Anthracene
92.06158	103333	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Azobenzene
92.06158	92875	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	m-Benzidine
92.06158	56553	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Benzo[a]anthracene
92.06158	50328	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Benzo[a]pyrene
92.06158	205992	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Benzo[b]fluoranthene
92.06158	191242	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Benzo[g,h,i]perylene
92.06158	207089	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Benzo[k]fluoranthene
92.06158	65850	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Benzoic acid
92.06158	100516	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Benzyl alcohol
92.06158	111911	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
92.06158	111444	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Bis(2-chloroethyl)ether
92.06158	108601	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
92.06158	117817	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
92.06158	101553	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	4-Bromophenylphenyl ether
92.06158	85687	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Butyl benzyl phthalate
92.06158	59507	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	4-Chloro-3-methylphenol
92.06158	106478	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	4-Chloroaniline
92.06158	91587	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	2-Chloronaphthalene
92.06158	95578	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	o-Chlorophenol
92.06158	7005723	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	4-Chlorophenylphenyl ether
92.06158	218019	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Chrysene
92.06158	84742	< 0.33		MG/KG	0.0		7/06/92	UNDER CONTROL	Di-n-butyl phthalate

********** EM-9 QUALITY ASSURANCE REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.20227	92.06159	88755	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2-Nitrophenol
00.20227	92.06159	100027	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	4-Nitrophenol
00.20227	92.06159	621647	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
00.20227	92.06159	62759	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	N-Nitrosodimethylamine
00.20227	92.06159	86306	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	N-Nitrosodiphenylamine
00.20227	92.06159	87865	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Pentachlorophenol
00.20227	92.06159	85018	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Phenanthrene
00.20227	92.06159	108952	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Phenol
00.20227	92.06159	129000	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Pyrene
00.20227	92.06159	120821	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	1,2,4-Trichlorobenzene
00.20227	92.06159	95954	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2,4,5-Trichlorophenol
00.20227	92.06159	88062	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2,4,6-Trichlorophenol

Blank Spike Results: none

Blank Spike Duplicate Results: none

********** EM-9 QUALITY ASSURANCE REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.20227	92.06159	91587	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2-Chloronaphthalene
00.20227	92.06159	95578	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	o-Chlorophenol
00.20227	92.06159	7005723	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	4-Chlorophenylphenyl ether
00.20227	92.06159	218019	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Chrysene
00.20227	92.06159	84742	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Di-n-butyl phthalate
00.20227	92.06159	117840	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Di-n-octyl phthalate
00.20227	92.06159	53703	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Dibenzo[a,h]anthracene
00.20227	92.06159	132649	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Dibenzofuran
00.20227	92.06159	95501	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.06159	541731	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.06159	106467	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.06159	91941	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	3,3'-Dichlorobenzidine
00.20227	92.06159	120832	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2,4-Dichlorophenol
00.20227	92.06159	84662	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Diethyl phthalate
00.20227	92.06159	131113	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Dimethyl phthalate
00.20227	92.06159	105679	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2,4-Dimethylphenol
00.20227	92.06159	51285	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2,4-Dinitrophenol
00.20227	92.06159	121142	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2,4-Dinitrotoluene
00.20227	92.06159	606202	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2,6-Dinitrotoluene
00.20227	92.06159	206440	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Fluoranthene
00.20227	92.06159	86737	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Fluorene
00.20227	92.06159	118741	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Hexachlorobenzene
00.20227	92.06159	87683	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Hexachlorobutadiene
00.20227	92.06159	77474	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Hexachlorocyclopentadiene
00.20227	92.06159	67721	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Hexachloroethane
00.20227	92.06159	193395	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
00.20227	92.06159	78591	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Isophorone
00.20227	92.06159	534521	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
00.20227	92.06159	91576	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2-Methylnaphthalene
00.20227	92.06159	95487	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2-Methylphenol
00.20227	92.06159	106445	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	4-Methylphenol
00.20227	92.06159	91203	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Naphthalene
00.20227	92.06159	88744	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	2-Nitroaniline
00.20227	92.06159	99092	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	3-Nitroaniline
00.20227	92.06159	100016	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	4-Nitroaniline
00.20227	92.06159	98953	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Nitrobenzene

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results, Sample # 92.06159 Date Collected: 5/05/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 5/22/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND NAME
00.20227	92.06159	83329	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Acenaphthene
00.20227	92.06159	208968	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Acenaphthylene
00.20227	92.06159	62533	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Aniline
00.20227	92.06159	120127	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Anthracene
00.20227	92.06159	103333	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Azobenzene
00.20227	92.06159	92875	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	m-Benzidine
00.20227	92.06159	56553	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Benzo[a]anthracene
00.20227	92.06159	50328	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Benzo[a]pyrene
00.20227	92.06159	205992	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Benzo[b]fluoranthene
00.20227	92.06159	191242	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Benzo[g,h,i]perylene
00.20227	92.06159	207089	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Benzo[k]fluoranthene
00.20227	92.06159	65850	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Benzoic acid
00.20227	92.06159	100516	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Benzyl alcohol
00.20227	92.06159	111911	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
00.20227	92.06159	111444	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Bis(2-chloroethyl)ether
00.20227	92.06159	108601	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
00.20227	92.06159	117817	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
00.20227	92.06159	101553	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	4-Bromophenylphenyl ether
00.20227	92.06159	85687	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	Butyl benzyl phthalate
00.20227	92.06159	59507	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	4-Chloro-3-methylphenol
00.20227	92.06159	106478	< 330.		UG/KG	0.0		7/06/92	UNDER CONTROL	4-Chloroaniline

********** EM-9 QUALITY ASSURANCE REPORT **********

EPA SEMIVOLATILES Prepared by: LAT on 6-Jul-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: ANTHONY LOMBARDO PROGRAM CODE: M94A NOTEBOOK: R7336 PAGE: 6

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1-QA	92.06123	87865	< 1700.		UG/KG	7/06/92		Pentachlorophenol
PF-40-A-1-QA	92.06123	85018	< 1700.		UG/KG	7/06/92		Phenanthrene
PF-40-A-1-QA	92.06123	108952	< 1700.		UG/KG	7/06/92		Phenol
PF-40-A-1-QA	92.06123	129000	< 1700.		UG/KG	7/06/92		Pyrene
PF-40-A-1-QA	92.06123	120821	< 1700.		UG/KG	7/06/92		1,2,4-Trichlorobenzene
PF-40-A-1-QA	92.06123	95954	< 1700.		UG/KG	7/06/92		2,4,5-Trichlorophenol
PF-40-A-1-QA	92.06123	88062	< 1700.		UG/KG	7/06/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.06123

none

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1-QA	92.06123	117840	< 1700.		UG/KG	7/06/92		Di-n-octyl phthalate
PF-40-A-1-QA	92.06123	53703	< 1700.		UG/KG	7/06/92		Dibenzo[a,h]anthracene
PF-40-A-1-QA	92.06123	132649	< 1700.		UG/KG	7/06/92		Dibenzofuran
PF-40-A-1-QA	92.06123	95501	< 1700.		UG/KG	7/06/92		o-Dichlorobenzene (1,2)
PF-40-A-1-QA	92.06123	541731	< 1700.		UG/KG	7/06/92		m-Dichlorobenzene (1,3)
PF-40-A-1-QA	92.06123	106467	< 1700.		UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-A-1-QA	92.06123	91941	< 1700.		UG/KG	7/06/92		3,3'-Dichlorobenzidine
PF-40-A-1-QA	92.06123	120832	< 1700.		UG/KG	7/06/92		2,4-Dichlorophenol
PF-40-A-1-QA	92.06123	84662	< 1700.		UG/KG	7/06/92		Diethyl phthalate
PF-40-A-1-QA	92.06123	131113	< 1700.		UG/KG	7/06/92		Dimethyl phthalate
PF-40-A-1-QA	92.06123	105679	< 1700.		UG/KG	7/06/92		2,4-Dimethylphenol
PF-40-A-1-QA	92.06123	51285	< 1700.		UG/KG	7/06/92		2,4-Dinitrophenol
PF-40-A-1-QA	92.06123	121142	< 1700.		UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-A-1-QA	92.06123	606202	< 1700.		UG/KG	7/06/92		2,6-Dinitrotoluene
PF-40-A-1-QA	92.06123	206440	< 1700.		UG/KG	7/06/92		Fluoranthene
PF-40-A-1-QA	92.06123	86737	< 1700.		UG/KG	7/06/92		Fluorene
PF-40-A-1-QA	92.06123	118741	< 1700.		UG/KG	7/06/92		Hexachlorobenzene
PF-40-A-1-QA	92.06123	87683	< 1700.		UG/KG	7/06/92		Hexachlorobutadiene
PF-40-A-1-QA	92.06123	77474	< 1700.		UG/KG	7/06/92		Hexachlorocyclopentadiene
PF-40-A-1-QA	92.06123	67721	< 1700.		UG/KG	7/06/92		Hexachloroethane
PF-40-A-1-QA	92.06123	193395	< 1700.		UG/KG	7/06/92		Indeno[1,2,3-cd]pyrene
PF-40-A-1-QA	92.06123	78591	< 1700.		UG/KG	7/06/92		Isophorone
PF-40-A-1-QA	92.06123	534521	< 1700.		UG/KG	7/06/92		2-Methyl-4,6-dinitrophenol
PF-40-A-1-QA	92.06123	91576	< 1700.		UG/KG	7/06/92		2-Methylnaphthalene
PF-40-A-1-QA	92.06123	95487	< 1700.		UG/KG	7/06/92		2-Methylphenol
PF-40-A-1-QA	92.06123	106445	< 1700.		UG/KG	7/06/92		4-Methylphenol
PF-40-A-1-QA	92.06123	91203	< 1700.		UG/KG	7/06/92		Naphthalene
PF-40-A-1-QA	92.06123	88744	< 1700.		UG/KG	7/06/92		2-Nitroaniline
PF-40-A-1-QA	92.06123	99092	< 1700.		UG/KG	7/06/92		3-Nitroaniline
PF-40-A-1-QA	92.06123	100016	< 1700.		UG/KG	7/06/92		4-Nitroaniline
PF-40-A-1-QA	92.06123	98953	< 1700.		UG/KG	7/06/92		Nitrobenzene
PF-40-A-1-QA	92.06123	88755	< 1700.		UG/KG	7/06/92		2-Nitrophenol
PF-40-A-1-QA	92.06123	100027	< 1700.		UG/KG	7/06/92		4-Nitrophenol
PF-40-A-1-QA	92.06123	621647	< 1700.		UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-A-1-QA	92.06123	62759	< 1700.		UG/KG	7/06/92		N-Nitrosodimethylamine
PF-40-A-1-QA	92[illegible]23	86306	< 1700.		UG/KG	7/06/9[illegible]		N-Nitrosodiphenylamine

********** EM-9 ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: LAT on 6-Jul-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: ANTHONY LOMBARDO PROGRAM CODE: M94A NOTEBOOK: R7336 PAGE: 6

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06123 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/18/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1-QA	92.06123	83329	< 1700.		UG/KG	7/06/92		Acenaphthene
PF-40-A-1-QA	92.06123	208968	< 1700.		UG/KG	7/06/92		Acenaphthylene
PF-40-A-1-QA	92.06123	62533	< 1700.		UG/KG	7/06/92		Aniline
PF-40-A-1-QA	92.06123	120127	< 1700.		UG/KG	7/06/92		Anthracene
PF-40-A-1-QA	92.06123	103333	< 1700.		UG/KG	7/06/92		Azobenzene
PF-40-A-1-QA	92.06123	92875	< 1700.		UG/KG	7/06/92		m-Benzidine
PF-40-A-1-QA	92.06123	56553	< 1700.		UG/KG	7/06/92		Benzo[a]anthracene
PF-40-A-1-QA	92.06123	50328	< 1700.		UG/KG	7/06/92		Benzo[a]pyrene
PF-40-A-1-QA	92.06123	205992	< 1700.		UG/KG	7/06/92		Benzo[b]fluoranthene
PF-40-A-1-QA	92.06123	191242	< 1700.		UG/KG	7/06/92		Benzo[g,h,i]perylene
PF-40-A-1-QA	92.06123	207089	< 1700.		UG/KG	7/06/92		Benzo[k]fluoranthene
PF-40-A-1-QA	92.06123	65850	< 1700.		UG/KG	7/06/92		Benzoic acid
PF-40-A-1-QA	92.06123	100516	< 1700.		UG/KG	7/06/92		Benzyl alcohol
PF-40-A-1-QA	92.06123	111911	< 1700.		UG/KG	7/06/92		Bis(2-chloroethoxy)methane
PF-40-A-1-QA	92.06123	111444	< 1700.		UG/KG	7/06/92		Bis(2-chloroethyl)ether
PF-40-A-1-QA	92.06123	108601	< 1700.		UG/KG	7/06/92		Bis(2-chloroisopropyl)ether
PF-40-A-1-QA	92.06123	117817	< 1700.		UG/KG	7/06/92		Bis(2-ethylhexyl)phthalate
PF-40-A-1-QA	92.06123	101553	< 1700.		UG/KG	7/06/92		4-Bromophenylphenyl ether
PF-40-A-1-QA	92.06123	85687	< 1700.		UG/KG	7/06/92		Butyl benzyl phthalate
PF-40-A-1-QA	92.06123	59507	< 1700.		UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-A-1-QA	92.06123	106478	< 1700.		UG/KG	7/06/92		4-Chloroaniline
PF-40-A-1-QA	92.06123	91587	< 1700.		UG/KG	7/06/92		2-Chloronaphthalene
PF-40-A-1-QA	92.06123	95578	< 1700.		UG/KG	7/06/92		o-Chlorophenol
PF-40-A-1-QA	92.06123	7005723	< 1700.		UG/KG	7/06/92		4-Chlorophenylphenyl ether
PF-40-A-1-QA	92.06123	218019	< 1700.		UG/KG	7/06/92		Chrysene
PF-40-A-1-QA	92.06123	84742	< 1700.		UG/KG	7/06/92		Di-n-butyl phthalate

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-4	92.06122	87865	< 330.		UG/KG	7/06/92		Pentachlorophenol
PF-40-CH2-4	92.06122	85018	< 330.		UG/KG	7/06/92		Phenanthrene
PF-40-CH2-4	92.06122	108952	< 330.		UG/KG	7/06/92		Phenol
PF-40-CH2-4	92.06122	129000	420.	126.	UG/KG	7/06/92		Pyrene
PF-40-CH2-4	92.06122	120821	< 330.		UG/KG	7/06/92		1,2,4-Trichlorobenzene
PF-40-CH2-4	92.06122	95954	< 330.		UG/KG	7/06/92		2,4,5-Trichlorophenol
PF-40-CH2-4	92.06122	88062	< 330.		UG/KG	7/06/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.06122

none

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-4	92.06122	117840	< 330.		UG/KG	7/06/92		Di-n-octyl phthalate
PF-40-CH2-4	92.06122	53703	< 330.		UG/KG	7/06/92		Dibenzo[a,h]anthracene
PF-40-CH2-4	92.06122	132649	< 330.		UG/KG	7/06/92		Dibenzofuran
PF-40-CH2-4	92.06122	95501	< 330.		UG/KG	7/06/92		o-Dichlorobenzene (1,2)
PF-40-CH2-4	92.06122	541731	< 330.		UG/KG	7/06/92		m-Dichlorobenzene (1,3)
PF-40-CH2-4	92.06122	106467	< 330.		UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-CH2-4	92.06122	91941	< 330.		UG/KG	7/06/92		3,3'-Dichlorobenzidine
PF-40-CH2-4	92.06122	120832	< 330.		UG/KG	7/06/92		2,4-Dichlorophenol
PF-40-CH2-4	92.06122	84662	< 330.		UG/KG	7/06/92		Diethyl phthalate
PF-40-CH2-4	92.06122	131113	< 330.		UG/KG	7/06/92		Dimethyl phthalate
PF-40-CH2-4	92.06122	105679	< 330.		UG/KG	7/06/92		2,4-Dimethylphenol
PF-40-CH2-4	92.06122	51285	< 330.		UG/KG	7/06/92		2,4-Dinitrophenol
PF-40-CH2-4	92.06122	121142	< 330.		UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-CH2-4	92.06122	606202	< 330.		UG/KG	7/06/92		2,6-Dinitrotoluene
PF-40-CH2-4	92.06122	206440	490.	147.	UG/KG	7/06/92		Fluoranthene
PF-40-CH2-4	92.06122	86737	< 330.		UG/KG	7/06/92		Fluorene
PF-40-CH2-4	92.06122	118741	< 330.		UG/KG	7/06/92		Hexachlorobenzene
PF-40-CH2-4	92.06122	87683	< 330.		UG/KG	7/06/92		Hexachlorobutadiene
PF-40-CH2-4	92.06122	77474	< 330.		UG/KG	7/06/92		Hexachlorocyclopentadiene
PF-40-CH2-4	92.06122	67721	< 330.		UG/KG	7/06/92		Hexachloroethane
PF-40-CH2-4	92.06122	193395	< 330.		UG/KG	7/06/92		Indeno[1,2,3-cd]pyrene
PF-40-CH2-4	92.06122	78591	< 330.		UG/KG	7/06/92		Isophorone
PF-40-CH2-4	92.06122	534521	< 330.		UG/KG	7/06/92		2-Methyl-4,6-dinitrophenol
PF-40-CH2-4	92.06122	91576	< 330.		UG/KG	7/06/92		2-Methylnaphthalene
PF-40-CH2-4	92.06122	95487	< 330.		UG/KG	7/06/92		2-Methylphenol
PF-40-CH2-4	92.06122	106445	< 330.		UG/KG	7/06/92		4-Methylphenol
PF-40-CH2-4	92.06122	91203	< 330.		UG/KG	7/06/92		Naphthalene
PF-40-CH2-4	92.06122	88744	< 330.		UG/KG	7/06/92		2-Nitroaniline
PF-40-CH2-4	92.06122	99092	< 330.		UG/KG	7/06/92		3-Nitroaniline
PF-40-CH2-4	92.06122	100016	< 330.		UG/KG	7/06/92		4-Nitroaniline
PF-40-CH2-4	92.06122	98953	< 330.		UG/KG	7/06/92		Nitrobenzene
PF-40-CH2-4	92.06122	88755	< 330.		UG/KG	7/06/92		2-Nitrophenol
PF-40-CH2-4	92.06122	100027	< 330.		UG/KG	7/06/92		4-Nitrophenol
PF-40-CH2-4	92.06122	621647	< 330.		UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-CH2-4	92.06122	62759	< 330.		UG/KG	7/06/92		N-Nitrosodimethylamine
PF-40-CH2-4	92.06122	86306	< 330.		UG/KG	7/06/92		N-Nitrosodiphenylamine

********** EM-9 ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: LAT on 6-Jul-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: ANTHONY LOMBARDO PROGRAM CODE: M94A NOTEBOOK: R7336 PAGE: 6

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06122 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/18/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-4	92.06122	83329	< 330.		UG/KG	7/06/92		Acenaphthene
PF-40-CH2-4	92.06122	208968	< 330.		UG/KG	7/06/92		Acenaphthylene
PF-40-CH2-4	92.06122	62533	< 330.		UG/KG	7/06/92		Aniline
PF-40-CH2-4	92.06122	120127	< 330.		UG/KG	7/06/92		Anthracene
PF-40-CH2-4	92.06122	103333	< 330.		UG/KG	7/06/92		Azobenzene
PF-40-CH2-4	92.06122	92875	< 330.		UG/KG	7/06/92		m-Benzidine
PF-40-CH2-4	92.06122	56553	< 330.		UG/KG	7/06/92		Benzo[a]anthracene
PF-40-CH2-4	92.06122	50328	< 330.		UG/KG	7/06/92		Benzo[a]pyrene
PF-40-CH2-4	92.06122	205992	< 330.		UG/KG	7/06/92		Benzo[b]fluoranthene
PF-40-CH2-4	92.06122	191242	< 330.		UG/KG	7/06/92		Benzo[g,h,i]perylene
PF-40-CH2-4	92.06122	207089	< 330.		UG/KG	7/06/92		Benzo[k]fluoranthene
PF-40-CH2-4	92.06122	65850	< 330.		UG/KG	7/06/92		Benzoic acid
PF-40-CH2-4	92.06122	100516	< 330.		UG/KG	7/06/92		Benzyl alcohol
PF-40-CH2-4	92.06122	111911	< 330.		UG/KG	7/06/92		Bis(2-chloroethoxy)methane
PF-40-CH2-4	92.06122	111444	< 330.		UG/KG	7/06/92		Bis(2-chloroethyl)ether
PF-40-CH2-4	92.06122	108601	< 330.		UG/KG	7/06/92		Bis(2-chloroisopropyl)ether
PF-40-CH2-4	92.06122	117817	< 330.		UG/KG	7/06/92		Bis(2-ethylhexyl)phthalate
PF-40-CH2-4	92.06122	101553	< 330.		UG/KG	7/06/92		4-Bromophenylphenyl ether
PF-40-CH2-4	92.06122	85687	< 330.		UG/KG	7/06/92		Butyl benzyl phthalate
PF-40-CH2-4	92.06122	59507	< 330.		UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-CH2-4	92.06122	106478	< 330.		UG/KG	7/06/92		4-Chloroaniline
PF-40-CH2-4	92.06122	91587	< 330.		UG/KG	7/06/92		2-Chloronaphthalene
PF-40-CH2-4	92.06122	95578	< 330.		UG/KG	7/06/92		o-Chlorophenol
PF-40-CH2-4	92.06122	7005723	< 330.		UG/KG	7/06/92		4-Chlorophenylphenyl ether
PF-40-CH2-4	92.06122	218019	< 330.		UG/KG	7/06/92		Chrysene
PF-40-CH2-4	[illegible]122	84742	< 330.		UG/KG	7/06/		Di-n-butyl phthalate

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-2	92.06121	87865	< 330.		UG/KG	7/06/92		Pentachlorophenol
PF-40-CH2-2	92.06121	85018	< 330.		UG/KG	7/06/92		Phenanthrene
PF-40-CH2-2	92.06121	108952	< 330.		UG/KG	7/06/92		Phenol
PF-40-CH2-2	92.06121	129000	< 330.		UG/KG	7/06/92		Pyrene
PF-40-CH2-2	92.06121	120821	< 330.		UG/KG	7/06/92		1,2,4-Trichlorobenzene
PF-40-CH2-2	92.06121	95954	< 330.		UG/KG	7/06/92		2,4,5-Trichlorophenol
PF-40-CH2-2	92.06121	88062	< 330.		UG/KG	7/06/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.06121

none

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-2	92.06121	117840	< 330.		UG/KG	7/06/92		Di-n-octyl phthalate
PF-40-CH2-2	92.06121	53703	< 330.		UG/KG	7/06/92		Dibenzo[a,h]anthracene
PF-40-CH2-2	92.06121	132649	< 330.		UG/KG	7/06/92		Dibenzofuran
PF-40-CH2-2	92.06121	95501	< 330.		UG/KG	7/06/92		o-Dichlorobenzene (1,2)
PF-40-CH2-2	92.06121	541731	< 330.		UG/KG	7/06/92		m-Dichlorobenzene (1,3)
PF-40-CH2-2	92.06121	106467	< 330.		UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-CH2-2	92.06121	91941	< 330.		UG/KG	7/06/92		3,3'-Dichlorobenzidine
PF-40-CH2-2	92.06121	120832	< 330.		UG/KG	7/06/92		2,4-Dichlorophenol
PF-40-CH2-2	92.06121	84662	< 330.		UG/KG	7/06/92		Diethyl phthalate
PF-40-CH2-2	92.06121	131113	< 330.		UG/KG	7/06/92		Dimethyl phthalate
PF-40-CH2-2	92.06121	105679	< 330.		UG/KG	7/06/92		2,4-Dimethylphenol
PF-40-CH2-2	92.06121	51285	< 330.		UG/KG	7/06/92		2,4-Dinitrophenol
PF-40-CH2-2	92.06121	121142	< 330.		UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-CH2-2	92.06121	606202	< 330.		UG/KG	7/06/92		2,6-Dinitrotoluene
PF-40-CH2-2	92.06121	206440	< 330.		UG/KG	7/06/92		Fluoranthene
PF-40-CH2-2	92.06121	86737	< 330.		UG/KG	7/06/92		Fluorene
PF-40-CH2-2	92.06121	118741	< 330.		UG/KG	7/06/92		Hexachlorobenzene
PF-40-CH2-2	92.06121	87683	< 330.		UG/KG	7/06/92		Hexachlorobutadiene
PF-40-CH2-2	92.06121	77474	< 330.		UG/KG	7/06/92		Hexachlorocyclopentadiene
PF-40-CH2-2	92.06121	67721	< 330.		UG/KG	7/06/92		Hexachloroethane
PF-40-CH2-2	92.06121	193395	< 330.		UG/KG	7/06/92		Indeno[1,2,3-cd]pyrene
PF-40-CH2-2	92.06121	78591	< 330.		UG/KG	7/06/92		Isophorone
PF-40-CH2-2	92.06121	534521	< 330.		UG/KG	7/06/92		2-Methyl-4,6-dinitrophenol
PF-40-CH2-2	92.06121	91576	< 330.		UG/KG	7/06/92		2-Methylnaphthalene
PF-40-CH2-2	92.06121	95487	< 330.		UG/KG	7/06/92		2-Methylphenol
PF-40-CH2-2	92.06121	106445	< 330.		UG/KG	7/06/92		4-Methylphenol
PF-40-CH2-2	92.06121	91203	< 330.		UG/KG	7/06/92		Naphthalene
PF-40-CH2-2	92.06121	88744	< 330.		UG/KG	7/06/92		2-Nitroaniline
PF-40-CH2-2	92.06121	99092	< 330.		UG/KG	7/06/92		3-Nitroaniline
PF-40-CH2-2	92.06121	100016	< 330.		UG/KG	7/06/92		4-Nitroaniline
PF-40-CH2-2	92.06121	98953	< 330.		UG/KG	7/06/92		Nitrobenzene
PF-40-CH2-2	92.06121	88755	< 330.		UG/KG	7/06/92		2-Nitrophenol
PF-40-CH2-2	92.06121	100027	< 330.		UG/KG	7/06/92		4-Nitrophenol
PF-40-CH2-2	92.06121	621647	< 330.		UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-CH2-2	92.06121	62759	< 330.		UG/KG	7/06/92		N-Nitrosodimethylamine
PF-40-CH2-2	92.06[illegible]	86306	< 330.		UG/KG	7/06/92		N-Nitrosodiphenylamine

********** EM-9 ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: LAT on 6-Jul-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: ANTHONY LOMBARDO PROGRAM CODE: M94A NOTEBOOK: R7336 PAGE: 6

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06121 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/18/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH2-2	92.06121	83329	< 330.		UG/KG	7/06/92		Acenaphthene
PF-40-CH2-2	92.06121	208968	< 330.		UG/KG	7/06/92		Acenaphthylene
PF-40-CH2-2	92.06121	62533	< 330.		UG/KG	7/06/92		Aniline
PF-40-CH2-2	92.06121	120127	< 330.		UG/KG	7/06/92		Anthracene
PF-40-CH2-2	92.06121	103333	< 330.		UG/KG	7/06/92		Azobenzene
PF-40-CH2-2	92.06121	92875	< 330.		UG/KG	7/06/92		m-Benzidine
PF-40-CH2-2	92.06121	56553	< 330.		UG/KG	7/06/92		Benzo[a]anthracene
PF-40-CH2-2	92.06121	50328	< 330.		UG/KG	7/06/92		Benzo[a]pyrene
PF-40-CH2-2	92.06121	205992	< 330.		UG/KG	7/06/92		Benzo[b]fluoranthene
PF-40-CH2-2	92.06121	191242	< 330.		UG/KG	7/06/92		Benzo[g,h,i]perylene
PF-40-CH2-2	92.06121	207089	< 330.		UG/KG	7/06/92		Benzo[k]fluoranthene
PF-40-CH2-2	92.06121	65850	< 330.		UG/KG	7/06/92		Benzoic acid
PF-40-CH2-2	92.06121	100516	< 330.		UG/KG	7/06/92		Benzyl alcohol
PF-40-CH2-2	92.06121	111911	< 330.		UG/KG	7/06/92		Bis(2-chloroethoxy)methane
PF-40-CH2-2	92.06121	111444	< 330.		UG/KG	7/06/92		Bis(2-chloroethyl)ether
PF-40-CH2-2	92.06121	108601	< 330.		UG/KG	7/06/92		Bis(2-chloroisopropyl)ether
PF-40-CH2-2	92.06121	117817	< 330.		UG/KG	7/06/92		Bis(2-ethylhexyl)phthalate
PF-40-CH2-2	92.06121	101553	< 330.		UG/KG	7/06/92		4-Bromophenylphenyl ether
PF-40-CH2-2	92.06121	85687	< 330.		UG/KG	7/06/92		Butyl benzyl phthalate
PF-40-CH2-2	92.06121	59507	< 330.		UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-CH2-2	92.06121	106478	< 330.		UG/KG	7/06/92		4-Chloroaniline
PF-40-CH2-2	92.06121	91587	< 330.		UG/KG	7/06/92		2-Chloronaphthalene
PF-40-CH2-2	92.06121	95578	< 330.		UG/KG	7/06/92		o-Chlorophenol
PF-40-CH2-2	92.06121	7005723	< 330.		UG/KG	7/06/92		4-Chlorophenylphenyl ether
PF-40-CH2-2	92.06121	218019	< 330.		UG/KG	7/06/92		Chrysene
PF-40-CH2-2	92.06121	84742	< 330.		UG/KG	7/06/92		Di-n-butyl phthalate

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-4	92.06120	87865		< 330.		UG/KG	7/06/92		Pentachlorophenol
PF-40-CH1-4	92.06120	85018		< 330.		UG/KG	7/06/92		Phenanthrene
PF-40-CH1-4	92.06120	108952		< 330.		UG/KG	7/06/92		Phenol
PF-40-CH1-4	92.06120	129000		< 330.		UG/KG	7/06/92		Pyrene
PF-40-CH1-4	92.06120	120821		< 330.		UG/KG	7/06/92		1,2,4-Trichlorobenzene
PF-40-CH1-4	92.06120	95954		< 330.		UG/KG	7/06/92		2,4,5-Trichlorophenol
PF-40-CH1-4	92.06120	88062		< 330.		UG/KG	7/06/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.06120

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-4	92.06120	80057	TI	1700.		UG/KG	7/06/92		Bisphenol A
PF-40-CH1-4	92.06120	111466	TI	1100.		UG/KG	7/06/92		Diethylene glycol

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-4	92.06120	117840	< 330.		UG/KG	7/06/92		Di-n-octyl phthalate
PF-40-CH1-4	92.06120	53703	< 330.		UG/KG	7/06/92		Dibenzo[a,h]anthracene
PF-40-CH1-4	92.06120	132649	< 330.		UG/KG	7/06/92		Dibenzofuran
PF-40-CH1-4	92.06120	95501	< 330.		UG/KG	7/06/92		o-Dichlorobenzene (1,2)
PF-40-CH1-4	92.06120	541731	< 330.		UG/KG	7/06/92		m-Dichlorobenzene (1,3)
PF-40-CH1-4	92.06120	106467	< 330.		UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-CH1-4	92.06120	91941	< 330.		UG/KG	7/06/92		3,3'-Dichlorobenzidine
PF-40-CH1-4	92.06120	120832	< 330.		UG/KG	7/06/92		2,4-Dichlorophenol
PF-40-CH1-4	92.06120	84662	< 330.		UG/KG	7/06/92		Diethyl phthalate
PF-40-CH1-4	92.06120	131113	< 330.		UG/KG	7/06/92		Dimethyl phthalate
PF-40-CH1-4	92.06120	105679	< 330.		UG/KG	7/06/92		2,4-Dimethylphenol
PF-40-CH1-4	92.06120	51285	< 330.		UG/KG	7/06/92		2,4-Dinitrophenol
PF-40-CH1-4	92.06120	121142	< 330.		UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-CH1-4	92.06120	606202	< 330.		UG/KG	7/06/92		2,6-Dinitrotoluene
PF-40-CH1-4	92.06120	206440	< 330.		UG/KG	7/06/92		Fluoranthene
PF-40-CH1-4	92.06120	86737	< 330.		UG/KG	7/06/92		Fluorene
PF-40-CH1-4	92.06120	118741	< 330.		UG/KG	7/06/92		Hexachlorobenzene
PF-40-CH1-4	92.06120	87683	< 330.		UG/KG	7/06/92		Hexachlorobutadiene
PF-40-CH1-4	92.06120	77474	< 330.		UG/KG	7/06/92		Hexachlorocyclopentadiene
PF-40-CH1-4	92.06120	67721	< 330.		UG/KG	7/06/92		Hexachloroethane
PF-40-CH1-4	92.06120	193395	< 330.		UG/KG	7/06/92		Indeno[1,2,3-cd]pyrene
PF-40-CH1-4	92.06120	78591	< 330.		UG/KG	7/06/92		Isophorone
PF-40-CH1-4	92.06120	534521	< 330.		UG/KG	7/06/92		2-Methyl-4,6-dinitrophenol
PF-40-CH1-4	92.06120	91576	< 330.		UG/KG	7/06/92		2-Methylnaphthalene
PF-40-CH1-4	92.06120	95487	< 330.		UG/KG	7/06/92		2-Methylphenol
PF-40-CH1-4	92.06120	106445	< 330.		UG/KG	7/06/92		4-Methylphenol
PF-40-CH1-4	92.06120	91203	< 330.		UG/KG	7/06/92		Naphthalene
PF-40-CH1-4	92.06120	88744	< 330.		UG/KG	7/06/92		2-Nitroaniline
PF-40-CH1-4	92.06120	99092	< 330.		UG/KG	7/06/92		3-Nitroaniline
PF-40-CH1-4	92.06120	100016	< 330.		UG/KG	7/06/92		4-Nitroaniline
PF-40-CH1-4	92.06120	98953	< 330.		UG/KG	7/06/92		Nitrobenzene
PF-40-CH1-4	92.06120	88755	< 330.		UG/KG	7/06/92		2-Nitrophenol
PF-40-CH1-4	92.06120	100027	< 330.		UG/KG	7/06/92		4-Nitrophenol
PF-40-CH1-4	92.06120	621647	< 330.		UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-CH1-4	92.06120	62759	< 330.		UG/KG	7/06/92		N-Nitrosodimethylamine
PF-40-CH1-4	92.06120	86306	< 330.		UG/KG	7/06/92		N-Nitrosodiphenylamine

********** EM-9 ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: LAT on 6-Jul-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: ANTHONY LOMBARDO PROGRAM CODE: M94A NOTEBOOK: R7336 PAGE: 6

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06120 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-4	92.06120	83329	< 330.		UG/KG	7/06/92		Acenaphthene
PF-40-CH1-4	92.06120	208968	< 330.		UG/KG	7/06/92		Acenaphthylene
PF-40-CH1-4	92.06120	62533	< 330.		UG/KG	7/06/92		Aniline
PF-40-CH1-4	92.06120	120127	< 330.		UG/KG	7/06/92		Anthracene
PF-40-CH1-4	92.06120	103333	< 330.		UG/KG	7/06/92		Azobenzene
PF-40-CH1-4	92.06120	92875	< 330.		UG/KG	7/06/92		m-Benzidine
PF-40-CH1-4	92.06120	56553	< 330.		UG/KG	7/06/92		Benzo[a]anthracene
PF-40-CH1-4	92.06120	50328	< 330.		UG/KG	7/06/92		Benzo[a]pyrene
PF-40-CH1-4	92.06120	205992	< 330.		UG/KG	7/06/92		Benzo[b]fluoranthene
PF-40-CH1-4	92.06120	191242	< 330.		UG/KG	7/06/92		Benzo[g,h,i]perylene
PF-40-CH1-4	92.06120	207089	< 330.		UG/KG	7/06/92		Benzo[k]fluoranthene
PF-40-CH1-4	92.06120	65850	< 330.		UG/KG	7/06/92		Benzoic acid
PF-40-CH1-4	92.06120	100516	< 330.		UG/KG	7/06/92		Benzyl alcohol
PF-40-CH1-4	92.06120	111911	< 330.		UG/KG	7/06/92		Bis(2-chloroethoxy)methane
PF-40-CH1-4	92.06120	111444	< 330.		UG/KG	7/06/92		Bis(2-chloroethyl)ether
PF-40-CH1-4	92.06120	108601	< 330.		UG/KG	7/06/92		Bis(2-chloroisopropyl)ether
PF-40-CH1-4	92.06120	117817	< 330.		UG/KG	7/06/92		Bis(2-ethylhexyl)phthalate
PF-40-CH1-4	92.06120	101553	< 330.		UG/KG	7/06/92		4-Bromophenylphenyl ether
PF-40-CH1-4	92.06120	85687	< 330.		UG/KG	7/06/92		Butyl benzyl phthalate
PF-40-CH1-4	92.06120	59507	< 330.		UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-CH1-4	92.06120	106478	< 330.		UG/KG	7/06/92		4-Chloroaniline
PF-40-CH1-4	92.06120	91587	< 330.		UG/KG	7/06/92		2-Chloronaphthalene
PF-40-CH1-4	92.06120	95578	< 330.		UG/KG	7/06/92		o-Chlorophenol
PF-40-CH1-4	92.06120	7005723	< 330.		UG/KG	7/06/92		4-Chlorophenylphenyl ether
PF-40-CH1-4	92.06120	218019	< 330.		UG/KG	7/06/92		Chrysene
PF-40-CH1-4	92.0[illegible]	84742	< 330.		UG/KG	7/06/92		Di-n-butyl phthalate

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-2	92.06119	87865		< 330.		UG/KG	7/06/92		Pentachlorophenol
PF-40-CH1-2	92.06119	85018		< 330.		UG/KG	7/06/92		Phenanthrene
PF-40-CH1-2	92.06119	108952		< 330.		UG/KG	7/06/92		Phenol
PF-40-CH1-2	92.06119	129000		< 330.		UG/KG	7/06/92		Pyrene
PF-40-CH1-2	92.06119	120821		< 330.		UG/KG	7/06/92		1,2,4-Trichlorobenzene
PF-40-CH1-2	92.06119	95954		< 330.		UG/KG	7/06/92		2,4,5-Trichlorophenol
PF-40-CH1-2	92.06119	88062		< 330.		UG/KG	7/06/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.06119

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-2	92.06119	175	TI	660.		UG/KG	7/06/92		Benzenes, substituted
PF-40-CH1-2	92.06119	80057	TI	2500.		UG/KG	7/06/92		Bisphenol A

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-2	92.06119	117840	< 330.		UG/KG	7/06/92		Di-n-octyl phthalate
PF-40-CH1-2	92.06119	53703	< 330.		UG/KG	7/06/92		Dibenzo[a,h]anthracene
PF-40-CH1-2	92.06119	132649	< 330.		UG/KG	7/06/92		Dibenzofuran
PF-40-CH1-2	92.06119	95501	< 330.		UG/KG	7/06/92		o-Dichlorobenzene (1,2)
PF-40-CH1-2	92.06119	541731	< 330.		UG/KG	7/06/92		m-Dichlorobenzene (1,3)
PF-40-CH1-2	92.06119	106467	< 330.		UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-CH1-2	92.06119	91941	< 330.		UG/KG	7/06/92		3,3'-Dichlorobenzidine
PF-40-CH1-2	92.06119	120832	< 330.		UG/KG	7/06/92		2,4-Dichlorophenol
PF-40-CH1-2	92.06119	84662	< 330.		UG/KG	7/06/92		Diethyl phthalate
PF-40-CH1-2	92.06119	131113	< 330.		UG/KG	7/06/92		Dimethyl phthalate
PF-40-CH1-2	92.06119	105679	< 330.		UG/KG	7/06/92		2,4-Dimethylphenol
PF-40-CH1-2	92.06119	51285	< 330.		UG/KG	7/06/92		2,4-Dinitrophenol
PF-40-CH1-2	92.06119	121142	< 330.		UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-CH1-2	92.06119	606202	< 330.		UG/KG	7/06/92		2,6-Dinitrotoluene
PF-40-CH1-2	92.06119	206440	< 330.		UG/KG	7/06/92		Fluoranthene
PF-40-CH1-2	92.06119	86737	< 330.		UG/KG	7/06/92		Fluorene
PF-40-CH1-2	92.06119	118741	< 330.		UG/KG	7/06/92		Hexachlorobenzene
PF-40-CH1-2	92.06119	87683	< 330.		UG/KG	7/06/92		Hexachlorobutadiene
PF-40-CH1-2	92.06119	77474	< 330.		UG/KG	7/06/92		Hexachlorocyclopentadiene
PF-40-CH1-2	92.06119	67721	< 330.		UG/KG	7/06/92		Hexachloroethane
PF-40-CH1-2	92.06119	193395	< 330.		UG/KG	7/06/92		Indeno[1,2,3-cd]pyrene
PF-40-CH1-2	92.06119	78591	< 330.		UG/KG	7/06/92		Isophorone
PF-40-CH1-2	92.06119	534521	< 330.		UG/KG	7/06/92		2-Methyl-4,6-dinitrophenol
PF-40-CH1-2	92.06119	91576	< 330.		UG/KG	7/06/92		2-Methylnaphthalene
PF-40-CH1-2	92.06119	95487	< 330.		UG/KG	7/06/92		2-Methylphenol
PF-40-CH1-2	92.06119	106445	< 330.		UG/KG	7/06/92		4-Methylphenol
PF-40-CH1-2	92.06119	91203	< 330.		UG/KG	7/06/92		Naphthalene
PF-40-CH1-2	92.06119	88744	< 330.		UG/KG	7/06/92		2-Nitroaniline
PF-40-CH1-2	92.06119	99092	< 330.		UG/KG	7/06/92		3-Nitroaniline
PF-40-CH1-2	92.06119	100016	< 330.		UG/KG	7/06/92		4-Nitroaniline
PF-40-CH1-2	92.06119	98953	< 330.		UG/KG	7/06/92		Nitrobenzene
PF-40-CH1-2	92.06119	88755	< 330.		UG/KG	7/06/92		2-Nitrophenol
PF-40-CH1-2	92.06119	100027	< 330.		UG/KG	7/06/92		4-Nitrophenol
PF-40-CH1-2	92.06119	621647	< 330.		UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-CH1-2	92.06119	62759	< 330.		UG/KG	7/06/92		N-Nitrosodimethylamine
PF-40-CH1-2	92.06119	86306	< 330.		UG/KG	7/06/9		N-Nitrosodiphenylamine

********** EM-9 ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: LAT on 6-Jul-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: ANTHONY LOMBARDO PROGRAM CODE: M94A NOTEBOOK: R7336 PAGE: 6

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06119 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-CH1-2	92.06119	83329	< 330.		UG/KG	7/06/92		Acenaphthene
PF-40-CH1-2	92.06119	208968	< 330.		UG/KG	7/06/92		Acenaphthylene
PF-40-CH1-2	92.06119	62533	< 330.		UG/KG	7/06/92		Aniline
PF-40-CH1-2	92.06119	120127	< 330.		UG/KG	7/06/92		Anthracene
PF-40-CH1-2	92.06119	103333	< 330.		UG/KG	7/06/92		Azobenzene
PF-40-CH1-2	92.06119	92875	< 330.		UG/KG	7/06/92		m-Benzidine
PF-40-CH1-2	92.06119	56553	< 330.		UG/KG	7/06/92		Benzo[a]anthracene
PF-40-CH1-2	92.06119	50328	< 330.		UG/KG	7/06/92		Benzo[a]pyrene
PF-40-CH1-2	92.06119	205992	< 330.		UG/KG	7/06/92		Benzo[b]fluoranthene
PF-40-CH1-2	92.06119	191242	< 330.		UG/KG	7/06/92		Benzo[g,h,i]perylene
PF-40-CH1-2	92.06119	207089	< 330.		UG/KG	7/06/92		Benzo[k]fluoranthene
PF-40-CH1-2	92.06119	65850	< 330.		UG/KG	7/06/92		Benzoic acid
PF-40-CH1-2	92.06119	100516	< 330.		UG/KG	7/06/92		Benzyl alcohol
PF-40-CH1-2	92.06119	111911	< 330.		UG/KG	7/06/92		Bis(2-chloroethoxy)methane
PF-40-CH1-2	92.06119	111444	< 330.		UG/KG	7/06/92		Bis(2-chloroethyl)ether
PF-40-CH1-2	92.06119	108601	< 330.		UG/KG	7/06/92		Bis(2-chloroisopropyl)ether
PF-40-CH1-2	92.06119	117817	< 330.		UG/KG	7/06/92		Bis(2-ethylhexyl)phthalate
PF-40-CH1-2	92.06119	101553	< 330.		UG/KG	7/06/92		4-Bromophenylphenyl ether
PF-40-CH1-2	92.06119	85687	< 330.		UG/KG	7/06/92		Butyl benzyl phthalate
PF-40-CH1-2	92.06119	59507	< 330.		UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-CH1-2	92.06119	106478	< 330.		UG/KG	7/06/92		4-Chloroaniline
PF-40-CH1-2	92.06119	91587	< 330.		UG/KG	7/06/92		2-Chloronaphthalene
PF-40-CH1-2	92.06119	95578	< 330.		UG/KG	7/06/92		o-Chlorophenol
PF-40-CH1-2	92.06119	7005723	< 330.		UG/KG	7/06/92		4-Chlorophenylphenyl ether
PF-40-CH1-2	92.06119	218019	< 330.		UG/KG	7/06/92		Chrysene
PF-40-CH1-2	92.06119	84742	< 330.		UG/KG	7/06/92		Di-n-butyl phthalate

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-4	92.06118	87865		< 330.		UG/KG	7/06/92		Pentachlorophenol
PF-40-A-4	92.06118	85018		< 330.		UG/KG	7/06/92		Phenanthrene
PF-40-A-4	92.06118	108952		< 330.		UG/KG	7/06/92		Phenol
PF-40-A-4	92.06118	129000		< 330.		UG/KG	7/06/92		Pyrene
PF-40-A-4	92.06118	120821		< 330.		UG/KG	7/06/92		1,2,4-Trichlorobenzene
PF-40-A-4	92.06118	95954		< 330.		UG/KG	7/06/92		2,4,5-Trichlorophenol
PF-40-A-4	92.06118	88062		< 330.		UG/KG	7/06/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.06118

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-4	92.06118	175	TI	850.		UG/KG	7/06/92		Benzenes, substituted
PF-40-A-4	92.06118	80057	TI	1030.		UG/KG	7/06/92		Bisphenol A

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-4	92.06118	117840	< 330.		UG/KG	7/06/92		Di-n-octyl phthalate
PF-40-A-4	92.06118	53703	< 330.		UG/KG	7/06/92		Dibenzo[a,h]anthracene
PF-40-A-4	92.06118	132649	< 330.		UG/KG	7/06/92		Dibenzofuran
PF-40-A-4	92.06118	95501	< 330.		UG/KG	7/06/92		o-Dichlorobenzene (1,2)
PF-40-A-4	92.06118	541731	< 330.		UG/KG	7/06/92		m-Dichlorobenzene (1,3)
PF-40-A-4	92.06118	106467	< 330.		UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-A-4	92.06118	91941	< 330.		UG/KG	7/06/92		3,3'-Dichlorobenzidine
PF-40-A-4	92.06118	120832	< 330.		UG/KG	7/06/92		2,4-Dichlorophenol
PF-40-A-4	92.06118	84662	< 330.		UG/KG	7/06/92		Diethyl phthalate
PF-40-A-4	92.06118	131113	< 330.		UG/KG	7/06/92		Dimethyl phthalate
PF-40-A-4	92.06118	105679	< 330.		UG/KG	7/06/92		2,4-Dimethylphenol
PF-40-A-4	92.06118	51285	< 330.		UG/KG	7/06/92		2,4-Dinitrophenol
PF-40-A-4	92.06118	121142	< 330.		UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-A-4	92.06118	606202	< 330.		UG/KG	7/06/92		2,6-Dinitrotoluene
PF-40-A-4	92.06118	206440	< 330.		UG/KG	7/06/92		Fluoranthene
PF-40-A-4	92.06118	86737	< 330.		UG/KG	7/06/92		Fluorene
PF-40-A-4	92.06118	118741	< 330.		UG/KG	7/06/92		Hexachlorobenzene
PF-40-A-4	92.06118	87683	< 330.		UG/KG	7/06/92		Hexachlorobutadiene
PF-40-A-4	92.06118	77474	< 330.		UG/KG	7/06/92		Hexachlorocyclopentadiene
PF-40-A-4	92.06118	67721	< 330.		UG/KG	7/06/92		Hexachloroethane
PF-40-A-4	92.06118	193395	< 330.		UG/KG	7/06/92		Indeno[1,2,3-cd]pyrene
PF-40-A-4	92.06118	78591	< 330.		UG/KG	7/06/92		Isophorone
PF-40-A-4	92.06118	534521	< 330.		UG/KG	7/06/92		2-Methyl-4,6-dinitrophenol
PF-40-A-4	92.06118	91576	< 330.		UG/KG	7/06/92		2-Methylnaphthalene
PF-40-A-4	92.06118	95487	< 330.		UG/KG	7/06/92		2-Methylphenol
PF-40-A-4	92.06118	106445	< 330.		UG/KG	7/06/92		4-Methylphenol
PF-40-A-4	92.06118	91203	< 330.		UG/KG	7/06/92		Naphthalene
PF-40-A-4	92.06118	88744	< 330.		UG/KG	7/06/92		2-Nitroaniline
PF-40-A-4	92.06118	99092	< 330.		UG/KG	7/06/92		3-Nitroaniline
PF-40-A-4	92.06118	100016	< 330.		UG/KG	7/06/92		4-Nitroaniline
PF-40-A-4	92.06118	98953	< 330.		UG/KG	7/06/92		Nitrobenzene
PF-40-A-4	92.06118	88755	< 330.		UG/KG	7/06/92		2-Nitrophenol
PF-40-A-4	92.06118	100027	< 330.		UG/KG	7/06/92		4-Nitrophenol
PF-40-A-4	92.06118	621647	< 330.		UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-A-4	92.06118	62759	< 330.		UG/KG	7/06/92		N-Nitrosodimethylamine
PF-40-A-4	92.06118	86306	< 330.		UG/KG	7/06/92		N-Nitrosodiphenylamine

********** EM-9 ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: LAT on 6-Jul-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: ANTHONY LOMBARDO PROGRAM CODE: M94A NOTEBOOK: R7336 PAGE: 6

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06118 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-4	92.06118	83329	< 330.		UG/KG	7/06/92		Acenaphthene
PF-40-A-4	92.06118	208968	< 330.		UG/KG	7/06/92		Acenaphthylene
PF-40-A-4	92.06118	62533	< 330.		UG/KG	7/06/92		Aniline
PF-40-A-4	92.06118	120127	< 330.		UG/KG	7/06/92		Anthracene
PF-40-A-4	92.06118	103333	< 330.		UG/KG	7/06/92		Azobenzene
PF-40-A-4	92.06118	92875	< 330.		UG/KG	7/06/92		m-Benzidine
PF-40-A-4	92.06118	56553	< 330.		UG/KG	7/06/92		Benzo[a]anthracene
PF-40-A-4	92.06118	50328	< 330.		UG/KG	7/06/92		Benzo[a]pyrene
PF-40-A-4	92.06118	205992	< 330.		UG/KG	7/06/92		Benzo[b]fluoranthene
PF-40-A-4	92.06118	191242	< 330.		UG/KG	7/06/92		Benzo[g,h,i]perylene
PF-40-A-4	92.06118	207089	< 330.		UG/KG	7/06/92		Benzo[k]fluoranthene
PF-40-A-4	92.06118	65850	< 330.		UG/KG	7/06/92		Benzoic acid
PF-40-A-4	92.06118	100516	< 330.		UG/KG	7/06/92		Benzyl alcohol
PF-40-A-4	92.06118	111911	< 330.		UG/KG	7/06/92		Bis(2-chloroethoxy)methane
PF-40-A-4	92.06118	111444	< 330.		UG/KG	7/06/92		Bis(2-chloroethyl)ether
PF-40-A-4	92.06118	108601	< 330.		UG/KG	7/06/92		Bis(2-chloroisopropyl)ether
PF-40-A-4	92.06118	117817	< 330.		UG/KG	7/06/92		Bis(2-ethylhexyl)phthalate
PF-40-A-4	92.06118	101553	< 330.		UG/KG	7/06/92		4-Bromophenylphenyl ether
PF-40-A-4	92.06118	85687	< 330.		UG/KG	7/06/92		Butyl benzyl phthalate
PF-40-A-4	92.06118	59507	< 330.		UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-A-4	92.06118	106478	< 330.		UG/KG	7/06/92		4-Chloroaniline
PF-40-A-4	92.06118	91587	< 330.		UG/KG	7/06/92		2-Chloronaphthalene
PF-40-A-4	92.06118	95578	< 330.		UG/KG	7/06/92		o-Chlorophenol
PF-40-A-4	92.06118	7005723	< 330.		UG/KG	7/06/92		4-Chlorophenylphenyl ether
PF-40-A-4	92.06118	218019	< 330.		UG/KG	7/06/92		Chrysene
PF-40-A-4	5118	84742	< 330.		UG/KG	7/06		Di-n-butyl phthalate

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-3	92.06117	87865		< 330.		UG/KG	7/06/92		Pentachlorophenol
PF-40-A-3	92.06117	85018		< 330.		UG/KG	7/06/92		Phenanthrene
PF-40-A-3	92.06117	108952		< 330.		UG/KG	7/06/92		Phenol
PF-40-A-3	92.06117	129000		< 330.		UG/KG	7/06/92		Pyrene
PF-40-A-3	92.06117	120821		< 330.		UG/KG	7/06/92		1,2,4-Trichlorobenzene
PF-40-A-3	92.06117	95954		< 330.		UG/KG	7/06/92		2,4,5-Trichlorophenol
PF-40-A-3	92.06117	88062		< 330.		UG/KG	7/06/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.06117

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-3	92.06117	172	TI	660.		UG/KG	7/06/92		Nitrogenous Hydrocarbon
PF-40-A-3	92.06117	172	TI	380.		UG/KG	7/06/92		Nitrogenous Hydrocarbon
PF-40-A-3	92.06117	171	TI	680.		UG/KG	7/06/92		Oxygenated Hydrocarbon

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-3	92.06117	117840	< 330.		UG/KG	7/06/92		Di-n-octyl phthalate
PF-40-A-3	92.06117	53703	< 330.		UG/KG	7/06/92		Dibenzo[a,h]anthracene
PF-40-A-3	92.06117	132649	< 330.		UG/KG	7/06/92		Dibenzofuran
PF-40-A-3	92.06117	95501	< 330.		UG/KG	7/06/92		o-Dichlorobenzene (1,2)
PF-40-A-3	92.06117	541731	< 330.		UG/KG	7/06/92		m-Dichlorobenzene (1,3)
PF-40-A-3	92.06117	106467	< 330.		UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-A-3	92.06117	91941	< 330.		UG/KG	7/06/92		3,3'-Dichlorobenzidine
PF-40-A-3	92.06117	120832	< 330.		UG/KG	7/06/92		2,4-Dichlorophenol
PF-40-A-3	92.06117	84662	< 330.		UG/KG	7/06/92		Diethyl phthalate
PF-40-A-3	92.06117	131113	< 330.		UG/KG	7/06/92		Dimethyl phthalate
PF-40-A-3	92.06117	105679	< 330.		UG/KG	7/06/92		2,4-Dimethylphenol
PF-40-A-3	92.06117	51285	< 330.		UG/KG	7/06/92		2,4-Dinitrophenol
PF-40-A-3	92.06117	121142	< 330.		UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-A-3	92.06117	606202	< 330.		UG/KG	7/06/92		2,6-Dinitrotoluene
PF-40-A-3	92.06117	206440	< 330.		UG/KG	7/06/92		Fluoranthene
PF-40-A-3	92.06117	86737	< 330.		UG/KG	7/06/92		Fluorene
PF-40-A-3	92.06117	118741	< 330.		UG/KG	7/06/92		Hexachlorobenzene
PF-40-A-3	92.06117	87683	< 330.		UG/KG	7/06/92		Hexachlorobutadiene
PF-40-A-3	92.06117	77474	< 330.		UG/KG	7/06/92		Hexachlorocyclopentadiene
PF-40-A-3	92.06117	67721	< 330.		UG/KG	7/06/92		Hexachloroethane
PF-40-A-3	92.06117	193395	< 330.		UG/KG	7/06/92		Indeno[1,2,3-cd]pyrene
PF-40-A-3	92.06117	78591	< 330.		UG/KG	7/06/92		Isophorone
PF-40-A-3	92.06117	534521	< 330.		UG/KG	7/06/92		2-Methyl-4,6-dinitrophenol
PF-40-A-3	92.06117	91576	< 330.		UG/KG	7/06/92		2-Methylnaphthalene
PF-40-A-3	92.06117	95487	< 330.		UG/KG	7/06/92		2-Methylphenol
PF-40-A-3	92.06117	106445	< 330.		UG/KG	7/06/92		4-Methylphenol
PF-40-A-3	92.06117	91203	< 330.		UG/KG	7/06/92		Naphthalene
PF-40-A-3	92.06117	88744	< 330.		UG/KG	7/06/92		2-Nitroaniline
PF-40-A-3	92.06117	99092	< 330.		UG/KG	7/06/92		3-Nitroaniline
PF-40-A-3	92.06117	100016	< 330.		UG/KG	7/06/92		4-Nitroaniline
PF-40-A-3	92.06117	98953	< 330.		UG/KG	7/06/92		Nitrobenzene
PF-40-A-3	92.06117	88755	< 330.		UG/KG	7/06/92		2-Nitrophenol
PF-40-A-3	92.06117	100027	< 330.		UG/KG	7/06/92		4-Nitrophenol
PF-40-A-3	92.06117	621647	< 330.		UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-A-3	92.06117	62759	< 330.		UG/KG	7/06/92		N-Nitrosodimethylamine
PF-40-A-3	9[illegible]17	86306	< 330.		UG/KG	7/06/		N-Nitrosodiphenylamine

********** EM-9 ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: LAT on 6-Jul-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: ANTHONY LOMBARDO PROGRAM CODE: M94A NOTEBOOK: R7336 PAGE: 6

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06117 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-3	92.06117	83329	< 330.		UG/KG	7/06/92		Acenaphthene
PF-40-A-3	92.06117	208968	< 330.		UG/KG	7/06/92		Acenaphthylene
PF-40-A-3	92.06117	62533	< 330.		UG/KG	7/06/92		Aniline
PF-40-A-3	92.06117	120127	< 330.		UG/KG	7/06/92		Anthracene
PF-40-A-3	92.06117	103333	< 330.		UG/KG	7/06/92		Azobenzene
PF-40-A-3	92.06117	92875	< 330.		UG/KG	7/06/92		m-Benzidine
PF-40-A-3	92.06117	56553	< 330.		UG/KG	7/06/92		Benzo[a]anthracene
PF-40-A-3	92.06117	50328	< 330.		UG/KG	7/06/92		Benzo[a]pyrene
PF-40-A-3	92.06117	205992	< 330.		UG/KG	7/06/92		Benzo[b]fluoranthene
PF-40-A-3	92.06117	191242	< 330.		UG/KG	7/06/92		Benzo[g,h,i]perylene
PF-40-A-3	92.06117	207089	< 330.		UG/KG	7/06/92		Benzo[k]fluoranthene
PF-40-A-3	92.06117	65850	< 330.		UG/KG	7/06/92		Benzoic acid
PF-40-A-3	92.06117	100516	< 330.		UG/KG	7/06/92		Benzyl alcohol
PF-40-A-3	92.06117	111911	< 330.		UG/KG	7/06/92		Bis(2-chloroethoxy)methane
PF-40-A-3	92.06117	111444	< 330.		UG/KG	7/06/92		Bis(2-chloroethyl)ether
PF-40-A-3	92.06117	108601	< 330.		UG/KG	7/06/92		Bis(2-chloroisopropyl)ether
PF-40-A-3	92.06117	117817	< 330.		UG/KG	7/06/92		Bis(2-ethylhexyl)phthalate
PF-40-A-3	92.06117	101553	< 330.		UG/KG	7/06/92		4-Bromophenylphenyl ether
PF-40-A-3	92.06117	85687	< 330.		UG/KG	7/06/92		Butyl benzyl phthalate
PF-40-A-3	92.06117	59507	< 330.		UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-A-3	92.06117	106478	< 330.		UG/KG	7/06/92		4-Chloroaniline
PF-40-A-3	92.06117	91587	< 330.		UG/KG	7/06/92		2-Chloronaphthalene
PF-40-A-3	92.06117	95578	< 330.		UG/KG	7/06/92		o-Chlorophenol
PF-40-A-3	92.06117	7005723	< 330.		UG/KG	7/06/92		4-Chlorophenylphenyl ether
PF-40-A-3	92.06117	218019	< 330.		UG/KG	7/06/92		Chrysene
PF-40-A-3	92.06117	84742	< 330.		UG/KG	7/06/92		Di-n-butyl phthalate

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-2	92.06116	87865	< 330.		UG/KG	7/06/92		Pentachlorophenol
PF-40-A-2	92.06116	85018	< 330.		UG/KG	7/06/92		Phenanthrene
PF-40-A-2	92.06116	108952	< 330.		UG/KG	7/06/92		Phenol
PF-40-A-2	92.06116	129000	350.	105.	UG/KG	7/06/92		Pyrene
PF-40-A-2	92.06116	120821	< 330.		UG/KG	7/06/92		1,2,4-Trichlorobenzene
PF-40-A-2	92.06116	95954	< 330.		UG/KG	7/06/92		2,4,5-Trichlorophenol
PF-40-A-2	92.06116	88062	< 330.		UG/KG	7/06/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.06116

none

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-2	92.06116	117840	< 330.		UG/KG	7/06/92		Di-n-octyl phthalate
PF-40-A-2	92.06116	53703	< 330.		UG/KG	7/06/92		Dibenzo[a,h]anthracene
PF-40-A-2	92.06116	132649	< 330.		UG/KG	7/06/92		Dibenzofuran
PF-40-A-2	92.06116	95501	< 330.		UG/KG	7/06/92		o-Dichlorobenzene (1,2)
PF-40-A-2	92.06116	541731	< 330.		UG/KG	7/06/92		m-Dichlorobenzene (1,3)
PF-40-A-2	92.06116	106467	< 330.		UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-A-2	92.06116	91941	< 330.		UG/KG	7/06/92		3,3'-Dichlorobenzidine
PF-40-A-2	92.06116	120832	< 330.		UG/KG	7/06/92		2,4-Dichlorophenol
PF-40-A-2	92.06116	84662	< 330.		UG/KG	7/06/92		Diethyl phthalate
PF-40-A-2	92.06116	131113	< 330.		UG/KG	7/06/92		Dimethyl phthalate
PF-40-A-2	92.06116	105679	< 330.		UG/KG	7/06/92		2,4-Dimethylphenol
PF-40-A-2	92.06116	51285	< 330.		UG/KG	7/06/92		2,4-Dinitrophenol
PF-40-A-2	92.06116	121142	< 330.		UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-A-2	92.06116	606202	< 330.		UG/KG	7/06/92		2,6-Dinitrotoluene
PF-40-A-2	92.06116	206440	< 330.		UG/KG	7/06/92		Fluoranthene
PF-40-A-2	92.06116	86737	< 330.		UG/KG	7/06/92		Fluorene
PF-40-A-2	92.06116	118741	< 330.		UG/KG	7/06/92		Hexachlorobenzene
PF-40-A-2	92.06116	87683	< 330.		UG/KG	7/06/92		Hexachlorobutadiene
PF-40-A-2	92.06116	77474	< 330.		UG/KG	7/06/92		Hexachlorocyclopentadiene
PF-40-A-2	92.06116	67721	< 330.		UG/KG	7/06/92		Hexachloroethane
PF-40-A-2	92.06116	193395	< 330.		UG/KG	7/06/92		Indeno[1,2,3-cd]pyrene
PF-40-A-2	92.06116	78591	< 330.		UG/KG	7/06/92		Isophorone
PF-40-A-2	92.06116	534521	< 330.		UG/KG	7/06/92		2-Methyl-4,6-dinitrophenol
PF-40-A-2	92.06116	91576	< 330.		UG/KG	7/06/92		2-Methylnaphthalene
PF-40-A-2	92.06116	95487	< 330.		UG/KG	7/06/92		2-Methylphenol
PF-40-A-2	92.06116	106445	< 330.		UG/KG	7/06/92		4-Methylphenol
PF-40-A-2	92.06116	91203	< 330.		UG/KG	7/06/92		Naphthalene
PF-40-A-2	92.06116	88744	< 330.		UG/KG	7/06/92		2-Nitroaniline
PF-40-A-2	92.06116	99092	< 330.		UG/KG	7/06/92		3-Nitroaniline
PF-40-A-2	92.06116	100016	< 330.		UG/KG	7/06/92		4-Nitroaniline
PF-40-A-2	92.06116	98953	< 330.		UG/KG	7/06/92		Nitrobenzene
PF-40-A-2	92.06116	88755	< 330.		UG/KG	7/06/92		2-Nitrophenol
PF-40-A-2	92.06116	100027	< 330.		UG/KG	7/06/92		4-Nitrophenol
PF-40-A-2	92.06116	621647	< 330.		UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-A-2	92.06116	62759	< 330.		UG/KG	7/06/92		N-Nitrosodimethylamine
PF-40-A-2	92.06116	86306	< 330.		UG/KG	7/06/92		N-Nitrosodiphenylamine

********** EM-9 ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: LAT on 6-Jul-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: ANTHONY LOMBARDO PROGRAM CODE: M94A NOTEBOOK: R7336 PAGE: 6

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06116 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/18/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-2	92.06116	83329	< 330.		UG/KG	7/06/92		Acenaphthene
PF-40-A-2	92.06116	208968	< 330.		UG/KG	7/06/92		Acenaphthylene
PF-40-A-2	92.06116	62533	< 330.		UG/KG	7/06/92		Aniline
PF-40-A-2	92.06116	120127	< 330.		UG/KG	7/06/92		Anthracene
PF-40-A-2	92.06116	103333	< 330.		UG/KG	7/06/92		Azobenzene
PF-40-A-2	92.06116	92875	< 330.		UG/KG	7/06/92		m-Benzidine
PF-40-A-2	92.06116	56553	< 330.		UG/KG	7/06/92		Benzo[a]anthracene
PF-40-A-2	92.06116	50328	< 330.		UG/KG	7/06/92		Benzo[a]pyrene
PF-40-A-2	92.06116	205992	< 330.		UG/KG	7/06/92		Benzo[b]fluoranthene
PF-40-A-2	92.06116	191242	< 330.		UG/KG	7/06/92		Benzo[g,h,i]perylene
PF-40-A-2	92.06116	207089	< 330.		UG/KG	7/06/92		Benzo[k]fluoranthene
PF-40-A-2	92.06116	65850	< 330.		UG/KG	7/06/92		Benzoic acid
PF-40-A-2	92.06116	100516	< 330.		UG/KG	7/06/92		Benzyl alcohol
PF-40-A-2	92.06116	111911	< 330.		UG/KG	7/06/92		Bis(2-chloroethoxy)methane
PF-40-A-2	92.06116	111444	< 330.		UG/KG	7/06/92		Bis(2-chloroethyl)ether
PF-40-A-2	92.06116	108601	< 330.		UG/KG	7/06/92		Bis(2-chloroisopropyl)ether
PF-40-A-2	92.06116	117817	< 330.		UG/KG	7/06/92		Bis(2-ethylhexyl)phthalate
PF-40-A-2	92.06116	101553	< 330.		UG/KG	7/06/92		4-Bromophenylphenyl ether
PF-40-A-2	92.06116	85687	< 330.		UG/KG	7/06/92		Butyl benzyl phthalate
PF-40-A-2	92.06116	59507	< 330.		UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-A-2	92.06116	106478	< 330.		UG/KG	7/06/92		4-Chloroaniline
PF-40-A-2	92.06116	91587	< 330.		UG/KG	7/06/92		2-Chloronaphthalene
PF-40-A-2	92.06116	95578	< 330.		UG/KG	7/06/92		o-Chlorophenol
PF-40-A-2	92.06116	7005723	< 330.		UG/KG	7/06/92		4-Chlorophenylphenyl ether
PF-40-A-2	92.06116	218019	< 330.		UG/KG	7/06/92		Chrysene
PF-40-A-2	92.06[illegible]	84742	< 330.		UG/KG	7/06/92		Di-n-butyl phthalate

********** EM-9 ANALYTICAL REPORT **********

Matrix Spike Results for Sample # 92.06115 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1	92.06115	83329	1778.13	1000.	UG/KG	7/06/92		Acenaphthene
PF-40-A-1	92.06115	59507	3556.27	2000.	UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-A-1	92.06115	95578	3556.27	1600.	UG/KG	7/06/92		o-Chlorophenol
PF-40-A-1	92.06115	106467	1778.13	880.	UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-A-1	92.06115	121142	1778.13	950.	UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-A-1	92.06115	100027	3556.27	1700.	UG/KG	7/06/92		4-Nitrophenol
PF-40-A-1	92.06115	621647	1778.13	930.	UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-A-1	92.06115	87865	3556.27	1700.	UG/KG	7/06/92		Pentachlorophenol
PF-40-A-1	92.06115	108952	3556.27	1800.	UG/KG	7/06/92		Phenol
PF-40-A-1	92.06115	129000	1778.13	1000.	UG/KG	7/06/92		Pyrene
PF-40-A-1	92.06115	120821	1778.13	980.	UG/KG	7/06/92		1,2,4-Trichlorobenzene

Matrix Spike Duplicate Results for Sample # 92.06115 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1	92.06115	83329	1765.78	1100.	UG/KG	7/06/92		Acenaphthene
PF-40-A-1	92.06115	59507	3531.55	2200.	UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-A-1	92.06115	95578	3531.55	1700.	UG/KG	7/06/92		o-Chlorophenol
PF-40-A-1	92.06115	106467	1765.78	910.	UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-A-1	92.06115	121142	1765.78	1100.	UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-A-1	92.06115	100027	3531.55	2100.	UG/KG	7/06/92		4-Nitrophenol
PF-40-A-1	92.06115	621647	1765.78	940.	UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-A-1	92.06115	87865	3531.55	2300.	UG/KG	7/06/92		Pentachlorophenol
PF-40-A-1	92.06115	108952	3531.55	1800.	UG/KG	7/06/92		Phenol
PF-40-A-1	92.06115	129000	1765.78	1000.	UG/KG	7/06/92		Pyrene
PF-40-A-1	92.06115	120821	1765.78	980.	UG/KG	7/06/92		1,2,4-Trichlorobenzene

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1	92.06115	87865	< 330.		UG/KG	7/06/92		Pentachlorophenol
PF-40-A-1	92.06115	85018	< 330.		UG/KG	7/06/92		Phenanthrene
PF-40-A-1	92.06115	108952	< 330.		UG/KG	7/06/92		Phenol
PF-40-A-1	92.06115	129000	< 330.		UG/KG	7/06/92		Pyrene
PF-40-A-1	92.06115	120821	< 330.		UG/KG	7/06/92		1,2,4-Trichlorobenzene
PF-40-A-1	92.06115	95954	< 330.		UG/KG	7/06/92		2,4,5-Trichlorophenol
PF-40-A-1	92.06115	88062	< 330.		UG/KG	7/06/92		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.06115

none

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1	92.06115	117840	< 330.		UG/KG	7/06/92		Di-n-octyl phthalate
PF-40-A-1	92.06115	53703	< 330.		UG/KG	7/06/92		Dibenzo[a,h]anthracene
PF-40-A-1	92.06115	132649	< 330.		UG/KG	7/06/92		Dibenzofuran
PF-40-A-1	92.06115	95501	< 330.		UG/KG	7/06/92		o-Dichlorobenzene (1,2)
PF-40-A-1	92.06115	541731	< 330.		UG/KG	7/06/92		m-Dichlorobenzene (1,3)
PF-40-A-1	92.06115	106467	< 330.		UG/KG	7/06/92		p-Dichlorobenzene (1,4)
PF-40-A-1	92.06115	91941	< 330.		UG/KG	7/06/92		3,3'-Dichlorobenzidine
PF-40-A-1	92.06115	120832	< 330.		UG/KG	7/06/92		2,4-Dichlorophenol
PF-40-A-1	92.06115	84662	< 330.		UG/KG	7/06/92		Diethyl phthalate
PF-40-A-1	92.06115	131113	< 330.		UG/KG	7/06/92		Dimethyl phthalate
PF-40-A-1	92.06115	105679	< 330.		UG/KG	7/06/92		2,4-Dimethylphenol
PF-40-A-1	92.06115	51285	< 330.		UG/KG	7/06/92		2,4-Dinitrophenol
PF-40-A-1	92.06115	121142	< 330.		UG/KG	7/06/92		2,4-Dinitrotoluene
PF-40-A-1	92.06115	606202	< 330.		UG/KG	7/06/92		2,6-Dinitrotoluene
PF-40-A-1	92.06115	206440	380.	114.	UG/KG	7/06/92		Fluoranthene
PF-40-A-1	92.06115	86737	< 330.		UG/KG	7/06/92		Fluorene
PF-40-A-1	92.06115	118741	< 330.		UG/KG	7/06/92		Hexachlorobenzene
PF-40-A-1	92.06115	87683	< 330.		UG/KG	7/06/92		Hexachlorobutadiene
PF-40-A-1	92.06115	77474	< 330.		UG/KG	7/06/92		Hexachlorocyclopentadiene
PF-40-A-1	92.06115	67721	< 330.		UG/KG	7/06/92		Hexachloroethane
PF-40-A-1	92.06115	193395	< 330.		UG/KG	7/06/92		Indeno[1,2,3-cd]pyrene
PF-40-A-1	92.06115	78591	< 330.		UG/KG	7/06/92		Isophorone
PF-40-A-1	92.06115	534521	< 330.		UG/KG	7/06/92		2-Methyl-4,6-dinitrophenol
PF-40-A-1	92.06115	91576	< 330.		UG/KG	7/06/92		2-Methylnaphthalene
PF-40-A-1	92.06115	95487	< 330.		UG/KG	7/06/92		2-Methylphenol
PF-40-A-1	92.06115	106445	< 330.		UG/KG	7/06/92		4-Methylphenol
PF-40-A-1	92.06115	91203	< 330.		UG/KG	7/06/92		Naphthalene
PF-40-A-1	92.06115	88744	< 330.		UG/KG	7/06/92		2-Nitroaniline
PF-40-A-1	92.06115	99092	< 330.		UG/KG	7/06/92		3-Nitroaniline
PF-40-A-1	92.06115	100016	< 330.		UG/KG	7/06/92		4-Nitroaniline
PF-40-A-1	92.06115	98953	< 330.		UG/KG	7/06/92		Nitrobenzene
PF-40-A-1	92.06115	88755	< 330.		UG/KG	7/06/92		2-Nitrophenol
PF-40-A-1	92.06115	100027	< 330.		UG/KG	7/06/92		4-Nitrophenol
PF-40-A-1	92.06115	621647	< 330.		UG/KG	7/06/92		N-Nitrosodi-n-propylamine
PF-40-A-1	92.06115	62759	< 330.		UG/KG	7/06/92		N-Nitrosodimethylamine
PF-40-A-1	92.06115	86306	< 330.		UG/KG	7/06/92		N-Nitrosodiphenylamine

********** EM-9 ANALYTICAL REPORT **********

EPA SEMIVOLATILES Prepared by: LAT on 6-Jul-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: ANTHONY LOMBARDO PROGRAM CODE: M94A NOTEBOOK: R7336 PAGE: 6

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.06115 Date Collected: 5/04/92 Date Received: 5/05/92 Date Extracted: 5/15/92 Date Analyzed: 6/15/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1	92.06115	83329	< 330.		UG/KG	7/06/92		Acenaphthene
PF-40-A-1	92.06115	208968	< 330.		UG/KG	7/06/92		Acenaphthylene
PF-40-A-1	92.06115	62533	< 330.		UG/KG	7/06/92		Aniline
PF-40-A-1	92.06115	120127	< 330.		UG/KG	7/06/92		Anthracene
PF-40-A-1	92.06115	103333	< 330.		UG/KG	7/06/92		Azobenzene
PF-40-A-1	92.06115	92875	< 330.		UG/KG	7/06/92		m-Benzidine
PF-40-A-1	92.06115	56553	< 330.		UG/KG	7/06/92		Benzo[a]anthracene
PF-40-A-1	92.06115	50328	< 330.		UG/KG	7/06/92		Benzo[a]pyrene
PF-40-A-1	92.06115	205992	460.	138.	UG/KG	7/06/92		Benzo[b]fluoranthene
PF-40-A-1	92.06115	191242	< 330.		UG/KG	7/06/92		Benzo[g,h,i]perylene
PF-40-A-1	92.06115	207089	< 330.		UG/KG	7/06/92		Benzo[k]fluoranthene
PF-40-A-1	92.06115	65850	< 330.		UG/KG	7/06/92		Benzoic acid
PF-40-A-1	92.06115	100516	< 330.		UG/KG	7/06/92		Benzyl alcohol
PF-40-A-1	92.06115	111911	< 330.		UG/KG	7/06/92		Bis(2-chloroethoxy)methane
PF-40-A-1	92.06115	111444	< 330.		UG/KG	7/06/92		Bis(2-chloroethyl)ether
PF-40-A-1	92.06115	108601	< 330.		UG/KG	7/06/92		Bis(2-chloroisopropyl)ether
PF-40-A-1	92.06115	117817	< 330.		UG/KG	7/06/92		Bis(2-ethylhexyl)phthalate
PF-40-A-1	92.06115	101553	< 330.		UG/KG	7/06/92		4-Bromophenylphenyl ether
PF-40-A-1	92.06115	85687	< 330.		UG/KG	7/06/92		Butyl benzyl phthalate
PF-40-A-1	92.06115	59507	< 330.		UG/KG	7/06/92		4-Chloro-3-methylphenol
PF-40-A-1	92.06115	106478	< 330.		UG/KG	7/06/92		4-Chloroaniline
PF-40-A-1	92.06115	91587	< 330.		UG/KG	7/06/92		2-Chloronaphthalene
PF-40-A-1	92.06115	95578	< 330.		UG/KG	7/06/92		o-Chlorophenol
PF-40-A-1	92.06115	7005723	< 330.		UG/KG	7/06/92		4-Chlorophenylphenyl ether
PF-40-A-1	92.06115	218019	< 330.		UG/KG	7/06/92		Chrysene
PF-40-A-1	92.06	84742	< 330.		UG/KG	7/06/92		Di-n-butyl phthalate

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
MATRIX SPIKE RECOVERIES FOR SEMI-VOLATILES

		DRY WT/VOL (G or L)	AMOUNT SPIKED IN UG/KG ACIDS	BASES	LOQ (UG/KG)
REQUEST #:	12846				
NUMBER OF SAMPLES:	13				
SPIKE ID: (STARTS M OR E)	M92.06115	SPIKE 28.119	3556	1778	330
SPIKE DUP ID: (STARTS D OR F)	D92.06115	SPIKE-DUP28.316	3532	1766	330
RAW DATA WITH:	12846				
ANALYST:	AJL				

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW. REC. LIM.	UPP. REC. LIM.	RPD LIM.
'IOL	1800	1800	51%	51%	1%	26	90	35
2-CHLOROPHENOL	1600	1700	45%	48%	7%	25	102	50
1,4-DICHLOROBENZENE	880	910	49%	52%	4%	28	104	27
N-NITROSO-DI-N-PROPYLAMINE	930	940	52%	53%	2%	41	126	38
1,2,4-TRICLOROBENZENE	980	980	55%	55%	1%	38	107	23
4-CHLORO-3-METHYLPHENOL	2000	2200	56%	62%	10%	26	103	33
ACENAPHTHENE	1000	1100	56%	62%	10%	31	137	19
4-NITROPHENOL	1700	2100	48%	59%	22%	11	114	50
2,4-DINITROTOLUENE	950	1100	53%	62%	15%	28	89	47
PENTACHLOROPHENOL	1700	2300	48%	65%	31%	17	109	47
PYRENE	1000	1000	56%	57%	1%	35	142	36

'" If % Matrix Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By: 6/29/92

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR SEMI-VOLATILES
IN SOIL TYPE MATRICES

REQUEST #: 12846

NUMBER OF SAMPLES: 13
MATRIX S
ANALYST: AJL
Date: 06/23/92

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	2-FLUORO-PHENOL	PHENOL (D6)	NITRO-BENZENE (D5)	2-FLUORO-BIPHENYL	2,4,6-TRIBROMO-PHENOL	TERPHENYL (D14)
1	B92.06159	BLANK	47	52	52	60	60	51
2	S92.06115	SAMPLE	51	61	64	73	100	64
3	M92.06115	MATRIX SPIK	45	54	53	57	68	50
4	D92.06115	MATRIX SP-D	44	52	50	53	64	49
5	S92.06116	SAMPLE	55	66	64	72	71	101
6	S92.06117	SAMPLE	50	56	64	70	79	74
	S92.06118	SAMPLE	44	46	50	56	86	74
	S92.06119	SAMPLE	37	40	42	53	70	51
9	S92.06120	SAMPLE	43	48	51	60	77	68
10	S92.06121	SAMPLE	40	56	50	63	79	74
11	S92.06122	SAMPLE	50	60	56	62	79	79
12	S92.06123	SAMPLE	52	64	55	78	67	88
13	S92.06158	SAMPLE	38	45	39	53	47	57
14								
15								
16								
17								
18								
19								
20								
21								
22								

Average % Surrogate Recovery...	46	53	54	62	75	66
Defined Lower QC Limits (%)....	23	24	23	30	19	18
Defined Upper QC Limits (%)....	121	113	120	115	122	137
Observed Lower QC Limits (%)...	37	40	42	53	60	49
Observed Upper QC Limits (%)...	55	66	64	73	100	101

"*" If % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

ewed By:

6/29/92

All analytical hold times were met for this request. If you have any questions regarding this data, please call either Anthony Lombardo or Laura Tsiagkouris at 667-5889.

7/6/92

SVOC

EM-9 SEMIVOLATILE ORGANIC ANALYSIS
SUMMARY OF ANALYTICAL RESULTS

TO: Philip R. Fresquez EM-8
FROM: Anthony Lombardo, EM-9 Organic section TL 6/26/92
THROUGH: Chris Leibman, EM-9 Organic section leader

REQUEST NUMBER: 12846
MATRIX: Soil
SUMMARY DATE: June 24, 1992

SAMPLE ID	TARGET COMPOUNDS FOUND	AMOUNT (ug/Kg)	LOQ (ug/Kg)	TICs (Y/N)
92.06159 (Blank)	NONE	<330	330	N
92.06115	Fluoranthene	380	330	N
	Benzo(b)Fluoranth.	460		
92.06116	Pyrene	350	330	N
92.06117	NONE	<330	330	Y
92.06118	NONE	<330	330	Y
92.06119	NONE	<330	330	Y
92.06120	NONE	<330	330	Y
92.06121	NONE	<330	330	N
92.06122	Fluoranthene	490	330	N
	Pyrene	420		
92.06123*	NONE	<1650	1650	N

LOQ: Limit Of Quantitation
TIC: Tentatively Identified Compound
*: Sample final volume was 5.0 ml

Samples were extracted by mixing approximately 30 grams of sample with 60 grams of sodium sulfate and sonicating with 100 ml of methylene chloride. The methylene chloride was separated from the solids and sonication was repeated with two additional 100 ml aliquot of methylene chloride. Sample extracts were combined and concentrated to 1.0 ml final volume. Appropriate surrogate standards were added prior to extraction. Analysis was performed by capillary column GC/MS methods (analytical column used was a J&W Scientific DB5.625 30 M by 0.25 mm ID). Extraction and analysis methods are consistent with EPA SW-846 methods 3540 and 8270.

Sample 92.06123 was could not be concentrated to 1.0 ml. A final volume of 5.0 ml was obtained.

Some samples had HSL target compounds above the specified limit of quantitation, mainly polynuclear aromatic hydrocarbons (see above). PAHs were also present below LOQ in these and other samples. Non-target compounds were also found at appreciable levels in some samples.

Surrogate recoveries were within EPA criteria for all analyses. Inter. standard responses were within criteria for all analyses.

7/6/92

EPA Limits:

Water	%	21 - 100	10 - 94	35 - 114	43 - 116	10 - 123	33 - 141
Soil	%	25 - 121	24 - 113	23 - 120	30 - 115	19 - 122	18 - 137

REPORT NUMBER: 13035

Analyst	Reviewer	Section Leader	QA Officer
02/18/92		2/19/92	2-19-92
Date	Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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Surrogate 1 = 2-Fluorophenol (CAS # = 367124)
Surrogate 2 = Phenol-d5 (CAS # = 4165622)
Surrogate 3 = Nitrobenzene-d5 (CAS # = 4165600)
Surrogate 4 = 2-Fluorobiphenyl (CAS # = 321608)
Surrogate 5 = 2,4,6-Tribromophenol (CAS # = 118796)
Surrogate 6 = p-Terphenyl-d14 (CAS # =)

SAMPLE NUMBER	UNITS	Surrogate 1	Surrogate 2	Surrogate 3	Surrogate 4	Surrogate 5	Surrogate 6	COMPLETION DATE
92.00696	%	71.24	68.5	91.06	100.44	79.57	107.46	14-Feb-1992
92.00696	%	60.99	59.32	77.24	91.44	73.97	112.06	14-Feb-1992
92.00696	%	37.83	40.03	52.7	67.62	67.42	112.54	14-Feb-1992
92.00697	%	52.2	61.8	83.76	119.84	74.48	139.68	14-Feb-1992
92.00698	%	41.31	41.48	58.54	75.38	69.51	115.48	14-Feb-1992
92.00699	%	23.76	34.04	45.88	64.54	72.45	113.16	14-Feb-1992
92.00700	%	42.98	46.42	64.88	72.36	69.49	123.06	14-Feb-1992
92.00701	%	39.92	39.69	57.86	68.12	75.31	109.98	14-Feb-1992
92.00702	%	42.96	44.34	63.52	75.4	70.54	103.34	14-Feb-1992
92.00703	%	43.95	49.3	63.2	87.7	79.49	114.34	14-Feb-1992
92.00704	%	48.09	59.22	73.32	95.3	82.98	121.78	14-Feb-1992
92.00705	%	37.12	39.85	57.66	68.72	69.84	95.08	14-Feb-1992
92.00706	%	7.12	17.8	20.22	59.24	79.64	111.12	14-Feb-1992
92.00707	%	26.16	31.21	57.46	71.02	44.12	77.88	14-Feb-1992
92.00708	%	38.97	41.07	57.42	72.3	77.71	118.3	14-Feb-1992
92.00708	%	49.84	48.78	67.76	82.2	79.18	106.88	14-Feb-1992
92.00708	%	43.18	42.44	55.8	70.48	77.14	85.68	14-Feb-1992
92.00709	%	46.06	49.	77.8	84.	72.52	112.44	14-Feb-1992
92.00710	%	41.85	41.54	56.84	69.4	80.05	97.2	14-Feb-1992
92.00745	%	51.66	50.09	70.34	84.7	78.07	117.62	14-Feb-1992
92.00746	%	49.06	47.1	69.62	80.44	70.56	117.58	14-Feb-1992
92.00751	%	52.89	50.94	70.46	84.84	66.69	83.98	14-Feb-1992
92.00752	%	46.75	37.7	64.52	77.34	71.14	109.18	14-Feb-1992
92.00761	%	46.41	49.08	67.22	88.92	90.46	89.84	14-Feb-1992
92.00762	%	42.66	45.03	66.54	88.12	91.12	88.82	14-Feb-1992
92.00763	%	37.58	39.23	53.6	63.48	70.95	95.46	14-Feb-1992
92.00764	%	55.34	65.48	88.96	108.52	92.62	127.04	14-Feb-1992
92.00765	%	35.18	42.46	60.98	84.02	80.63	92.88	14-Feb-1992
92.00766	%	50.56	50.87	69.04	79.6	68.42	100.94	14-Feb-1992
92.00767	%	39.88	54.52	64.8	100.	74.44	113.84	14-Feb-1992
92.00768	%	41.84	45.11	63.44	82.42	86.71	99.82	14-Feb-1992
92.00769	%	33 42	40.09	56.8	70.34	83.24	10[illegible]6	14-Feb-1992
92.00770	%		64.2	84.2	119.4	69.6	1	14-Feb-1992

92.00751	117840	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Di-n-octyl phthalate
92.00751	53703	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dibenzo[a,h]anthracene
92.00751	132649	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dibenzofuran
92.00751	95501	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
92.00751	541731	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
92.00751	106467	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
92.00751	91941	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	3,3'-Dichlorobenzidine
92.00751	120832	2.9	0.87	MG/KG	6.	0.6	2/14/92	WARNING 2-3 SIG	2,4-Dichlorophenol
92.00751	84662	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Diethyl phthalate
92.00751	131113	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dimethyl phthalate
92.00751	105679	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dimethylphenol
92.00751	51285	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dinitrophenol
92.00751	121142	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dinitrotoluene
92.00751	606202	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,6-Dinitrotoluene
92.00751	206440	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Fluoranthene
92.00751	86737	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Fluorene
92.00751	118741	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorobenzene
92.00751	87683	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorobutadiene
92.00751	77474	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorocyclopentadiene
92.00751	67721	1.7	0.51	MG/KG	5.7	0.6	2/14/92	OUT OF CONTROL	Hexachloroethane
92.00751	193395	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
92.00751	78591	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Isophorone
92.00751	534521	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
92.00751	91576	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methylnaphthalene
92.00751	95487	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methylphenol
92.00751	106445	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Methylphenol
92.00751	91203	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Naphthalene
92.00751	88744	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Nitroaniline
92.00751	99092	< 0.33		MG/KG	2.2	0.2	2/14/92	OUT OF CONTROL	3-Nitroaniline
92.00751	100016	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Nitroaniline
92.00751	98953	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Nitrobenzene
92.00751	88755	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Nitrophenol
92.00751	100027	3.4	1.02	MG/KG	6.	0.6	2/14/92	WARNING 2-3 SIG	4-Nitrophenol
92.00751	621647	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
92.00751	62759	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodimethylamine
92.00751	86306	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodiphenylamine
92.00751	87865	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Pentachlorophenol
92.00751	85018	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Phenanthrene
92.00751	108952	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Phenol
92.00751	129000	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Pyrene
92.00751	120821	3.1	0.93	MG/KG	5.9	0.6	2/14/92	WARNING 2-3 SIG	1,2,4-Trichlorobenzene
92.00751	95954	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4,5-Trichlorophenol
92.00751	88062	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4,6-Trichlorophenol

SURROGATE RESULTS FOR EPA SEMIVOLATILES

92.00745	99092	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	3-Nitroaniline
92.00745	100016	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Nitroaniline
92.00745	98953	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Nitrobenzene
92.00745	88755	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Nitrophenol
92.00745	100027	2.1	0.63	MG/KG	3.5	0.4	2/14/92	UNDER CONTROL	4-Nitrophenol
92.00745	621647	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
92.00745	62759	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodimethylamine
92.00745	86306	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	N-Nitrosodiphenylamine
92.00745	87865	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Pentachlorophenol
92.00745	85018	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Phenanthrene
92.00745	108952	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Phenol
92.00745	129000	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Pyrene
92.00745	120821	2.1	0.63	MG/KG	3.4	0.3	2/14/92	UNDER CONTROL	1,2,4-Trichlorobenzene
92.00745	95954	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4,5-Trichlorophenol
92.00745	88062	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4,6-Trichlorophenol

Blind QC Results, Sample # 92.00751

Date Collected: 1/24/92 Date Received: 1/24/92 Date Extracted: 1/29/92 Date Analyzed: 2/01/92

92.00751	83329	1.4	0.42	MG/KG	2.2	0.2	2/14/92	UNDER CONTROL	Acenaphthene
92.00751	208968	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Acenaphthylene
92.00751	62533	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Aniline
92.00751	120127	3.5	1.05	MG/KG	5.4	0.5	2/14/92	UNDER CONTROL	Anthracene
92.00751	103333	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Azobenzene
92.00751	92875	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	m-Benzidine
92.00751	56553	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[a]anthracene
92.00751	50328	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[a]pyrene
92.00751	205992	1.5	0.45	MG/KG	2.1	0.2	2/14/92	UNDER CONTROL	Benzo[b]fluoranthene
92.00751	191242	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[g,h,i]perylene
92.00751	207089	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[k]fluoranthene
92.00751	65850	< 0.33		MG/KG	2.1	0.2	2/14/92	OUT OF CONTROL	Benzoic acid
92.00751	100516	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzyl alcohol
92.00751	111911	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
92.00751	111444	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroethyl)ether
92.00751	108601	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
92.00751	117817	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
92.00751	101553	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Bromophenylphenyl ether
92.00751	85687	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Butyl benzyl phthalate
92.00751	59507	1.2	0.36	MG/KG	2.	0.2	2/14/92	UNDER CONTROL	4-Chloro-3-methylphenol
92.00751	106478	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Chloroaniline
92.00751	91587	3.	0.9	MG/KG	5.6	0.6	2/14/92	WARNING 2-3 SIG	2-Chloronaphthalene
92.00751	95578	1.2	0.36	MG/KG	2.2	0.2	2/14/92	WARNING 2-3 SIG	o-Chlorophenol
92.00751	7005723	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Chlorophenylphenyl ether
92.00751	21801	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Chrysene
92.00751	84742	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Di-n-butyl phthalate

92.00745	191242	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[g,h,i]perylene
92.00745	207089	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[k]fluoranthene
92.00745	65850	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzoic acid
92.00745	100516	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzyl alcohol
92.00745	111911	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
92.00745	111444	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroethyl)ether
92.00745	108601	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
92.00745	117817	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
92.00745	101553	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Bromophenylphenyl ether
92.00745	85687	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Butyl benzyl phthalate
92.00745	59507	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Chloro-3-methylphenol
92.00745	106478	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Chloroaniline
92.00745	91587	1.9	0.57	MG/KG	3.3	0.3	2/14/92	WARNING 2-3 SIG	2-Chloronaphthalene
92.00745	95578	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	o-Chlorophenol
92.00745	7005723	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Chlorophenylphenyl ether
92.00745	218019	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Chrysene
92.00745	84742	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Di-n-butyl phthalate
92.00745	117840	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Di-n-octyl phthalate
92.00745	53703	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dibenzo[a,h]anthracene
92.00745	132649	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dibenzofuran
92.00745	95501	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
92.00745	541731	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
92.00745	106467	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
92.00745	91941	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	3,3'-Dichlorobenzidine
92.00745	120832	1.9	0.57	MG/KG	3.5	0.4	2/14/92	WARNING 2-3 SIG	2,4-Dichlorophenol
92.00745	84662	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Diethyl phthalate
92.00745	131113	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Dimethyl phthalate
92.00745	105679	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dimethylphenol
92.00745	51285	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dinitrophenol
92.00745	121142	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,4-Dinitrotoluene
92.00745	606202	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2,6-Dinitrotoluene
92.00745	206440	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Fluoranthene
92.00745	86737	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Fluorene
92.00745	118741	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorobenzene
92.00745	87683	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorobutadiene
92.00745	77474	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Hexachlorocyclopentadiene
92.00745	67721	1.3	0.39	MG/KG	3.3	0.3	2/14/92	OUT OF CONTROL	Hexachloroethane
92.00745	193395	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
92.00745	78591	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Isophorone
92.00745	534521	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
92.00745	91576	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methylnaphthalene
92.00745	95487	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Methylphenol
92.00745	106445	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	4-Methylphenol
92.00745	91203	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Naphthalene
92.00745	88744	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	2-Nitroaniline

00.20227	92.00752	99092	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	3-Nitroaniline
00.20227	92.00752	100016	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	4-Nitroaniline
00.20227	92.00752	98953	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Nitrobenzene
00.20227	92.00752	88755	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2-Nitrophenol
00.20227	92.00752	100027	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	4-Nitrophenol
00.20227	92.00752	621647	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
00.20227	92.00752	62759	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	N-Nitrosodimethylamine
00.20227	92.00752	86306	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	N-Nitrosodiphenylamine
00.20227	92.00752	87865	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Pentachlorophenol
00.20227	92.00752	85018	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Phenanthrene
00.20227	92.00752	108952	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Phenol
00.20227	92.00752	129000	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Pyrene
00.20227	92.00752	120821	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	1,2,4-Trichlorobenzene
00.20227	92.00752	95954	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4,5-Trichlorophenol
00.20227	92.00752	88062	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4,6-Trichlorophenol

Blank Spike Results

none

Blank Spike Duplicate Results

none

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 92.00745

Date Collected: 1/24/92 Date Received: 1/24/92 Date Extracted: 1/28/92 Date Analyzed: 2/01/92

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.00745	83329	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Acenaphthene
92.00745	208968	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Acenaphthylene
92.00745	62533	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Aniline
92.00745	120127	2.6	0.78	MG/KG	3.2	0.3	2/14/92	UNDER CONTROL	Anthracene
92.00745	103333	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Azobenzene
92.00745	92875	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	m-Benzidine
92.00745	56553	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[a]anthracene
92.00745	50328	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[a]pyrene
92.00745	205992	< 0.33		MG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[b]fluoranthene

00.20227	92.00752	191242	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Benzo[g,h,i]perylene
00.20227	92.00752	207089	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Benzo[k]fluoranthene
00.20227	92.00752	65850	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Benzoic acid
00.20227	92.00752	100516	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Benzyl alcohol
00.20227	92.00752	111911	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
00.20227	92.00752	111444	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Bis(2-chloroethyl)ether
00.20227	92.00752	108601	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
00.20227	92.00752	117817	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
00.20227	92.00752	101553	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	4-Bromophenylphenyl ether
00.20227	92.00752	85687	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Butyl benzyl phthalate
00.20227	92.00752	59507	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	4-Chloro-3-methylphenol
00.20227	92.00752	106478	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	4-Chloroaniline
00.20227	92.00752	91587	< 330.	UG/KG	0.0	2/14/92.	UNDER CONTROL	2-Chloronaphthalene
00.20227	92.00752	95578	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	o-Chlorophenol
00.20227	92.00752	7005723	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	4-Chlorophenylphenyl ether
00.20227	92.00752	218019	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Chrysene
00.20227	92.00752	84742	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Di-n-butyl phthalate
00.20227	92.00752	117840	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Di-n-octyl phthalate
00.20227	92.00752	53703	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Dibenzo[a,h]anthracene
00.20227	92.00752	132649	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Dibenzofuran
00.20227	92.00752	95501	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.00752	541731	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.00752	106467	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.00752	91941	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	3,3'-Dichlorobenzidine
00.20227	92.00752	120832	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4-Dichlorophenol
00.20227	92.00752	84662	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Diethyl phthalate
00.20227	92.00752	131113	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Dimethyl phthalate
00.20227	92.00752	105679	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4-Dimethylphenol
00.20227	92.00752	51285	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4-Dinitrophenol
00.20227	92.00752	121142	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4-Dinitrotoluene
00.20227	92.00752	606202	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,6-Dinitrotoluene
00.20227	92.00752	206440	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Fluoranthene
00.20227	92.00752	86737	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Fluorene
00.20227	92.00752	118741	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Hexachlorobenzene
00.20227	92.00752	87683	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Hexachlorobutadiene
00.20227	92.00752	77474	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Hexachlorocyclopentadiene
00.20227	92.00752	67721	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Hexachloroethane
00.20227	92.00752	193395	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
00.20227	92.00752	78591	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Isophorone
00.20227	92.00752	534521	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
00.20227	92.00752	91576	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2-Methylnaphthalene
00.20227	92.00752	95487	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2-Methylphenol
00.20227	92.00752	106445	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	4-Methylphenol
00.20227	92.00752	91203	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Naphthalene
.20227	92.00752	88744	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2-Nitroaniline

00.20227	92.00746	120832	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4-Dichlorophenol
00.20227	92.00746	84662	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Diethyl phthalate
00.20227	92.00746	131113	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Dimethyl phthalate
00.20227	92.00746	105679	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4-Dimethylphenol
00.20227	92.00746	51285	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4-Dinitrophenol
00.20227	92.00746	121142	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4-Dinitrotoluene
00.20227	92.00746	606202	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,6-Dinitrotoluene
00.20227	92.00746	206440	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Fluoranthene
00.20227	92.00746	86737	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Fluorene
00.20227	92.00746	118741	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Hexachlorobenzene
00.20227	92.00746	87683	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Hexachlorobutadiene
00.20227	92.00746	77474	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Hexachlorocyclopentadiene
00.20227	92.00746	67721	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Hexachloroethane
00.20227	92.00746	193395	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
00.20227	92.00746	78591	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Isophorone
00.20227	92.00746	534521	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
00.20227	92.00746	91576	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2-Methylnaphthalene
00.20227	92.00746	95487	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2-Methylphenol
00.20227	92.00746	106445	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	4-Methylphenol
00.20227	92.00746	91203	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Naphthalene
00.20227	92.00746	88744	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2-Nitroaniline
00.20227	92.00746	99092	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	3-Nitroaniline
00.20227	92.00746	100016	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	4-Nitroaniline
00.20227	92.00746	98953	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Nitrobenzene
00.20227	92.00746	88755	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2-Nitrophenol
00.20227	92.00746	100027	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	4-Nitrophenol
00.20227	92.00746	621647	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	N-Nitrosodi-n-propylamine
00.20227	92.00746	62759	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	N-Nitrosodimethylamine
00.20227	92.00746	86306	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	N-Nitrosodiphenylamine
00.20227	92.00746	87865	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Pentachlorophenol
00.20227	92.00746	85018	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Phenanthrene
00.20227	92.00746	108952	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Phenol
00.20227	92.00746	129000	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Pyrene
00.20227	92.00746	120821	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	1,2,4-Trichlorobenzene
00.20227	92.00746	95954	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4,5-Trichlorophenol
00.20227	92.00746	88062	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	2,4,6-Trichlorophenol
00.20227	92.00752	83329	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Acenaphthene
00.20227	92.00752	208968	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Acenaphthylene
00.20227	92.00752	62533	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Aniline
00.20227	92.00752	120127	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Anthracene
00.20227	92.00752	103333	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Azobenzene
00.20227	92.00752	92875	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	m-Benzidine
00.20227	92.00752	56553	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Benzo[a]anthracene
00.20227	92.007[illegible]	50328	< 330.	UG/KG	0.[illegible]	2/14/92	UNDER CONTROL	Benzo[a]pyrene
00.20227	92.007[illegible]	205992	< 330.	UG/KG	0.0	2/14/92	UNDER CONTROL	Benzo[b]fluoranthene

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUN
00.20227	92.00746	83329	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Acenaphthene
00.20227	92.00746	208968	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Acenaphthylene
00.20227	92.00746	62533	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Aniline
00.20227	92.00746	120127	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Anthracene
00.20227	92.00746	103333	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Azobenzene
00.20227	92.00746	92875	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	m-Benzidine
00.20227	92.00746	56553	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[a]anthracene
00.20227	92.00746	50328	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[a]pyrene
00.20227	92.00746	205992	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[b]fluoranthene
00.20227	92.00746	191242	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[g,h,i]perylene
00.20227	92.00746	207089	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Benzo[k]fluoranthene
00.20227	92.00746	65850	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Benzoic acid
00.20227	92.00746	100516	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Benzyl alcohol
00.20227	92.00746	111911	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroethoxy)methane
00.20227	92.00746	111444	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroethyl)ether
00.20227	92.00746	108601	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-chloroisopropyl)ether
00.20227	92.00746	117817	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
00.20227	92.00746	101553	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	4-Bromophenylphenyl ether
00.20227	92.00746	85687	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Butyl benzyl phthalate
00.20227	92.00746	59507	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	4-Chloro-3-methylphenol
00.20227	92.00746	106478	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	4-Chloroaniline
00.20227	92.00746	91587	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	2-Chloronaphthalene
00.20227	92.00746	95578	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	o-Chlorophenol
00.20227	92.00746	7005723	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	4-Chlorophenylphenyl ether
00.20227	92.00746	218019	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Chrysene
00.20227	92.00746	84742	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Di-n-butyl phthalate
00.20227	92.00746	117840	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Di-n-octyl phthalate
00.20227	92.00746	53703	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Dibenzo[a,h]anthracene
00.20227	92.00746	132649	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	Dibenzofuran
00.20227	92.00746	95501	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20227	92.00746	541731	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20227	92.00746	106467	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20227	92.00746	91941	< 330.		UG/KG	0.0		2/14/92	UNDER CONTROL	3,3'-Dichlorobenzidine

REPORT NUMBER: 13035 (continued)

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

PF-40-FA-5R	92.00770	120821	< 3300.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-FA-5R	92.00770	95954	< 3300.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-FA-5R	92.00770	88062	< 3300.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00770

none

Customer Sample Duplicate Results for Sample # 92.00770

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00770

none

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PF-40-FA-5R	92.00770	91587	< 3300.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-FA-5R	92.00770	95578	< 3300.	UG/KG	2/14/92	o-Chlorophenol
PF-40-FA-5R	92.00770	7005723	< 3300.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-FA-5R	92.00770	218019	< 3300.	UG/KG	2/14/92	Chrysene
PF-40-FA-5R	92.00770	84742	< 3300.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-FA-5R	92.00770	117840	< 3300.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-FA-5R	92.00770	53703	< 3300.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-FA-5R	92.00770	132649	< 3300.	UG/KG	2/14/92	Dibenzofuran
PF-40-FA-5R	92.00770	95501	< 3300.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-FA-5R	92.00770	541731	< 3300.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-FA-5R	92.00770	106467	< 3300.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-FA-5R	92.00770	91941	< 3300.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-FA-5R	92.00770	120832	< 3300.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-FA-5R	92.00770	84662	< 3300.	UG/KG	2/14/92	Diethyl phthalate
PF-40-FA-5R	92.00770	131113	< 3300.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-FA-5R	92.00770	105679	< 3300.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-FA-5R	92.00770	51285	< 3300.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-FA-5R	92.00770	121142	< 3300.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-FA-5R	92.00770	606202	< 3300.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-FA-5R	92.00770	206440	< 3300.	UG/KG	2/14/92	Fluoranthene
PF-40-FA-5R	92.00770	86737	< 3300.	UG/KG	2/14/92	Fluorene
PF-40-FA-5R	92.00770	118741	< 3300.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-FA-5R	92.00770	87683	< 3300.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-FA-5R	92.00770	77474	< 3300.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-FA-5R	92.00770	67721	< 3300.	UG/KG	2/14/92	Hexachloroethane
PF-40-FA-5R	92.00770	193395	< 3300.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-FA-5R	92.00770	78591	< 3300.	UG/KG	2/14/92	Isophorone
PF-40-FA-5R	92.00770	534521	< 3300.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-FA-5R	92.00770	91576	< 3300.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-FA-5R	92.00770	95487	< 3300.	UG/KG	2/14/92	2-Methylphenol
PF-40-FA-5R	92.00770	106445	< 3300.	UG/KG	2/14/92	4-Methylphenol
PF-40-FA-5R	92.00770	91203	< 3300.	UG/KG	2/14/92	Naphthalene
PF-40-FA-5R	92.00770	88744	< 3300.	UG/KG	2/14/92	2-Nitroaniline
PF-40-FA-5R	92.00770	99092	< 3300.	UG/KG	2/14/92	3-Nitroaniline
PF-40-FA-5R	92.00770	100016	< 3300.	UG/KG	2/14/92	4-Nitroaniline
PF-40-FA-5R	92.00770	98953	< 3300.	UG/KG	2/14/92	Nitrobenzene
PF-40-FA-5R	92.00770	88755	< 3300.	UG/KG	2/14/92	2-Nitrophenol
PF-40-FA-5R	92.00770	100027	< 3300.	UG/KG	2/14/92	4-Nitrophenol
PF-40-FA-5R	92.00770	621647	< 3300.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-FA-5R	92.00770	62759	< 3300.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-FA-5R	92.00770	86306	< 3300.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-FA-5R	92.00770	87865	< 3300.	UG/KG	2/14/92	Pentachlorophenol
PF-40-FA-5R	92.00770	85018	< 3300.	UG/KG	2/14/92	Phenanthrene
PF-40-FA-5R	92.[illegible]	108952	< 3300.	UG/KG	2/14/9[illegible]	Phenol
PF-40-FA-5R	92.[illegible]	129000	< 3300.	UG/KG	2/14/92	Pyrene

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00770

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-5R	92.00770	83329	< 3300.		UG/KG	2/14/92		Acenaphthene
PF-40-FA-5R	92.00770	208968	< 3300.		UG/KG	2/14/92		Acenaphthylene
PF-40-FA-5R	92.00770	62533	< 3300.		UG/KG	2/14/92		Aniline
PF-40-FA-5R	92.00770	120127	< 3300.		UG/KG	2/14/92		Anthracene
PF-40-FA-5R	92.00770	103333	< 3300.		UG/KG	2/14/92		Azobenzene
PF-40-FA-5R	92.00770	92875	< 3300.		UG/KG	2/14/92		m-Benzidine
PF-40-FA-5R	92.00770	56553	< 3300.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-FA-5R	92.00770	50328	< 3300.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-FA-5R	92.00770	205992	< 3300.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-FA-5R	92.00770	191242	< 3300.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-FA-5R	92.00770	207089	< 3300.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-FA-5R	92.00770	65850	< 3300.		UG/KG	2/14/92		Benzoic acid
PF-40-FA-5R	92.00770	100516	< 3300.		UG/KG	2/14/92		Benzyl alcohol
PF-40-FA-5R	92.00770	111911	< 3300.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-FA-5R	92.00770	111444	< 3300.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-FA-5R	92.00770	108601	< 3300.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-FA-5R	92.00770	117817	< 3300.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-FA-5R	92.00770	101553	< 3300.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-FA-5R	92.00770	85687	< 3300.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-FA-5R	92.00770	59507	< 3300.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-FA-5R	92.00770	106478	< 3300.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BP-3C	92.00769	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BP-3C	92.00769	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BP-3C	92.00769	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00769

none

Customer Sample Duplicate Results for Sample # 92.00769

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00769

none

PF-40-BP-3C	92.00769	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BP-3C	92.00769	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BP-3C	92.00769	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BP-3C	92.00769	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BP-3C	92.00769	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BP-3C	92.00769	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BP-3C	92.00769	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BP-3C	92.00769	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BP-3C	92.00769	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BP-3C	92.00769	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BP-3C	92.00769	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BP-3C	92.00769	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BP-3C	92.00769	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BP-3C	92.00769	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BP-3C	92.00769	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BP-3C	92.00769	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BP-3C	92.00769	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BP-3C	92.00769	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BP-3C	92.00769	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BP-3C	92.00769	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BP-3C	92.00769	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BP-3C	92.00769	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BP-3C	92.00769	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BP-3C	92.00769	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BP-3C	92.00769	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BP-3C	92.00769	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BP-3C	92.00769	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BP-3C	92.00769	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BP-3C	92.00769	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BP-3C	92.00769	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BP-3C	92.00769	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BP-3C	92.00769	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BP-3C	92.00769	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BP-3C	92.00769	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BP-3C	92.00769	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BP-3C	92.00769	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BP-3C	92.00769	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BP-3C	92.00769	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BP-3C	92.00769	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BP-3C	92.00769	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BP-3C	92.00769	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BP-3C	92.00769	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BP-3C	92.00769	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-BP-3C	92.00769	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-BP-3C	92.00769	129000	< 330.	UG/KG	2/14/92	Pyrene

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00769

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3C	92.00769	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-BP-3C	92.00769	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-BP-3C	92.00769	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-BP-3C	92.00769	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-BP-3C	92.00769	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-BP-3C	92.00769	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-BP-3C	92.00769	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-BP-3C	92.00769	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-BP-3C	92.00769	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-BP-3C	92.00769	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-BP-3C	92.00769	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-BP-3C	92.00769	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-BP-3C	92.00769	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-BP-3C	92.00769	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-BP-3C	92.00769	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-BP-3C	92.00769	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-BP-3C	92.00769	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-BP-3C	92.00769	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-BP-3C	92.00769	85687	< 330.		UG/KG	2/14/[illegible]		Butyl benzyl phthalate
PF-40-BP-3C	9[illegible]69	59507	< 330.		UG/KG	2/14[illegible]		4-Chloro-3-methylphenol
PF-40-BP-3C	92.[illegible]769	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BP-3B	92.00768	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BP-3B	92.00768	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BP-3B	92.00768	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00768

none

Customer Sample Duplicate Results for Sample # 92.00768

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00768

none

PF-40-BP-3B	92.00768	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BP-3B	92.00768	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BP-3B	92.00768	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BP-3B	92.00768	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BP-3B	92.00768	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BP-3B	92.00768	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BP-3B	92.00768	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BP-3B	92.00768	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BP-3B	92.00768	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BP-3B	92.00768	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BP-3B	92.00768	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BP-3B	92.00768	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BP-3B	92.00768	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorbphenol
PF-40-BP-3B	92.00768	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BP-3B	92.00768	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BP-3B	92.00768	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BP-3B	92.00768	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BP-3B	92.00768	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BP-3B	92.00768	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BP-3B	92.00768	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BP-3B	92.00768	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BP-3B	92.00768	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BP-3B	92.00768	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BP-3B	92.00768	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BP-3B	92.00768	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BP-3B	92.00768	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BP-3B	92.00768	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BP-3B	92.00768	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BP-3B	92.00768	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BP-3B	92.00768	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BP-3B	92.00768	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BP-3B	92.00768	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BP-3B	92.00768	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BP-3B	92.00768	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BP-3B	92.00768	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BP-3B	92.00768	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BP-3B	92.00768	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BP-3B	92.00768	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BP-3B	92.00768	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BP-3B	92.00768	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BP-3B	92.00768	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BP-3B	92.00768	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BP-3B	92.00768	85018	< 330.	UG/KG	2/14/97	Phenanthrene
PF-40-BP-3B	92.	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-BP-3B	92.00768	129000	< 330.	UG/KG	2/14/92	Pyrene

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00768

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 2/04/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3B	92.00768	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-BP-3B	92.00768	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-BP-3B	92.00768	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-BP-3B	92.00768	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-BP-3B	92.00768	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-BP-3B	92.00768	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-BP-3B	92.00768	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-BP-3B	92.00768	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-BP-3B	92.00768	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-BP-3B	92.00768	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-BP-3B	92.00768	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-BP-3B	92.00768	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-BP-3B	92.00768	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-BP-3B	92.00768	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-BP-3B	92.00768	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-BP-3B	92.00768	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-BP-3B	92.00768	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-BP-3B	92.00768	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-BP-3B	92.00768	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-BP-3B	92.00768	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-BP-3B	92.00768	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BC-1	92.00767	120821	< 1300.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BC-1	92.00767	95954	< 1300.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BC-1	92.00767	88062	< 1300.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00767

none

Customer Sample Duplicate Results for Sample # 92.00767

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00767

none

PF-40-BC-1	92.00767	91587	< 1300.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BC-1	92.00767	95578	< 1300.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BC-1	92.00767	7005723	< 1300.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BC-1	92.00767	218019	< 1300.	UG/KG	2/14/92	Chrysene
PF-40-BC-1	92.00767	84742	< 1300.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BC-1	92.00767	117840	< 1300.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BC-1	92.00767	53703	< 1300.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BC-1	92.00767	132649	< 1300.	UG/KG	2/14/92	Dibenzofuran
PF-40-BC-1	92.00767	95501	< 1300.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BC-1	92.00767	541731	< 1300.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BC-1	92.00767	106467	< 1300.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BC-1	92.00767	91941	< 1300.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BC-1	92.00767	120832	< 1300.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BC-1	92.00767	84662	< 1300.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BC-1	92.00767	131113	< 1300.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BC-1	92.00767	105679	< 1300.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BC-1	92.00767	51285	< 1300.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BC-1	92.00767	121142	< 1300.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BC-1	92.00767	606202	< 1300.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BC-1	92.00767	206440	< 1300.	UG/KG	2/14/92	Fluoranthene
PF-40-BC-1	92.00767	86737	< 1300.	UG/KG	2/14/92	Fluorene
PF-40-BC-1	92.00767	118741	< 1300.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BC-1	92.00767	87683	< 1300.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BC-1	92.00767	77474	< 1300.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BC-1	92.00767	67721	< 1300.	UG/KG	2/14/92	Hexachloroethane
PF-40-BC-1	92.00767	193395	< 1300.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BC-1	92.00767	78591	< 1300.	UG/KG	2/14/92	Isophorone
PF-40-BC-1	92.00767	534521	< 1300.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BC-1	92.00767	91576	< 1300.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BC-1	92.00767	95487	< 1300.	UG/KG	2/14/92	2-Methylphenol
PF-40-BC-1	92.00767	106445	< 1300.	UG/KG	2/14/92	4-Methylphenol
PF-40-BC-1	92.00767	91203	< 1300.	UG/KG	2/14/92	Naphthalene
PF-40-BC-1	92.00767	88744	< 1300.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BC-1	92.00767	99092	< 1300.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BC-1	92.00767	100016	< 1300.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BC-1	92.00767	98953	< 1300.	UG/KG	2/14/92	Nitrobenzene
PF-40-BC-1	92.00767	88755	< 1300.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BC-1	92.00767	100027	< 1300.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BC-1	92.00767	621647	< 1300.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BC-1	92.00767	62759	< 1300.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BC-1	92.00767	86306	< 1300.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BC-1	92.00767	87865	< 1300.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BC-1	92.00767	85018	< 1300.	UG/KG	2/14/92	Phenanthrene
PF-40-BC-1	92.00767	108952	< 1300.	UG/KG	2/14/92	Phenol
PF-40-BC-1	92.00767	129000	< 1300.	UG/KG	2/14/92	Pyrene

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

EQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

WNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

ustomer Sample Results, Sample # 92.00767

ate Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 2/03/92

USTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-BC-1	92.00767	83329	< 1300.		UG/KG	2/14/92		Acenaphthene
F-40-BC-1	92.00767	208968	< 1300.		UG/KG	2/14/92		Acenaphthylene
F-40-BC-1	92.00767	62533	< 1300.		UG/KG	2/14/92		Aniline
F-40-BC-1	92.00767	120127	< 1300.		UG/KG	2/14/92		Anthracene
F-40-BC-1	92.00767	103333	< 1300.		UG/KG	2/14/92		Azobenzene
F-40-BC-1	92.00767	92875	< 1300.		UG/KG	2/14/92		m-Benzidine
F-40-BC-1	92.00767	56553	< 1300.		UG/KG	2/14/92		Benzo[a]anthracene
F-40-BC-1	92.00767	50328	< 1300.		UG/KG	2/14/92		Benzo[a]pyrene
F-40-BC-1	92.00767	205992	1800.	540.	UG/KG	2/14/92		Benzo[b]fluoranthene
F-40-BC-1	92.00767	191242	< 1300.		UG/KG	2/14/92		Benzo[g,h,i]perylene
F-40-BC-1	92.00767	207089	< 1300.		UG/KG	2/14/92		Benzo[k]fluoranthene
F-40-BC-1	92.00767	65850	< 1300.		UG/KG	2/14/92		Benzoic acid
F-40-BC-1	92.00767	100516	< 1300.		UG/KG	2/14/92		Benzyl alcohol
F-40-BC-1	92.00767	111911	< 1300.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
F-40-BC-1	92.00767	111444	< 1300.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
F-40-BC-1	92.00767	108601	< 1300.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
F-40-BC-1	92.00767	117817	< 1300.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
F-40-BC-1	92.00767	101553	< 1300.		UG/KG	2/14/92		4-Bromophenylphenyl ether
F-40-BC-1	92.00767	85687	< 1300.		UG/KG	2/14/92		Butyl benzyl phthalate
F-40-BC-1	92.007	59507	< 1300.		UG/KG	2/14/92		4-Chloro-3-methylphenol
F-40-BC-1	92.007	106478	< 1300.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BP-2C	92.00766	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BP-2C	92.00766	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BP-2C	92.00766	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00766

none

Customer Sample Duplicate Results for Sample # 92.00766

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00766

none

PF-40-BP-2C	92.00766	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BP-2C	92.00766	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BP-2C	92.00766	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BP-2C	92.00766	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BP-2C	92.00766	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BP-2C	92.00766	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BP-2C	92.00766	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BP-2C	92.00766	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BP-2C	92.00766	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BP-2C	92.00766	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BP-2C	92.00766	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BP-2C	92.00766	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BP-2C	92.00766	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BP-2C	92.00766	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BP-2C	92.00766	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BP-2C	92.00766	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BP-2C	92.00766	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BP-2C	92.00766	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BP-2C	92.00766	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BP-2C	92.00766	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BP-2C	92.00766	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BP-2C	92.00766	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BP-2C	92.00766	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BP-2C	92.00766	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BP-2C	92.00766	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BP-2C	92.00766	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BP-2C	92.00766	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BP-2C	92.00766	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BP-2C	92.00766	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BP-2C	92.00766	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BP-2C	92.00766	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BP-2C	92.00766	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BP-2C	92.00766	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BP-2C	92.00766	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BP-2C	92.00766	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BP-2C	92.00766	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BP-2C	92.00766	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BP-2C	92.00766	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BP-2C	92.00766	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BP-2C	92.00766	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BP-2C	92.00766	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BP-2C	92.00766	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BP-2C	92.00766	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-BP-2C	92.00	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-BP-2C	92.00766	129000	< 330.	UG/KG	2/14/92	Pyrene

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00766

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-BP-2C	92.00766	83329	< 330.		UG/KG	2/14/92		Acenaphthene
F-40-BP-2C	92.00766	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
F-40-BP-2C	92.00766	62533	< 330.		UG/KG	2/14/92		Aniline
F-40-BP-2C	92.00766	120127	< 330.		UG/KG	2/14/92		Anthracene
F-40-BP-2C	92.00766	103333	< 330.		UG/KG	2/14/92		Azobenzene
F-40-BP-2C	92.00766	92875	< 330.		UG/KG	2/14/92		m-Benzidine
F-40-BP-2C	92.00766	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
F-40-BP-2C	92.00766	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
F-40-BP-2C	92.00766	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
F-40-BP-2C	92.00766	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
F-40-BP-2C	92.00766	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
F-40-BP-2C	92.00766	65850	< 330.		UG/KG	2/14/92		Benzoic acid
F-40-BP-2C	92.00766	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
F-40-BP-2C	92.00766	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
F-40-BP-2C	92.00766	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
F-40-BP-2C	92.00766	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
F-40-BP-2C	92.00766	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
F-40-BP-2C	92.00766	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
F-40-BP-2C	92.00766	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
-40-BP-2C	92.00766	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
-40-BP-2C	92.00766	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00765

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2B	92.00765	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-BP-2B	92.00765	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-BP-2B	92.00765	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-BP-2B	92.00765	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-BP-2B	92.00765	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-BP-2B	92.00765	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-BP-2B	92.00765	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-BP-2B	92.00765	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-BP-2B	92.00765	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-BP-2B	92.00765	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-BP-2B	92.00765	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-BP-2B	92.00765	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-BP-2B	92.00765	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-BP-2B	92.00765	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-BP-2B	92.00765	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-BP-2B	92.00765	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-BP-2B	92.00765	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-BP-2B	92.00765	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-BP-2B	92.00765	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-BP-2B	92.0[illegible]	59507	< 330.		UG/KG	2/14/9[illegible]		4-Chloro-3-methylphenol
PF-40-BP-2B	92.0[illegible]	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

F-40-BP-2A	92.00764	120821	< 660.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
F-40-BP-2A	92.00764	95954	< 660.	UG/KG	2/14/92	2,4,5-Trichlorophenol
F-40-BP-2A	92.00764	88062	< 660.	UG/KG	2/14/92	2,4,6-Trichlorophenol

entatively Identified Compounds in Customer Sample # 92.00764

one

ustomer Sample Duplicate Results for Sample # 92.00764

one

entatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00764

one

40-BP-2A	92.00764	91587	< 660.		UG/KG	2/14/92	2-Chloronaphthalene
40-BP-2A	92.00764	95578	< 660.		UG/KG	2/14/92	o-Chlorophenol
40-BP-2A	92.00764	7005723	< 660.		UG/KG	2/14/92	4-Chlorophenylphenyl ether
40-BP-2A	92.00764	218019	< 660.		UG/KG	2/14/92	Chrysene
40-BP-2A	92.00764	84742	< 660.		UG/KG	2/14/92	Di-n-butyl phthalate
40-BP-2A	92.00764	117840	< 660.		UG/KG	2/14/92	Di-n-octyl phthalate
40-BP-2A	92.00764	53703	< 660.		UG/KG	2/14/92	Dibenzo[a,h]anthracene
40-BP-2A	92.00764	132649	< 660.		UG/KG	2/14/92	Dibenzofuran
40-BP-2A	92.00764	95501	< 660.		UG/KG	2/14/92	o-Dichlorobenzene (1,2)
40-BP-2A	92.00764	541731	< 660.		UG/KG	2/14/92	m-Dichlorobenzene (1,3)
40-BP-2A	92.00764	106467	< 660.		UG/KG	2/14/92	p-Dichlorobenzene (1,4)
40-BP-2A	92.00764	91941	< 660.		UG/KG	2/14/92	3,3'-Dichlorobenzidine
40-BP-2A	92.00764	120832	< 660.		UG/KG	2/14/92	2,4-Dichlorophenol
40-BP-2A	92.00764	84662	< 660.		UG/KG	2/14/92	Diethyl phthalate
40-BP-2A	92.00764	131113	< 660.		UG/KG	2/14/92	Dimethyl phthalate
40-BP-2A	92.00764	105679	< 660.		UG/KG	2/14/92	2,4-Dimethylphenol
40-BP-2A	92.00764	51285	< 660.		UG/KG	2/14/92	2,4-Dinitrophenol
40-BP-2A	92.00764	121142	< 660.		UG/KG	2/14/92	2,4-Dinitrotoluene
40-BP-2A	92.00764	606202	< 660.		UG/KG	2/14/92	2,6-Dinitrotoluene
40-BP-2A	92.00764	206440	< 660.		UG/KG	2/14/92	Fluoranthene
40-BP-2A	92.00764	86737	< 660.		UG/KG	2/14/92	Fluorene
40-BP-2A	92.00764	118741	< 660.		UG/KG	2/14/92	Hexachlorobenzene
40-BP-2A	92.00764	87683	< 660.		UG/KG	2/14/92	Hexachlorobutadiene
40-BP-2A	92.00764	77474	< 660.		UG/KG	2/14/92	Hexachlorocyclopentadiene
40-BP-2A	92.00764	67721	< 660.		UG/KG	2/14/92	Hexachloroethane
40-BP-2A	92.00764	193395	< 660.		UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
40-BP-2A	92.00764	78591	< 660.		UG/KG	2/14/92	Isophorone
40-BP-2A	92.00764	534521	< 660.		UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
40-BP-2A	92.00764	91576	< 660.		UG/KG	2/14/92	2-Methylnaphthalene
40-BP-2A	92.00764	95487	< 660.		UG/KG	2/14/92	2-Methylphenol
40-BP-2A	92.00764	106445	< 660.		UG/KG	2/14/92	4-Methylphenol
40-BP-2A	92.00764	91203	< 660.		UG/KG	2/14/92	Naphthalene
40-BP-2A	92.00764	88744	< 660.		UG/KG	2/14/92	2-Nitroaniline
40-BP-2A	92.00764	99092	< 660.		UG/KG	2/14/92	3-Nitroaniline
40-BP-2A	92.00764	100016	< 660.		UG/KG	2/14/92	4-Nitroaniline
40-BP-2A	92.00764	98953	< 660.		UG/KG	2/14/92	Nitrobenzene
40-BP-2A	92.00764	88755	< 660.		UG/KG	2/14/92	2-Nitrophenol
40-BP-2A	92.00764	100027	< 660.		UG/KG	2/14/92	4-Nitrophenol
40-BP-2A	92.00764	621647	< 660.		UG/KG	2/14/92	N-Nitrosodi-n-propylamine
40-BP-2A	92.00764	62759	< 660.		UG/KG	2/14/92	N-Nitrosodimethylamine
40-BP-2A	92.00764	86306	< 660.		UG/KG	2/14/92	N-Nitrosodiphenylamine
40-BP-2A	92.00764	87865	< 660.		UG/KG	2/14/92	Pentachlorophenol
40-BP-2A	92.00764	85018	< 660.		UG/KG	2/14/92	Phenanthrene
40-BP-2A	92.00764	08952	1500.	450.	UG/KG	2/14/92	Phenol
40-BP-2A	92.00764	129000	< 660.		UG/KG	2/14/92	Pyrene

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

EQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

WNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

ustomer Sample Results, Sample # 92.00764

ate Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 2/05/92

USTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-BP-2A	92.00764	83329	< 660.		UG/KG	2/14/92		Acenaphthene
F-40-BP-2A	92.00764	208968	< 660.		UG/KG	2/14/92		Acenaphthylene
F-40-BP-2A	92.00764	62533	< 660.		UG/KG	2/14/92		Aniline
F-40-BP-2A	92.00764	120127	< 660.		UG/KG	2/14/92		Anthracene
F-40-BP-2A	92.00764	103333	< 660.		UG/KG	2/14/92		Azobenzene
F-40-BP-2A	92.00764	92875	< 660.		UG/KG	2/14/92		m-Benzidine
F-40-BP-2A	92.00764	56553	< 660.		UG/KG	2/14/92		Benzo[a]anthracene
F-40-BP-2A	92.00764	50328	< 660.		UG/KG	2/14/92		Benzo[a]pyrene
F-40-BP-2A	92.00764	205992	< 660.		UG/KG	2/14/92		Benzo[b]fluoranthene
F-40-BP-2A	92.00764	191242	< 660.		UG/KG	2/14/92		Benzo[g,h,i]perylene
F-40-BP-2A	92.00764	207089	< 660.		UG/KG	2/14/92		Benzo[k]fluoranthene
F-40-BP-2A	92.00764	65850	2100.	630.	UG/KG	2/14/92		Benzoic acid
F-40-BP-2A	92.00764	100516	< 660.		UG/KG	2/14/92		Benzyl alcohol
F-40-BP-2A	92.00764	111911	< 660.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
F-40-BP-2A	92.00764	111444	< 660.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
F-40-BP-2A	92.00764	108601	< 660.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
F-40-BP-2A	92.00764	117817	< 660.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
F-40-BP-2A	92.00764	101553	< 660.		UG/KG	2/14/92		4-Bromophenylphenyl ether
F-40-BP-2A	92.00764	85687	< 660.		UG/KG	2/14/92		Butyl benzyl phthalate
F-40-BP-2A	92.00764	59507	< 660.		UG/KG	2/14/92		4-Chloro-3-methylphenol
F-40-BP-2A	92.00764	106478	< 660.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BP-2B	92.00765	120821		< 330.		UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BP-2B	92.00765	95954		< 330.		UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BP-2B	92.00765	88062		< 330.		UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00765

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-2B	92.00765	165	TI	2000.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	820.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	1100.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	820.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	1200.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	2600.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	370.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	3700.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	3000.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	1700.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	530.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	3700.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	640.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	1000.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-2B	92.00765	165	TI	650.		UG/KG	2/14/92		Saturated Hydrocarbons

Customer Sample Duplicate Results for Sample # 92.00765

None

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00765

None

PF-40-BP-2B	92.00765	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BP-2B	92.00765	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BP-2B	92.00765	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BP-2B	92.00765	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BP-2B	92.00765	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BP-2B	92.00765	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BP-2B	92.00765	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BP-2B	92.00765	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BP-2B	92.00765	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BP-2B	92.00765	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BP-2B	92.00765	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BP-2B	92.00765	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BP-2B	92.00765	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BP-2B	92.00765	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BP-2B	92.00765	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BP-2B	92.00765	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BP-2B	92.00765	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BP-2B	92.00765	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BP-2B	92.00765	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BP-2B	92.00765	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BP-2B	92.00765	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BP-2B	92.00765	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BP-2B	92.00765	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BP-2B	92.00765	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BP-2B	92.00765	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BP-2B	92.00765	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BP-2B	92.00765	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BP-2B	92.00765	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BP-2B	92.00765	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BP-2B	92.00765	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BP-2B	92.00765	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BP-2B	92.00765	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BP-2B	92.00765	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BP-2B	92.00765	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BP-2B	92.00765	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BP-2B	92.00765	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BP-2B	92.00765	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BP-2B	92.00765	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BP-2B	92.00765	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BP-2B	92.00765	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BP-2B	92.00765	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BP-2B	92.00765	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BP-2B	92.00765	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-BP-2B	92.00765	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-BP-2B	92.00765	129000	< 330.	UG/KG	2/14/92	Pyrene

PF-40-BP-1C	92.00763	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BP-1C	92.00763	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BP-1C	92.00763	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00763

none

Customer Sample Duplicate Results for Sample # 92.00763

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00763

none

PF-40-BP-1C	92.00763	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BP-1C	92.00763	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BP-1C	92.00763	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BP-1C	92.00763	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BP-1C	92.00763	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BP-1C	92.00763	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BP-1C	92.00763	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BP-1C	92.00763	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BP-1C	92.00763	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BP-1C	92.00763	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BP-1C	92.00763	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BP-1C	92.00763	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BP-1C	92.00763	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BP-1C	92.00763	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BP-1C	92.00763	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BP-1C	92.00763	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BP-1C	92.00763	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BP-1C	92.00763	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BP-1C	92.00763	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BP-1C	92.00763	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BP-1C	92.00763	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BP-1C	92.00763	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BP-1C	92.00763	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BP-1C	92.00763	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BP-1C	92.00763	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BP-1C	92.00763	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BP-1C	92.00763	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BP-1C	92.00763	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BP-1C	92.00763	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BP-1C	92.00763	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BP-1C	92.00763	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BP-1C	92.00763	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BP-1C	92.00763	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BP-1C	92.00763	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BP-1C	92.00763	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BP-1C	92.00763	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BP-1C	92.00763	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BP-1C	92.00763	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BP-1C	92.00763	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BP-1C	92.00763	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BP-1C	92.00763	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BP-1C	92.00763	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BP-1C	92.00763	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-BP-1C	92.00763	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-BP-1C	92.00763	129000	< 330.	UG/KG	2/14/92	Pyrene

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00763

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
F-40-BP-1C	92.00763	83329	< 330.		UG/KG	2/14/92		Acenaphthene
F-40-BP-1C	92.00763	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
F-40-BP-1C	92.00763	62533	< 330.		UG/KG	2/14/92		Aniline
F-40-BP-1C	92.00763	120127	< 330.		UG/KG	2/14/92		Anthracene
F-40-BP-1C	92.00763	103333	< 330.		UG/KG	2/14/92		Azobenzene
F-40-BP-1C	92.00763	92875	< 330.		UG/KG	2/14/92		m-Benzidine
F-40-BP-1C	92.00763	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
F-40-BP-1C	92.00763	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
F-40-BP-1C	92.00763	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
F-40-BP-1C	92.00763	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
F-40-BP-1C	92.00763	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
F-40-BP-1C	92.00763	65850	< 330.		UG/KG	2/14/92		Benzoic acid
F-40-BP-1C	92.00763	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
F-40-BP-1C	92.00763	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
F-40-BP-1C	92.00763	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
F-40-BP-1C	92.00763	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
F-40-BP-1C	92.00763	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
F-40-BP-1C	92.00763	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
F-40-BP-1C	92.00763	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
F-40-BP-1C	92.007	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
F-40-BP-1C	92.0076	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BP-1B	92.00762	120821	< 330.		UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BP-1B	92.00762	95954	< 330.		UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BP-1B	92.00762	88062	< 330.		UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00762

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1B	92.00762	165	TI	820.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	1300.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	2800.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	1000.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	2800.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	690.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	2800.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	620.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	580.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	1100.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	1500.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	2100.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	165	TI	600.		UG/KG	2/14/92		Saturated Hydrocarbons
PF-40-BP-1B	92.00762	173	TI	830.		UG/KG	2/14/92		Unknown Polynuclear Aromatic Hydrocarbon

Customer Sample Duplicate Results for Sample # 92.00762

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00762

none

PF-40-BP-1B	92.00762	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BP-1B	92.00762	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BP-1B	92.00762	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BP-1B	92.00762	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BP-1B	92.00762	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BP-1B	92.00762	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BP-1B	92.00762	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BP-1B	92.00762	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BP-1B	92.00762	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BP-1B	92.00762	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BP-1B	92.00762	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BP-1B	92.00762	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BP-1B	92.00762	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BP-1B	92.00762	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BP-1B	92.00762	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BP-1B	92.00762	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BP-1B	92.00762	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BP-1B	92.00762	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BP-1B	92.00762	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BP-1B	92.00762	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BP-1B	92.00762	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BP-1B	92.00762	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BP-1B	92.00762	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BP-1B	92.00762	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BP-1B	92.00762	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BP-1B	92.00762	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BP-1B	92.00762	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BP-1B	92.00762	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BP-1B	92.00762	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BP-1B	92.00762	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BP-1B	92.00762	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BP-1B	92.00762	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BP-1B	92.00762	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BP-1B	92.00762	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BP-1B	92.00762	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BP-1B	92.00762	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BP-1B	92.00762	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BP-1B	92.00762	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BP-1B	92.00762	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BP-1B	92.00762	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BP-1B	92.00762	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BP-1B	92.00762	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BP-1B	92.0[illegible]2	85018	< 330.	UG/KG	2/14/9[illegible]	Phenanthrene
PF-40-BP-1B	92.[illegible]	108952	< 330.	UG/KG	2/14/9[illegible]	Phenol
PF-40-BP-1B	92.00762	129000	< 330.	UG/KG	2/14/92	Pyrene

REPORT NUMBER: 13035

********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 14-Feb-1992

EPA SEMIVOLATILES

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: ANTHONY J LOMBARD PROGRAM CODE: M94B NOTEBOOK: R7720 PAGE: 167

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCMS ANALYTICAL PROCEDURE: EPA SW-846 3RD

Customer Sample Results, Sample # 92.00762

Date Collected: 1/24/92 Date Received: 1/27/92 Date Extracted: 1/29/92 Date Analyzed: 1/31/92

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-1B	92.00762	83329	< 330.		UG/KG	2/14/92		Acenaphthene
PF-40-BP-1B	92.00762	208968	< 330.		UG/KG	2/14/92		Acenaphthylene
PF-40-BP-1B	92.00762	62533	< 330.		UG/KG	2/14/92		Aniline
PF-40-BP-1B	92.00762	120127	< 330.		UG/KG	2/14/92		Anthracene
PF-40-BP-1B	92.00762	103333	< 330.		UG/KG	2/14/92		Azobenzene
PF-40-BP-1B	92.00762	92875	< 330.		UG/KG	2/14/92		m-Benzidine
PF-40-BP-1B	92.00762	56553	< 330.		UG/KG	2/14/92		Benzo[a]anthracene
PF-40-BP-1B	92.00762	50328	< 330.		UG/KG	2/14/92		Benzo[a]pyrene
PF-40-BP-1B	92.00762	205992	< 330.		UG/KG	2/14/92		Benzo[b]fluoranthene
PF-40-BP-1B	92.00762	191242	< 330.		UG/KG	2/14/92		Benzo[g,h,i]perylene
PF-40-BP-1B	92.00762	207089	< 330.		UG/KG	2/14/92		Benzo[k]fluoranthene
PF-40-BP-1B	92.00762	65850	< 330.		UG/KG	2/14/92		Benzoic acid
PF-40-BP-1B	92.00762	100516	< 330.		UG/KG	2/14/92		Benzyl alcohol
PF-40-BP-1B	92.00762	111911	< 330.		UG/KG	2/14/92		Bis(2-chloroethoxy)methane
PF-40-BP-1B	92.00762	111444	< 330.		UG/KG	2/14/92		Bis(2-chloroethyl)ether
PF-40-BP-1B	92.00762	108601	< 330.		UG/KG	2/14/92		Bis(2-chloroisopropyl)ether
PF-40-BP-1B	92.00762	117817	< 330.		UG/KG	2/14/92		Bis(2-ethylhexyl)phthalate
PF-40-BP-1B	92.00762	101553	< 330.		UG/KG	2/14/92		4-Bromophenylphenyl ether
PF-40-BP-1B	92.00762	85687	< 330.		UG/KG	2/14/92		Butyl benzyl phthalate
PF-40-BP-1B	92.00762	59507	< 330.		UG/KG	2/14/92		4-Chloro-3-methylphenol
PF-40-BP-1B	92.00762	106478	< 330.		UG/KG	2/14/92		4-Chloroaniline

PF-40-BP-1A	92.00761	120821	< 330.	UG/KG	2/14/92	1,2,4-Trichlorobenzene
PF-40-BP-1A	92.00761	95954	< 330.	UG/KG	2/14/92	2,4,5-Trichlorophenol
PF-40-BP-1A	92.00761	88062	< 330.	UG/KG	2/14/92	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 92.00761

none

Customer Sample Duplicate Results for Sample # 92.00761

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 92.00761

none

PF-40-BP-1A	92.00761	91587	< 330.	UG/KG	2/14/92	2-Chloronaphthalene
PF-40-BP-1A	92.00761	95578	< 330.	UG/KG	2/14/92	o-Chlorophenol
PF-40-BP-1A	92.00761	7005723	< 330.	UG/KG	2/14/92	4-Chlorophenylphenyl ether
PF-40-BP-1A	92.00761	218019	< 330.	UG/KG	2/14/92	Chrysene
PF-40-BP-1A	92.00761	84742	< 330.	UG/KG	2/14/92	Di-n-butyl phthalate
PF-40-BP-1A	92.00761	117840	< 330.	UG/KG	2/14/92	Di-n-octyl phthalate
PF-40-BP-1A	92.00761	53703	< 330.	UG/KG	2/14/92	Dibenzo[a,h]anthracene
PF-40-BP-1A	92.00761	132649	< 330.	UG/KG	2/14/92	Dibenzofuran
PF-40-BP-1A	92.00761	95501	< 330.	UG/KG	2/14/92	o-Dichlorobenzene (1,2)
PF-40-BP-1A	92.00761	541731	< 330.	UG/KG	2/14/92	m-Dichlorobenzene (1,3)
PF-40-BP-1A	92.00761	106467	< 330.	UG/KG	2/14/92	p-Dichlorobenzene (1,4)
PF-40-BP-1A	92.00761	91941	< 330.	UG/KG	2/14/92	3,3'-Dichlorobenzidine
PF-40-BP-1A	92.00761	120832	< 330.	UG/KG	2/14/92	2,4-Dichlorophenol
PF-40-BP-1A	92.00761	84662	< 330.	UG/KG	2/14/92	Diethyl phthalate
PF-40-BP-1A	92.00761	131113	< 330.	UG/KG	2/14/92	Dimethyl phthalate
PF-40-BP-1A	92.00761	105679	< 330.	UG/KG	2/14/92	2,4-Dimethylphenol
PF-40-BP-1A	92.00761	51285	< 330.	UG/KG	2/14/92	2,4-Dinitrophenol
PF-40-BP-1A	92.00761	121142	< 330.	UG/KG	2/14/92	2,4-Dinitrotoluene
PF-40-BP-1A	92.00761	606202	< 330.	UG/KG	2/14/92	2,6-Dinitrotoluene
PF-40-BP-1A	92.00761	206440	< 330.	UG/KG	2/14/92	Fluoranthene
PF-40-BP-1A	92.00761	86737	< 330.	UG/KG	2/14/92	Fluorene
PF-40-BP-1A	92.00761	118741	< 330.	UG/KG	2/14/92	Hexachlorobenzene
PF-40-BP-1A	92.00761	87683	< 330.	UG/KG	2/14/92	Hexachlorobutadiene
PF-40-BP-1A	92.00761	77474	< 330.	UG/KG	2/14/92	Hexachlorocyclopentadiene
PF-40-BP-1A	92.00761	67721	< 330.	UG/KG	2/14/92	Hexachloroethane
PF-40-BP-1A	92.00761	193395	< 330.	UG/KG	2/14/92	Indeno[1,2,3-cd]pyrene
PF-40-BP-1A	92.00761	78591	< 330.	UG/KG	2/14/92	Isophorone
PF-40-BP-1A	92.00761	534521	< 330.	UG/KG	2/14/92	2-Methyl-4,6-dinitrophenol
PF-40-BP-1A	92.00761	91576	< 330.	UG/KG	2/14/92	2-Methylnaphthalene
PF-40-BP-1A	92.00761	95487	< 330.	UG/KG	2/14/92	2-Methylphenol
PF-40-BP-1A	92.00761	106445	< 330.	UG/KG	2/14/92	4-Methylphenol
PF-40-BP-1A	92.00761	91203	< 330.	UG/KG	2/14/92	Naphthalene
PF-40-BP-1A	92.00761	88744	< 330.	UG/KG	2/14/92	2-Nitroaniline
PF-40-BP-1A	92.00761	99092	< 330.	UG/KG	2/14/92	3-Nitroaniline
PF-40-BP-1A	92.00761	100016	< 330.	UG/KG	2/14/92	4-Nitroaniline
PF-40-BP-1A	92.00761	98953	< 330.	UG/KG	2/14/92	Nitrobenzene
PF-40-BP-1A	92.00761	88755	< 330.	UG/KG	2/14/92	2-Nitrophenol
PF-40-BP-1A	92.00761	100027	< 330.	UG/KG	2/14/92	4-Nitrophenol
PF-40-BP-1A	92.00761	621647	< 330.	UG/KG	2/14/92	N-Nitrosodi-n-propylamine
PF-40-BP-1A	92.00761	62759	< 330.	UG/KG	2/14/92	N-Nitrosodimethylamine
PF-40-BP-1A	92.00761	86306	< 330.	UG/KG	2/14/92	N-Nitrosodiphenylamine
PF-40-BP-1A	92.00761	87865	< 330.	UG/KG	2/14/92	Pentachlorophenol
PF-40-BP-1A	92.00761	85018	< 330.	UG/KG	2/14/92	Phenanthrene
PF-40-BP-1A	92.00761	108952	< 330.	UG/KG	2/14/92	Phenol
PF-40-BP-1A	92.00761	129000	< 330.	UG/KG	2/14/92	Pyrene

STATEMENT OF ADEQUACY OF THE ANALYSES AND DECONTAMINATION

Based on my oversight of the Technical Area (TA) 40 Scrap Detonation Site (SDS) closure, I believe that the quality of the performance on all key activities pertaining to this closure were done in such a manner to ensure that a clean closure of this unit has been achieved. I have reviewed all analytical and QA/QC reports and have determined that the data is accurate and adequate. All procedures described in the approved closure plan were followed with the exception of those listed in Section 2.4 of this closure report.

David McInroy
Environmental Restoration Project
Los Alamos National Laboratory

MAR 16, 1995
Date Signed

ENRECO
LABORATORIES GROUP

LABORATORY QUOTE FOR ANALYTICAL TESTING

To: **Jeffrey Tucker** **IT Corporation**

From: ENRECO Laboratories Group
6661-C Canyon Dr.
Amarillo, TX 79110

Alan D. King
Laboratory Director
(800) 423-9443

Date: 11-28-94

Project: Subcontract for analytical services associated with field sampling for the analysis of fifty (50) samples.

Quote: ADK-112894 **Number of Pages: 1**

This quote applies to this project only. Pricing listed below is per sample, and includes all appropriate preparations and QA/QC documentation requested by the scope of work. Turn-around time will be five (5) business days after sample receipt. All detection limits will be at or below required MDL assuming sample matrices do not contain high concentrations of non-contaminant organic constituents.

Seven (7) soil samples for total and TCLP Lead	$ 100.00 per sample
Fourteen (14) soil samples for TCLP Lead	$ 75.00 per sample
Fifteen soil samples for full TCLP list+Ni+Tl	$ 699.00 per sample
Five (5) liquid samples for TCLP Lead	$ 75.00 per sample
Nine (9) liquid samples for full TCLP list +Ni+Tl	$ 699.00 per sample

NOTE: TCLP METALS ANALYSES WILL BE PERFORMED BY EPA METHOD 6010 (ICP) EXCEPT FOR MERCURY (7470), ON ALL SAMPLES.

QC DOCUMENTATION SHALL INCLUDE:

1) RESULTS FROM LABORATORY CONTROL (QC/CCV) SAMPLE (% recovery)
2) RESULTS FROM METHOD BLANK (mg/l)
3) SURROGATE DATA FOR TCLP ORGANICS
4) MS/MSD RESULTS FOR GC/MS ANALYSES
5) RPD AND %RECOVERY DATA FOR TCLP AND TOTAL METALS
6) CHAIN OF CUSTODY DOCUMENTATION

ENRECO LABORATORIES GROUP ACCEPTS SAMPLES FOR ANALYSIS ON A CUSTODIAL BASIS ONLY. OWNERSHIP OF THE SAMPLES REMAINS WITH THE CLIENT SUBMITTING THE SAMPLE. ENRECO LABORATORIES GROUP ACCEPTS THE RESPONSIBILITY FOR DISPOSAL OF THE PORTION OF THE SAMPLE CONSUMED DURING ANALYSIS. HOWEVER, DISPOSAL OF THE UNUSED, POTENTIALLY HAZARDOUS, MATERIALS REMAINING AFTER ANALYSES IS THE RESPONSIBILITY OF THE CLIENT. ENRECO LABORATORIES GROUP RETURNS UNUSED SAMPLES TO THE CLIENT APPROXIMATELY 14 DAYS AFTER THE COMPLETION OF THE ANALYSES UNLESS ALTERNATE ARRANGEMENTS FOR SAMPLE STORAGE AND/OR DISPOSAL ARE MADE IN WRITING.

6661-C Canyon Drive
Telephone (806) 353-4425
Facsimile (806) 352-6454
Toll Free 1-800 423-9443

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 12/21/94
Technical Area 40
Operable Unit —
~~OU~~ Contact Glenn VanDerpool
Contact Phone No. 505-662-1200

Control No. 11620
Send Lab Report ~~to~~: Glenn VanDerpool ~~MS~~ c/o IT Corp.
~~Site Work Plan~~ 557, Oppenheimer Dr. Ste. 200 Los Alamos NM 87544
Date Samples Shipped 12/21/94
Date Lab Report Required 1/3/95

Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
NE	161420Dec 94	X		250ml, P	Soil	4°C	TOTAL + TCLP LEAD	6010	Cool, Intact, Tamper Seal Intact ASR
SE	161440Dec 94	X		↓	↓	↓	TOTAL + TCLP LEAD	↓	" ASR
NW	161426Dec 94	X					↓		" ASR
SW	161425Dec 94	X							" ASR
Center	161500Dec 94	X		↓	↓	↓			" ASR
Pit A	210910Dec 94	X		250ml, P	Soil	4°C			" ASR
Pit D	210915Dec 94	X		↓	↓	↓			

Relinquished by (Signature) Affiliation IT Corp	Date 12/21/94	Relinquished by (Signature) Affiliation	Date 12/22	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation	Time 12:21 pm	Received by (Signature) Affiliation Enviro Labs	Time 1415	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client X Disposal by lab ~~X~~ Archive ____ (Indicate number of months) ____

COMMENTS

SAMPLING TEAM (Print names and initial) Glenn VanDerpool GV / Darren Meadows DM

SOP 1.04, R0

WHITE To accompany samples YELLOW Reco[illegible]cessing Facility PINK Field Team Leader

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

Quanterra Environmental Services

AMENDED CASE NARRATIVE

IT Corporation
557 Oppenheimer Road
Suite 200
Los Alamos, New Mexico 87544

October 20, 1994

Attention: Jeff Tucker

This is a case narrative for the following:

Project Number : 281.08
Purchase Order Number: 21443
Number of Samples : One (1)
Sample Matrix : Soil

I. Introduction

This case narrative is being resubmitted to list the correct metals that were originally requested.

On October 7, 1994, one (1) sample was received at Quanterra Environmental Services from IT Corporation. Following is the sample received and the Quanterra identification number:

CLIENT ID	Quanterra ID
BCA-VER	6391-001

II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information, the analytical results, and the appropriate detection limits.

The analysis requested includes: Total Antimony and Lead, and TCLP Lead.

III. Quality Control

A laboratory control sample was prepared and analyzed with the samples, as well as a method blank.

Quanterra
Environmental Services

IT Corporation
October 20, 1994
Project Number 281.08

IV. Comments

Preliminary results were faxed to the client on October 13.

I certify that these analysis results are in compliance with the terms and conditions of the contract, both technically and for completeness, with the exception of the items detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory manager or his designee, as verified by the following signature.

Reviewed and Approved:

Robert E. White
Project Manager

Quanterra Environmental Services

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
314 298-8757 Fax

CASE NARRATIVE

IT Corporation
557 Oppenheimer Road
Suite 200
Los Alamos, New Mexico 87544

October 13, 1994

Attention: Jeff Tucker

This is a case narrative for the following:

Project Number	:	281.08
Purchase Order Number	:	21443
Number of Samples	:	One (1)
Sample Matrix	:	Soil

I. Introduction

On October 7, 1994, one (1) sample was received at Quanterra Environmental Services from IT Corporation. Following is the sample received and the Quanterra identification number:

CLIENT ID	Quanterra ID
BCA-VER	6391-001

II. Analytical Results/Methodology

The analytical results for this report are presented by analytical test. Each set of data will include sample identification information, the analytical results, and the appropriate detection limits.

The analysis requested includes: Total Arsenic and Lead, and TCLP Lead.

III. Quality Control

A laboratory control sample was prepared and analyzed with the samples, as well as a method blank.

Quanterra
Environmental Services

IT Corporation
October 13, 1994
Project Number 281.08

IV. Comments

Preliminary results were faxed to the client on October 13.

I certify that these analysis results are in compliance with the terms and conditions of the contract, both technically and for completeness, with the exception of the items detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory manager or his designee, as verified by the following signature.

Reviewed and Approved:

Robert E. White
Project Manager

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BCA-VER

Lab Name: ITAS_ST._LOUIS
Lab Code: ITMO
Case No.:
Matrix (soil/water): SOIL
Level (low/med): LOW
% Solids: 100.0

Contract: 281.08
SAS No.:
SDG No.: ITLA03
Lab Sample ID: 6391-001
Date Received: 10/13/94

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.32	B		P
7439-92-1	Lead	7.5			P

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

FORM I - IN

ILM03.0

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BCA-VER

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__ Case No.:_____ SAS No.:_____ SDG No.: ITLA03_____

Matrix (soil/water): WATER Lab Sample ID: 6391-001

Level (low/med): LOW__ Date Received: 10/13/94

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	42.3	U		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

FORM I - IN

TCLP

INORGANIC SAMPLE DATA

281-08
6391
ITLA03

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

SOW No.: ILM03

EPA Sample No.	Lab Sample ID
_BCA-VER_____	_6391-001_____

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES

If yes - were raw data generated before application of background corrections ? Yes/No NO_

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____ Name: _____

Date: _____ Title: _____

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

BCA-VER

Lab Name: ITAS_ST._LOUIS Contract: 281.08
Lab Code: ITMO Case No.: SAS No.: SDG No.: ITLA03
Matrix (soil/water): SOIL Lab Sample ID: 6391-001
Level (low/med): LOW Date Received: 10/13/94
% Solids: 100.0

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

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.32	B		P
7439-92-1	Lead	7.5			P

Color Before: Clarity Before: Texture:
Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

ILM03.0

U.S. EPA - CLP

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

Initial Calibration Source: SOL/L/SPX/IC

Continuing Calibration Source: SOL+/LL/SPX_

Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Antimony	5000.0	5017.59	100.4	4000.0	4058.32	101.5	4053.46	101.3	P
Lead	5000.0	4915.77	98.3	4000.0	3968.95	99.2	3985.54	99.6	P

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

FORM II (PART 1) - IN

ILM03.0

U.S. EPA - CLP

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO_ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

AA CRDL Standard Source: SPX/SOL+/LL_

ICP CRDL Standard Source: SOL+/SPX____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Antimony_				120.0	120.11	~~100.1~~	119.18	99.3
Lead_____				6.0	4.99	83.2	5.46	91.0

Outside 90-110% Range

FORM II (PART 2) - IN

ILM03.0

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

Preparation Blank Matrix (soil/water): SOIL_

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Antimony	1.5	U	1.9	B	2.4	B			0.150	U	P
Lead	0.8	U	0.8	U	0.8	U			0.080	U	P

FORM III - IN

ILM03.0

U.S. EPA - CLP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__Case No.: _____ SAS No: _____ SDG No.: ITLA03_____

ICP ID Number: TJA61E_____ ICS Source: SOL+/SPX____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Antimony	0	1000	0	968.4	96.8	3	963.9	96.4
Lead	0	1000	-1	936.7	93.7	0	930.9	93.1

FORM IV - IN

ILM03.0

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

Solid LCS Source: ERA_____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Antimony				75.0	101.5		32.0	350.0	135.3
Lead				50.9	58.7		27.0	71.0	115.3

no control limits

FORM VII - IN

ILM03.0

U.S. EPA - CLP

9

ICP SERIAL DILUTION

EPA SAMPLE NO.

BCA-VERL

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Antimony	1.58	B	7.50	U	100.0		P
Lead	37.43		33.53		10.4		P

TCLP is not required

FORM IX - IN

ILM03.0

U.S. EPA - CLP

10
Instrument Detection Limits (Quarterly)

Lab Name: ITAS_ST._LOUIS
Lab Code: ITMO__ Case No.:
ICP ID Number: TJA61E
Flame AA ID Number :
Furnace AA ID Number :

Contract: 281.08
SAS No.: SDG No.: ITLA03
Date: 09/25/94

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Antimony	206.84		60	1.5	P
Lead	220.35		3	0.8	P

Comments:

FORM X - IN ILM03.0

U.S. EPA - CLP

11A

ICP Interelement Correction Factors (Annually)

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

ICP ID Number: TJA61E_____ Date: 10/11/94

Analyte	Wave-length (nm)	Interelement Correction Factors for : Al	Ca	Fe	Mg	AL
Antimony	206.84	0.0000000	0.0000000	0.0000360	0.0000000	0.0000000
Lead	220.35	0.0005000	0.0000000	0.0001000	0.0000000	-0.0002400

Comments:

FORM XI (Part 1) - IN ILM03.0

U.S. EPA - CLP

11B
ICP Interelement Correction Factors (Annually)

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

ICP ID Number: TJA61E_____ Date: 10/11/94

Analyte	Wave-length (nm)	Interelement Correction Factors for : FE	TH	TH	U_	U_
Antimony	206.84	0.0000230	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.35	0.0000500	-0.0039700	0.0000200	0.0008400	0.0015000

Comments:

FORM XI (Part 2) - IN ILM03.0

U.S. EPA - CLP

12
ICP LINEAR RANGES (QUARTERLY)

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

ICP ID Number:TJA61E_____ Date: 09/25/94

Analyte	Integ. Time (sec.)	Concentration (ug/L)	M
Antimony	6.00	50000.0	P
Lead	6.00	50000.0	P

Comments:

FORM XII - IN ILM03.0

U.S. EPA - CLP

13
PREPARATION LOG

ab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

ab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

ethod: P_

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
BCA-VER	10/13/94	1.00	200
LCSS48071	10/13/94	1.00	200
PBS48071	10/13/94	1.00	200

FORM XIII - IN ILM03.0

U.S. EPA - CLP

14

ANALYSIS RUN LOG

Lab Name: ITAS_ST._LOUIS_____ Contract: 281.08____

Lab Code: ITMO__ Case No.: _____ SAS No.: _____ SDG No.: ITLA03_____

Instrument ID Number: TJA61E_____ Method: P_

Start Date: 10/13/94 End Date: 10/13/94

EPA Sample No.	D/F	Time	% R	Analytes																						
				SB	PB																					
S0	1.00	1127		X	X																					
S	1.00	1132		X	X																					
S	1.00	1136																								
S	1.00	1139																								
ICV	1.00	1142		X	X																					
ICB	1.00	1146		X	X																					
CRI	1.00	1150		X	X																					
ICSA	1.00	1154		X	X																					
ICSAB	1.00	1158		X	X																					
CV	1.00	1202		X	X																					
	1.00	1206		X	X																					
48071	1.00	1211		X	X																					
LCSS48071	1.00	1215		X	X																					
BCA-VER	1.00	1219		X	X																					
BCA-VERL	5.00	1223		X	X																					
CRI	1.00	1227		X	X																					
ICSA	1.00	1231		X	X																					
ICSAB	1.00	1235		X	X																					
CCV	1.00	1239		X	X																					
CCB	1.00	1243		X	X																					

FORM XIV - IN ILM03.0

ICAP DATA

Run Log

~~Sis Report~~ Summary Thu 10-13-94 12:50:17 PM page 1

MMacD
10-13-94

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	CALBLK	1013I62	@STL	10/13/94	11:27		X	IR
2	CAL1	1013I62	@STL	10/13/94	11:32		X	IR
3	CAL2	1013I62	@STL	10/13/94	11:36		X	IR
4	CAL3	1013I62	@STL	10/13/94	11:39		X	IR
5	ICV	1013I62	@STL	10/13/94	11:42	KAE	Q	CONC
6	ICB	1013I62	@STL	10/13/94	11:46	KAE	Q	CONC
7	CRI	1013I62	@STL	10/13/94	11:50	KAE	Q	CONC
8	ICSA	1013I62	@STL	10/13/94	11:54	KAE	Q	CONC
9	ICSAB	1013I62	@STL	10/13/94	11:58	KAE	Q	CONC
10	CCV	1013I62	@STL	10/13/94	12:02	KAE	Q	CONC
11	CCB	1013I62	@STL	10/13/94	12:06	KAE	Q	CONC
12	PBS48071	1013I62	@STL	10/13/94	12:11	KAE	S	CONC
13	LCSS48071	1013I62	@STL	10/13/94	12:15	KAE	S	CONC
14	6391-001	1013I62	@STL	10/13/94	12:19	TGM	S	CONC
15	6391-001L	1013I62	@STL	10/13/94	12:23	KAE	S	CONC
16	CRI	1013I62	@STL	10/13/94	12:27	KAE	Q	CONC
17	ICSA	1013I62	@STL	10/13/94	12:31	MHC	Q	CONC
18	ICSAB	1013I62	@STL	10/13/94	12:35	MHC	Q	CONC
19	CCV	1013I62	@STL	10/13/94	12:39	MHC	Q	CONC
20	CCB	1013I62	@STL	10/13/94	12:43	MHC	Q	CONC

T. Makon
10-13-94

proj # 281.08
61E

#	Sample Name	Pb2203	Sb2068
1	CALBLK		
2	CAL1		
3	CAL2		
4	CAL3		
5	ICV	4.916	5.018
6	ICB	.0007	.0013
7	CRI	.0050	.1201
8	ICSA	-.0012	.0003
9	ICSAB	.9367	.9684
10	CCV	3.969	4.058
11	CCB	-.0004	.0019
12	PBS48071	.0006	.0009
13	LCS48071	.2936	.5076
14	6391-001	.0374	.0016
15	6391-001L	.0335	.0056
16	CRI	.0055	.1192
17	ICSA	-.0001	.0027
18	ICSAB	.9309	.9639
19	CCV	3.986	4.053
20	CCB	.0004	.0024

Method: GSTL Standard: CALBLK

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Avge	-.02517	-.06766	.13933	.10199	-.23599	.09566	1.411
SDev	.03163	.04120	.04158	.04233	.05126	.00737	.003
%RSD	125.69	60.885	29.846	41.502	21.722	7.7050	.2279
#1	-.05500	-.06300	.15599	.05400	-.28399	.09000	1.412
#2	-.02850	-.02900	.16999	.11799	-.24199	.09300	1.413
#3	.00800	-.11099	.09200	.13399	-.18199	.10399	1.407

Elem	Ca	Fe	Mg	Th	U	Sb1	Sb2
Avge	.1243	1.609	.5466	3.327	3.706	.0727	-.0507
SDev	.0006	.004	.0011	.005	.002	.1527	.0599
%RSD	.4644	.2486	.2112	.1388	.0540	210.1	118.3
#1	.1240	1.609	.5460	3.324	3.706	.0230	-.0260
#2	.1250	1.612	.5480	3.324	3.708	-.0490	-.0070
#3	.1240	1.605	.5460	3.332	3.704	.2440	-.1190

Method: GSTL Standard: CAL1

	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Sb1
	166.94	122.34	877.94	370.45	244.02	117.85	385.2
SDev	.37	.22	.54	.99	.17	.52	1.4
%RSD	.21870	.18094	.06196	.26823	.06831	.44413	.3559
#1	167.35	123.00	878.43	369.32	244.15	117.25	384.2
#2	166.81	122.58	876.03	371.39	244.06	118.22	386.8
#3	166.65	122.92	877.35	370.83	243.83	118.09	384.8

Elem	Sb2
Avge	434.8
SDev	.1
%RSD	.0232

TJA-61E

T. Malcom

10-13-94

B# 48071

CLP'90

6391-001

#1	434.7			
#2	435.0			
#3	434.8			

Method: QSTL Standard: CAL2

Elem	Al	Ca	Fe	Mo
Avge	106.8	37.31	90.84	39.32
SDev	.3	.1	.22	.11
%RSD	.2707	.3529	.2458	.2906
#1	106.8	37.76	90.77	39.29
#2	107.1	37.92	91.09	39.45
#3	106.5	37.75	90.67	39.22

Method: QSTL Standard: CAL3

Elem	Th	U
Avge	68.51	21.13
SDev	.23	.06
%RSD	.3353	.2856

#1	68.31	21.06
#2	68.76	21.18
#3	68.47	21.14

Method: QSTL Sample Name: ICV Operator: KAE
Run Time: 10/13/94 11:42:24
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	5.1911	4.8789	4.8267	4.9603	4.8847	5.0323	47.49
SDev	.0070	.0095	.0310	.0393	.0366	.0365	.19
%RSD	.13394	.19675	.64266	.79186	.75028	.72534	.3946
#1	5.1854	4.8678	4.8593	4.9183	4.9238	4.9902	47.30
#2	5.1890	4.8842	4.8231	4.9662	4.8791	5.0545	47.49
#3	5.1988	4.8847	4.7976	4.9962	4.8512	5.0522	47.67
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value	5.0000	5.0000					50.00
Range	10.000	10.000					10.00

Elem	Ca	Fe	Mg	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	24.94	49.34	24.74	.0377	.2720	5.066	4.993
SDev	.12	.22	.14	.0027	.0117	.026	.022
%RSD	.4707	.4429	.5564	7.115	4.308	.5128	.4439
#1	24.83	49.13	24.61	.0350	.2628	5.039	5.018
#2	24.94	49.34	24.73	.0379	.2680	5.069	4.976
#3	25.06	49.56	24.88	.0404	.2852	5.091	4.986
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	25.00	50.00	25.00				
Range	10.00	10.00	10.00				

Elem	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	4.916	4.983	5.018
SDev	.016	.014	.01
%RSD	.3230	.2835	.1906
#1	4.899	4.968	5.025

#2	4.919	4.996	5.007
#3	4.930	4.985	5.021
Errors	QC Pass	QC Pass	NOCHECK
Value	5.000	5.000	
Range	10.00	10.00	

Method: QSTL Sample Name: ICB Operator: KAE
Run Time: 10/13/94 11:46:31
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	.00010	.00459	.00055	.00081	-.00101	.00272	.0658
SDev	.00198	.00094	.00072	.00124	.00166	.00283	.0034
%RSD	1967.9	20.472	131.70	153.07	164.30	104.32	5.200
#1	-.00137	.00397	.00131	.00081	-.00011	.00079	.0648
#2	.00235	.00413	.00047	.00206	.00001	.00597	.0696
#3	-.00068	.00567	-.00013	-.00043	-.00292	.00139	.0629
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value	.00000	.00000					.0000
Range	.01000	.01000					.2000

Elem	Ca	Fe	Mo	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	.0000	.0030	.0039	.0021	.0092	.0016	.0011
SDev	.0008	.0047	.0007	.0010	.0020	.0008	.0012
%RSD	179e6	156.1	19.25	47.56	21.65	48.04	105.4
	.0009	.0067	.0043	.0028	.0115	.0011	.0018
	-.0004	.0045	.0030	.0027	.0080	.0013	-.0002
#3	-.0004	-.0022	.0043	.0010	.0080	.0026	.0017
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	.0000	.0000	.0000	.0000	.0000		
Range	5.000	.1000	5.000	.1000	.1000		

Elem	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	.0007	.0015	.0013
SDev	.0009	.0022	.0009
%RSD	131.6	148.3	70.84
#1	.0010	.0005	.0016
#2	.0015	.0040	.0003
#3	-.0003	-.0000	.0020
Errors	QC Pass	QC Pass	NOCHECK
Value	.0000	.0000	
Range	.0030	.0050	

Method: QSTL Sample Name: CRI Operator: KAE
Run Time: 10/13/94 11:50:35
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	.02079	.02203	.00669	.00414	.00745	.01257	.0664
SDev	.00154	.00184	.00125	.00040	.00195	.00305	.0056
%RSD	7.4257	8.3604	18.734	9.7821	26.136	24.263	8.371
#1	.02238	.01999	.00587	.00368	.00929	.00912	.0686
#2	.01931	.02258	.00812	.00443	.00760	.01370	.0705
#3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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[illegible]rs	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
[illegible]e							
Hanoe							

Elem	Ca	Fe	Mo	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	-.0009	.0101	.0043	.0017	.0078	.1197	.1203
SDev	.0008	.0030	.0013	.0007	.0027	.0015	.0023
%RSD	86.60	29.46	30.00	42.96	34.58	1.249	1.901
#1	-.0018	.0067	.0043	.0011	.0057	.1180	.1183
#2	-.0004	.0112	.0056	.0025	.0109	.1209	.1199
#3	-.0004	.0123	.0030	.0014	.0069	.1201	.1228
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	.0050	.0109	.1201
SDev	.0006	.0015	.0019
%RSD	11.99	13.49	1.548
#1	.0044	.0092	.1182
#2	.0050	.0117	.1202
#3	.0056	.0117	.1219
Errors	NOCHECK	NOCHECK	NOCHECK
Value			

Method: QSTL Sample Name: ICSA Operator: KAE
Run Time: 10/13/94 11:54:39
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	.00252	-.00989	-.00047	-.00163	-.00502	.00164	465.8
SDev	.00108	.00684	.00171	.00188	.00391	.00795	.5
%RSD	43.015	69.204	359.69	115.57	77.986	484.74	.1099
#1	.00375	-.00296	.00103	-.00337	-.00668	.00069	465.5
#2	.00175	-.01007	-.00233	-.00189	-.00055	-.00579	466.4
#3	.00205	-.01664	-.00012	.00037	-.00783	.01002	465.5
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	IC Pass
Value							500.0
Range							20.00

Elem	Ca	Fe	Mo	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	444.2	193.2	491.2	.0826	1.000	.0005	.0002
SDev	.5	.1	.5	.0013	.005	.0007	.0031
%RSD	.1226	.0742	.0982	1.519	.5175	142.8	1509.
#1	443.7	193.1	491.1	.0810	.9951	.0005	.0012
#2	444.7	193.3	491.8	.0832	1.005	-.0002	-.0032
#3	444.2	193.1	490.9	.0835	.9997	.0012	.0027
Errors	IC Pass	IC Pass	IC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	[illegible]	[illegible]	500.0				
Range	[illegible]	[illegible]	[illegible]				

Elem	Pb2203	Se1960	Sb2068
	ppm	ppm	ppm
Avge	-.0012	-.0006	.0003
SDev	.0013	.0042	.0023

%RSD	101.1	724.9	755.1
#1	-.0019	-.0018	.0009
#2	-.0020	-.0040	-.0022
#3	.0002	.0041	.0022
Errors	NOCHECK	NOCHECK	NOCHECK
Value			
Range			

Method: QSTL Sample Name: ICSAB Operator: KAE
Run Time: 10/13/94 11:58:43
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	-.00338	-.01490	.93024	.93987	.00011	.00175	466.6
SDev	.00190	.00112	.00186	.00600	.00391	.00117	.0
%RSD	56.020	7.5042	.20034	.63811	3511.0	66.773	.0032
#1	-.00131	-.01431	.93189	.93498	-.00262	.00041	466.6
#2	-.00502	-.01619	.93061	.93808	-.00163	.00252	466.6
#3	-.00382	-.01420	.92822	.94657	.00459	.00233	466.6
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value							500.0
Range							20.00

Elem	Ca	Fe	Mo	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	445.4	183.5	491.7	.0876	1.014	.9732	.9660
SDev	.3	.0	.3	.0007	.002	.0046	.0026
%RSD	.0568	.0268	.0518	.8276	.1634	.4697	.2702
#1	445.3	183.6	491.8	.0870	1.013	.9683	.9631
#2	445.7	183.6	491.9	.0884	1.016	.9774	.9666
#3	445.2	183.5	491.4	.0873	1.013	.9737	.9683
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	500.0	200.0	500.0				
Range	20.00	20.00	20.00				

Elem	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	.9367	.0012	.9684
SDev	.0034	.0019	.0031
%RSD	.3611	152.8	.3150
#1	.9340	-.0006	.9649
#2	.9356	.0011	.9702
#3	.9405	.0031	.9701
Errors	NOCHECK	NOCHECK	NOCHECK
Value			
Range			

Method: QSTL Sample Name: ICV Operator: KAE
Run Time: [illegible]

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Mode: CONC Corr. Factor: 1

	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	4.1889	3.9299	3.9708	3.9681	4.0194	4.0488	38.26
SDev	.0136	.0107	.0099	.0253	.0172	.0268	.08
%RSD	.32498	.27270	.25029	.63831	.42686	.66167	.1972
#1	4.1776	3.9200	3.9741	3.9397	4.0307	4.0196	38.18
#2	4.1850	3.9284	3.9596	3.9761	3.9996	4.0546	38.27
#3	4.2040	3.9413	3.9786	3.9884	4.0278	4.0722	38.33
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass

Value	4.0000	4.0000					40.00
Range	10.000	10.000					10.00

Elem	Ca	Fe	Mg	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	20.26	39.98	20.00	.0309	.2208	4.070	4.053
SDev	.05	.11	.06	.0001	.0038	.013	.007
%RSD	.2706	.2842	.2917	.4967	1.731	.3148	.1618
#1	20.20	39.88	19.93	.0309	.2175	4.056	4.059
#2	20.28	39.96	20.01	.0307	.2198	4.080	4.046
#3	20.31	40.10	20.04	.0310	.2250	4.073	4.052
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	20.00	40.00	20.00				
Range	10.00	10.00	10.00				

Elem	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	3.969	4.039	4.058
SDev	.017	.017	.001
%RSD	.4298	.4264	.0208
#1	3.951	4.023	4.058
	3.971	4.036	4.058
	3.985	4.057	4.059
Errors	QC Pass	QC Pass	NOCHECK
Value	4.000	4.000	
Range	10.00	10.00	

Method: QSTL Sample Name: CCB Operator: KAE
Run Time: 10/13/94 12:06:56
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	.00130	.00224	.00086	-.00096	.00322	.00188	.0588
SDev	.00034	.00159	.00123	.00104	.00471	.00375	.0081
%RSD	25.988	70.597	143.32	108.62	146.36	199.59	13.72
#1	.00148	.00359	.00027	-.00207	-.00212	-.00200	.0648
#2	.00091	.00251	.00228	-.00000	.00497	.00547	.0520
#3	.00151	.00050	.00003	-.00080	.00679	.00216	.0497
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value	.00000	.00000					.0000
Range	.01000	.01000					.2000

Elem	Ca	Fe	Mg	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	.0226	.0362	.0292	.0089	.0352	.0006	.0026
SDev	.0075	.0028	.0065	.0010	.0051	.0018	.0020
%RSD	33.45	7.783	22.21	11.24	14.61	294.4	78.77
#1	.0287	.0359	.0352	.0091	.0384	.0014	.0044
#2	.0243	.0372	.0301	.0079	.0293	.0019	.0004
#3	.0141	.0376	.0224	.0099	.0379	-.0014	.0030

[illegible]e	.0000	.0000	.0000	.0000	.0000
[illegible]	5.000	.1000	5.000	.1000	.1000

Elem Pb2203 Se1960 Sb2068

Units	ppm	ppm	ppm
Avge	-.0004	.0023	.0019
SDev	.0010	.0039	.0013
%RSD	293.3	156.3	69.32
#1	-.0013	-.0020	.0034
#2	.0008	0.0053	.0008
#3	-.0005	.0037	.0015
Errors	QC Pass	QC Pass	NOCHECK
Value	.0000	.0000	
Range	.0030	.0050	

Method: QSTL Sample Name: PBS48071 Operator: KAE
Run Time: 10/13/94 12:11:11
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	-.00037	.00294	.00144	.00017	.00010	.00049	.0645
SDev	.00085	.00447	.00070	.00231	.00086	.00291	.0083
%RSD	232.49	152.20	48.280	1344.6	870.28	572.05	12.85
	.00046	-.00007	.00064	.00171	.00100	-.00031	.0553
#2	-.00032	.00081	.00185	.00128	-.00070	-.00183	.0715
#3	-.00125	.00808	.00185	-.00248	-.00001	.00361	.0667
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High							.2000
Low							-.2000

Elem	Ca	Fe	Mg	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	.1331	.0400	L.0469	.0055	.0266	-.0006	.0016
SDev	.0100	.0226	.0080	.0024	.0096	.0006	.0019
%RSD	7.547	56.66	17.19	42.52	35.94	112.5	113.6
#1	.1216	.0269	L.0378	.0082	.0373	.0000	-.0001
#2	.1402	.0269	L.0533	.0037	.0189	-.0005	.0036
#3	.1275	.0661	L.0494	.0047	.0235	-.0013	.0014
Errors	LC Pass	LC Pass	LC Low	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High	5.000	.1000	5.000				
Low	-5.000	-.1000	5.000				

Elem	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	.0006	.0004	.0009
SDev	.0014	.0019	.0012
%RSD	278.0	538.6	133.9
	.0014	.0001	-.0000
#2	.0015	-.0015	.0022
#3	-.0010	.0024	.0005
Errors	NOCHECK	NOCHECK	NOCHECK
High			
Low			

Method: GSTL Sample Name: LCSS48071 Operator: KAE
Date: 10/13/94 12:15:16
Instrument: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	.43397	.37046	.29402	.29346	.42225	.42950	13.02
SDev	.00267	.00193	.00139	.00157	.00337	.00304	.04
%RSD	.61577	.51981	.47195	.53536	.79817	.70736	.2807
#1	.43674	.36824	.29298	.29463	.42573	.42716	13.05
#2	.43375	.37167	.29349	.29168	.42201	.42840	12.98

#3	.43141	.37148	.29560	.29407	.41900	.43293	13.02

Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High	50.000	100.00					500.0
Low	.00170	.00270					.0250

Elem	Ca	Fe	Mg	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	13.60	28.95	13.46	L.0469	.1475	.5096	.5066
SDev	.03	.07	.03	.0028	.0070	.0003	.0028
%RSD	.2235	.2590	.2189	5.931	4.781	.0618	.5582
#1	13.63	28.90	13.50	L.0490	.1504	.5097	.5098
#2	13.57	28.77	13.45	L.0481	.1527	.5093	.5049
#3	13.59	28.88	13.44	L.0438	.1395	.5099	.5050

Errors	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	NOCHECK	NOCHECK
High	600.0	200.0	600.0	600.0	600.0		
Low	.1000	.0600	.1000	.1000	.1000		

Elem	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	.2936	.4271	.5076
SDev	.0012	.0011	.0019
%D	.4122	.2503	.3764
	.2941	.4267	.5098
#2	.2923	.4263	.5063
#3	.2946	.4283	.5066

Errors	LC Pass	LC Pass	NOCHECK
High	100.0	50.00	
Low	.0007	.0016	

Method: QSTL Sample Name: 6391-001 Operator: TGM
Run Time: 10/13/94 12:19:21
Instrument: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	Hg1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	.00812	.00380	.04102	.03565	.00175	-.00156	11.95
SDev	.00240	.00088	.00047	.00258	.00207	.00052	.03
%RSD	29.536	23.140	1.1580	7.2296	118.44	33.605	.2506
#1	.01026	.00339	.04150	.03788	.00414	-.00206	11.92
#2	.00553	.00320	.04055	.03624	.00055	-.00160	11.98
#3	.00859	.00481	.04193	.03283	.00055	-.00101	11.95

Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High	50.000	100.00					500.0
	.00170	.00270					.0250

	Ca	Fe	Mg	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	2.995	28.54	4.717	L.0355	.1324	.0002	.0023
SDev	[illegible]	.06	.008	.0016	.0076	.0022	.0037
%RSD	.1451	.2235	[illegible]	4.616	5.777	1060.	147..
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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87	6.904	26.56	4.710	L.0341	.1285	-.0023	.0041
...s	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	NOCHECK	NOCHECK
High	600.0	200.0	600.0	600.0	600.0		

Low	.1000	.0600	.1000	.1000	.1000

Elem	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	.0074	L-.0005	.0016
SDev	.0018	.0004	.0018
%RSD	4.742	87.32	114.9
#1	.0091	L.0000	-.0004
#2	.0077	L-.0009	.0032
#3	.0056	L-.0005	.0020

Errors	LC Pass	LC Low	NOCHECK
High	100.0	50.00	
Low	.0007	.0016	

Method: QSTL Sample Name: 6391-001L Operator: KAE
Run Time: 10/13/94 12:23:25
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 5

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	.02028	.00450	.04306	.02878	-.00609	.01774	11.66
	.00254	.00834	.00924	.00225	.01176	.00552	.02
	12.552	185.23	21.454	7.8184	193.11	31.104	.1922
#1	.01773	L-.00512	.03359	.03040	.00702	.01137	11.67
#2	.02029	.00915	.05205	.02972	-.00960	.02073	11.68
#3	.02282	.00948	.04355	.02621	-.01569	.02112	11.64

Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High	50.000	100.00					500.0
Low	.00170	.00270					.0250

Elem	Ca	Fe	Mg	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	5.808	26.17	4.612	L.0644	.2582	.0088	.0039
SDev	.008	.06	.013	.0032	.0029	.0047	.0036
%RSD	.1125	.2469	.2796	4.956	1.111	53.75	92.60
#1	5.817	26.18	4.625	L.0608	.2554	.0143	.0015
#2	5.804	26.23	4.612	L.0654	.2611	.0066	.0021
#3	5.804	26.10	4.599	L.0670	.2582	.0056	.0081

Errors	LC Pass	LC Pass	LC Pass	LC Low	LC Pass	NOCHECK	NOCHECK
High	500.0	200.0	500.0	500.0	500.0		
Low	.1000	.0500	.1000	.1000	.1000		

Elem	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	.0075	.0098	.0056
	.0072	.0009	.0018
	9.582	9.196	32.99
#1	.0075	.0099	.0059
#2	.0072	.0106	.0036
#3	.0078	.0089	.0073

Errors LC Pass LC Pass NOCHECK

-- .0007 .0016

Method: QSTL Sample Name: CRI Operator: KAE
Run Time: 10/13/94 12:27:30
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	.01875	.02132	.00836	.00401	.01137	.00943	.0402
SDev	.00110	.00182	.00167	.00177	.00228	.00307	.0019
%RSD	5.8475	8.5412	19.927	44.107	20.082	32.556	4.724

#1	.01965	.02341	.00667	.00197	.01302	.01183	.0421
#2	.01906	.02007	.00841	.00494	.00876	.01047	.0383
#3	.01753	.02048	.01000	.00512	.01232	.00597	.0402
Errors Value Range	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

Elem	Ca	Fe	Mo	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	-.0004	.0004	.0009	.0013	.0078	.1175	.1200
SDev	.0000	.0045	.0027	.0011	.0022	.0017	.0031
%RSD	.0000	1213.	312.2	86.60	27.70	1.468	2.548
#1	-.0004	.0045	-.0021	.0013	.0063	.1155	.1170
#2	-.0004	.0011	.0017	.0025	.0069	.1185	.1201
#3	-.0004	-.0045	.0030	.0002	.0103	.1184	.1231
Errors Value Range	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

Elem	Pb2203	Se1960	Sb2068
s	ppm	ppm	ppm
	.0055	.0101	.1192
SDev	.0017	.0021	.0026
%RSD	31.09	20.61	2.140
#1	.0035	.0122	.1165
#2	.0061	.0099	.1195
#3	.0067	.0081	.1215
Errors Value Range	NOCHECK	NOCHECK	NOCHECK

Method: QSTL Sample Name: ICSA Operator: MHC
Run Time: 10/13/94 12:31:35
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	-.00015	-.01418	-.00061	.00007	-.00992	.00260	464.2
SDev	.00244	.00498	.00204	.00381	.00145	.00607	.8
%RSD	1640.0	35.082	333.20	5377.6	14.622	233.05	.1710
#1	.00253	-.00924	.00172	-.00424	-.01001	-.00001	464.3
#2	-.00226	-.01919	-.00204	.00299	-.01132	-.00172	464.9
#3	-.00071	-.01411	-.00151	.00146	-.00842	.00954	463.3
s Value Range	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass 500.0 20.00

Elem	Ca	Fe	Mo	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	444.7	137.1	474.0	.0859	[illegible]	[illegible]	[illegible]

	444.7	183.0	490.2	.0855	1.004	.0001	.0066
	445.3	183.3	490.8	.0855	1.014	.0102	-.0031
#3	444.2	182.6	488.9	.0867	1.012	.0013	.0028

Errors	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	500.0	200.0	500.0				
Range	20.00	20.00	20.00				
Elem	Pb2203	Se1960	Sb2068				
Units	ppm	ppm	ppm				
Avge	-.0002	-.0016	.0027				
SDev	.0019	.0045	.0016				
%RSD	1192.	287.9	58.14				
#1	-.0023	-.0033	.0044				
#2	.0013	-.0049	.0013				
#3	.0005	.0036	.0023				
Errors	NOCHECK	NOCHECK	NOCHECK				
Value							
Range							

Method: QSTL Sample Name: ICSAB Operator: MHC
Run Time: 10/13/94 12:35:39
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

	As1890	Ti1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	-.00171	-.01232	.92823	.93229	.00373	.00145	464.6
SDev	.00223	.00133	.00551	.00541	.00645	.00556	1.6
%RSD	130.84	10.820	.59380	.58031	173.04	383.71	.3538
#1	-.00421	-.01197	.93232	.92797	.00593	-.00047	462.7
#2	-.00098	-.01120	.93040	.93055	-.00353	.00771	465.6
#3	.00007	-.01380	.92196	.93836	.00878	-.00290	465.6
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value							500.0
Range							20.00

Elem	Ca	Fe	Mo	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	444.2	182.7	489.0	.0867	1.006	.9646	.9636
SDev	1.2	.5	1.4	.0015	.009	.0065	.0025
%RSD	.2983	.2973	.2952	1.687	.8560	.6764	.2589
#1	442.7	182.1	487.4	.0852	.9980	.9602	.9653
#2	444.9	183.0	489.7	.0881	1.006	.9616	.9607
#3	445.0	183.0	489.9	.0869	1.015	.9721	.9647
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	500.0	200.0	500.0				
Range	20.00	20.00	20.00				

	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	.9709	.0022	.9639
SDev	.0018	.0016	.0031
%RSD	.1914	73.75	.3219
#1	.9724	[illegible]	.9636
#2	.9705	[illegible]	.9610

's NOCHECK NOCHECK NOCHECK

.e

Range

Method: QSTL Sample Name: CCV Operator: MHC
Run Time: 10/13/94 12:29:43
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM

Avge	4.1805	3.9259	3.9670	3.9948	4.0197	4.0441	38.06
SDev	.0083	.0168	.0065	.0230	.0113	.0237	.14
%RSD	.19757	.42857	.16429	.57488	.28070	.58568	.3789
#1	4.1752	3.9225	3.9668	3.9713	4.0126	4.0217	38.05
#2	4.1763	3.9104	3.9736	3.9960	4.0327	4.0417	37.92
#3	4.1900	3.9438	3.9605	4.0171	4.0138	4.0689	38.21
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value	4.0000	4.0000					40.00
Range	10.000	10.000					10.00

Elem	Ca	Fe	Mg	Th	U	Sb1	Sb2
Units	PPM	PPM	PPM	PPM	PPM	ppm	ppm
Avge	20.27	39.91	19.9a	.0345	.2329	4.063	4.049
SDev	.07	.13	.07	.0025	.0074	.021	.004
%RSD	.3545	.3172	.3600	7.372	3.170	.5266	.0906
#1	20.24	39.84	19.92	.0318	.2244	4.040	4.045
#2	20.22	39.83	19.92	.0347	.2359	4.065	4.052
#3	20.35	40.05	20.04	.0369	.2382	4.083	4.049
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	20.00	40.00	20.00				
Range	10.00	10.00	10.00				

Elem	Pb220[illegible]	Se196[illegible]	Sb206[illegible]
Units	ppm	ppm	ppm
Avge	3.986	4.036	4.053
SDev	.014	.016	.009
%RSD	.3636	.3993	.2206
#1	3.970	4.019	4.043
#2	3.989	4.039	4.057
#3	3.998	4.051	4.060
Errors	QC Pass	QC Pass	NOCHECK
Value	4.000	4.000	
Range	10.00	10.00	

Method: QSTL Sample Name: CCB Operator: MHC
Run Time: 10/13/94 12:43:52
Comment: TJA 61E TRACE
Mode: CONC Corr. Factor: 1

Elem	As1890	Tl1908	Pb1	Pb2	Se1	Se2	Al
Units	PPM	PPM	PPM	PPM	PPM	PPM	PPM
Avge	.00071	.00336	.00236	-.00059	.00514	-.00138	.0882
SDev	.00184	.00233	.00290	.00182	.00291	.00160	.0151
%RSD	257.79	69.440	122.77	305.67	56.619	116.50	17.08
	-.00026	.00476	-.00079	.00142	.00192	-.00174	.1056
	.00293	.00466	.00296	-.00107	.00590	.00038	.0800
#3	-.00044	.00067	.00491	-.00213	.00759	-.00277	.0751
Errors	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass
Value	.00000	.00000					.0000
Range	.0100	.0100					.1000
Elem	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]

[illegible]	.0292	.0489	.0387	.0122	.0490	.0019	.0026
	.0148	.0171	.0154	.0013	.0103	.0033	.0013
[illegible]	50.68	35.06	39.77	10.99	21.01	173.2	48.83

#1	.0460	.0684	.0559	.0137	.0608	.0021	.0011
#2	.0234	.0426	.0340	.0112	.0436	.0050	.0033
#3	.0181	.0359	.0262	.0116	.0425	-.0015	.0034
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	.0000	.0000	.0000	.0000	.0000		
Range	5.000	.1000	5.000	.1000	.1000		

Elem	Pb2203	Se1960	Sb2068
Units	ppm	ppm	ppm
Avge	.0004	.0008	.0024
SDev	.0003	.0014	.0013
%RSD	65.65	173.0	55.28
#1	.0007	-.0005	.0015
#2	.0003	.0022	.0039
#3	.0002	.0007	.0018
Errors	QC Pass	QC Pass	NOCHECK
Value	.0000	.0000	
Range	.0030	.0050	

DIGESTION/STANDARDS PREP

Quanterra

Metals Digestion Prep Sheet

:tals Prep Analyst: Mark Crain

Prep Batch: 48071

Prep Date: 13-OCT-94

Analyses: (ICP) GFAA FLAA HG

Method: CLP '90

Digestion Method:

Page: 1

Sample Identification			Digestion				Sample Description						Spike Description				
oject mber	Sample Number	Client ID	Initial Vol	Initial Units	Final Vol	Final Units	Color Initial	Color Final	Clarity Initial	Clarity Final	Texture Texture	Texture Artifacts	ID	Type	Amount	Units	Description
31.08	6391-001	BCA-VER	1.00	G	200	ML	Brown	Yellow		Clear	Medium						
10.01	QCLCS48071-1	Lab Control Sample	1.00	G	200	ML	Brown	Yellow		Clear	Medium						
10.01	QCPREPBLK48071-1	Preparation Blank	1.00	G	200	ML	Colorless	Colorless		Clear	N/A						

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SSK

telinquished By: MHlaw 10-13-94

Received By: T. Mol 10-13-94

Reviewed By: K. Clay 10-13-94

Comments: Pb & Sb USE GIF.

:olor Red, Blue, Yellow, Green, Orange, Violet, White, Brown, Grey, Black, Colorless

:larity Clear, Cloudy, Opaque

'exture Fine(powdery), Medium(sand), Coarse(rocks)

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Standards Log Sheet

Printed October 6, 1994 01:23 pm

Batch: -100694

Date Prepared	Standard ID Number	Spike Type	Identity	Parent ID Number	Parent Conc. mg/L	Aliquot ml	Dilution Volume ml	Final Conc. mg/L	Solvent	Analyst	Expiration Date
22-SEP-94	MI0443-94	CCVB	Te	MS0046-94P	1000	0.8	200	4	5% HCL 5% HNO3	Keith Earhart	22-OCT-94
			B	MS0119-94B	1000	0.8	200	4			
			Bi	MS0219-93P	1000	0.8	200	4			
23-SEP-94	MI0445-94	ICV CLP'90	Ag	MS0140-94	10	50	400	1.25	Keith Earhart		23-OCT-94
			Al,Fe,K,Na	MS0140-94	400	50	400	50			
			Ca,Mg	MS0140-94	200	50	400	25			
			Co,Cr,Cu,Pb,Li	MS0140-94	40	50	400	5			
			Mn,Mo,Ni,Se,Si	MS0140-94	40	50	400	5			
			Sb,As,Ba,Be,Cd	MS0140-94	40	50	400	5			
			Sr,Tl,Ti,Sn,V,Zn	MS0140-94	40	50	400	5			
	MI0446-94	CAL.2	Al	MS0062-94	1000	100	1000	100	Keith Earhart		
			Ca	MS0062-94	500	100	1000	50			
			Fe	MS0062-94	1000	100	1000	100			
			K	MS0062-94	1000	100	1000	100			
			Mg	MS0062-94	500	100	1000	50			
			Na	MS0062-94	1000	100	1000	100			
	MI0447-94	CAL.3	B	MS0066-94	100	100	1000	10	5% HCL 5% HNO3 Keith Earhart	Keith Earhart	
			Bi	MS0066-94	100	100	1000	10			
			Li	MS0066-94	100	100	1000	10			
			Mo	MS0066-94	100	100	1000	10			
			Si	MS0066-94	100	100	1000	10			
			Sn	MS0066-94	100	100	1000	10			
			Sr	MS0066-94	100	100	1000	10			
			Te	MS0066-94	100	100	1000	10			
			Th	MS0066-94	100	100	1000	10			

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Standards Log Sheet

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Date Prepared	Standard ID Number	Spike Type	Identity	Parent ID Number	Parent Conc. mg/L	Aliquot ml	Dilution Volume ml	Final Conc. mg/L	Solvent	Analyst	Expiration Date
23-SEP-94	M10447-94	CAL.3	Ti	MS0066-94	100	100	1000	10		Keith Earhart	23-OCT-94
			U	MS0066-94	100	100	1000	10			
25-SEP-94	M10450-94	CRI-61E	As	MS0068-94	10	2	1000	0.02	5% HCL 5% HNO3	Mark Crain	25-OCT-94
			Pb	MS0068-94	3	2	1000	0.006			
			Se	MS0068-94	5	2	1000	0.01			
			Tl	MS0068-94	10	2	1000	0.02			
			Sb	MS0091-94	1000	0.12	1000	0.12			
28-SEP-94	M10455-94	ICSA	Al	MS0139-94	5000	100	1000	500		Keith Earhart	28-OCT-94
			Ca	MS0139-94	5000	100	1000	500			
			Fe	MS0139-94	2000	100	1000	200			
			Mg	MS0139-94	5000	100	1000	500			
30-SEP-94	M10457-94	ICV/CCV'88	Ag	MS0140-94	10	100	1000	1		Tom Makara	31-OCT-94
			Al,Fe,K,Na	MS0140-94	400	100	1000	40			
			Ca,Mg	MS0140-94	200	100	1000	[illegible]			
			Co,Cr,Cu,Pb,Li	MS0140-94	40	100	1000	4			
			Mn,Mo,Ni,Se,Si	MS0140-94	40	100	1000	4			
			Sb,As,Ba,Be,Cd	MS0140-94	40	100	1000	4			
			Sr,Tl,Ti,Sn,V,Zn	MS0140-94	40	100	1000	4			
	M10458-94	ICSAB	Al,Ca,Mg	MS0114-94	5000	100	1000	500			
			Fe	MS0114-94	2000	100	1000	200			
			Ag	MS0200-93	100	10	1000	1			
			Ba	MS0200-93	50	10	1000	0.5			
			Be	MS0200-93	50	10	1000	0.5			
			Cd	MS0200-93	100	10	1000	1			
			Co	MS0200-93	50	10	1000	0.5			

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Standards Log Sheet

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Date Prepared	Standard ID Number	Spike Type	Identity	Parent ID Number	Parent Conc. mg/L	Aliquot ml	Dilution Volume ml	Final Conc. mg/L	Solvent	Analyst	Expiration Date
30-SEP-94	MI0458-94	ICSAB	Cr	MS0200-93	50	10	1000	0.5	5% HCL 5% HNO3	Tom Makara	31-OCT-94
			Cu	MS0200-93	50	10	1000	0.5			
			Li	MS0200-93	100	10	1000	1			
			Mn	MS0200-93	50	10	1000	0.5			
			Mo	MS0200-93	100	10	1000	1			
			Ni	MS0200-93	100	10	1000	1			
			Pb	MS0200-93	100	10	1000	1			
			Sb	MS0200-93	100	10	1000	1			
			Si	MS0200-93	100	10	1000	1			
			Sn	MS0200-93	100	10	1000	1			
			Sr	MS0200-93	100	10	1000	1			
			V	MS0200-93	50	10	1000	0.5			
			Zn	MS0200-93	100	10	1000	1			
29-SEP-94	MI0459-94	CAL.1	Ni	MS0051-94I	1000	2	200	10		Keith Earhart	15-OCT-94
			Pb	MS0059-94I	1000	2	200	10			
			Cr	MS0060-94I	1000	2	200	10			
			Ag	MS0108-94	1000	0.4	200	2			
			Ba	MS0117-94	1000	2	200	10			
			Co	MS0120-94	1000	2	200	10			
			Cd	MS0127-94	1000	2	200	10			
			Sb	MS0128-94	1000	2	200	10			
			Be	MS0130-94	1000	2	200	10			
			Cu	MS0132-94	1000	2	200	10			
			Zn	MS0133-94	1000	2	200	10			
			Tl	MS0141-94	1000	2	200	10			

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Standards Log Sheet

Printed October 6, 1994 01:23 pm

Batch: -100694

Date Prepared	Standard ID Number	Spike Type	Identity	Parent ID Number	Parent Conc. mg/L	Aliquot ml	Dilution Volume ml	Final Conc. mg/L	Solvent	Analyst	Expiration Date
29-SEP-94	MI0459-94	CAL.1	Se	MS0177-93I	1000	2	200	10	5% HCL 5% HNO3	Keith Earhart	15-OCT-94
			As	MS0178-93I	1000	2	200	10			
			V	MS0190-93P	1000	2	200	10			
			Mn	MS0195-93I	1000	2	200	10			
23-FEB-94	MS0046-94P	P	Te	MS0046-94P	1000				DIL HNO3	Tracy Clark-Stovall	31-AUG-95
									SOL'NS PLUS LOT 940214 REC'D 02-22-94		
19-JUL-94	MS0119-94B	B	B	MS0119-94B	1000				di H2O		31-OCT-95
									Sol'ns Plus Lot#940411 Rec'd 07-19-94		
23-DEC-93	MS0219-93P	P	Bi	MS0219-93P	1000				Dil. HNO3		30-JUN-95
									Sol'ns Plus Lot#931216 Rec'd 12-23-93		
22-SEP-94	MI0442-94	ICVB	Te	MS0046-94P	1000	1	200	5	5% HCL 5% HNO3	Keith Earhart	22-OCT-94
			B	MS0119-94B	1000	1	200	5			
			Bi	MS0219-93P	1000	1	200	5			
15-NOV-93	MS0200-93	ICP ICSB	Ag	MS0200-93	100				5% HNO3	Mark Crain	01-NOV-94
									SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Ba	MS0200-93	50				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Be	MS0200-93	50				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Cd	MS0200-93	100				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Co	MS0200-93	50				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Cr	MS0200-93	50				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Cu	MS0200-93	50				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Li	MS0200-93	100				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Mn	MS0200-93	50				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Mo	MS0200-93	100				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Ni	MS0200-93	100				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Pb	MS0200-93	100				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Sb	MS0200-93	100				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Si	MS0200-93	100				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Sn	MS0200-93	100				SPEX, LOT # 4-37YW, REC'D 11-09-93		

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Standards Log Sheet

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Batch: -100694

Date Prepared	Standard ID Number	Spike Type	Identity	Parent ID Number	Parent Conc. mg/L	Aliquot ml	Dilution Volume ml	Final Conc. mg/L	Solvent	Analyst	Expiration Date
15-NOV-93	MS0200-93	ICP ICSB	Sr	MS0200-93	100				5% HNO3	Mark Crain	01-NOV-94
			V	MS0200-93	50				SPEX, LOT # 4-37YW, REC'D 11-09-93		
			Zn	MS0200-93	100				SPEX, LOT # 4-37YW, REC'D 11-09-93		
14-SEP-94	MI0428-94	MN100PPM	Mn	MS0195-93I	1000	1	10	100	SPEX, LOT # 4-37YW, REC'D 11-09-93		
16-SEP-94	MI0429-94	SB10	Sb	MS0091-94	1000	0.1	10	10	5% HCL 5% HNO3	Keith Earhart	14-OCT-94
	MI0430-94	ZN100	Zn	MS0077-94P	1000	1	10	100			16-OCT-94
20-SEP-94	MI0439-94	ICSABNA	Al	MS0139-94	5000	10	100	500		Keith Earhart	20-OCT-94
			Ca	MS0139-94	5000	10	100	500			
			Fe	MS0139-94	2000	10	100	200			
			Mg	MS0139-94	5000	10	100	500			
			Ag	MS0200-93	100	1	100	1			
			Ba	MS0200-93	50	1	100	0.5			
			Be	MS0200-93	50	1	100	0.5			
			Cd	MS0200-93	100	1	100	1			
			Co	MS0200-93	50	1	100	0.5			
			Cr	MS0200-93	50	1	100	0.5			
			Cu	MS0200-93	50	1	100	0.5			
			Li	MS0200-93	100	1	100	1			
			Mn	MS0200-93	50	1	100	0.5			
			Mo	MS0200-93	100	1	100	1			
			Ni	MS0200-93	100	1	100	1			
			Pb	MS0200-93	100	1	100	1			
			Sb	MS0200-93	100	1	100	1			
			Si	MS0200-93	100	1	100	1			
			Sn	MS0200-93	100	1	100	1			

Date Prepared	Standard ID Number	Spike Type	Identity	Parent ID Number	Parent Conc. mg/L	Aliquot ml	Dilution Volume ml	Final Conc. mg/L	Solvent	Analyst	Expiration Date
20-SEP-94	MI0439-94	ICSABNA	Sr	MS0200-93	100	1	100	1	5% HCL 5% HNO3	Keith Earhart	20-OCT-94
			V	MS0200-93	50	1	100	0.5			
			Zn	MS0200-93	100	1	100	1			
			Na	MSBLANK							
26-APR-94	MS0077-94P	P	Zn	MS0077-94P	1000				Dil HNO3	Tracy Clark-Stovall	30-APR-95
									Sol'ns Plus Lot#931016 Rec'd 04-25-94		
27-JUN-94	MS0091-94	SB	Sb	MS0091-94	1000				DIL HNO3		31-DEC-95
									Sol'ns Plus Lot#940620 Rec'd 06-24-94		
12-SEP-94	MS0139-94	INTF-A STOCK	Al,Ca,Mg	MS0139-94	5000				5% HNO3	Mark Crain	08-MAR-95
			Fe	MS0139-94	2000						
02-NOV-93	MS0195-93I	I	Mn	MS0195-93I	1000			1000	2% HNO3		31-OCT-94
									SPEX, LOT # 2-268MM, REC'D 10-28-93		
01-MAR-94	MS0059-94I		Pb	MS0059-94I	1000					Tracy Clark-Stovall	28-FEB-95
									SPEX Lot#3-106PB Rec'd 03-01-94		
	MS0060-94I		Cr	MS0060-94I	1000						
									SPEX Lot#3-124CR Rec'd 03-01-94		
02-MAR-94	MS0062-94	CAL.2 CONCENTRATE	Al	MS0062-94	1000				5% HNO3	Mark Crain	02-MAR-95
									REC'D 3-2-94 LOT # 2-10MM		
			Ca	MS0062-94	500						
									REC'D 3-2-94 LOT # 2-10MM		
			Fe	MS0062-94	1000						
									REC'D 3-2-94 LOT # 2-10MM		
			K	MS0062-94	1000						
									REC'D 3-2-94 LOT # 2-10MM		
			Mg	MS0062-94	500						
									REC'D 3-2-94 LOT # 2-10MM		
			Na	MS0062-94	1000						
									REC'D 3-2-94 LOT # 2-10MM		
	MS0066-94	CAL.3 CONCENTRATE	B	MS0066-94	100				10% HCL/TR. HNO3		
									REC'D 3-2-94 LOT # 2-11MM		
			Bi	MS0066-94	100						
									REC'D 3-2-94 LOT # 2-11MM		
			Li	MS0066-94	100						
									REC'D 3-2-94 LOT # 2-11MM		
			Mo	MS0066-94	100						
									REC'D 3-2-94 LOT # 2-11MM		
			Si	MS0066-94	100						
									REC'D 3-2-94 LOT # 2-11MM		
			Sn	MS0066-94	100						
									REC'D 3-2-94 LOT # 2-11MM		
			Sr	MS0066-94	100						
									REC'D 3-2-94 LOT # 2-11MM		
			Te	MS0066-94	100						
									REC'D 3-2-94 LOT # 2-11MM		

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Standards Log Sheet

Printed October 6, 1994 01:23 pm

Date Prepared	Standard ID Number	Spike Type	Identity	Parent ID Number	Parent Conc. mg/L	Aliquot ml	Dilution Volume ml	Final Conc. mg/L	Solvent	Analyst	Expiration Date
02-MAR-94	MS0066-94	CAL.3 CONCENTRATE	Th	MS0066-94	100				10% HCL/TR. HNO3 REC'D 3-2-94 LOT # 2-11MM	Mark Crain	02-MAR-95
			Ti	MS0066-94	100				REC'D 3-2-94 LOT # 2-11MM		
			U	MS0066-94	100				REC'D 3-2-94 LOT # 2-11MM		
28-MAR-94	MS0068-94	CRA	As	MS0068-94				10	5% HNO3 CRA STOCK STANDARD	Keith Earhart	30-MAR-95
			Pb	MS0068-94				3			
			Se	MS0068-94				5			
			Tl	MS0068-94				10			
08-JUL-94	MS0108-94	AG-STOCK	Ag	MS0108-94	1000				2%HNO3 SPEX LOT# 3-111AG		30-JUN-95
18-JUL-94	MS0114-94	INTF-A STOCK	Al,Ca,Mg	MS0114-94	5000				5% HNO3	Mark Crain	31-JUL-95
			Fe	MS0114-94	2000						
19-JUL-94	MS0117-94	BA	Ba	MS0117-94	1000				DI H2O Sol'ns Plus Lot#940713 Rec'd 07-19-94	Tracy Clark-Stovall	31-JAN-96
	MS0120-94	CO	Co	MS0120-94	1000				dil HNO3 Sol'ns Plus Lot#940713 Rec'd 07-19-94		
16-AUG-94	MS0127-94	CD1000PPM	Cd	MS0127-94				1000	5% HCL 5% HNO3 Cd 1000ppb spex 7440-43-9	Keith Earhart Keith Earhart	15-AUG-95
	MS0128-94	B 1000PPB	Sb	MS0128-94				1000	Sb 1000ppb spex 7440-36-0	Keith Earhart	
	MS0130-94	BE 1000PPB	Be	MS0130-94				1000	Be 1000ppb spex 7440-41-7	Keith Earhart	
	MS0132-94	CU 1000PPB	Cu	MS0132-94				1000	Cu 1000ppb spex 7440-50-8	Keith Earhart	
	MS0133-94	ZN 1000PPB	Zn	MS0133-94				1000	Zn 1000ppb spex 7440-66-6	Keith Earhart	
12-SEP-94	MS0140-94	ICV/CCV STOCK	Ag	MS0140-94	10				15% HCL 5% HNO3	Mark Crain	08-MAR-95
			Al,Fe,K,Na	MS0140-94	400						
			Ca,Mg	MS0140-94	200						
			Co,Cr,Cu,Pb,Li	MS0140-94	40						
			Mn,Mo,Ni,Se,Si	MS0140-94	40						
			Sb,As,Ba,Be,Cd	MS0140-94	40						
			Sr,Tl,Ti,Sn,V,Zn	MS0140-94	40						
13-SEP-94	MS0141-94	TL	Tl	MS0141-94	1000				Dil HNO3 Sol'ns Plus Lot#940908 Rec'd 09-12-94	Tracy Clark-Stovall	31-MAR-96

Printed October 6, 1994 01:23 pm

Date Prepared	Standard ID Number	Spike Type	Identity	Parent ID Number	Parent Conc. mg/L	Aliquot ml	Dilution Volume ml	Final Conc. mg/L	Solvent	Analyst	Expiration Date
08-OCT-93	MS0177-93I	I	Se	MS0177-93I	1000			1000	2% HNO3	Tracy Clark-Stovall	15-OCT-94
									Spex, Lot # 3-70SE, REC'D 10-08-93		
	MS0178-93I		As	MS0178-93I	1000			1000			
									SPEX, LOT # 3-105AS, REC'D 10-08-93		
02-NOV-93	MS0190-93P	P	V	MS0190-93P	1000			1000	DILUTE HNO3	Mark Crain	30-APR-95
									SOLUTIONS PLUS, LOT # 931019, REC'D 10-28-93		
09-SEP-94	MI0416-94	CRI-ICP 1100&9000	Ag	MS0116-94	0.2	100	1000	0.02	5% HCL 5% HNO3		09-OCT-94
			Be	MS0116-94	0.1	100	1000	0.01			
			Cd	MS0116-94	0.1	100	1000	0.01			
			Co	MS0116-94	1	100	1000	0.1			
			Cr	MS0116-94	0.2	100	1000	0.02			
			Cu	MS0116-94	0.5	100	1000	0.05			
			Li	MS0116-94	2	100	1000	0.2			
			Mn	MS0116-94	0.3	100	1000	0.03			
			Mo	MS0116-94	4	100	1000	0.4			
			Ni	MS0116-94	0.8	100	1000	0.08			
			Pb	MS0116-94	2	100	1000	0.2			
			Sb	MS0116-94	1.2	100	1000	0.12			
			Si	MS0116-94	2	100	1000	0.2			
			Sn	MS0116-94	4	100	1000	0.4			
			Sr	MS0116-94	4	100	1000	0.4			
			V	MS0116-94	1	100	1000	0.1			
			Zn	MS0116-94	0.4	100	1000	0.04			
13-SEP-94	MI0420-94	ICSANA	Al	MS0139-94	5000	10	100	500		Keith Earhart	13-OCT-94
			Ca	MS0139-94	5000	10	100	500			
			Fe	MS0139-94	2000	10	100	200	5% HCL 5% HNO3		
			Mg	MS0139-94	5000	10	100	500			
			Na	MSBLANK		20	100				

Quanterra

Standards Log Sheet

Printed October 6, 1994 01:23 pm

Batch: -100694

Date Prepared	Standard ID Number	Spike Type	Identity	Parent ID Number	Parent Conc. mg/L	Aliquot ml	Dilution Volume ml	Final Conc. mg/L	Solvent	Analyst	Expiration Date
19-JUL-94	MS0116-94	ICP CRI-INTER.	Ag	MS0116-94	0.2				5% HCL 5% HNO3 Sol'ns Plus Lot#940718 Rec'd 07-19-94	Tracy Clark-Stovall	19-JAN-95
			Be	MS0116-94	0.1				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Cd	MS0116-94	0.1				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Co	MS0116-94	1				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Cr	MS0116-94	0.2				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Cu	MS0116-94	0.5				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Li	MS0116-94	2				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Mn	MS0116-94	0.3				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Mo	MS0116-94	4				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Ni	MS0116-94	0.8				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Pb	MS0116-94	2				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Sb	MS0116-94	1.2				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Si	MS0116-94	2				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Sn	MS0116-94	4				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Sr	MS0116-94	4				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			V	MS0116-94	1				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
			Zn	MS0116-94	0.4				Sol'ns Plus Lot#940718 Rec'd 07-19-94		
16-AUG-94	MS0129-94	MN 1000PPB	Mn	MS0129-94				1000	Sol'ns Plus Lot#940718 Rec'd 07-19-94 Mn 1000ppb spex 7439-96-5	Keith Earhart Keith Earhart	15-AUG-95

ENVIRONMENTAL
RESOURCE ASSOCIATES
Arvada Colorado 80002 303-431-8454

MS0135-94
MS0136-94
Rec'd 09-01-94
Exp 09-30-95

Certification

PriorityPollutnT™/CLP Quality Control Standards

Inorganics in Soil

Parameter	Lot No. 219 Certified Value	Advisory Range
Trace Metals PriorityPollutnT™	mg/Kg	mg/Kg
Aluminum	3650	1930 - 5580
Antimony	75.0	32 - 350
Arsenic	72.1	35 - 110
Barium	64.8	45 - 88
Beryllium	28.7	17 - 37
Cadmium	61.6	36 - 86
Calcium	2330	1580 - 3170
Chromium	44.1	26 - 81
Cobalt	177	112 - 246
Copper	78.1	48 - 110
Iron	7360	4930 - 11000
Lead	50.9	27 - 71
Magnesium	2550	1610 - 3600
Manganese	141	97 - 190
Mercury	32.0	17 - 48
Molybdenum	104	64 - 147
Nickel	110	65 - 157
Potassium	3310	2090 - 4400
Selenium	74.2	36 - 108
Silver	71.7	29 - 105
Sodium	348	180 - 506
Thallium	64.1	31 - 98
Vanadium	83.0	56 - 113
Zinc	78.2	45 - 119
Cyanide PriorityPollutnT™	mg/Kg	mg/Kg
Total cyanide	117	49 - 191

(1) The Trace Metals Certified Values are equal to the mean recoveries for each parameter as determined in an interlaboratory round robin study. The standard was digested using Method 3050, SW-846 and the digest analyzed by ICP and atomic absorption spectroscopy.

(2) The Cyanide Certified Value is equal to the mean recovery as determined in an interlaboratory round robin study. The standard was digested and analyzed following the procedure outlined in Method 9010, SW-846.

(3) Advisory ranges are listed as guidelines for acceptable recoveries given the limitations of the EPA methodologies commonly used to determine these parameters. The range closely approximates the 99% confidence intervals for parameters based upon the experimental data from this lot, previous ERA lots, and published USEPA data.

CHAIN OF CUSTODY
SAMPLE LOG-IN/RECEIPT RECORDS

Quanterra October 07, 1994 02:31 pm
Account: 10711 Project: 281.08 IT - Los Alamos QAS No. 730 Rev. 0
Master Sample Login: 6391

ject Manager: R. White

ft: Final: Entered and Reviewed by: M. Jackson PM Review: KSW 10/07

ple Header Template:

ple No. / Comments / Container Type	Client ID	Analysis	C-Matrix	Class	Date: Collected	Preservative	Received / Anal. Due Date	Due / Hold Date	Shipper / Site	Rad Category	Rad Sample No. (Container Numbers:% Filled)
1-001	BCA-VER		Soil		06-OCT-94 11:15		07-OCT-94 09:10	13-OCT-94	FED-EX	1	Screening not Required
ICAPT = Pb & Sb, TCLP = Pb only											
AN - Amber Glass-250ML		EXT/TCLP/04		S		COLD	13-OCT-94	20-OCT-94	T26		(105873:80)
		ICAP/TCLP/04		S		COLD	13-OCT-94	04-APR-95	T2E		(105873:80)
		ICAPT/CLP90/04		S		COLD	13-OCT-94	05-APR-95	T2E		(105873:80)

000054

Sample has not been rad screened.

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 3194C
Page 1 of 1

Project Name/No. [1] TA-40 SDS 301625.001.01
Sample Team Members [2] Jeffrey Tucker
Profit Center No. [3] 3215
Project Manager [4] Jeffrey Tucker
Purchase Order No. [6] 21443
Required Report Date [11] 10/13/94 (verbal on Preliminary)

Samples Shipment Date [7] 10/6/94
Lab Destination [8] Quanterra-St Louis
Lab Contact [9] Bob White
Project Contact/Phone [12] Jeffrey Tucker (505)662-4200
Carrier/Waybill No. [13] FedEx 7777786621

Bill to: [5] IT-Albuquerque
5301 Central Ave NE Suite 200
Albuquerque NM 87108

Report to: [10] Jeffrey Tucker
552 Oppenheimer Dr. Suite 200
Los Alamos NM 87544

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
BCA-VER	Soil	10/6/94 1115	Amber glass	250 ml	4°C	Total Lead, TCLP Lead Total Antimony	7 of 8	
							FOR LAB USE ONLY	
							FOR LAB USE ONLY	

Special Instructions: [23] Please call w/ ~~results~~ Preliminary results (or fax)

Possible Hazard Identification: [24]
Non-hazard ☒ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: [25]
Return to Client ☐ Disposal by Lab ☒ Archive (mos.)

Turnaround Time Required: [26]
Normal ☐ Rush ☒ 5 day

QC Level: [27]
I. ☐ II. ☒ III. ☐ Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) IT	Date: 10/7/94 Time: 1230	1. Received by [28] (Signature/Affiliation) Nick Weber	Date: 10-7-94 Time: 0910
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

00055

MCA 3/15/91

Quanterra
Environmental Services

C.U.R. and C.O.C.
COPIED TO: DK/BB
DATE: 10-7-94
TIME: 1:00 Andy Wittber

Work Order No.: _____

Condition Upon Receipt Variance Report
St. Louis Laboratory

Client: _____ Date: 10-7-94 0910

Project No: _____ Initiated by: Lisa Weber

Analysis Requested: Refer to RFA/COC RFA/COC Numbers: 319401

Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1. NA Not enough sample received for proper analysis.
   Received approximately: _____
2. ☐ Sample received broken/leaking.
3. ☐ Sample received without proper preservative.
   - ☐ Cooler temperature not within 4°C ± 2°C
     Record temperature: 6°C
   - ☐ pH _____
   - ☐ other: _____
4. ☐ Sample received in improper container.
5. ☐ Sample received without proper paperwork. Explain: _____
6. ☐ Paperwork received without sample.
7. ☐ No sample ID on sample container.
8. ☐ Custody tape disturbed/broken/missing.
9. NA Sample splits performed by lab.
10. NA Volatile sample received with approximately _____ mm headspace.
11. ☐ Sample ID on container does not match sample ID on paperwork. Explain: _____
12. ☐ All coolers on airbill not received with shipment.
13. ☐ Other (explain below):
    Shipping containers not rad surveyed.

Notes: _____

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". Comments: _____

☐ Sample(s) on hold until: _____ If released, notify: _____

ple Control Supervisor Review: (or designate) _____ Date: _____

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

C-00[illegible]56

EDXRF Data - Burn Area East
December 1994

Summary of Los Alamos Lab Site XRF Lead Field Screening

Station ID	Lead Content (ppm)	Station ID	Lead Content (ppm)
20w0s	535	l2b2	2777
10w10s	1098	l2r1	2554
15w15s	512	l2r2	983
10w20s	951	l2r3	359
10w0s	813	l2r3	291
15w10s	695	l2r4	2533
20w20s	552	l3b1	1874
15w5s	513	l3b2	328
30w10s	391	l3b3	341
30w10s'	278	l3r1	1451
40w0s	354	l3r2	597
30w0s	422	l3r3	287
10w25s	480	l3r3	271
20w10s	564	l3r4	201
15w15s	582	l3r4	264
40w10s	439	l4b1	309
50w20s	382	l4b2	416
40w20s	516	l4b3	258
50w10s	450	l4b3	492
50w0s	586	l4r1	457
CENTER	493	l4r1	557
E1	524	l4r1	529
E2	761	l4r1	827
Misc1	1505	l4r2	684
Misc2	1066	l4r2	676
NE	478	l4r3	532
NW	469	l4r3	743
Pit A	2398	l4r4	335
Pit A	2610	l4r4	512
Pit B	1063	slopetuff	331
Pit C	1465	uslope1	345
Pit D	1455	uslope2	281
Pit D	1398	uslope3	608
Pit E	721	uslope4	451
Pit F	1556	wl1b1	464
Pit G	977	wl1b2	661
Pit H	1379	wl1r1	589
SE	412	wl1r2	524
SW	537	wl1r3	419
W2	1006	wl1r4	1128
W3	802	wl2b1	1252
W3	834	wl2b2	2084
W4	376	wl2r1	384
W5	318	wl2r2	582
dslope	342	wl2r3	584
l1b1	754	wl2r4	461
l1b2	1529	wl3b1	445
l1r1	534	wl3b2	1814
l1r2	1006	wl3r1	519
l1r3	1257	wl3r2	695
l1r4	2576	wl3r3	1417
l2b1	1537	wl3r4	1241

EDXRF Data - Burn Area East
September/October 1994

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA1	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	82	25250	412	558	0	110	23	4563
STD	10.1	390.8	28.3	29.4	5.8	9.3	2.4	402.6

	Ca	Sb
ASSAY	23904	21
STD	1187.1	2.1

No more spectra

Press ESC to return to previous menu

9/26/94

Pb = 131.6 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA1	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	113	25478	300	531	0	130	15	4458
STD	11.9	392.4	24.4	28.6	7.5	10.1	1.9	397.8

	Ca	Sb
ASSAY	26529	17
STD	1244.7	1.9

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

EBA1	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	128	26859	373	514	0	155	18	5507
STD	12.9	411.3	27.9	28.9	9.0	11.3	2.2	450.3
	Ca	Sb						
ASSAY	23293	28						
)	1194.3	2.5						

more spectra

ess ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA1	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	128	26859	373	514	0	155	18	5507
STD	12.9	411.3	27.9	28.9	9.0	11.3	2.2	450.3
	Ca	Sb						
SAY	23293	28						
	1194.3	2.5						

more spectra

ress ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA1	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
SSAY	128	26859	373	514	0	155	18	5507
TD	12.9	411.3	27.9	28.9	9.0	11.3	2.2	450.3
	Ca	Sb						
AY	23293	28						
	1194.3	2.5						

more spectra

ress ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA2	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	83	67074	1576	1861	0	570	29	5839
STD	9.7	609.3	59.4	56.9	14.9	22.8	2.9	432.5

	Ca	Sb
ASSAY	25391	54
STD	1161.6	3.6

No more spectra

Press ESC to return to previous menu

9/26/94

Pb= 580 AVE.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA2	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	63	62343	1433	1710	0	553	23	6353
STD	8.2	570.9	54.5	52.4	13.4	21.5	2.5	438.2

	Ca	Sb
ASSAY	24419	50
STD	1108.0	3.4

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA2	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	103	65686	1580	1769	0	617	25	6208
STD	10.9	606.0	59.5	55.5	15.0	23.7	2.6	447.9

	Ca	Sb
ASSAY	29154	57
	1242.5	3.7

[illegible] more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA3	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	117	11033	233	130	16	83	15	3309
STD	10.2	216.5	17.3	11.4	3.8	6.5	1.5	288.5
	Ca	Sb						
ASSAY	21132	14						
STD	942.6	1.4						

No more spectra

Press ESC to return to previous menu

9/26/94

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA3	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	113	11074	180	102	0	80	17	4291
STD	9.9	215.5	15.1	10.0	2.1	6.3	1.6	325.8
	Ca	Sb						
ASSAY	20559	15						
STD	923.0	1.5						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

EBA3	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	130	12335	271	159	30	72	13	3193
STD	10.9	234.0	19.2	12.3	5.3	6.2	1.5	289.8
	Ca	Sb						
ASSAY	20434	15						
	949.1	1.5						

more spectra

Press ESC to return to previous menu

Pb= 78.3 AVE.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA4	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	117	13836	212	125	10	91	18	4237
STD	10.4	249.7	17.2	11.6	3.1	7.0	1.7	335.4
	Ca	Sb						
ASSAY	20811	14						
	961.6	1.5						

more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA4	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	124	13650	286	152	5	80	20	3574
STD	10.6	244.8	19.7	12.6	2.2	6.5	1.8	304.5
	Ca	Sb						
ASSAY	18318	16						
	895.8	1.5						

more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA4	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	124	13650	286	152	5	80	20	3574
STD	10.6	244.8	19.7	12.6	2.2	6.5	1.8	304.5
	Ca	Sb						
ASSAY	18318	16						
STD	895.3	1.5						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

9/26/94

APPLICATION NAME: DEFAULT

EBA4	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	63	13963	315	163	20	75	21	3704
	7.4	243.2	20.3	12.8	4.3	6.2	1.8	304.5
	Ca	Sb						
ASSAY	18270	15						
STD	878.3	1.5						

CALCULATION IN PROG

No more spectra

Press ESC to return to previous menu

Pb = 82 ppb

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBAS	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	96	14200	285	151	79	60	17	3967
STD	9.4	250.2	19.7	12.6	8.7	5.7	1.7	321.2
	Ca	Sb						
ASSAY	20330	14						
STD	941.7	1.4						

No more spectra

Press ESC to return to previous menu

9/26/94

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBAS	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	124	14962	200	135	0	74	15	4012
STD	10.7	259.2	16.7	12.1	5.1	6.4	1.6	326.0
	Ca	Sb						
ASSAY	17352	14						
STD	882.5	1.4						

No more spectra

Press ESC to return to previous menu

Pb= 65.6 PWE

CALCULATION IN PROGRESS. PLEASE WAIT...

EBAS	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	104	14916	212	140	17	63	23	4478
STD	9.8	259.7	17.2	12.3	4.1	5.9	2.0	343.8
	Ca	Sb						
ASSAY	18855	19						
	915.8	1.7						

more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	36	12582	247	321	14	115	19	4398
STD	10.9	291.3	22.5	22.7	4.6	9.7	2.2	418.0

	Ca	Sb
ASSAY	17799	16
STD	1093.6	1.9

No more spectra

Press ESC to return to previous menu

9/26/94

Pb= 129.6 ME.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	97	13377	381	273	13	135	14	3625
STD	11.7	302.0	28.2	21.0	4.4	10.5	1.9	382.2

	Ca	Sb
ASSAY	16772	20
STD	1071.0	2.1

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA6	Cr	Fe	Cu	In	As	Pb	Cd	Ti
.7	58	13081	302	288	0	139	16	3236
[illegible]	8.7	287.1	24.2	20.3	7.7	10.3	2.0	347.6

	Ca	Sb
ASSAY	16604	14
STD	1026.0	1.7

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/30/94

APPLICATION NAME: DEFAULT

EBA6_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	94	12294	233	169	20	69	15	3887
STD	9.4	237.1	18.0	13.5	4.4	6.1	1.6	324.0
	Ca	Sb						
ASSAY	17473	16						
STD	893.8	1.5						

No more spectra

Press ESC to return to previous menu

Pb = 80,3

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA6_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	[illegible]	11892	204	[illegible]	0	87	14	3876
STD	9.9	224.2	17.3	[illegible]	4.9	6.6	1.5	311.1
	Ca	Sb						
ASSAY	19392	[illegible]						
STD	902.4	1.5						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA6_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	86	13073	224	[illegible]	0	85	15	3335
STD	8.9	241.8	17.5	13.5	5.4	6.7	1.6	297.1
	Ca	Sb						
ASSAY	8866	6						
STD	919.3	1.5						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA7	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	117	13700	295	145	40	55	16	3526
STD	10.3	244.2	19.9	12.3	6.2	5.4	1.6	301.3
	Ca	Sb						
ASSAY	18061	17						
STD	886.4	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA7	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	120	14400	292	156	30	80	20	3756
STD	10.3	246.1	19.0	13.4	5.3	6.4	1.8	308.2
	Ca	Sb						
ASSAY	17592	17						
STD	871.1	1.8						

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT
No more spectra
Press ESC to return to previous menu

EBA7	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	93	13191	217	159	0	78	17	4779
STD	9.2	236.4	16.8	12.9	4.2	6.3	1.6	345.2
	Ca	Sb						
ASSAY	18559	13						
STD	883.5	1.3						

Pb = 71 AVG

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

STD	10.3	246.1	19.0	13.4	5.3	6.4	1.8	308.2
	Ca	Sb						
ASSAY	17732	17						
STD	871.1	1.6						

No more spectra

Press ESC to return to previous menu

9/26/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA8	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	143	13058	253	159	9	84	15	3851
STD	12.4	260.3	20.1	14.0	3.3	7.2	1.7	343.5
	Ca	Sb						
ASSAY	16685	13						
STD	931.6	1.5						

No more spectra
Press ESC to return to previous menu

Pb= 88.6 ave.

CALCULATION IN PROGRESS. PLEASE WAIT...

LICATION NAME: DEFAULT

EBA8	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	104	13436	192	163	0	124	18	3443
STD	10.7	268.1	17.8	14.4	8.0	8.9	1.9	330.2
	Ca	Sb						
ASSAY	16101	23						
STD	931.2	2.0						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA8	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	36	12787	231	152	32	58	13	3430
STD	9.5	255.5	19.0	13.6	5.9	5.9	1.6	321.9
	Ca	Sb						
ASSAY	15160	17						
STD	884.0	1.7						

No more spectra
Press ESC to return to previous menu

9/26/94 M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA8DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	125	12854	214	178	12	79	14	4425
STD	11.6	258.2	18.5	14.8	3.7	7.0	1.6	367.8
	Ca	Sb						
ASSAY	15486	17						
STD	898.2	1.7						

No more spectra
Press ESC to return to previous menu

Pb = 79.6 ave

CALCULATION IN PROGRESS. PLEASE WAIT...

LICATION NAME: DEFAULT

8DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	105	13602	307	208	15	95	8	4089
STD	10.7	267.8	22.3	16.2	4.1	7.7	1.3	356.6
	Ca	Sb						
ASSAY	16296	17						
STD	928.2	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA8DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	106	13266	269	127	86	65	16	3584
STD	10.8	265.3	20.9	12.6	10.0	6.4	1.8	335.3
	Ca	Sb						
ASSAY	16358	18						
STD	933.8	1.8						

more spectra
ess ESC to return to previous menu

S. PLEASE WA

CALCULATION IN PROG

9/30/94

APPLICATION NAME: DEFAULT

EBA8_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	94	4425	198	162	12	31	15	3315
STD	[illegible]	250.4	[illegible]	2.6	3.5	6.6	1.5	295.6
	Ca	Sb						
ASSAY	13546	13						
STD	835.6	1.4						

No more spectra

Press ESC to return to previous menu

Pb = 75

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA8_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	93	13502	159	132	0	72	14	2807
STD	9.0	238.7	14.4	11.5	4.6	6.0	1.5	265.1
	Ca	Sb						
ASSAY	14354	12						
STD	784.3	1.3						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA8_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	91	14053	173	154	0	72	12	2987
STD	9.1	249.3	15.4	13.2	3.4	6.2	1.4	279.9
	Ca	Sb						
ASSAY	14704	14						
STD	911.7	1.1						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/26/94 M

APPLICATION NAME: DEFAULT

EBA9	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	105	19191	829	1706	0	595	17	4921
STD	9.7	287.7	33.7	42.6	12.7	18.1	1.7	352.9
	Ca	Sb						
ASSAY	16229	17						
STD	835.9	1.6						

No more spectra
Press ESC to return to previous menu

Pb= 585 AVE.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA9	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	89	18250	792	1754	0	547	16	3563
STD	8.8	278.9	32.7	42.8	10.7	17.2	1.6	299.4
	Ca	Sb						
ASSAY	17432	17						
STD	862.0	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA9	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	81	19390	899	1882	0	613	20	4239
STD	8.5	290.5	35.3	45.0	13.8	18.4	1.9	329.4
	Ca	Sb						
ASSAY	16062	17						
STD	836.7	1.6						

No more spectra
Press ESC to return to previous menu

9/26/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA10	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	81	22787	1965	3774	0	1532	19	3832
STD	9.4	311.7	52.2	63.7	17.0	29.5	1.9	309.9

	Ca	Sb
ASSAY	23273	13
STD	984.9	1.4

No more spectra
Press ESC to return to previous menu

Pb = 1506.7 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA10	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	79	24052	1860	3879	0	1482	18	3696
STD	9.4	321.8	51.2	65.1	17.1	29.3	1.8	305.9

	Ca	Sb
ASSAY	22790	27
STD	980.4	2.1

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA10	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	109	23040	1916	3811	0	1506	20	4385
STD	9.8	315.0	51.8	64.4	20.9	29.4	1.9	332.8

	Ca	Sb
ASSAY	24581	27
STD	1013.7	2.1

No more spectra

9/26/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA11	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	107	15178	419	242	24	110	16	4173
STD	9.9	259.6	24.0	16.1	4.8	7.7	1.7	330.5
	Ca	Sb						
ASSAY	15831	14						
STD	839.8	1.5						

No more spectra
Press ESC to return to previous menu

Pb = 131 mg.

CALCULATION IN PROGRESS. PLEASE WAIT...

LICATION NAME: DEFAULT

EBA11	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	91	14719	433	259	20	152	13	3726
STD	9.0	252.0	24.1	16.4	4.4	8.9	1.5	308.1
	Ca	Sb						
ASSAY	16406	15						
STD	842.9	1.5						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA11	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	115	14528	356	244	4	131	19	3717
STD	10.2	252.9	22.0	16.0	1.9	8.4	1.8	311.0
	Ca	Sb						
AY	14619	15						
	806.4	1.5						

more spectra
Press ESC to return to previous menu

9/26/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA12	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	100	13591	276	159	32	76	14	3259
STD	9.3	238.9	18.9	12.6	5.4	6.2	1.5	284.7
	Ca	Sb						
ASSAY	16328	19						
STD	830.8	1.7						

No more spectra
Press ESC to return to previous menu

Pb = 88 AVE.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA12	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	104	14545	349	154	1	89	15	2905
STD	9.5	247.9	21.4	12.5	1.0	6.8	1.6	269.8
	Ca	Sb						
ASSAY	15290	18						
STD	808.2	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA12	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	91	14639	290	199	11	99	15	4044
STD	9.0	252.1	19.7	14.4	3.3	7.2	1.6	321.9
	Ca	Sb						
ASSAY	13968	24						

CALCULATION IN PROGRESS PLEASE WAIT... 9/30/94 M

APPLICATION NAME: DEFAULT

EBA12_6	Cr	Fe	Cu	In	As	Pb	Cd	Ti
ASSAY	106	14120	267	228	0	109	8	3319
STD	3.7	247.1	18.9	15.4	5.5	7.6	1.1	291.5
	Ca	Sb						
ASSAY	15810	18						
STD	830.2	1.6						

No more spectra

Press ESC to return to previous menu

Pb = 117.7

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

A12_6	Cr	Fe	Cu	In	As	Pb	Cd	Ti
ASSAY	88	13510	268	210	0	125	14	3858
STD	3.3	240.0	18.7	14.6	2.3	8.0	1.5	311.8
	Ca	Sb						
ASSAY	14783	19						
STD	797.6	1.7						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA12_6	Cr	Fe	Cu	In	As	Pb	Cd	Ti
ASSAY	84	12907	277	183	0	119	11	3875
STD	3.6	233.1	18.9	13.5	5.6	7.8	1.3	310.4
	Ca	Sb						
ASSAY	13214	19						
STD	751.2	1.6						

No more spectra

Press ESC to return to previous menu

10/4/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA12_12	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ESSAY	26	3663	297	123	3	87	21	4114
STD	11.8	215.5	21.8	12.4	2.6	7.4	2.0	360.3
	Ca	Sb						
ESSAY	15437	17						
STD	914.0	1.7						

No more spectra
Press ESC to return to previous menu

Pb - 96

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA12_12	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ESSAY	119	9263	231	135	0	108	17	2941
STD	10.3	201.0	17.4	11.[illegible]	3.2	7.4	1.7	276.0
	Ca	Sb						
ESSAY	12834	13						
STD	750.2	1.4						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA12_12	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ESSAY	138	10135	219	21	16	93	16	4145
STD	1[illegible].0	172.5	7.1	11.3	3.9	7.0	1.6	330.2
	Ca	Sb						
ESSAY	5981	19						
STD	545.0	1.7						

No more spectra
Press ESC to return to previous menu

9/26/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	125	16038	264	142	0	118	19	3622
STD	10.7	266.8	19.1	12.4	4.2	8.0	1.8	308.2
	Ca	Sb						
ASSAY	14339	18						
STD	802.0	1.6						

No more spectra
Press ESC to return to previous menu

Pb = 102 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	118	15751	288	217	40	81	13	4050
STD	10.4	263.8	19.9	15.2	6.3	6.6	1.5	324.9
	Ca	Sb						
ASSAY	16797	17						
STD	861.9	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	132	15295	210	195	12	107	12	3384
STD	10.9	258.3	16.9	14.3	3.4	7.5	1.4	295.5
	Ca	Sb						
ASSAY	14974	14						
STD	812.4	1.4						

more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT.. 9/30/94 M

APPLICATION NAME: DEFAULT

EBA13_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	38	11442	215	147	0	81	15	2907
STD	9.3	221.9	16.7	12.2	3.1	6.4	1.5	272.4
	Ca	Sb						
ASSAY	14359	12						
STD	791.9	1.3						

No more spectra

Press ESC to return to previous menu

Pb= 68

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA13_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	123	10644	293	181	56	63	17	3435
STD	10.5	215.1	9.6	13.6	4.2	5.7	1.6	297.3
	Ca	Sb						
ASSAY	13463	13						
STD	770.9	1.4						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA13_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	78	10983	215	120	8	60	13	2789
STD	8.5	220.9	17.0	11.2	2.8	5.6	1.5	271.3
	Ca	Sb						
ASSAY	14005	8						
STD	735.7	1.1						

No more spectra

Press ESC to return to previous menu

9/26/94
M

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA14	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	102	15020	430	266	33	119	21	3908
STD	9.7	259.0	24.4	16.9	5.7	8.1	1.9	321.0
	Ca	Sb						
ASSAY	17764	16						
STD	889.9	1.5						

No more spectra
Press ESC to return to previous menu

Pb = 133.3 AVG.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA14	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	155	15339	374	214	31	123	16	4032
STD	12.0	262.2	22.8	15.2	5.5	8.2	1.7	326.4
	Ca	Sb						
ASSAY	15430	19						
STD	833.9	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA14	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	122	15443	349	232	0	158	13	3733
STD	10.7	263.3	22.1	15.8	8.6	9.3	1.5	314.7
	Ca	Sb						
ASSAY	16697	18						
STD	867.1	1.7						

JL
9/30/94

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA14_8	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	120	14527	286	236	0	111	19	3576
STD	10.4	251.6	19.6	15.7	4.1	7.7	1.8	303.6
	Ca	Sb						
ASSAY	13642	14						
STD	776.5	1.4						

No more spectra
Press ESC to return to previous menu

Pb = 112.7

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA14_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	89	14935	398	231	55	108	13	3469
STD	9.1	257.3	23.5	15.7	7.3	7.7	1.5	302.2
	Ca	Sb						
ASSAY	12734	12						
STD	759.6	1.3						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA14_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	97	13981	363	203	36	119	13	3083
STD	9.2	243.4	21.8	14.3	5.8	7.8	1.5	278.3
	Ca	Sb						
ASSAY	13263	22						
STD	756.0	1.8						

No more spectra
Press ESC to return to previous menu

10/4/94

M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA14_10	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
-SSA/	123	9327	254	133	44	84	14	4138
-TD	10.8	207.4	18.7	11.0	5.5	6.7	1.6	335.7
	Ca	Sb						
-SSA/	15897	24						
-TD	358.2	1.9						

No more spectra

Press ESC to return to previous menu

Pb- 8813

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

14_12	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
	101	9682	222	154	41	86	18	3886
-TD	9.8	206.5	17.2	12.6	6.3	6.7	1.7	319.7
	Ca	Sb						
-SSA/	14882	10						
-TD	317.5	1.4						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA14_10	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
-SSA/	137	9218	287	106	0	95	16	4030
-TD	11.1	199.7	18.6	0.3	0.5	6.9	1.6	320.8
	Ca	Sb						
-SSA/	13059	16						
-TD	36.9	1.1						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/26/94

APPLICATION NAME: DEFAULT

EBA15	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	105	16536	313	175	0	101	8	3624
STD	9.7	268.2	20.6	13.6	3.7	7.3	1.2	305.3
	Ca	Sb						
ASSAY	14410	22						
STD	796.2	1.8						

No more spectra
Press ESC to return to previous menu

Pb = 91.5 WE.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA15	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	111	15386	387	207	0	101	13	3476
STD	9.9	255.5	22.6	14.5	3.9	7.2	1.4	295.4
	Ca	Sb						
ASSAY	15035	17						
STD	802.7	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA15	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	99	16149	333	203	60	77	16	3664
STD	9.5	266.3	21.4	14.7	7.6	6.4	1.8	308.3
	Ca	Sb						
ASSAY	15640	18						
STD	831.5	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA15	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	120	16381	221	176	63	87	17	3189
STD	10.3	265.9	17.3	13.6	7.8	6.8	1.7	285.5

	Ca	Sb
ASSAY	17533	17
STD	870.9	1.6

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/30/94

APPLICATION NAME: DEFAULT

EBA15_3	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	88	14578	257	204	36	84	20	3331
STD	9.0	254.1	19.8	14.7	5.9	6.7	1.8	295.5
	Ca	Sb						
ASSAY	10450	17						
STD	777.8	1.6						

No more spectra

Press ESC to return to previous menu

Pb = 96.7

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

A15_3	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	107	14095	291	164	0	137	12	3667
STD	9.8	245.8	19.6	13.0	4.0	8.4	1.4	304.8
	Ca	Sb						
ASSAY	16277	21						
STD	837.2	1.7						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA15_3	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	95	14608	332	175	95	69	12	3871
STD	9.3	252.1	21.1	13.5	9.5	6.0	1.4	315.4
	Ca	Sb						
ASSAY	11539	17						
STD	715.8	1.6						

No more spectra

Press ESC to return to previous menu

9/26/94
M

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA16	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	100	13754	263	207	34	97	20	3170
STD	9.2	236.0	18.1	14.2	5.5	6.9	1.7	275.8
	Ca	Sb						
ASSAY	14028	22						
STD	759.3	1.7						

No more spectra
Press ESC to return to previous menu

Pb DUP = 101.3

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA16	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	93	13293	298	200	38	103	18	3499
STD	9.1	238.5	19.8	14.3	6.0	7.3	1.7	297.7
	Ca	Sb						
ASSAY	13956	22						
STD	778.2	1.8						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA16	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	61	13750	304	153	14	104	15	3759
STD	7.3	242.0	20.0	12.5	3.6	7.3	1.6	307.6
	Ca	Sb						
ASSAY	14975	13						
STD	802.2	1.4						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/20/94 M

APPLICATION NAME: DEFAULT

EBA16DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	94	13328	242	152	12	94	15	3247
STD	9.3	241.9	18.1	12.6	3.4	7.0	1.6	290.6
	Ca	Sb						
ASSAY	14390	22						
STD	800.3	1.8						

No more spectra
Press ESC to return to previous menu

Pb = 97.7 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA16DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	85	13807	310	163	0	103	18	3481
	8.8	245.0	20.4	13.0	3.9	7.4	1.7	299.2
	Ca	Sb						
ASSAY	13935	18						
STD	783.6	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA16DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	103	13536	289	211	14	96	13	4233
STD	9.6	243.4	19.7	14.8	3.7	7.1	1.4	330.5
	Ca	Sb						
ASSAY	13667	18						
STD	777.7	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/30/94 M

APPLICATION NAME: DEFAULT

EBA16_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	103	16024	327	131	37	80	19	4098
STD	9.5	261.8	20.9	12.9	5.0	8.5	1.7	321.5
	Ca	Sb						
ASSAY	13437	17						
STD	762.7	1.6						

No more spectra
Press ESC to return to previous menu

Pb=87

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA16_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	107	17884	291	139	35	69	19	3474
STD	9.9	280.0	19.7	14.2	5.9	8.1	1.8	300.0
	Ca	Sb						
ASSAY	12965	22						
STD	780.7	1.3						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA16_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	98	17911	322	165	12	112	15	3198
STD	9.9	293.2	22.1	13.9	3.6	8.1	1.7	301.4
	Ca	Sb						
ASSAY	12952	14						
STD	795.6	1.5						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/26/94 M

APPLICATION NAME: DEFAULT

EBA17	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	108	17503	754	986	0	474	22	3748
STD	10.1	281.5	32.8	33.0	9.9	16.4	2.0	316.4

	Ca	Sb
ASSAY	16146	25
STD	856.5	2.0

No more spectra
Press ESC to return to previous menu

Pb = 444.3 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA17	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	117	17337	723	920	0	431	30	3782
STD	10.4	279.2	32.0	31.8	8.6	15.5	2.3	316.8

	Ca	Sb
ASSAY	14201	19
STD	803.2	1.7

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA17	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	102	17178	772	933	0	428	24	4271
STD	9.8	279.2	33.2	32.1	9.1	15.5	2.0	337.8

	Ca	Sb
ASSAY	19452	28
STD	935.1	2.1

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/20/94

APPLICATION NAME: DEFAULT

EBA18	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	112	18056	997	1340	0	621	16	4409
STD	9.9	274.8	36.3	37.1	11.6	18.1	1.6	329.4
	Ca	Sb						
ASSAY	17609	20						
STD	856.5	1.7						

No more spectra

Press ESC to return to previous menu

Pb= 599 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA18	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	109	18410	925	1362	0	587	16	3901
STD	9.8	280.5	35.4	37.8	0.3	17.8	1.7	313.5
	Ca	Sb						
ASSAY	17382	22						
STD	861.3	1.8						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA18	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	83	18196	918	1290	0	589	17	3570
STD	8.6	279.7	35.4	36.9	7.9	17.9	1.7	301.0
	Ca	Sb						
ASSAY	14488	29						
STD	793.1	2.1						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/20/94

APPLICATION NAME: DEFAULT

EBA19	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	99	16066	460	452	14	187	19	3088
STD	9.6	268.5	25.4	22.2	3.7	10.1	1.8	286.5
	Ca	Sb						
ASSAY	13762	21						
STD	792.1	1.8						

No more spectra
Press ESC to return to previous menu

Pb= 175.3 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA19	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	106	15923	438	416	48	163	10	3380
	10.0	268.0	24.8	21.3	6.9	9.5	1.3	300.3
	Ca	Sb						
ASSAY	15787	22						
STD	847.0	1.8						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA19	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	88	15584	458	388	13	176	16	4266
STD	9.0	263.1	25.2	20.4	3.6	9.8	1.7	334.1
	Ca	Sb						
ASSAY	16055	17						
STD	845.5	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/27/94 m

APPLICATION NAME: DEFAULT

EBA20	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	108	13575	294	235	5	122	18	3485
STD	9.7	238.1	19.4	15.3	2.2	7.8	1.7	293.4
	Ca	Sb						
ASSAY	17888	21						
STD	864.2	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA20	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	100	13917	338	307	37	145	12	4792
STD	9.5	247.1	21.4	17.9	6.0	8.8	1.4	351.6
	Ca	Sb						
ASSAY	19622	20						
STD	922.5	1.7						

No more spectra
Press ESC to return to previous menu

Pb = 141.7 avg.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA20	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	123	14503	347	223	0	158	12	4392
STD	10.5	250.0	21.5	15.2	2.9	9.1	1.4	333.8
	Ca	Sb						
ASSAY	18322	19						
STD	886.0	1.7						

No more spectra
Press ESC to return to previous menu

10/3/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA2C_1	Cr	Fe	Cu	In	As	Pb	Cd	Tl
GSAV	132	9169	266	139	32	66	14	4288
TC	10.9	199.3	8.8	11.3	5.4	5.8	1.5	331.4
	Ca	Sb						
GSAV	8006	20						
TC	989.4	1.7						

No more spectra
Press ESC to return to previous menu

Pb = 83.7

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA2C_6	Cr	Fe	Cu	In	As	Pb	Cd	Tl
GSAV	107	9225	253	149	35	99	12	3877
TC	11.1	200.3	18.2	21.2	5.7	7.1	1.4	315.9
	Ca	Sb						
GSAV	20184	20						
TC	933.4	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA2C_8	Cr	Fe	Cu	In	As	Pb	Cd	Tl
GSAV	97	8423	203	173	44	86	13	2833
TC	9.4	192.2	16.3	13.4	5.4	6.6	1.4	271.5
	Ca	Sb						
GSAV	[illegible]	21						
TC	983.[illegible]	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

~~9/26/94~~
9/27/94 M

APPLICATION NAME: DEFAULT

EBA21	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	87	12922	296	265	0	118	15	3234
STD	8.9	238.2	20.0	16.6	0.5	7.9	1.6	290.1
	Ca	Sb						
ASSAY	14255	15						
STD	796.6	1.5						

No more spectra
Press ESC to return to previous menu

Pb = 106.7 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA21	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	95	12849	306	263	59	104	9	3593
STD	9.2	235.9	20.1	16.4	7.4	7.3	1.2	303.3
	Ca	Sb						
ASSAY	17687	12						
STD	875.4	1.3						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA21	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	105	12962	300	259	47	98	16	4234
STD	9.7	237.4	20.0	16.4	6.7	7.1	1.6	329.5
	Ca	Sb						
ASSAY	16233	16						
STD	941.2	1.5						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

10/3/94
m

APPLICATION NAME: DEFAULT

EBA21_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	85	9815	187	[illegible]	3	31	13	2983
STD	9.3	207.7	19.5	13.2	3.0	6.9	1.4	278.9

	Ca	Sb
ASSAY	15911	18
STD	337.3	1.6

No more spectra
Press ESC to return to previous menu

Pb = 99.7

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA21_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	106	9525	244	142	57	93	14	3795
STD	9.8	204.2	17.9	12.0	7.3	6.9	1.5	313.5

	Ca	Sb
ASSAY	17360	20
STD	372.3	1.7

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA21_6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	78	9909	182	123	0	115	19	3398
STD	8.9	220.3	20.4	[illegible]	4.3	8.1	1.8	314.7

	Ca	Sb
ASSAY	17309	16
STD	324.1	[illegible]

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

10/4/94
M

APPLICATION NAME: DEFAULT

EBA21_12	Cr	Fe	Cu	In	As	Pb	Cd	Tl
ASSAY	108	10505	234	145	40	93	19	3719
STD	10.1	227.1	20.5	12.3	6.5	7.3	1.3	328.6

	Ca	Sb
ASSAY	13269	23
STD	813.2	1.9

No more spectra

Press ESC to return to previous menu

Pb= 90.3

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA21_12	Cr	Fe	Cu	In	As	Pb	Cd	Tl
ASSAY	35	10826	234	189	57	91	11	3534
STD	8.0	228.3	18.4	13.3	7.6	7.2	1.4	317.3

	Ca	Sb
ASSAY	14728	16
STD	846.8	1.6

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA21_12	Cr	Fe	Cu	In	As	Pb	Cd	Tl
ASSAY	33	9802	228	[illegible]	11	87	16	3154
STD	9.3	217.4	19.2	[illegible]	3.4	7.0	1.7	300.3

	Ca	Sb
ASSAY	14877	15
STD	852.0	1.0

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

9/27/94
M

APPLICATION NAME: DEFAULT

EBA22	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	108	14044	330	310	0	280	10	3428
STD	9.9	249.4	21.2	18.1	3.9	12.2	1.3	299.7

	Ca	Sb
ASSAY	16345	20
STD	853.1	1.7

No more spectra
Press ESC to return to previous menu

Pb= 251.7
AVG

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA22	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	113	14152	303	275	38	229	12	3444
STD	10.1	249.6	20.3	17.0	6.1	11.0	1.4	299.5

	Ca	Sb
ASSAY	16046	17
STD	850.5	1.6

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA22	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	81	14065	367	270	0	246	16	3969
STD	8.5	248.4	22.3	16.8	7.3	11.4	1.6	320.5

	Ca	Sb
ASSAY	17418	18
STD	873.8	1.6

No more spectra
Press ESC to return to previous menu

1d 3/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BA22_3	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	92	10353	325	163	55	90	15	3906
STD	9.0	217.8	41.1	13.1	7.3	7.0	1.6	324.8
	Ca	Sb						
ASSAY	15865	17						
STD	854.0	1.6						

No more spectra

Press ESC to return to previous menu

Pb = 95

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BA22_3	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	111	10873	261	110	0	114	16	3553
STD	10.0	218.0	18.2	10.6	1.5	7.7	1.6	303.2
	Ca	Sb						
ASSAY	14763	22						
STD	807.7	1.8						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BA22_3	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	102	10634	317	123	57	81	8	3882
STD	9.6	219.2	20.5	11.5	7.3	6.5	1.2	317.5
	Ca	Sb						
ASSAY	17757	19						
STD	883.0	1.7						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/26/94

APPLICATION NAME: DEFAULT

EBA23	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	92	15783	329	240	10	119	23	2574
STD	9.0	259.1	20.9	15.7	3.1	7.9	2.0	255.0

	Ca	Sb
ASSAY	15778	18
STD	323.9	1.6

No more spectra
Press ESC to return to previous menu

Pb = 106.6 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA23	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	76	15762	377	268	27	102	15	3042
STD	8.2	259.0	22.4	16.6	5.1	7.3	1.6	276.9

	Ca	Sb
ASSAY	16221	16
STD	833.9	1.5

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA23	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	95	16032	250	191	48	99	10	3756
STD	9.4	266.6	18.6	14.3	6.9	7.3	1.3	313.6

	Ca	Sb
ASSAY	13765	23
STD	786.1	1.9

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 4/30/94 MC

APPLICATION NAME: DEFAULT

EBA23	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	114	13367	156	153	0	95	14	4461
STD	10.1	245.3	18.5	12.6	1.3	7.1	1.5	338.1
	Ca	Sb						
ASSAY	19508	16						
STD	916.3	1.5						

No more spectra
Press ESC to return to previous menu

Pb = 95 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA23	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	149	13275	169	145	19	98	21	4333
STD	11.4	237.6	18.7	12.1	4.2	7.1	1.8	329.4
	Ca	Sb						
ASSAY	20218	17						
STD	921.7	1.5						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA23	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	111	12358	166	121	0	92	13	4103
STD	9.8	228.0	14.6	11.0	1.7	6.8	1.4	319.0
	Ca	Sb						
ASSAY	21797	16						
STD	949.3	1.5						

No more spectra
Press ESC to return to previous menu

10/3/94

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA20_6	Cr	Fe	Cu	In	As	Pb	Cd	Ti
ASSAY	80	10613	240	165	67	63	19	3042
STD	9.1	217.9	18.0	10.7	7.4	5.8	1.8	284.1

	Ca	Sb
ASSAY	16244	22
STD	855.8	1.8

No more spectra

Press ESC to return to previous menu

Pb = 67.7

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

A23_6	Cr	Fe	Cu	In	As	Pb	Cd	Ti
ASSAY	87	10320	252	152	39	66	16	3818
STD	8.9	212.5	18.2	12.5	6.1	5.8	1.6	314.0

	Ca	Sb
ASSAY	16899	25
STD	861.1	1.9

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA20_6	Cr	Fe	Cu	In	As	Pb	Cd	Ti
ASSAY	95	10806	256	125	54	74	16	2837
STD	9.3	218.6	18.5	11.4	7.2	6.2	1.6	272.9

	Ca	Sb
ASSAY	17158	24
STD	873.5	1.3

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/~~26~~/94 27 M

APPLICATION NAME: DEFAULT

EBA24	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	39	15285	530	400	0	191	18	3250
STD	9.0	259.1	26.9	20.6	1.0	10.1	1.8	290.7
	Ca	Sb						
ASSAY	15191	18						
STD	820.9	1.7						

No more spectra

Press ESC to return to previous menu

Pb= 182 MG

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA24	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	88	15377	410	375	0	189	16	3791
	9.0	261.7	23.8	20.1	2.5	10.2	1.6	315.7
	Ca	Sb						
ASSAY	15605	27						
STD	836.0	2.0						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA24	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	79	15728	512	464	32	166	15	3130
STD	8.4	259.5	26.1	21.9	5.5	9.3	1.6	281.7
	Ca	Sb						
ASSAY	16319	16						
STD	838.8	1.5						

No more spectra

Press ESC to return to previous menu

9/27/94

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA24DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	95	17151	373	466	0	207	17	3120
STD	10.9	322.6	26.7	26.2	2.5	12.5	2.0	334.8

	Ca	Sb
ASSAY	16433	15
STD	1001.6	1.8

No more spectra

Press ESC to return to previous menu

Pb= 199 MG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA24DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	80	17027	411	442	7	203	18	3730
STD	10.1	322.8	28.1	25.7	3.1	12.4	2.1	367.1

	Ca	Sb
ASSAY	16417	15
STD	1004.2	1.8

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

[illegible]24DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
[illegible]Y	121	16179	438	404	5	187	16	3624
STD	12.1	307.1	28.3	23.9	2.5	11.6	1.9	353.3

	Ca	Sb
ASSAY	14607	19
STD	327.4	2.0

No more spectra

Press ESC to return to previous menu

10/3/94
M

CALCULATION IN PROGRESS. PLEASE WAIT ..

APPLICATION NAME: DEFAULT

EBA24_3	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	90	10725	222	76	12	64	10	3368
STD	9.0	215.2	17.0	8.3	3.3	5.7	1.3	293.6
	Ca	Sb						
ASSAY	16011	15						
STD	834.7	1.4						

No more spectra
Press ESC to return to previous menu

Pb = 93.7

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA24_3	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	134	11451	288	148	18	90	17	4377
STD	11.1	226.3	19.8	12.5	4.2	6.9	1.7	339.7
	Ca	Sb						
ASSAY	13425	10						
STD	778.3	1.4						

No more spectraCALCULATION IN PROGRESS. PLEASE WAIT...
Press ESC to return to previous menu

APPLICATION NAME: DEFAULT

EBA24_3	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	90	10725	222	76	12	64	10	3368
STD	9.0	215.2	17.0	8.3	3.3	5.7	1.3	293.6
	Ca	Sb						
ASSAY	16011	15						
STD	834.7	1.4						

No more spectra
Press ESC to return to previous menu

M
10/3/94

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA24_3	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	117	10581	220	100	0	127	15	3572
STD	10.6	221.3	17.5	10.4	3.9	8.3	1.6	312.7
	Ca	Sb						
ASSAY	13721	20						
STD	802.4	1.7						

No more spectra
Press ESC to return to previous menu

9/27/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA25	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	98	13754	363	224	14	115	14	3499
STD	9.8	253.9	22.9	15.8	3.8	8.1	1.6	311.5

	Ca	Sb
ASSAY	13817	15
STD	810.4	1.6

No more spectra
Press ESC to return to previous menu

Pb = 110 ug.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA25	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	114	13757	356	211	46	115	18	3010
STD	10.5	254.6	22.7	15.4	6.9	8.1	1.8	289.9

	Ca	Sb
ASSAY	16065	16
STD	873.6	1.6

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA25	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	118	13590	374	162	16	100	12	3157
STD	10.6	249.9	23.0	13.3	4.0	7.4	1.5	293.2

	Ca	Sb
ASSAY	13477	6
STD	793.5	1.0

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

9/27/94
MC

APPLICATION NAME: DEFAULT

EBA26	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	90	17614	1073	1368	0	627	15	3603
STD	8.8	271.6	37.6	37.4	12.9	18.2	1.6	298.4
	Ca	Sb						
ASSAY	17595	24						
STD	858.1	1.9						

No more spectra
Press ESC to return to previous menu

Pb = 617.7 µg.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA26	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	98	18348	1024	1346	0	655	21	5153
STD	9.3	278.7	37.0	37.4	14.2	18.7	1.9	357.6
	Ca	Sb						
ASSAY	19578	20						
STD	904.1	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA26	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	114	17485	1033	1298	0	571	14	3607
STD	9.9	270.1	36.9	36.4	6.1	17.3	1.5	298.0
	Ca	Sb						
ASSAY	17087	17						
STD	844.7	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/27/94

APPLICATION NAME: DEFAULT

EBA27	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	108	14708	275	183	0	117	15	3722
STD	9.7	248.2	18.9	13.6	2.9	7.7	1.6	303.5

	Ca	Sb
ASSAY	16214	15
STD	826.0	1.6

No more spectra
Press ESC to return to previous menu

Pb= 113.7 µg.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA27	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	90	14250	288	190	0	117	15	3521
STD	8.4	245.6	19.4	13.9	3.3	7.7	1.6	297.0

	Ca	Sb
ASSAY	16063	19
STD	827.3	1.6

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA27	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	92	14352	251	170	17	107	15	3935
STD	8.9	245.7	18.1	13.1	3.9	7.4	1.5	312.6

	Ca	Sb
ASSAY	13577	21
STD	760.6	1.7

No more spectra
Press ESC to return to previous menu

10/4/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

[illegible]	[illegible]	Fe	[illegible]	[illegible]	As	Pb	Cd	[illegible]
[illegible]	115	7737	230	126	22	77	15	4981
[illegible]	[illegible]	183.[illegible]	[illegible]	[illegible]	4.5	6.3	1.5	357.5
	Ca	Sb						
[illegible]	9163	19						
[illegible]	309.5	1.5						

[illegible] more spectra

Press ESC to return to previous menu

Pb = 84.3

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

[illegible]	Cr	Fe	Cu	In	As	Pb	Cd	[illegible]
[illegible]	107	7715	167	56	1	106	14	4785
[illegible]	[illegible]	180.5	12.8	4.6	1.1	7.2	1.5	345.5
	Ca	Sb						
[illegible]	9582	10						
[illegible]	305.3	1.5						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

SSA27_5	Cr	Fe	Cu	In	As	Pb	Cd	Tl
[illegible]	115	8746	164	177	49	70	19	5150
[illegible]	[illegible]	199.[illegible]	[illegible]	[illegible]	[illegible]	6.1	1.8	371.2
	Ca	Sb						
[illegible]	9962	19						
[illegible]	368.4	[illegible]						

[illegible] more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/27/94 m

APPLICATION NAME: DEFAULT

EBA28	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	94	15851	273	209	8	88	23	3405
STD	9.2	263.9	19.3	14.9	2.8	6.9	2.0	297.5
	Ca	Sb						
ASSAY	14575	23						
STD	804.8	1.9						

No more spectra
Press ESC to return to previous menu

Pb= 92.7

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA28	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	92	15666	282	186	0	104	20	3591
STD	9.1	261.6	19.8	14.0	4.9	7.4	1.8	304.4
	Ca	Sb						
ASSAY	15724	16						
STD	831.5	1.5						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA28	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	104	15971	209	172	22	86	14	2943
STD	9.8	265.7	17.0	13.6	4.6	6.8	1.5	277.7
	Ca	Sb						
ASSAY	14495	15						
STD	805.8	1.5						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

M 10/4/04

APPLICATION NAME: DEFAULT

EBA28_3	[illegible]	Fe	[illegible]	[illegible]	As	Pb	Cd	[illegible]
3SA	[illegible]	9449	[illegible]	[illegible]	13	90	15	5376
[illegible]	[illegible]	208.3	[illegible]	[illegible]	3.6	7.0	1.6	380.7
	Ba	Sb						
3SA	19649	15						
TD	343.6	1.5						

No more spectra

Press ESC to return to previous menu

Pb = 87

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA28_3	Cr	Fe	Cu	Zn	As	Pb	Cd	[illegible]
[illegible]	133	9468	274	173	30	88	17	5181
TD	11.1	205.2	19.1	13.6	5.3	6.8	1.6	367.9
	Ba	Sb						
3SA	21142	9						
TD	463.1	1.7						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA28_3	Cr	Fe	Cu	Zn	As	Pb	Cd	[illegible]
3SA	115	9101	178	33	13	83	21	5346
TD	[illegible]	198.2	15.1	3.3	3.5	6.5	1.8	368.1
	Ba	Sb						
3SA	20374	10						
TD	430.2	[illegible]						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 7/27/94 M

APPLICATION NAME: DEFAULT

EBA29	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	98	14421	312	112	36	70	16	4575
STD	9.3	246.7	20.2	10.6	5.8	6.0	1.6	337.2

	Ca	Sb
ASSAY	15399	16
STD	807.9	1.5

No more spectra

Press ESC to return to previous menu

Pb= 66 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA29	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	102	13727	332	171	57	69	15	3132
STD	9.4	240.0	20.7	13.1	7.2	5.9	1.5	279.1

	Ca	Sb
ASSAY	14853	22
STD	794.3	1.8

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA29	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	145	15053	306	197	45	59	10	3750
STD	11.4	255.9	20.3	14.4	6.6	5.6	1.3	310.4

	Ca	Sb
ASSAY	13339	23
STD	767.2	1.9

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/27/94 m

APPLICATION NAME: DEFAULT

EBA30	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	73	20568	2439	3670	0	1815	33	4799
STD	8.0	298.2	58.2	62.9	15.4	32.2	2.4	348.6
	Ca	Sb						
ASSAY	19561	78						
STD	912.8	3.5						

No more spectra
Press ESC to return to previous menu

Pb = 1926.7 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA30	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	86	21994	2568	3902	0	1988	27	4289
STD	8.6	304.8	59.3	64.4	17.7	33.5	2.2	326.0
	Ca	Sb						
ASSAY	19400	77						
STD	899.7	3.5						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA30	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	64	22874	2614	3884	0	1977	21	4105
STD	7.4	307.1	59.3	63.6	15.7	33.1	1.9	315.2
	Ca	Sb						
ASSAY	17075	64						
STD	837.5	3.2						

No more spectra
Press ESC to return to previous menu

9/27/94

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA31	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	126	15386	426	302	0	131	19	3870
STD	10.6	258.1	23.9	17.8	3.0	8.3	1.8	314.4

	Ca	Sb
ASSAY	16027	22
STD	834.7	1.8

No more spectra

Press ESC to return to previous menu

Pb = 110.7 AVG

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA31	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	86	14964	309	303	57	95	18	3739
STD	8.6	248.4	19.9	17.6	7.2	6.9	1.7	301.8

	Ca	Sb
ASSAY	14320	22
STD	772.6	1.8

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA31	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	91	14789	333	270	48	106	19	3534
STD	8.8	247.4	20.7	16.4	6.6	7.3	1.7	294.1

	Ca	Sb
ASSAY	12501	18
STD	725.9	1.6

No more spectra

Press ESC to return to previous menu

10/4/94
[illegible]

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA31_B	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	127	8472	205	146	1	87	19	4623
STD	[illegible]	[illegible]	[illegible]	[illegible]	0.0	[illegible]	1.8	350.3

	Ca	Sb
ASSAY	19030	20
STD	408.2	[illegible]

No more spectra
Press ESC to return to previous menu

Pb = 90.7

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA31_B	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	126	8398	209	110	3	97	17	5235
STD	10.9	195.0	16.6	10.7	1.7	7.1	1.7	373.2

	Ca	Sb
ASSAY	13673	13
STD	937.8	1.4

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA31_B	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	89	8519	209	92	13	88	14	4169
STD	[illegible]	191.0	[illegible]	[illegible]	0.5	6.6	1.5	324.[illegible]

	Ca	Sb
ASSAY	13639	16
STD	298.3	[illegible]

No more spectra
Press ESC to return to previous menu

9/27/94
μ

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA32	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	128	21548	3164	4698	0	2061	23	4321
STD	10.7	307.0	66.9	71.3	23.6	34.8	2.1	332.8
	Ca	Sb						
ASSAY	20483	50						
STD	938.7	2.9						

No more spectra
Press ESC to return to previous menu

Pb = 1994.3 μg.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA32	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	92	21100	3113	4480	0	1913	27	4469
STD	8.5	300.5	65.5	69.3	20.1	33.2	2.2	334.8
	Ca	Sb						
ASSAY	20405	59						
STD	926.9	3.1						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA32	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	101	21349	3111	4529	0	2009	20	4553
STD	9.5	304.3	66.0	70.1	24.1	34.2	1.9	340.1
	Ca	Sb						
ASSAY	21033	57						
STD	945.9	3.1						

No more spectra
Press ESC to return to previous menu

9/27/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA33	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	104	14476	309	185	39	84	21	4017
STD	9.5	246.9	20.1	13.7	6.0	6.5	1.8	315.9
	Ca	Sb						
ASSAY	16624	18						
STD	837.4	1.6						

No more spectra
Press ESC to return to previous menu

Pb= 83.7

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA33	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	111	14597	298	224	29	89	10	3553
STD	9.8	247.8	19.7	15.0	5.1	6.7	1.3	297.3
	Ca	Sb						
ASSAY	13978	18						
STD	771.8	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA33	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	95	14624	293	178	4	78	19	3374
STD	9.2	249.9	19.7	13.5	2.0	6.4	1.8	292.0
	Ca	Sb						
ASSAY	15977	21						
STD	829.0	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

9/27/94
K

APPLICATION NAME: DEFAULT

EBA34	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	90	29229	1655	2674	0	913	21	3846
STD	8.9	353.7	48.9	54.8	13.8	23.1	2.0	311.1
	Ca	Sb						
ASSAY	12390	34						
STD	733.4	2.3						

No more spectra
Press ESC to return to previous menu

Pb= 901.7 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA34	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	77	27817	1638	2641	0	918	16	3206
STD	8.2	342.5	48.1	53.8	16.3	22.9	1.7	282.3
	Ca	Sb						
ASSAY	15056	32						
STD	800.0	2.3						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA34	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	90	28707	1746	2750	0	874	22	3778
STD	8.9	352.4	50.5	55.8	15.8	22.7	2.0	310.1
	Ca	Sb						
ASSAY	14392	29						
STD	792.2	2.2						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

9/28/94
[illegible]

APPLICATION NAME: DEFAULT

EBA35	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	108	16801	378	378	33	132	18	5402
STD	10.0	272.8	22.9	20.1	5.7	8.5	1.8	374.5
	Ca	Sb						
ASSAY	21020	19						
STD	955.3	1.7						

Pb = 158.7 avg.

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA35	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	120	17445	384	396	0	166	14	4859
	10.4	276.2	23.0	20.5	0.5	9.5	1.6	353.3
	Ca	Sb						
ASSAY	22003	18						
STD	971.1	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA35	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	107	17004	348	347	7	178	16	4993
STD	10.0	278.2	22.3	19.6	2.6	10.0	1.7	365.3
	Ca	Sb						
ASSAY	20446	16						
STD	957.4	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/28/94 m

APPLICATION NAME: DEFAULT

EBAGS	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	124	15213	321	156	19	94	24	4788
STD	10.4	253.5	20.5	12.3	4.2	7.0	2.0	344.9
	Ca	Sb						
ASSAY	20942	16						
STD	333.1	1.5						

No more spectra
Press ESC to return to previous menu

Pb = 98.3 avg.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBAGS	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
AV	127	15622	214	157	0	111	14	5383
	10.7	260.0	17.0	12.8	6.9	7.6	1.5	369.5
	Ca	Sb						
ASSAY	23380	21						
STD	392.0	1.8						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBAGS	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	140	14835	209	182	26	90	23	4077
STD	11.0	248.9	16.4	13.5	4.9	6.8	1.9	316.8
	Ca	Sb						
ASSAY	21432	25						
STD	939.0	1.9						

No more spectra
Press ESC to return to previous menu

EDXRF Data - Burn Cage Area
September/October 1994

INTERNATIONAL TECHNOLOGY CORPORATION

DAILY LOG			
DATE	10	4	94
NO.			
SHEET	1	OF	

FIELD ACTIVITY DAILY LOG

PROJECT NAME: LANL- TA-40 SDS Closure | PROJECT NO. 301625

FIELD ACTIVITY SUBJECT: In-situ soil screenings @ Burn Cage area

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Sample ID	Screen 1	Screen 2	Screen 3	AVG
BCA 2-12	172	151	146	156
BCA 3-12	124	144	69	112
BCA 4-6	183	208	118	170
BCA 10-12	153	85	170	136
BCA 11-12	172	127	177	159
BCA 12-6	133	143	134	137
BCA 13-6	207	155	160	174
BCA 14-6	178	144	139	154
BCA 15-6	116	117	96	110
BCA 23	128	109	99	112

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.

WEATHER CONDITIONS:

IMPORTANT TELEPHONE CALLS:

IT PERSONNEL ON SITE:

SIGNATURE: [illegible] DATE: 10/4/94

INTERNATIONAL TECHNOLOGY CORPORATION

DAILY LOG			
DATE	10	5	94
NO.			
SHEET	1	OF	1

FIELD ACTIVITY DAILY LOG

PROJECT NAME LANL TA-40 Scrap Detonation Site Closure

PROJECT NO. 301625

FIELD ACTIVITY SUBJECT: In-Situ XRF Soil Screening of Burn Cage Area

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

Sample ID	Screen 1	Screen 2	Screen 3	Avg.
BCA 6-6	118	139	126	128
BCA 7-6	181	103	177	154
BCA 8-18	152	253	178	194
BCA 16-18	165	194	150	170
BCA 19-6	244	201	188	211
BCA 20-6	228	165	137	177
BCA 21-6	139	185	177	167
BCA 24-6	144	168	154	155
BCA 25	143	229	95	156

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.

WEATHER CONDITIONS:
Partly Cloudy, Breezy

IMPORTANT TELEPHONE CALLS:

IT PERSONNEL ON SITE:

SIGNATURE [signature]

DATE: 10/5/94

CALCULATION IN PROGRESS, PLEASE WAIT...

9/27/94
M

APPLICATION NAME: DEFAULT

BCA1	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	130	12640	224	163	22	87	12	3548
STD	10.8	232.8	17.2	12.9	4.5	6.7	1.4	300.0

	Ca	Sb
ASSAY	14491	14
STD	792.9	1.4

Pb= 86 MG.

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA1	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
AY	96	12133	251	171	0	77	14	3269
STD	9.1	225.6	17.9	13.0	2.6	6.2	1.5	285.0

	Ca	Sb
ASSAY	15109	11
STD	800.4	1.3

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA1	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	108	12767	186	145	0	94	12	3603
STD	9.8	234.2	15.7	12.2	2.9	6.9	1.4	302.6

	Ca	Sb
ASSAY	13625	18
STD	770.6	1.6

No more spectra
Press ESC to return to previous menu

9/27/94

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA2	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	104	14153	370	387	40	92	11	3415
STD	9.5	243.9	21.9	19.7	6.1	6.8	1.3	291.4

	Ca	Sb
ASSAY	14438	23
STD	783.6	1.8

No more spectra

Press ESC to return to previous menu

Pb= 106.3 mg.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA2	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	142	13496	334	349	12	107	13	3695
STD	11.1	237.9	20.8	18.7	3.3	7.4	1.4	302.6

	Ca	Sb
ASSAY	14507	20
STD	784.1	1.7

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA2	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	143	13322	298	314	0	120	13	3777
STD	11.1	236.5	19.6	17.7	4.6	7.8	1.4	306.2

	Ca	Sb
ASSAY	13364	16
STD	754.5	1.5

No more spectra

Press ESC to return to previous menu

9/27/94
M

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA3	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	129	16619	554	1314	0	173	30	3251
STD	10.6	265.7	27.2	36.8	4.7	9.6	2.2	285.9

	Ca	Sb
ASSAY	15008	36
STD	802.6	2.3

No more spectra
Press ESC to return to previous menu

Pb= 172 ug.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA3	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	97	17117	592	1337	4	182	18	3266
STD	9.3	272.8	28.4	37.6	1.9	9.9	1.8	289.8

	Ca	Sb
ASSAY	14565	28
STD	800.4	2.0

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA3	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	79	17424	665	1329	25	161	14	3329
STD	8.4	274.1	30.1	37.4	4.9	9.3	1.5	291.3

	Ca	Sb
ASSAY	14472	41
STD	794.5	2.5

No more spectra
Press ESC to return to previous menu

9/27/94
M

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA4	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	107	14778	302	388	14	93	13	3292
STD	9.6	247.9	19.7	19.7	3.6	6.8	1.4	284.7

	Ca	Sb
ASSAY	13645	29
STD	759.0	2.0

No more spectra
Press ESC to return to previous menu

Pb=106.3 WG.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA4	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	100	14862	315	352	0	117	12	4128
STD	9.4	251.6	20.4	19.0	3.4	7.8	1.4	322.0

	Ca	Sb
ASSAY	15649	12
STD	818.4	1.3

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA4	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	106	15612	351	403	0	109	9	3788
STD	9.7	257.6	21.6	20.3	3.1	7.5	1.2	308.4

	Ca	Sb
ASSAY	14996	19
STD	801.8	1.7

No more spectra
Press ESC to return to previous menu

9/27/94
M

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA5	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	111	13108	281	145	23	96	18	3582
STD	9.8	233.3	18.9	12.0	4.5	6.9	1.7	296.6

	Ca	Sb
ASSAY	14638	12
STD	783.8	1.3

No more spectra
Press ESC to return to previous menu

Pb= 99.3 mg

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA5	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
AY	119	13497	311	189	0	117	19	2945
[illegible]	10.3	242.1	20.4	14.0	5.5	7.8	1.8	275.3

	Ca	Sb
ASSAY	15537	17
STD	825.6	1.6

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA5	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
AY	94	13094	212	165	56	85	14	2839
[illegible]	9.0	234.2	16.5	12.8	7.1	6.5	1.5	265.7

	Ca	Sb
ASSAY	15159	16
STD	801.9	1.5

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

9/29/94
M

APPLICATION NAME: DEFAULT

BCA6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	101	15890	371	441	22	109	15	3472
STD	9.5	260.4	22.2	21.3	4.6	7.5	1.6	296.1

	Ca	Sb
ASSAY	14885	24
STD	801.2	1.9

No more spectra
Press ESC to return to previous menu

Pb=123.3 ppb.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	117	15427	306	344	62	119	16	3948
STD	10.1	255.8	20.1	18.8	7.6	7.9	1.6	314.3

	Ca	Sb
ASSAY	14400	22
STD	785.3	1.8

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA6	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	104	14981	355	371	0	142	11	2519
STD	9.5	250.8	21.5	19.3	2.3	8.5	1.3	250.6

	Ca	Sb
ASSAY	13612	19
STD	763.1	1.7

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT... 9/27/94 M

APPLICATION NAME: DEFAULT

BCA7	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	102	15356	311	285	31	143	17	4525
STD	9.5	256.2	20.3	17.1	5.4	8.6	1.7	337.5

	Ca	Sb
ASSAY	15956	20
STD	826.8	1.7

No more spectra
Press ESC to return to previous menu

Pb = 146.3 ppb

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA7	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	110	14678	348	286	0	137	10	2727
STD	9.5	241.9	20.7	16.6	1.8	8.2	1.2	254.0

	Ca	Sb
ASSAY	13767	15
STD	747.3	1.4

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA7	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	115	15369	464	365	20	159	18	3206
STD	9.9	251.6	24.4	19.0	4.3	8.9	1.7	279.6

	Ca	Sb
ASSAY	14612	12
STD	780.7	1.3

No more spectra
Press ESC to return to previous menu

4/27/94

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA8	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	75	19771	1255	2436	0	472	17	4035
STD	8.1	289.6	41.3	50.6	7.6	16.1	1.7	317.4

	Ca	Sb
ASSAY	14393	36
STD	784.5	2.3

No more spectra

Press ESC to return to previous menu

Pb = 475.7 ug

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA8	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	68	19128	1147	2399	0	475	19	3613
STD	7.8	285.7	39.5	50.3	10.8	16.1	1.8	301.6

	Ca	Sb
ASSAY	13232	37
STD	756.8	2.4

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA8	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	103	19444	1126	2308	0	480	22	3041
STD	9.6	288.8	39.3	49.5	11.3	16.2	2.0	277.8

	Ca	Sb
ASSAY	12858	34
STD	749.3	2.3

No more spectra

Press ESC to return to previous menu

9/27/94
M

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA9	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	72	13245	325	363	78	76	15	3402
STD	8.3	247.7	21.5	20.0	8.9	6.5	1.6	305.4

	Ca	Sb
ASSAY	14215	15
STD	816.9	1.5

No more spectra
Press ESC to return to previous menu

Pb = AVG.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA9	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	106	13067	345	365	28	88	16	3382
STD	10.0	243.7	21.9	19.9	5.3	6.9	1.7	301.6

	Ca	Sb
ASSAY	12641	18
STD	765.0	1.7

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA9	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	77	13289	302	374	79	88	10	2605
STD	8.5	245.6	20.5	20.1	8.8	6.9	1.3	265.0

	Ca	Sb
ASSAY	11619	17
STD	735.5	1.6

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT... 9/27/94 m

APPLICATION NAME: DEFAULT

BCA9DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	98	13430	349	343	33	81	10	3715
STD	9.3	239.9	21.4	18.7	5.6	6.5	1.3	306.7
	Ca	Sb						
ASSAY	15085	16						
STD	807.5	1.5						

No more spectra
Press ESC to return to previous menu

Pb= 98.7 AVG

$\frac{14.7}{91.4} = 16.1$ % RPD

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA9DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	107	12700	249	290	0	119	11	3151
STD	9.6	230.7	17.9	17.0	7.7	7.7	1.3	279.7
	Ca	Sb						
ASSAY	13423	25						
STD	756.3	1.9						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA9DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	123	12857	363	364	34	96	20	2735
STD	10.5	235.3	21.9	19.3	5.6	7.0	1.8	264.5
	Ca	Sb						
ASSAY	11253	21						
STD	705.3	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/28/94 M

APPLICATION NAME: DEFAULT

BCA10	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	92	17769	1081	2202	0	323	14	3779
STD	9.1	277.6	38.5	48.3	8.0	13.3	1.6	310.9
	Ca	Sb						
ASSAY	18246	41						
STD	888.0	2.5						

No more spectra
Press ESC to return to previous menu

Pb = 307.3 ppb.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA10	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	105	18456	1035	2093	5	309	16	4035
STD	9.7	283.2	37.8	47.3	2.2	13.1	1.7	323.3
	Ca	Sb						
ASSAY	18624	38						
STD	896.9	2.4						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA10	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	106	17234	1033	2105	0	290	18	4506
STD	9.6	270.0	37.1	46.6	7.8	12.4	1.7	334.8
	Ca	Sb						
ASSAY	19334	31						
STD	899.8	2.1						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

9/28/94
M

APPLICATION NAME: DEFAULT

BCA11	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	107	16156	520	928	0	148	15	3449
STD	9.8	263.1	26.4	31.0	4.3	8.8	1.6	295.6

	Ca	Sb
ASSAY	17339	20
STD	862.8	1.7

No more spectra
Press ESC to return to previous menu

Pb= 150.7 HVG.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA11	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	119	16526	450	869	0	167	13	4275
STD	10.3	266.0	24.6	30.1	2.7	9.4	1.5	328.4

	Ca	Sb
ASSAY	16989	26
STD	852.6	2.0

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA11	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	87	16117	420	881	0	137	17	3173
STD	8.7	261.5	23.6	30.1	6.0	8.5	1.7	282.3

	Ca	Sb
ASSAY	18642	25
STD	888.7	1.9

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT... 9/28/04 m

APPLICATION NAME: DEFAULT

BCA12	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	107	17644	480	554	54	144	14	3481
STD	9.7	275.2	25.5	24.1	7.2	8.8	1.5	297.1
	Ca	Sb						
ASSAY	19325	16						
STD	908.3	1.6						

No more spectra
Press ESC to return to previous menu

Pb = 149.7
mg.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA12	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	109	16936	455	532	25	152	14	3450
STD	9.7	265.6	24.4	23.2	4.8	8.8	1.5	291.4
	Ca	Sb						
ASSAY	15717	14						
STD	811.9	1.4						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA12	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	94	17118	453	570	12	153	16	3483
STD	9.0	267.5	24.4	24.1	3.4	8.9	1.6	293.3
	Ca	Sb						
ASSAY	17698	28						
STD	860.3	2.0						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT... 9/28/94 m

APPLICATION NAME: DEFAULT

BCA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	113	15824	421	342	38	129	10	3586
STD	9.9	258.0	23.5	18.6	6.0	8.2	1.3	298.5
	Ca	Sb						
ASSAY	17468	21						
STD	857.4	1.7						

No more spectra
Press ESC to return to previous menu

Pb = 125 MG.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
AY	91	15339	418	345	48	119	14	3122
STD	8.8	252.2	23.2	18.6	6.7	7.8	1.5	276.9
	Ca	Sb						
ASSAY	16428	20						
STD	828.2	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	123	15905	424	390	15	127	17	3416
STD	10.4	260.9	23.8	20.1	3.8	8.2	1.7	294.0
	Ca	Sb						
ASSAY	16113	17						
STD	832.9	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT... 9/28/94 M

APPLICATION NAME: DEFAULT

BCA14	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	91	15803	503	583	0	138	17	3485
STD	8.9	258.6	25.8	24.4	6.1	8.5	1.7	295.3
	Ca	Sb						
ASSAY	16632	16						
STD	840.8	1.5						

No more spectra
Press ESC to return to previous menu

Pb= 142 mg.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA14	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	101	16118	439	566	6	137	17	2812
STD	9.6	265.3	24.5	24.5	2.4	8.6	1.7	269.8
	Ca	Sb						
ASSAY	17082	21						
STD	865.9	1.8						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA14	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	102	15563	439	571	0	151	14	3372
STD	9.5	259.1	24.3	24.4	4.9	8.9	1.5	293.3
	Ca	Sb						
ASSAY	16632	28						
STD	848.8	2.0						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

9/28/94
M

APPLICATION NAME: DEFAULT

BCA15	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	127	15608	368	211	31	125	22	2657
STD	10.7	259.8	22.3	14.9	5.5	8.1	1.9	261.2

	Ca	Sb
ASSAY	15586	13
STD	825.6	1.4

No more spectra
Press ESC to return to previous menu

Pb = 120.. MG

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA15	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
AY	105	14309	289	219	5	108	16	2955
D	9.3	239.7	18.9	14.5	2.2	7.3	1.5	265.3

	Ca	Sb
ASSAY	14891	17
STD	778.2	1.5

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA15	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	117	15001	340	230	0	128	15	2953
STD	10.1	252.3	21.2	15.3	6.2	8.1	1.6	272.5

	Ca	Sb
ASSAY	15715	11
STD	820.4	1.2

No more spectra
Press ESC to return to previous menu

9/28/97

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA16	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	96	15053	343	418	28	94	14	2844
STD	9.2	252.0	21.2	20.6	5.1	7.0	1.5	266.8

	Ca	Sb
ASSAY	16248	14
STD	831.4	1.4

No more spectra
Press ESC to return to previous menu

Pb = 102 MG

CALCULATION IN PROGRESS, PLEASE WAIT...

LICATION NAME: DEFAULT

BCA16	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	95	15192	438	385	20	104	12	3284
STD	9.1	252.3	23.9	19.7	4.4	7.3	1.4	285.4

	Ca	Sb
ASSAY	13413	17
STD	755.7	1.5

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA16	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	116	15303	436	444	18	108	17	3879
STD	10.1	255.9	24.1	21.4	4.1	7.5	1.7	313.1

	Ca	Sb
ASSAY	13585	15
STD	767.4	1.5

No more spectra
Press ESC to return to previous menu

9/28/94

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA16DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	117	14530	321	348	14	121	14	3023
STD	10.0	246.3	20.4	18.7	3.6	7.8	1.5	273.5
	Ca	Sb						
ASSAY	13830	15						
STD	765.8	1.4						

No more spectra
Press ESC to return to previous menu

Pb= 127 NG

$\frac{25}{114.5}$ = 21.8 20 RPD

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA16DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	108	15581	361	402	46	118	17	3155
STD	9.7	256.2	21.8	20.2	6.6	7.8	1.7	280.5
	Ca	Sb						
ASSAY	14718	21						
STD	792.1	1.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA16DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	65	15741	292	376	13	142	14	3390
TD	7.6	259.3	19.7	19.7	3.4	8.6	1.5	292.7
	Ca	Sb						
AY	13299	16						
STD	759.9	1.5						

No more spectra
Press ESC to return to previous menu

9/28/94
N

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC17	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	83	14240	397	374	42	82	20	2875
STD	8.6	246.7	22.9	19.6	6.3	6.5	1.8	269.9

	Ca	Sb
ASSAY	20988	23
STD	943.3	1.8

No more spectra
Press ESC to return to previous menu

Pb = 93 NVO.

CALCULATION IN PROGRESS, PLEASE WAIT...

LICATION NAME: DEFAULT

BC17	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	93	14352	256	377	35	103	19	3135
STD	9.0	246.8	18.3	19.6	5.7	7.3	1.7	280.7

	Ca	Sb
ASSAY	20410	21
STD	927.3	1.7

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC17	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	94	14335	314	360	31	94	16	3243
STD	9.3	251.0	20.6	19.4	5.4	7.1	1.7	290.5

	Ca	Sb
ASSAY	18034	10
STD	890.5	1.2

No more spectra
ess ESC to return to previous menu

9/28/94
M

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC18	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	76	15416	317	271	28	78	13	3758
STD	8.0	249.1	19.9	16.2	5.0	6.2	1.4	299.0
	Ca	Sb						
ASSAY	14171	10						
STD	759.7	1.2						

No more spectra
Press ESC to return to previous menu

Pb = 97.6 mg

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC18	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	87	15713	331	389	29	88	17	3647
	8.7	257.2	20.9	19.9	5.2	6.7	1.7	301.3
	Ca	Sb						
ASSAY	14108	14						
STD	775.5	1.4						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC18	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	109	16082	318	326	0	127	20	3512
STD	9.7	260.1	20.4	18.2	0.2	8.1	1.8	295.5
	Ca	Sb						
ASSAY	15166	16						
STD	802.3	1.5						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT... 9/28/94 [illegible]

APPLICATION NAME: DEFAULT

BC19	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	122	15299	278	255	0	115	20	2826
STD	10.2	251.2	18.9	15.9	5.0	7.6	1.8	262.9

	Ca	Sb
ASSAY	15101	11
STD	793.9	1.2

No more spectra
Press ESC to return to previous menu

Pb = 103 ppm

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC19	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	108	15775	262	254	57	87	20	3362
STD	9.8	259.1	18.6	16.2	7.3	6.7	1.8	291.0

	Ca	Sb
ASSAY	15861	20
STD	834.7	1.7

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC19	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	120	16214	285	240	28	107	21	3672
STD	10.3	264.6	19.6	15.8	5.2	7.5	1.9	306.0

	Ca	Sb
ASSAY	15731	22
STD	826.7	1.8

No more spectra
ess ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

9/28/94
M

APPLICATION NAME: DEFAULT

BC19DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	124	15000	294	254	13	74	19	4197
STD	10.3	248.7	19.4	15.9	3.4	6.1	1.7	319.4
	Ca	Sb						
ASSAY	15064	14						
STD	790.6	1.4						

No more spectra
Press ESC to return to previous menu

Pb= 88.3 mg.

$\frac{14.7}{95.65}$ = 15.3 RPD

CALCULATION IN PROGRESS, PLEASE WAIT...

LICATION NAME: DEFAULT

19DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	112	15406	233	177	12	82	18	3342
STD	9.8	253.9	17.4	13.4	3.3	6.5	1.7	287.6
	Ca	Sb						
ASSAY	14625	19						
STD	786.7	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC19DUP	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	113	15425	327	228	34	109	24	4380
STD	10.1	259.0	21.0	15.5	5.7	7.6	2.0	335.0
	Ca	Sb						
ASSAY	16250	23						
STD	841.3	1.9						

No more spectra
ess ESC to return to previous menu

9/28/94

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC20	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	118	15680	310	245	8	112	22	3751
STD	10.4	263.6	20.7	16.2	2.8	7.8	1.9	313.3

	Ca	Sb
ASSAY	14316	15
STD	800.6	1.5

No more spectra
Press ESC to return to previous menu

Pb = 109.7 µg.

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC20	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	98	15428	318	255	0	108	16	3567
STD	9.3	257.7	20.6	16.3	2.1	7.5	1.6	301.3

	Ca	Sb
ASSAY	14058	13
STD	782.8	1.4

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC20	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	89	14433	304	235	0	109	15	3740
STD	8.8	248.1	20.0	15.5	0.8	7.5	1.6	307.0

	Ca	Sb
ASSAY	13469	24
STD	763.1	1.8

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/28/94

APPLICATION NAME: DEFAULT

BC21	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	125	14285	416	222	17	111	14	3931
STD	10.6	249.7	23.7	15.2	4.0	7.7	1.5	318.2
	Ca	Sb						
ASSAY	14231	16						
STD	792.2	1.5						

No more spectra
Press ESC to return to previous menu

Pb = 105.3 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC21	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	82	14281	369	180	74	92	12	3848
STD	8.5	246.8	22.0	13.5	8.3	6.9	1.4	311.4
	Ca	Sb						
ASSAY	15182	18						
STD	808.0	1.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC21	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	99	14871	348	225	24	113	13	2982
STD	9.5	255.4	21.8	15.4	4.8	7.8	1.5	278.5
	Ca	Sb						
ASSAY	13171	16						
STD	767.0	1.6						

No more spectra
Press ESC to return to previous menu

9/28/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC22	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	100	12503	237	205	6	109	8	2982
STD	9.3	227.6	17.3	14.2	2.4	7.4	1.1	270.8

	Ca	Sb
ASSAY	13212	18
STD	746.9	1

No more spectra
Press ESC to return to previous menu

Pb = 87 AVG.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC22	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	105	12849	354	264	14	87	16	4518
STD	9.6	234.5	21.5	16.4	3.7	6.7	1.6	337.4

	Ca	Sb
ASSAY	15145	17
STD	807.0	1.5

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

BC22	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	81	12420	250	234	61	65	21	3766
STD	8.3	226.9	17.8	15.1	7.4	5.7	1.8	303.7

	Ca	Sb
ASSAY	13800	18
STD	761.2	1.6

No more spectra

APPLICATION NAME: DEFAULT

2710	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	95	37644	2533	5788	0	4211	25	4665
STD	9.3	407.7	62.8	83.7	10.3	52.6	2.3	346.4
	Ca	Sb						
AY	19245	17						
	913.7	1.8						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

psoil	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	139	14430	214	150	86	51	23	5151
STD	11.3	254.3	17.2	12.7	9.2	5.2	2.0	368.1
	Ca	Sb						
AY	23013	19						
[illegible]	1003.1	1.7						

9/25/94
M

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

psoil2	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	138	13643	312	105	0	88	15	4913
STD	11.1	242.6	20.3	10.4	3.9	6.7	1.5	353.0
	Ca	Sb						
AY	19886	15						
STD	920.3	1.5						

9/25/94
M

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

psoil3	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	143	13632	241	102	0	85	18	4092
STD	11.3	243.6	18.0	10.3	3.2	6.7	1.7	324.2
	Ca	Sb						
ASSAY	20095	14						
STD	930.7	1.5						

No more spectra

Press ESC to return to previous menu

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CALCULATION IN PROGRESS, PLEASE WAIT...

CALCULATION IN PROGRESS, PLEASE WAIT...

ASSAY	143	13721	236	168	21	82	14	4712
STD	11.2	241.8	17.6	13.1	4.4	6.5	1.5	343.7
	Ca	Sb						
ASSAY	18825	15						
STD	891.9	1.5						

more spectra

ess ESC to return to previous menu

9/20/94

M

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

925ca111	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	127	11179	212	180	42	82	15	4225
STD	10.7	221.3	16.8	13.6	6.3	6.5	1.6	330.4

	Ca	Sb
ASSAY	20887	18
STD	950.3	1.6

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

925ca112	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	120	11694	191	141	13	82	19	4170
STD	10.6	229.1	16.1	12.2	3.6	6.6	1.8	332.3

	Ca	Sb
ASSAY	20260	27
STD	948.2	2.0

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT

APPLICATION NAME: DEFAULT

925ca113	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	100	11806	196	120	13	80	15	3719
STD	9.5	227.1	16.1	11.1	3.5	6.5	1.6	309.9
	Ca	Sb						
AY	21946	20						
	972.3	1.7						

more spectra
Press ESC to return to previous menu

9/25/94
Pb = 81.3
Sb = 21.7

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

925ca121	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	41	7480	133	221	0	70	15	1798
STD	4.3	126.6	9.2	10.4	4.2	4.2	1.1	151.7
	Ca	Sb						
AY	9848	17						
	467.8	1.1						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

925ca122	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	37	6933	133	208	6	50	14	1918
STD	4.0	121.0	9.1	10.0	1.6	3.5	1.0	155.5
	Ca	Sb						
AY	9286	16						
	451.3	1.0						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

925ca123	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	51	7466	123	192	4	51	13	2013
STD	4.9	129.2	9.0	9.9	1.3	3.6	1.0	163.8
	Ca	Sb						
ASSAY	10198	16						
STD	485.5	1.1						

No more spectra
Press ESC to return to previous menu

9/25/94
m Pb = 57
Sb = 16.3

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

925ca131	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	47	7144	159	126	0	79	12	2277
STD	4.7	127.0	10.3	8.1	2.5	4.5	1.0	175.0
	Ca	Sb						
ASSAY	9781	14						
STD	478.0	1.0						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

925ca132	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	87	14929	350	325	93	138	[illegible]	[illegible]
STD	9.5	273.4	23.3	19.8	10.1	9.2	2.8	387.9

	Ca	Sb
ASSAY	20167	39
STD	997.3	2.6

more spectra
ess ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

.....

APPLICATION NAME: DEFAULT

925ca133	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	108	13522	324	242	10	151	43	3357
STD	10.4	257.5	22.1	16.8	3.3	9.4	2.8	312.0

	Ca	Sb
ASSAY	21686	40
STD	1024.6	2.6

more spectra
ess ESC to return to previous menu

Pb= 122.7

Sb= 31

9/26/94
M

CALCULATION IN PROGRESS, PLEASE WAIT... EOD STD CHK

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb		Cd	Ti
ASSAY	79	35682	2875	6598	458	5332	96 %	21	3106
STD	8.4	392.5	65.9	88.1	23.1	58.8		2.1	280.2

	Ca	Sb	
ASSAY	14871	39	101 %
STD	801.9	2.7	

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb		Cd	Ti
AY	70	35133	2815	6705	400	5230	94%	19	4061
	7.9	389.2	65.1	88.6	21.6	58.1		2.0	319.7

	Ca	Sb	
ASSAY	14329	33	96 %
STD	785.9	2.5	

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb		Cd	Ti
ASSAY	65	36260	2910	6666	342	5391	97%	21	3199
STD	7.7	402.2	67.6	90.2	20.4	60.2		2.1	289.1

	Ca	Sb	
ASSAY	13857	31	91 %
STD	788.1	2.4	

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	72	37392	2406	5911	50	4425 (80) 5532	16	4723
STD	8.2	413.2	62.2	86.0	7.9	54.9	1.9	354.3

	Ca	Sb	
ASSAY	18965	24 (63)	38.4
STD	922.5	2.1	

No more spectra
Press ESC to return to previous menu

9/26/94
STD CHK

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	81	37505	2556	5689	78	4288 78	23	5115
STD	8.7	412.1	63.8	83.9	9.7	53.8	2.3	367.0

	Ca	Sb	
ASSAY	23966	23 60	
STD	1023.7	2.1	

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

ASSAY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
STD	9.3	390.3	56.0	71.4	13.7	41.3	2.0	[illegible]

	Ca	Sb
ASSAY	19711	15 39
STD	944.3	1.7

No more spectra

Press ESC to return to previous menu

Pb - 5532
Sb - 38.4

9/27/94
pc

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	50	34992	2688	6650	251	5161	19	2779
STD	6.6	383.7	62.9	87.2	16.9	57.0	2.0	261.9
	Ca	Sb						
ASSAY	12517	27						
STD	729.8	2.2						

No more spectra
Press ESC to return to previous menu

$$Pb = \frac{5238}{5532} = 95\%$$

$$Sb = \frac{26.3}{38.4} = 68\%$$

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	53	36238	2856	6569	316	5249	27	4541
STD	6.8	394.8	65.7	87.9	19.2	58.3	2.4	337.2
	Ca	Sb						
ASSAY	13193	26						
STD	753.8	2.2						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	24	36286	3009	6874	288	5306	19	4454
STD	4.6	394.4	67.3	89.8	18.3	58.6	2.0	333.6
	Ca	Sb						
ASSAY	13493	26						
STD	760.9	2.2						

No more spectra
Press ESC to return to previous menu

BOD STD CHK
9/27/94
MC

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd
ASSAY	70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

	Ca	Sb
ASSAY	19161	43
STD	915.7	2.8

111 ro

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	90	31161	2634	6079	406	4791	25	4202
STD	9.1	372.9	63.3	84.9	21.8	55.8	2.3	330.9

87%

	Ca	Sb
ASSAY	16900	34
STD	864.7	2.5

88%

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

LICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	63	31802	2640	6058	445	4891	23	4158
STD	7.5	375.2	63.3	84.5	22.8	56.2	2.2	327.9

88%

	Ca	Sb
ASSAY	19083	32
STD	912.1	2.4

83%

No more spectra
Press ESC to return to previous menu

9/28/94

BOD STD CHK 2710

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	95	34018	2694	6495	658	5209	25	5283
STD	9.2	382.7	63.4	86.8	27.5	57.7	2.3	363.4
	Ca	Sb						
ASSAY	19623	24						
STD	908.7	2.1						

No more spectra
Press ESC to return to previous menu

$Pb = \frac{5366}{5532} = 97\%$

$Sb = \frac{30}{38.4} = 78\%$

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	81	36808	3018	6864	626	5472	18	4030
STD	8.5	401.7	68.2	90.7	27.3	60.3	2.0	321.0
	Ca	Sb						
ASSAY	18544	37						
STD	895.2	2.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	79	35237	2947	6766	337	5417	24	5411
STD	8.3	387.4	66.1	88.4	19.7	58.7	2.2	365.7
	Ca	Sb						
ASSAY	20210	29						
STD	916.2	2.3						

No more spectra
Press ESC to return to previous menu

9/28/94 [illegible]
EOD STD CHK
2710

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	74	36981	2869	6569	437	5113	19	3957
STD	8.1	399.1	66.0	88.1	22.6	57.7	2.0	315.4
	Ca	Sb						
ASSAY	14507	27						
STD	790.2	2.3						

No more spectra
Press ESC to return to previous menu

$Pb = \frac{5139}{5532} = 93\%$

$Sb = \frac{27.3}{38.4} = 71\%$

CALCULATION IN PROGRESS, PLEASE WAIT...

LICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	81	37157	3036	6668	206	5167	20	3744
STD	8.5	402.4	68.3	89.3	15.7	58.4	2.1	308.8
	Ca	Sb						
ASSAY	15528	30						
STD	821.4	2.4						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	42	36301	2699	6613	134	5137	19	4378
STD	6.1	392.8	63.5	87.6	12.4	57.2	2.0	329.4
	Ca	Sb						
ASSAY	15857	25						
	818.4	2.1						

more spectra
ress ESC to return to previous menu

CALCULATIC .N PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	124	39464	2504	5958	0	4190	28	5093
STD	11.0	433.9	65.2	88.6	18.4	54.8	2.5	375.7

	Ca	Sb
ASSAY	21524	31
STD	999.5	2.5

No more spectra

Press ESC to return to previous menu

ASSAY	82	38542	2607	5958	145	4235	[illegible]	[illegible]
STD	8.7	417.5	64.6	86.1	13.4	53.6	2.4	[illegible]
	Ca	Sb						
ASSAY	21246	22						
STD	967.9	2.1						

No more spectra

ess ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	123	40492	2708	6478	151	4653	21	5663
STD	10.9	435.5	67.3	91.9	13.9	57.6	2.2	392.0

	Ca	Sb
ASSAY	20293	24
STD	962.2	2.2

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	88	37189	2478	5744	134	4058	18	4313
STD	9.0	405.7	62.1	83.4	12.6	51.7	1.9	333.7

	Ca	Sb
ASSAY	19482	22
STD	920.9	2.0

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

5532
38.4

9/29/94 M
BOD STD
CHK

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	103	37581	3132	7137	222	5669	26	4434
STD	9.7	408.5	70.0	93.3	16.4	61.9	2.4	338.5
	Ca	Sb						
ASSAY	18354	33						
STD	895.4	2.6						

No more spectra
Press ESC to return to previous menu

$Pb = \frac{5616}{5532} = 101\%$

$Sb = \frac{32.3}{38.4} = 84\%$

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	79	37383	2993	7140	676	5409	28	4925
	8.4	403.8	67.8	92.4	28.4	59.9	2.5	353.[illegible]
	Ca	Sb						
ASSAY	19021	38						
STD	901.9	2.7						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	69	38505	3113	7410	787	5771	35	5992
STD	8.1	419.4	71.0	96.6	31.5	63.6	2.8	397.3
	Ca	Sb						
ASSAY	18628	26						
STD	911.7	2.3						

No more spectra
Press ESC to return to previous menu

9/29/04
mc

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	126	10507	214	272	0	108	18	3861
STD	12.1	244.4	19.2	19.0	8.2	8.5	2.0	360.1
	Ca	Sb						
ASSAY	19035	23						
STD	1037.4	2.1						

No more spectra
Press ESC to return to previous menu

Pb = 90 on / 59.6 off

Sb = 22.6

30.4 / 74.8 = 40.6 % RPD

CALCULATION IN PROGRESS, PLEASE WAIT...

LICATION NAME: DEFAULT

BCA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	130	10497	298	227	0	82	12	4808
STD	12.1	238.9	22.1	17.0	0.8	7.2	1.6	392.2
	Ca	Sb						
ASSAY	15189	25						
STD	910.3	2.1						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA13	Cr	Fe	Cu	Zn	As	P	Cd	Tl
ASSAY	117	9480	251	251	22	68	15	4319
STD	11.5	226.8	20.2	17.8	5.0	6.6	1.7	371.9
	Ca	Sb						
ASSAY	15279	23						
	913.3	2.0						

more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

BCA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	92	10837	275	230	0	93	8	3298
STD	9.8	234.1	20.5	16.5	2.4	7.5	1.3	314.3
	Ca	Sb						
ASSAY	15456	21						
STD	888.2	1.9						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

LICATION NAME: DEFAULT

BCA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	119	9321	247	244	57	94	16	2933
STD	11.3	219.8	19.6	17.1	7.9	7.6	1.8	300.4
	Ca	Sb						
ASSAY	14644	24						
STD	877.4	2.0						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

LICATION NAME: DEFAULT

BCA13	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	136	9826	309	275	3	95	12	4018
STD	12.0	223.6	21.7	18.1	1.7	7.5	1.5	347.4
	Ca	Sb						
ASSAY	16260	20						

9/29/04
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA22	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	113	8564	218	149	0	116	19	3728
STD	10.5	201.9	17.6	12.8	5.6	8.0	1.8	324.0
	Ca	Sb						
ASSAY	13458	14						
STD	806.1	1.5						

No more spectra
Press ESC to return to previous menu

Pb = 90.6
Sb = 18.8

90.6 on
69.9 off

Pb RPD. $\frac{20.7}{80.3}$ = 25%

CALCULATION IN PROGRESS. PLEASE WAIT...

LICATION NAME: DEFAULT

EBA22	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	116	7416	194	120	0	78	16	3284
STD	10.3	180.4	15.9	11.0	1.4	6.3	1.6	292.3
	Ca	Sb						
ASSAY	12920	12						
STD	759.9	1.3						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA22	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	137	8926	297	174	9	81	18	4264
STD	11.9	210.8	21.0	14.2	3.1	6.9	1.8	354.0
	Ca	Sb						
ASSAY	16562	19						
STD	908.8	1.8						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA22	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	115	7857	213	124	0	93	15	3697
STD	10.6	191.7	17.2	11.6	8.2	7.1	1.6	319.9

	Ca	Sb
ASSAY	14309	18
STD	822.8	1.6

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA22	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	119	8538	278	139	50	69	19	4590
STD	11.1	207.4	20.4	12.7	7.3	6.3	1.9	369.2

	Ca	Sb
ASSAY	15137	24
STD	875.6	2.0

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA22	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	105	8963	170	173	0	107	14	3804
STD	10.7	218.4	16.4	14.6	2.0	8.1	1.6	345.9

	Ca	Sb
ASSAY	15559	26
STD	913.0	2.1

No more spectra

Press ESC to return to previous menu

9/24/97
M

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA34	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	116	20874	1245	1953	0	775	25	3930
STD	11.1	328.2	45.5	50.1	15.9	22.7	2.3	345.6
	Ca	Sb						
ASSAY	16556	21						
STD	924.7	2.0						

No more spectra
Press ESC to return to previous menu

$Pb = \frac{686 \text{ on}}{873 \text{ off.}} \frac{187}{779.5} = 23.9\%$ RPD

$Sb = 27.6$

CALCULATION IN PROGRESS, PLEASE WAIT...

WARNING: This spectrum contains significant noise
'S will attempt to process the spectrum. A longer
suring time may correct this problem. Press ENTER to continue.

APPLICATION NAME: DEFAULT

EBA34	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	93	16391	1020	1641	0	652	19	3323
STD	9.3	273.5	38.2	42.6	16.4	19.3	1.9	299.4
	Ca	Sb						
ASSAY	14912	26						
STD	829.0	2.0						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA34	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	124	20672	1175	1975	0	778	26	4490
STD	11.6	330.1	44.6	50.9	11.5	23.0	2.1	372.9
	Ca	Sb						
ASSAY	15471	42						
STD	904.0	2.5						

No more spectra
ess ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA34	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	86	20579	1300	2044	0	706	18	3279
STD	9.4	321.0	45.7	50.5	8.2	21.4	1.9	311.4
	Ca	Sb						
ASSAY	13440	34						
STD	826.3	2.5						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

LICATION NAME: DEFAULT

EBA34	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	150	17574	1076	1566	0	585	16	5094
STD	11.9	284.2	39.5	42.0	9.2	18.4	1.7	370.5
	Ca	Sb						
ASSAY	14074	20						
STD	806.2	1.8						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

EBA34	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	142	20512	1483	2048	58	622	21	4139
STD	12.2	322.7	49.2	50.9	8.3	20.2	2.1	351.5
	Ca	Sb						
ASSAY	14062	23						
STD	848.3	2.0						

No more spectra
ess ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 9/30/94 M

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	58	36813	2931	6722	291	5460	23	4343
STD	7.2	399.7	66.9	89.4	18.6	59.9	2.2	331.4
	Ca	Sb						
ASSAY	13069	32						
STD	753.9	2.5						

No more spectra
Press ESC to return to previous menu

$Pb = \frac{5353}{5532} = 97\%$

$Sb = \frac{30.7}{38.4} = 80\%$

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	68	36013	2787	6744	721	5155	15	4162
STD	7.8	392.9	64.7	88.8	28.9	57.7	1.8	322.5
	Ca	Sb						
ASSAY	14286	27						
	782.3	2.2						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS, PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	73	36909	2901	6954	403	5446	26	3591
STD	8.1	401.7	66.9	91.3	21.9	60.1	2.4	302.5
	Ca	Sb						
ASSAY	14584	33						
STD	798.7	2.5						

No more spectra
Press ESC to return to previous menu

5532
38.4

9/30/94

HL BOD STD CHK.

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	60	37298	3002	6954	294	5364	26	4092
STD	7.2	397.4	66.9	89.8	18.4	58.6	2.3	317.3
	Ca	Sb						
ASSAY	19380	27						
STD	898.0	2.2						

No more spectra
Press ESC to return to previous menu

$Pb = \frac{5340}{5532} = 97\%$

$Sb = \frac{32.3}{38.4} = 84\%$

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	89	37572	2900	6862	249	5384	16	5089
	8.9	401.9	66.3	90.0	17.1	59.2	1.9	355.3
	Ca	Sb						
ASSAY	17933	42						
STD	870.7	2.8						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	67	37127	2694	6867	480	5272	19	5688
STD	7.7	397.9	63.6	89.5	23.6	58.3	2.0	374.9
	Ca	Sb						
ASSAY	19575	28						
STD	902.6	2.3						

No more spectra
Press ESC to return to previous menu

1d3/94
M

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	66	29488	2703	5573	399	4146	17	4872
STD	7.9	367.0	64.6	81.8	21.7	52.1	1.9	360.2
	Ca	Sb						
ASSAY	16779	42						
STD	871.2	2.8						

No more spectra
Press ESC to return to previous menu

$$Pb = \frac{4428}{5532} = 80\%$$

$$Sb = \frac{38.7}{38.4} = 101\%$$

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
AY	54	31191	2769	5969	668	4577	27	4447
STD	7.3	387.4	67.5	87.3	29.0	56.7	2.5	353.4
	Ca	Sb						
ASSAY	16902	37						
STD	897.8	2.7						

No more spectra
Press ESC to return to previous menu

SE WAIT...

CULATION IN PROGRESS,

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	64	31176	2736	5830	222	4563	27	4365
STD	7.9	385.5	66.7	85.9	16.7	56.2	2.4	348.5
	Ca	Sb						
ASSAY	16502	37						
STD	883.6	2.7						

more spectra
ess ESC to return to previous menu

10/3/94
m
BOD

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	115	28842	2413	5342	595	3897	25	5393
STD	10.5	367.1	61.6	80.8	26.7	50.9	2.3	382.6
	Ca	Sb						
ASSAY	18888	36						
STD	930.7	2.6						

No more spectra
Press ESC to return to previous menu

$Pb = \frac{4042}{5532} = 73\%$

$Sb = \frac{37}{38.4} = 96\%$

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	107	30540	2755	5841	586	4230	26	6396
STD	10.5	390.4	68.3	87.7	27.6	55.2	2.4	429.3
	Ca	Sb						
ASSAY	22576	33						
STD	1042.9	2.6						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	84	29027	2566	5609	415	3999	25	6381
STD	9.1	373.0	64.3	83.9	22.6	52.3	2.3	420.9
	Ca	Sb						
ASSAY	23192	42						
STD	1035.1	2.9						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 10/4/94 M

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	94	27063	2460	5034	652	3586	23	6176
STD	9.6	358.0	62.3	78.5	28.0	48.9	2.2	411.9

	Ca	Sb
ASSAY	22589	37
STD	1017.2	2.6

No more spectra
Press ESC to return to previous menu

$Pb = \frac{3584}{5532} = 65\%$

$Sb = \frac{35}{38.4} = 91\%$

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	102	27164	2266	5196	651	3498	23	4534
STD	10.0	359.8	60.0	80.1	28.0	48.5	2.2	355.3

	Ca	Sb
ASSAY	22046	31
STD	1012.5	2.4

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	98	28181	2470	5286	871	3670	18	4982
STD	9.8	368.4	63.2	81.5	32.7	50.1	2.0	374.0

	Ca	Sb
ASSAY	22001	37
STD	1015.8	2.7

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT... 10/4/94 MC

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	101	26201	2274	4931	495	3445	23	4330
STD	10.1	359.1	61.0	79.1	24.8	48.7	2.2	353.1
	Ca	Sb						
ASSAY	17651	39						
STD	927.7	2.8						

No more spectra
Press ESC to return to previous menu

Pb $\frac{3484}{5532} = 62\%$

Sb $\frac{35.7}{38.4} = 93\%$

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	[illegible]
ASSAY	51	25964	2048	4689	496	3354	24	[illegible]
STD	7.0	348.0	56.3	75.1	24.1	46.6	2.2	357 [illegible]
	Ca	Sb						
ASSAY	16898	30						
STD	884.4	2.3						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Ti
ASSAY	91	26671	2322	4927	532	3654	18	4708
STD	9.6	361.5	61.5	79.0	25.7	50.1	2.0	367 [illegible]
	Ca	Sb						
ASSAY	17980	38						
STD	933.0	2.7						

more spectra
ess ESC to return to previous menu

10/5/94

CALCULATION IN PROGRESS. PLEASE WAIT... AL BOD STD CHK

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	64	27813	2482	5057	372	3970	18	5525
STD	7.9	361.6	62.5	78.6	21.1	51.4	2.0	388.7
	Ca	Sb						
ASSAY	18599	43						
STD	926.7	2.9						

No more spectra

Press ESC to return to previous menu

$Pb = \frac{4102}{5532} = 74\%$

$Sb = \frac{36.7}{38.4} = 96\%$

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	[illegible]
AY	69	28980	2338	5471	724	4125	21	4206
.D	8.2	370.6	61.1	82.4	29.7	52.9	2.2	341.4
	Ca	Sb						
ASSAY	18530	35						
STD	931.2	2.6						

No more spectra

Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710BD	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	118	30048	2571	5614	491	4212	25	4126
STD	10.7	376.6	64.2	83.6	24.5	53.5	2.3	337.4
	Ca	Sb						
ASSAY	18022	32						
STD	917.3	2.5						

No more spectra

Press ESC to return to previous menu

10/5/94
EOD

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	67	39942	2854	6652	322	4936	26	3431
STD	8.2	440.4	70.4	94.8	20.8	60.6	2.5	312.2
	Ca	Sb						
ASSAY	17445	30						
STD	916.8	2.5						

No more spectra
Press ESC to return to previous menu

$Pb = \frac{4831}{5532} = 87\%$

$Sb = \frac{33.7}{38.4} = 87\%$

CALCULATION IN PROGRESS. PLEASE WAIT...

LICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	68	39067	2629	6207	37	4778	19	4507
STD	8.2	434.3	67.2	91.1	7.0	59.1	2.2	356.0
	Ca	Sb						
ASSAY	17870	30						
STD	922.7	2.5						

No more spectra
Press ESC to return to previous menu

CALCULATION IN PROGRESS. PLEASE WAIT...

APPLICATION NAME: DEFAULT

2710ED	Cr	Fe	Cu	Zn	As	Pb	Cd	Tl
ASSAY	72	40497	3017	6610	433	4781	28	4285
STD	8.6	454.0	74.2	96.8	24.7	61.1	2.6	356.4
	Ca	Sb						
ASSAY	17560	41						
STD	939.8	3.0						

No more spectra
ess ESC to return to previous menu

APPENDIX H

ANALYTICAL AND QA/QC RESULTS FROM THE VERIFICATION SAMPLING

ENRECO

ENRECO LABORATORIES
6661-A CANYON DRIVE
AMARILLO, TEXAS 79110

Attn: CUSTOMER SERVICES
Phone: (806) 353-4425

IT CORPORATION
137 OPPENHEIMER DRIVE
SUITE 200
LOS ALAMOS, NM 87544
Attn: GLENN VAN DERPOEL

Order #: 94-12-082
Date: 01/02/95 12:25
Work ID: TECH. AREA 40/CONTROL [illegible]
Date Received: 12/22/94
Date Completed: 01/02/95

Purchase Order: 24157 OP
Invoice Number:

Client Code: ITCORP

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	SAMPLE NE
02	SAMPLE SE
03	SAMPLE NW
04	SAMPLE SW
05	SAMPLE CENTER
06	SAMPLE PIT A
07	SAMPLE PIT D

Certified By
ALAN D. KING

ENRECO

REPORT COMMENTS

QC DATA
(METHOD 6010-Analytical)

SAMPLE ID	CONCENTRATION
REAGENT BLANK	<0.05 ppm Pb
SAMPLE PREP BLANK	<0.05 ppm Pb
TCLP FLUID 1	<0.05 ppm Pb

PRECISION (MS/MSD)	0.7% r.p.d.
SPIKE RECOVERY	96.3%
QC SAMPLE RECOVERY	86.9%

DUPLICATE TCLP (SAMPLE NE) RESULTS 0.17 ppm Pb/ 0.11 ppm Pb
DUPLICATE TOTAL (SAMPLE NE) RESULTS 12.4 ppm Pb/ 9.1 ppm Pb

TOTAL LEAD RESULTS ARE DRY WEIGHT CORRECTED

ENRECO

TEST RESULTS BY SAMPLE

Sample: 01A SAMPLE NE Collected: 12/14/94 14:20

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	6.4			12/27/94	CS
FINAL pH	5.1			12/28/94	CS
LEAD IN TCLP EXTRACT	0.17	0.05	mg/l	12/31/94	WDP

Sample: 01B SAMPLE NE Collected: 12/16/94 14:20

Test Description	Result	Limit	Units	Analyzed	By
LEAD (TOTAL)	12.4	3.3	mg/kg	12/31/94	WDP

Sample: 02A SAMPLE SE Collected: 12/16/94 14:20

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	6.2			12/27/94	CS
FINAL pH	5.0			12/28/94	CS
LEAD IN TCLP EXTRACT	0.08	0.05	mg/l	12/31/94	WDP

Sample: 02B SAMPLE SE Collected: 12/16/94 14:20

Test Description	Result	Limit	Units	Analyzed	By
LEAD (TOTAL)	4.2	3.3	mg/kg	12/31/94	WDP

ENRECO

Sample: 03A SAMPLE NW **Collected: 12/16/94 14:25**

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	6.6			12/27/94	CS
FINAL pH	5.0			12/28/94	CS
LEAD IN TCLP EXTRACT	0.09	0.05	mg/l	12/31/94	WDP

Sample: 03B SAMPLE NW **Collected: 12/16/94 14:25**

Test Description	Result	Limit	Units	Analyzed	By
LEAD (TOTAL)	4.8	3.3	mg/kg	12/31/94	WDP

Sample: 04A SAMPLE SW **Collected: 12/16/94 14:25**

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	6.2			12/27/94	CS
FINAL pH	5.0			12/28/94	CS
LEAD IN TCLP EXTRACT	0.12	0.05	mg/l	12/31/94	WDP

Sample: 04B SAMPLE SW **Collected: 12/16/94 14:25**

Test Description	Result	Limit	Units	Analyzed	By
LEAD (TOTAL)	3.8	3.3	mg/kg	12/31/94	WDP

ENRECO

Sample: 05A SAMPLE CENTER Collected: 12/16/94 15:00

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	6.3			12/27/94	CS
FINAL pH	5.0			12/28/94	CS
LEAD IN TCLP EXTRACT	0.13	0.05	mg/l	12/31/94	WDF

Sample: 05B SAMPLE CENTER Collected: 12/16/94 15:00

Test Description	Result	Limit	Units	Analyzed	By
LEAD (TOTAL)	3.7	3.3	mg/kg	12/31/94	WDF

Sample: 06A SAMPLE PIT A Collected: 12/21/94 09:10

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	7.9			12/27/94	CS
FINAL pH	5.4			12/28/94	CS
LEAD IN TCLP EXTRACT	8.50	0.05	mg/l	12/31/94	WDF

Sample: 06B SAMPLE PIT A Collected: 12/21/94 09:10

Test Description	Result	Limit	Units	Analyzed	By
LEAD (TOTAL)	1100	3.3	mg/kg	12/31/94	WDF

ENRECO

Sample: 07A SAMPLE PIT D Collected: 12/21/94 09:15

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	8.1			12/27/94	CS
FINAL pH	5.2			12/28/94	CS
LEAD IN TCLP EXTRACT	18.0	0.05	mg/l	12/31/94	WDP

Sample: 07B SAMPLE PIT D Collected: 12/21/94 09:15

Test Description	Result	Limit	Units	Analyzed	By
LEAD (TOTAL)	1300	3.3	mg/kg	12/31/94	WDP

ENRECO

TEST METHODOLOGIES

TEST CODE : TCL_X TEST NAME : TCLP EXTRACTION

TCLP EXTRACTION : FEDERAL REGULATION; VOL 55, NO. 126, APPENDIX II, METHOD 1311

TEST CODE : T_DIG TEST NAME : TOTAL DIGESTION

METHOD 3050 : ACID DIGESTION OF SEDIMENTS, SLUDGES, AND SOILS. TEST METHODS FOR EVALUATING SOLID WASTE, 3RD EDITION, DECEMBER 1987.

TEST CODE : PB TEST NAME : LEAD

METHOD 6010 : INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY. TEST METHODS FOR EVALUATING SOLID WASTE, 3RD EDITION, DECEMBER 1987

DETECTION LIMIT FOR THESE SAMPLES LISTED IN THE LIMIT COLUMN ON THE REPORT PROVIDED.

INTERNATIONAL TECHNOLOGY CORPORATION

CONFIRMING COPY
DO NOT DUPLICATE

PURCHASE ORDER

Date	Order No.
12/06/94	24157

Ship To IT Corporation-Los Alamos
557 Oppenheimer, Ste 200
Los Alamos NM 87544

Confirming To

Confirmation ☐ Yes ☐ No

Date Required at Destination 12/06/94

Vendor Enreco Laboratories
6601-A Canyon Drive
Amarillo, TX

Bill to Attention of Accounts Payable
IT Corporation-Albuquerque
5301 Central Avenue,NE Ste 700
Albuquerque NM 87108-1513

Vendor No. 773146

All Invoices Must Reference Order No.

Provider	Buyer	Govt Prop	Terms	F.O.B.	Carrier
3[illegible]15	Kimbley, Ruth			SHIPPING POINT	

Description / Item No.	Center/Proj/AFE No.		Unit	Unit Price	Extension
Provide analytical services per Exhibit A, Scope of Work and Seller's written quotation of 11/28/94, incorporated herein by reference. Period of performance: 12/11/94 through 01/11/95. All provisions of LANL Contract No. 9-X53-W7425-1 attached hereto as Exhibit B are expressly made a part of this P.O. Charges NTE $18,901.00.	760909		EA	.0000	18,901.0
		Total of Extended Price			18,901.00

****
** CONFIRMING COPY. PLEASE DO NOT DUPLICATE **
****

Approval Ronald N. Green

Title PURCHASING MANAGER

Date 12/07/94

Note: In accordance with OSHA Hazard Communication Standard, 29CFR 1910 1200, (right to know), a material safety data sheet must accompany all initial shipments of materials which are considered hazardous.

[illegible]er places this order on the express condition that seller by acceptance hereof assents to the terms and conditions set forth above and on the reverse side hereof, and [illegible]

APPENDIX I

ADEQUACY OF THE QA/QC FOR THE PERFORMANCE OF CLOSURE OF THE TA-40 SCRAP DETONATION SITE

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK01

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BLK13055

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	0.99	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	3.0	U
58-89-9	gamma-BHC (Lindane)	1.3	U
76-44-8	Heptachlor	0.99	U
309-00-2	Aldrin	1.3	U
1024-57-3	Heptachlor epoxide	27	U
959-98-8	Endosulfan I	4.6	U
60-57-1	Dieldrin	0.66	U
72-55-9	4,4'-DDE	1.3	U
72-20-8	Endrin	2.0	U
33213-65-9	Endosulfan II	1.3	U
72-54-8	4,4'-DDD	3.6	U
1031-07-8	Endosulfan sulfate	22	U
50-29-3	4,4'-DDT	4.0	U
72-43-5	Methoxychlor	58	U
7421-93-4	Endrin Aldehyde	7.6	U
57-74-9	Chlordane (technical)	4.6	U
8001-35-2	Toxaphene	79	U

U: Concentration of analyte is less than the value given.

FORM I PEST

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06115

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-001

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	1.1	U
319-85-7	beta-BHC	5.2	
319-86-8	delta-BHC	3.2	U
58-89-9	gamma-BHC (Lindane)	1.4	U
76-44-8	Heptachlor	1.1	U
309-00-2	Aldrin	1.4	U
1024-57-3	Heptachlor epoxide	30	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin	0.72	U
72-55-9	4,4'-DDE	1.4	U
72-20-8	Endrin	2.2	U
33213-65-9	Endosulfan II	1.4	U
72-54-8	4,4'-DDD	4.0	U
1031-07-8	Endosulfan sulfate	24	U
50-29-3	4,4'-DDT	4.3	U
72-43-5	Methoxychlor	64	U
7421-93-4	Endrin Aldehyde	8.3	U
57-74-9	Chlordane (technical)	5.0	U
8001-35-2	Toxaphene	87	U

U: Concentration of analyte is less than the value given.

200002

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06116

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-002

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 7 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	1.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	3.2	U
58-89-9	gamma-BHC (Lindane)	1.4	U
76-44-8	Heptachlor	1.1	U
309-00-2	Aldrin	1.4	U
1024-57-3	Heptachlor epoxide	29	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin	0.71	U
72-55-9	4,4'-DDE	1.4	U
72-20-8	Endrin	2.1	U
33213-65-9	Endosulfan II	1.4	U
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	23	U
50-29-3	4,4'-DDT	4.3	U
72-43-5	Methoxychlor	62	U
7421-93-4	Endrin Aldehyde	8.2	U
57-74-9	Chlordane (technical)	5.0	U
8001-35-2	Toxaphene	84	U

U: Concentration of analyte is less than the value given.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06117

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-003

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 12 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analysed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	1.1	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	3.4	U
58-89-9	gamma-BHC (Lindane)	1.5	U
76-44-8	Heptachlor	1.1	U
309-00-2	Aldrin	1.5	U
1024-57-3	Heptachlor epoxide	31	U
959-98-8	Endosulfan I	5.3	U
60-57-1	Dieldrin	0.75	U
72-55-9	4,4'-DDE	1.5	U
72-20-8	Endrin	2.2	U
33213-65-9	Endosulfan II	1.5	U
72-54-8	4,4'-DDD	4.1	U
1031-07-8	Endosulfan sulfate	25	U
50-29-3	4,4'-DDT	4.5	U
72-43-5	Methoxychlor	66	U
7421-93-4	Endrin Aldehyde	8.6	U
57-74-9	Chlordane (technical)	5.3	U
8001-35-2	Toxaphene	90	U

U: Concentration of analyte is less than the value given.

000018

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06118

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-004

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 16 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	1.2	U
319-85-7	beta-BHC	2.3	U
319-86-8	delta-BHC	3.5	U
58-89-9	gamma-BHC (Lindane)	1.6	U
76-44-8	Heptachlor	1.2	U
309-00-2	Aldrin	1.6	U
1024-57-3	Heptachlor epoxide	32	U
959-98-8	Endosulfan I	5.5	U
60-57-1	Dieldrin	0.78	U
72-55-9	4,4'-DDE	1.6	U
72-20-8	Endrin	2.3	U
33213-65-9	Endosulfan II	1.6	U
72-54-8	4,4'-DDD	4.3	U
1031-07-8	Endosulfan sulfate	26	U
50-29-3	4,4'-DDT	4.7	U
72-43-5	Methoxychlor	69	U
7421-93-4	Endrin Aldehyde	9.0	U
57-74-9	Chlordane (technical)	5.5	U
8001-35-2	Toxaphene	94	U

U: Concentration of analyte is less than the value given.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06119

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-005

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 8 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	1.1	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	3.2	U
58-89-9	gamma-BHC (Lindane)	1.4	U
76-44-8	Heptachlor	1.1	U
309-00-2	Aldrin	1.4	U
1024-57-3	Heptachlor epoxide	30	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin	0.72	U
72-55-9	4,4'-DDE	1.4	U
72-20-8	Endrin	2.2	U
33213-65-9	Endosulfan II	1.4	U
72-54-8	4,4'-DDD	4.0	U
1031-07-8	Endosulfan sulfate	24	U
50-29-3	4,4'-DDT	4.3	U
72-43-5	Methoxychlor	63	U
7421-93-4	Endrin Aldehyde	8.3	U
57-74-9	Chlordane (technical)	5.0	U
8001-35-2	Toxaphene	86	U

U: Concentration of analyte is less than the value given.

000026

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06120

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-006

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	1.1	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	3.3	U
58-89-9	gamma-BHC (Lindane)	1.4	U
76-44-8	Heptachlor	1.1	U
309-00-2	Aldrin	1.4	U
1024-57-3	Heptachlor epoxide	30	U
959-98-8	Endosulfan I	5.1	U
60-57-1	Dieldrin	0.73	U
72-55-9	4,4'-DDE	1.4	U
72-20-8	Endrin	2.2	U
33213-65-9	Endosulfan II	1.4	U
72-54-8	4,4'-DDD	4.0	U
1031-07-8	Endosulfan sulfate	24	U
50-29-3	4,4'-DDT	4.4	U
72-43-5	Methoxychlor	64	U
7421-93-4	Endrin Aldehyde	8.4	U
57-74-9	Chlordane (technical)	5.1	U
8001-35-2	Toxaphene	87	U

U: Concentration of analyte is less than the value given.

000030

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06121

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-007

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 8 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	1.1	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	3.2	U
58-89-9	gamma-BHC (Lindane)	1.4	U
76-44-8	Heptachlor	1.1	U
309-00-2	Aldrin	1.4	U
1024-57-3	Heptachlor epoxide	30	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin	0.72	U
72-55-9	4,4'-DDE	1.4	U
72-20-8	Endrin	2.1	U
33213-65-9	Endosulfan II	1.4	U
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	24	U
50-29-3	4,4'-DDT	4.3	U
72-43-5	Methoxychlor	63	U
7421-93-4	Endrin Aldehyde	8.2	U
57-74-9	Chlordane (technical)	5.0	U
8001-35-2	Toxaphene	86	U

U: Concentration of analyte is less than the value given.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06122

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-008

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 6 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	1.0	U
319-85-7	beta-BHC	2.1	U
319-86-8	delta-BHC	3.2	U
58-89-9	gamma-BHC (Lindane)	1.4	U
76-44-8	Heptachlor	1.0	U
309-00-2	Aldrin	1.4	U
1024-57-3	Heptachlor epoxide	29	U
959-98-8	Endosulfan I	4.9	U
60-57-1	Dieldrin	0.70	U
72-55-9	4,4'-DDE	1.4	U
72-20-8	Endrin	2.1	U
33213-65-9	Endosulfan II	1.4	U
72-54-8	4,4'-DDD	3.9	U
1031-07-8	Endosulfan sulfate	23	U
50-29-3	4,4'-DDT	4.2	U
72-43-5	Methoxychlor	62	U
7421-93-4	Endrin Aldehyde	8.1	U
57-74-9	Chlordane (technical)	4.9	U
8001-35-2	Toxaphene	84	U

U: Concentration of analyte is less than the value given.

FORM I PEST

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06123

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-009

Sample wt/vol: 30.1 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	1.1	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	3.2	U
58-89-9	gamma-BHC (Lindane)	1.4	U
76-44-8	Heptachlor	1.1	U
309-00-2	Aldrin	1.4	U
1024-57-3	Heptachlor epoxide	30	U
959-98-8	Endosulfan I	5.1	U
60-57-1	Dieldrin	0.72	U
72-55-9	4,4'-DDE	1.4	U
72-20-8	Endrin	2.2	U
33213-65-9	Endosulfan II	1.4	U
72-54-8	4,4'-DDD	4.0	U
1031-07-8	Endosulfan sulfate	24	U
50-29-3	4,4'-DDT	4.3	U
72-43-5	Methoxychlor	64	U
7421-93-4	Endrin Aldehyde	8.3	U
57-74-9	Chlordane (technical)	5.1	U
8001-35-2	Toxaphene	87	U

U: Concentration of analyte is less than the value given.

000046

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06161

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-010

Sample wt/vol: 30.1 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	0.99	U
319-85-7	beta-BHC	15	
319-86-8	delta-BHC	3.0	U
58-89-9	gamma-BHC (Lindane)	12	
76-44-8	Heptachlor	0.99	U
309-00-2	Aldrin	1.3	U
1024-57-3	Heptachlor epoxide	27	U
959-98-8	Endosulfan I	4.6	U
60-57-1	Dieldrin	0.66	U
72-55-9	4,4'-DDE		X
72-20-8	Endrin		X
33213-65-9	Endosulfan II	1.3	U
72-54-8	4,4'-DDD	3.6	U
1031-07-8	Endosulfan sulfate	22	U
50-29-3	4,4'-DDT	25	
72-43-5	Methoxychlor	58	U
7421-93-4	Endrin Aldehyde	7.6	U
57-74-9	Chlordane (technical)	4.6	U
8001-35-2	Toxaphene	79	U

U: Concentration of analyte is less than the value given.

X: See dilution

000051

FORM I PEST

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06161DL

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITEL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-010DL

Sample wt/vol: 30.1 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-13-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 5

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	4.9	U
319-85-7	beta-BHC	19	
319-86-8	delta-BHC	15	U
58-89-9	gamma-BHC (Lindane)	14	
76-44-8	Heptachlor	4.9	U
309-00-2	Aldrin	6.6	U
1024-57-3	Heptachlor epoxide	140	U
959-98-8	Endosulfan I	23	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	38	
72-20-8	Endrin	36	
33213-65-9	Endosulfan II	6.6	U
72-54-8	4,4'-DDD	18	U
1031-07-8	Endosulfan sulfate	110	U
50-29-3	4,4'-DDT	24	
72-43-5	Methoxychlor	290	U
7421-93-4	Endrin Aldehyde	38	U
57-74-9	Chlordane (technical)	23	U
8001-35-2	Toxaphene	400	U

U: Concentration of analyte is less than the value given.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK01

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: BLK13055

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	0.99	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	3.0	U
58-89-9	gamma-BHC (Lindane)	1.3	U
76-44-8	Heptachlor	0.99	U
309-00-2	Aldrin	1.3	U
1024-57-3	Heptachlor epoxide	27	U
959-98-8	Endosulfan I	4.6	U
60-57-1	Dieldrin	0.66	U
72-55-9	4,4'-DDE	1.3	U
72-20-8	Endrin	2.0	U
33213-65-9	Endosulfan II	1.3	U
72-54-8	4,4'-DDD	3.6	U
1031-07-8	Endosulfan sulfate	22	U
50-29-3	4,4'-DDT	4.0	U
72-43-5	Methoxychlor	58	U
7421-93-4	Endrin Aldehyde	7.6	U
57-74-9	Chlordane (technical)	4.6	U
8001-35-2	Toxaphene	79	U

U: Concentration of analyte is less than the value given.

192000

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06115MS

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-001MS

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analysed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	1.1	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	3.2	U
58-89-9	gamma-BHC (Lindane)		X
76-44-8	Heptachlor		X
309-00-2	Aldrin		X
1024-57-3	Heptachlor epoxide	30	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin		X
72-55-9	4,4'-DDE	1.4	U
72-20-8	Endrin		X
33213-65-9	Endosulfan II	1.4	U
72-54-8	4,4'-DDD	4.0	U
1031-07-8	Endosulfan sulfate	24	U
50-29-3	4,4'-DDT		X
72-43-5	Methoxychlor	64	U
7421-93-4	Endrin Aldehyde	8.3	U
57-74-9	Chlordane (technical)	5.0	U
8001-35-2	Toxaphene	87	U

U: Concentration of analyte is less than the value given.
X: See dilution.

000274

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06115MSDL

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-001MSDL

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	22	U
319-86-8	delta-BHC	32	U
58-89-9	gamma-BHC (Lindane)	14	U
76-44-8	Heptachlor	11	U
309-00-2	Aldrin	14	U
1024-57-3	Heptachlor epoxide	300	U
959-98-8	Endosulfan I	50	U
60-57-1	Dieldrin	7.2	U
72-55-9	4,4'-DDE	14	U
72-20-8	Endrin	22	U
33213-65-9	Endosulfan II	14	U
72-54-8	4,4'-DDD	40	U
1031-07-8	Endosulfan sulfate	240	U
50-29-3	4,4'-DDT	43	U
72-43-5	Methoxychlor	640	U
7421-93-4	Endrin Aldehyde	83	U
57-74-9	Chlordane (technical)	50	U
8001-35-2	Toxaphene	870	U

U: Concentration of analyte is less than the value given.
X: See dilution.

000278

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06115MSD

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-001MSD

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	1.1	U
319-85-7	beta-BHC	2.2	U
319-86-8	delta-BHC	3.2	U
58-89-9	gamma-BHC (Lindane)		X
76-44-8	Heptachlor		X
309-00-2	Aldrin		X
1024-57-3	Heptachlor epoxide	30	U
959-98-8	Endosulfan I	5.0	U
60-57-1	Dieldrin		X
72-55-9	4,4'-DDE	1.4	U
72-20-8	Endrin		X
33213-65-9	Endosulfan II	1.4	U
72-54-8	4,4'-DDD	4.0	U
1031-07-8	Endosulfan sulfate	24	U
50-29-3	4,4'-DDT		X
72-43-5	Methoxychlor	64	U
7421-93-4	Endrin Aldehyde	8.3	U
57-74-9	Chlordane (technical)	5.0	U
8001-35-2	Toxaphene	87	U

U: Concentration of analyte is less than the value given.
X: See dilution.

000282

FORM I PEST

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

92.06115MSDDL

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 2027-001MSDDL

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: 05-02-92

% Moisture: not dec. 9 dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 10

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	11	U
319-85-7	beta-BHC	22	U
319-86-8	delta-BHC	32	U
58-89-9	gamma-BHC (Lindane)	14	U
76-44-8	Heptachlor	11	U
309-00-2	Aldrin	14	U
1024-57-3	Heptachlor epoxide	300	U
959-98-8	Endosulfan I	50	U
60-57-1	Dieldrin	7.2	U
72-55-9	4,4'-DDE	14	U
72-20-8	Endrin	22	U
33213-65-9	Endosulfan II	14	U
72-54-8	4,4'-DDD	40	U
1031-07-8	Endosulfan sulfate	240	U
50-29-3	4,4'-DDT	43	U
72-43-5	Methoxychlor	640	U
7421-93-4	Endrin Aldehyde	83	U
57-74-9	Chlordane (technical)	50	U
8001-35-2	Toxaphene	870	U

U: Concentration of analyte is less than the value given.
X: See dilution.

FORM I PEST

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PSPK01A

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: SPK13055-1

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	0.99	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	3.0	U
58-89-9	gamma-BHC (Lindane)	1.3	U
76-44-8	Heptachlor	0.99	U
309-00-2	Aldrin	1.3	U
1024-57-3	Heptachlor epoxide		X
959-98-8	Endosulfan I	4.6	U
60-57-1	Dieldrin	0.66	U
72-55-9	4,4'-DDE	1.3	U
72-20-8	Endrin	2.0	U
33213-65-9	Endosulfan II	1.3	U
72-54-8	4,4'-DDD	3.6	U
1031-07-8	Endosulfan sulfate	22	U
50-29-3	4,4'-DDT	4.0	U
72-43-5	Methoxychlor	58	U
7421-93-4	Endrin Aldehyde	7.6	U
57-74-9	Chlordane (technical)	4.6	U
8001-35-2	Toxaphene	79	U

U: Concentration of analyte is less than the value given.
X: See dilution.

000293

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PSPK01B

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: SPK13055-2

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analysed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1

CAS NO.	Compound	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	0.99	U
319-85-7	beta-BHC	2.0	U
319-86-8	delta-BHC	3.0	U
58-89-9	gamma-BHC (Lindane)	1.3	U
76-44-8	Heptachlor	0.99	U
309-00-2	Aldrin	1.3	U
1024-57-3	Heptachlor epoxide	27	U
959-98-8	Endosulfan I	4.6	U
60-57-1	Dieldrin	0.66	U
72-55-9	4,4'-DDE	1.3	U
72-20-8	Endrin	2.0	U
33213-65-9	Endosulfan II	1.3	U
72-54-8	4,4'-DDD	3.6	U
1031-07-8	Endosulfan sulfate	22	U
50-29-3	4,4'-DDT	4.0	U
72-43-5	Methoxychlor	58	U
7421-93-4	Endrin Aldehyde	7.6	U
57-74-9	Chlordane (technical)	4.6	U
8001-35-2	Toxaphene	79	U

U: Concentration of analyte is less than the value given.

000297

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PSPK01ADL

Lab Name: ITAS-St. Louis Contract: _____

Lab Code: ITSL Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: SPK13055-1DL

Sample wt/vol: 30.0 (g/ml) G Lab File ID: _____

Level: (low/med) LOW Date Sampled: _____

% Moisture: not dec. _____ dec. _____ Date Extracted: 05-08-92

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 05-11-92

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 2

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

CAS NO.	Compound		Q
319-84-6	alpha-BHC	2.0	U
319-85-7	beta-BHC	4.0	U
319-86-8	delta-BHC	5.9	U
58-89-9	gamma-BHC (Lindane)	2.6	U
76-44-8	Heptachlor	2.0	U
309-00-2	Aldrin	2.6	U
1024-57-3	Heptachlor epoxide	55	U
959-98-8	Endosulfan I	9.2	U
60-57-1	Dieldrin	1.3	U
72-55-9	4,4'-DDE	2.6	U
72-20-8	Endrin	4.0	U
33213-65-9	Endosulfan II	2.6	U
72-54-8	4,4'-DDD	7.3	U
1031-07-8	Endosulfan sulfate	44	U
50-29-3	4,4'-DDT	7.9	U
72-43-5	Methoxychlor	116	U
7421-93-4	Endrin Aldehyde	15	U
57-74-9	Chlordane (technical)	9.2	U
8001-35-2	Toxaphene	160	U

U: Concentration of analyte is less than the value given.

000301

PCB Analyses

REPORT NUMBER: 13087

********** EM-9 ANALYTICAL REPORT **********

Prepared by: WWB on 20-Feb-1992

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: WAVERLY W BRAUNST PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY of TOTAL PCB's for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-4A	92.00697	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-5A	92.00698	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-2A	92.00699	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-15A	92.00700	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-13A	92.00701	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-16A	92.00702	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-18A	92.00703	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-19A	92.00704	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BC-2	92.00705	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BC-3	92.00706	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BAE-2	92.00707	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BAE-3	92.00708	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BAW-2	92.00709	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BAW-3	92.00710	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BP-1A	92.00761	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BP-1B	92.00762	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BP-1C	92.00763	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BP-2A	92.00764	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BP-2B	92.00765	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-BP-2C	92.00766	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor

PCB's

PF-40-BC-1	92.00767	1336363	< 0.06		UG/G	2/19/92	Mixed-Aroclor
PF-40-BP-3B	92.00768	1336363	< 0.06		UG/G	2/19/92	Mixed-Aroclor
PF-40-BP-3C	92.00769	1336363	< 0.06		UG/G	2/19/92	Mixed-Aroclor
PF-40-FA-5R	92.00770	1336363	< 0.06		UG/G	2/19/92	Mixed-Aroclor

DETAILED PCB DATA for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-FA-1A	92.00696	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-1A	92.00696	53469219	< 0.06		UG/G	2/19/92		Aroclor 1242
PF-40-FA-1A	92.00696	11097691	< 0.06		UG/G	2/19/92		Aroclor 1254
PF-40-FA-1A	92.00696	11096825	< 0.06		UG/G	2/19/92		Aroclor 1260
PF-40-FA-4A	92.00697	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-4A	92.00697	53469219	< 0.06		UG/G	2/19/92		Aroclor 1242
PF-40-FA-4A	92.00697	11097691	< 0.06		UG/G	2/19/92		Aroclor 1254
PF-40-FA-4A	92.00697	11096825	< 0.06		UG/G	2/19/92		Aroclor 1260
PF-40-FA-5A	92.00698	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-5A	92.00698	53469219	< 0.06		UG/G	2/19/92		Aroclor 1242
PF-40-FA-5A	92.00698	11097691	< 0.06		UG/G	2/19/92		Aroclor 1254
PF-40-FA-5A	92.00698	11096825	< 0.06		UG/G	2/19/92		Aroclor 1260
PF-40-FA-2A	92.00699	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-2A	92.00699	53469219	< 0.06		UG/G	2/19/92		Aroclor 1242
PF-40-FA-2A	92.00699	11097691	< 0.06		UG/G	2/19/92		Aroclor 1254
PF-40-FA-2A	92.00699	11096825	< 0.06		UG/G	2/19/92		Aroclor 1260
PF-40-FA-15A	92.00700	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-15A	92.00700	53469219	< 0.06		UG/G	2/19/92		Aroclor 1242
PF-40-FA-15A	92.00700	11097691	< 0.06		UG/G	2/19/92		Aroclor 1254
PF-40-FA-15A	92.00700	11096825	< 0.06		UG/G	2/19/92		Aroclor 1260
PF-40-FA-13A	92.00701	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-13A	92.00701	53469219	< 0.06		UG/G	2/19/92		Aroclor 1242
PF-40-FA-13A	92.00701	11097691	< 0.06		UG/G	2/19/92		Aroclor 1254
PF-40-FA-13A	92.00701	11096825	< 0.06		UG/G	2/19/92		Aroclor 1260
PF-40-FA-16A	92.00702	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-16A	92.00702	53469219	< 0.06		UG/G	2/19/92		Aroclor 1242
PF-40-FA-16A	92.00702	11097691	< 0.06		UG/G	2/19/92		Aroclor 1254
PF-40-FA-16A	92.00702	11096825	< 0.06		UG/G	2/19/92		Aroclor 1260
PF-40-FA-18A	92.00703	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-18A	92.00703	53469219	< 0.06		UG/G	2/19/92		Aroclor 1242
PF-40-FA-18A	92.00703	11097691	< 0.06		UG/G	2/19/92		Aroclor 1254
PF-40-FA-18A	92.00703	11096825	< 0.06		UG/G	2/19/92		Aroclor 1260
PF-40-FA-19A	92.00704	1336363	< 0.06		UG/G	2/19/92		Mixed-Aroclor
PF-40-FA-19A	92.00704	53469219	< 0.06		UG/G	2/[illegible]		Aroclor 1242

PF-40-FA-19A	92.00704	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-FA-19A	92.00704	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BC-2	92.00705	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BC-2	92.00705	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BC-2	92.00705	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BC-2	92.00705	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BC-3	92.00706	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BC-3	92.00706	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BC-3	92.00706	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BC-3	92.00706	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BAE-2	92.00707	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BAE-2	92.00707	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BAE-2	92.00707	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BAE-2	92.00707	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BAE-3	92.00708	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BAE-3	92.00708	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BAE-3	92.00708	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BAE-3	92.00708	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BAW-2	92.00709	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BAW-2	92.00709	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BAW-2	92.00709	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BAW-2	92.00709	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BAW-3	92.00710	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BAW-3	92.00710	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BAW-3	92.00710	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BAW-3	92.00710	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BP-1A	92.00761	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BP-1A	92.00761	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BP-1A	92.00761	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BP-1A	92.00761	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BP-1B	92.00762	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BP-1B	92.00762	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BP-1B	92.00762	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BP-1B	92.00762	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BP-1C	92.00763	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BP-1C	92.00763	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BP-1C	92.00763	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BP-1C	92.00763	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BP-2A	92.00764	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BP-2A	92.00764	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BP-2A	92.00764	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BP-2A	92.00764	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BP-2B	92.00765	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BP-2B	92.00765	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BP-2B	92.00765	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254

PF-40-BP-2B	92.00765	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BP-2C	92.00766	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BP-2C	92.00766	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BP-2C	92.00766	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BP-2C	92.00766	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BC-1	92.00767	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BC-1	92.00767	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BC-1	92.00767	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BC-1	92.00767	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BP-3B	92.00768	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BP-3B	92.00768	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BP-3B	92.00768	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BP-3B	92.00768	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-BP-3C	92.00769	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-BP-3C	92.00769	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-BP-3C	92.00769	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-BP-3C	92.00769	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260
PF-40-FA-5R	92.00770	1336363	< 0.06	UG/G	2/19/92	Mixed-Aroclor
PF-40-FA-5R	92.00770	53469219	< 0.06	UG/G	2/19/92	Aroclor 1242
PF-40-FA-5R	92.00770	11097691	< 0.06	UG/G	2/19/92	Aroclor 1254
PF-40-FA-5R	92.00770	11096825	< 0.06	UG/G	2/19/92	Aroclor 1260

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REPORT NUMBER: 13087 (continued)

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: WWB on 20-Feb-1992

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: WAVERLY W BRAUNST PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

___ Only qualitative data requested

✓ Only Blind QC samples run with this batch.

___ No QC samples run with this sample batch.

___ No QC samples for this constituent and matrix type available within EM-9

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.00795	1336363	28.6	14.3	UG/G	30.	3.	2/19/92	UNDER CONTROL	Mixed-Aroclor
92.00795	53469219	< 0.63		UG/G	0.0		2/19/92	UNDER CONTROL	Aroclor 1242
92.00795	11097691	< 0.63		UG/G	0.0		2/19/92	UNDER CONTROL	Aroclor 1254
92.00795	11096825	28.6	14.3	UG/G	30.	3.	2/19/92	UNDER CONTROL	Aroclor 1260
92.00796	1336363	21.5	10.7	UG/G	25.	2.	2/19/92	UNDER CONTROL	Mixed-Aroclor
92.00796	53469219	< 0.63		UG/G	0.0		2/19/92	UNDER CONTROL	Aroclor 1242
92.00796	11097691	< 0.63		UG/G	0.0		2/19/92	UNDER CONTROL	Aroclor 1254
92.00796	11096825	21.5	10.7	UG/G	25.	2.	2/19/92	UNDER CONTROL	Aroclor 1260

REPORT NUMBER: 13087

Analyst	Reviewer	Section Leader	QA Officer
2/20/92	2/20/92	2/26/92	
Date	Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPOR .ER. 13089

********** EM-9 ANALYTICAL REPORT **********

Prepared by: WWB on 20-Feb-1992

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: WAVERLY W BRAUNST PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY of TOTAL PCB's for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-1	92.00913	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor
PF-40-BAE-1	92.00914	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor
PF-40-EBX-W	92.00915	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor
PF-40-EBX-E	92.00916	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor
PF-40-SPS	92.00917	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor
PF-40-DP	92.00918	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor
PF-40-SD-W	92.00919	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor
PF-40-SD-M	92.00920	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor
PF-40-SD-E	92.00921	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor

DETAILED PCB DATA for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BAW-1	92.00913	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor
PF-40-BAW-1	92.00913	53469219	< 0.05		UG/G	2/19/92		Aroclor 1242
PF-40-BAW-1	92.00913	11097691	< 0.05		UG/G	2/19/92		Aroclor 1254
PF-40-BAW-1	92.00913	11096825	< 0.05		UG/G	2/19/92		Aroclor 1260
PF-40-BAE-1	92.00914	1336363	< 0.05		UG/G	2/19/92		Mixed-Aroclor

PF-40-[illegible]	92.00914	53469219	< 0.05	UG/G	[illegible]/92	Aroclor 1242
PF-40-BAE-1	92.00914	11097691	< 0.05	UG/G	2/19/92	Aroclor 1254
PF-40-BAE-1	92.00914	11096825	< 0.05	UG/G	2/19/92	Aroclor 1260
PF-40-EBX-W	92.00915	1336363	< 0.05	UG/G	2/19/92	Mixed-Aroclor
PF-40-EBX-W	92.00915	53469219	< 0.05	UG/G	2/19/92	Aroclor 1242
PF-40-EBX-W	92.00915	11097691	< 0.05	UG/G	2/19/92	Aroclor 1254
PF-40-EBX-W	92.00915	11096825	< 0.05	UG/G	2/19/92	Aroclor 1260
PF-40-EBX-E	92.00916	1336363	< 0.05	UG/G	2/19/92	Mixed-Aroclor
PF-40-EBX-E	92.00916	53469219	< 0.05	UG/G	2/19/92	Aroclor 1242
PF-40-EBX-E	92.00916	11097691	< 0.05	UG/G	2/19/92	Aroclor 1254
PF-40-EBX-E	92.00916	11096825	< 0.05	UG/G	2/19/92	Aroclor 1260
PF-40-SPS	92.00917	1336363	< 0.05	UG/G	2/19/92	Mixed-Aroclor
PF-40-SPS	92.00917	53469219	< 0.05	UG/G	2/19/92	Aroclor 1242
PF-40-SPS	92.00917	11097691	< 0.05	UG/G	2/19/92	Aroclor 1254
PF-40-SPS	92.00917	11096825	< 0.05	UG/G	2/19/92	Aroclor 1260
PF-40-DP	92.00918	1336363	< 0.05	UG/G	2/19/92	Mixed-Aroclor
PF-40-DP	92.00918	53469219	< 0.05	UG/G	2/19/92	Aroclor 1242
PF-40-DP	92.00918	11097691	< 0.05	UG/G	2/19/92	Aroclor 1254
PF-40-DP	92.00918	11096825	< 0.05	UG/G	2/19/92	Aroclor 1260
PF-40-SD-W	92.00919	1336363	< 0.05	UG/G	2/19/92	Mixed-Aroclor
PF-40-SD-W	92.00919	53469219	< 0.05	UG/G	2/19/92	Aroclor 1242
PF-40-SD-W	92.00919	11097691	< 0.05	UG/G	2/19/92	Aroclor 1254
PF-40-SD-W	92.00919	11096825	< 0.05	UG/G	2/19/92	Aroclor 1260
PF-40-SD-M	92.00920	1336363	< 0.05	UG/G	2/19/92	Mixed-Aroclor
PF-40-SD-M	92.00920	53469219	< 0.05	UG/G	2/19/92	Aroclor 1242
PF-40-SD-M	92.00920	11097691	< 0.05	UG/G	2/19/92	Aroclor 1254
PF-40-SD-M	92.00920	11096825	< 0.05	UG/G	2/19/92	Aroclor 1260
PF-40-SD-E	92.00921	1336363	< 0.05	UG/G	2/19/92	Mixed-Aroclor
PF-40-SD-E	92.00921	53469219	< 0.05	UG/G	2/19/92	Aroclor 1242
PF-40-SD-E	92.00921	11097691	< 0.05	UG/G	2/19/92	Aroclor 1254
PF-40-SD-E	92.00921	11096825	< 0.05	UG/G	2/19/92	Aroclor 1260

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REPORT NUMBER: 13089 (continued)

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: WWB on 20-Feb-1992

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 12454 MATRIX: SS ANALYST: WAVERLY W BRAUNST PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

___ Only qualitative data requested

✓ Only Blind QC samples run with this batch.

___ No QC samples run with this sample batch.

___ No QC samples for this constituent and matrix type available within EM-9

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.00969	1336363	17.8	8.9	UG/G	22.	2.	2/19/92	UNDER CONTROL	Mixed-Aroclor
92.00969	53469219	17.8	8.9	UG/G	22.	2.	2/19/92	UNDER CONTROL	Aroclor 1242
92.00969	11097691	< 0.63		UG/G	0.0		2/19/92	UNDER CONTROL	Aroclor 1254
92.00969	11096825	< 0.63		UG/G	0.0		2/19/92	UNDER CONTROL	Aroclor 1260

REPORT NUMBER: 13089

Analyst	Reviewer	Section Leader	QA Officer
2/20/92	2/20/92	2/25/92	
Date	Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPOR 13088

********** EM-9 ANALYTICAL REPORT **********

Prepared by: WWB on 20-Feb-1992

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 12456 MATRIX: W ANALYST: WAVERLY W BRAUNST PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY of TOTAL PCB's for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EW	92.00938	1336363	< 0.5		UG/L	2/19/92		Mixed-Aroclor
PF-40-DEB	92.00939	1336363	< 0.5		UG/L	2/19/92		Mixed-Aroclor

DETAILED PCB DATA for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-EW	92.00938	1336363	< 0.5		UG/L	2/19/92		Mixed-Aroclor
PF-40-EW	92.00938	53469219	< 0.5		UG/L	2/19/92		Aroclor 1242
PF-40-EW	92.00938	11097691	< 0.5		UG/L	2/19/92		Aroclor 1254
PF-40-EW	92.00938	11096825	< 0.5		UG/L	2/19/92		Aroclor 1260
PF-40-DEB	92.00939	1336363	< 0.5		UG/L	2/19/92		Mixed-Aroclor
PF-40-DEB	92.00939	53469219	< 0.5		UG/L	2/19/92		Aroclor 1242
PF-40-DEB	92.00939	11097691	< 0.5		UG/L	2/19/92		Aroclor 1254
PF-40-DEB	92.00939	11096825	< 0.5		UG/L	2/19/92		Aroclor 1260

REPORT NUMBER: 13088 (continued)

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: WWB on 20-Feb-1992

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 12456 MATRIX: W ANALYST: WAVERLY W BRAUNST PROGRAM CODE: M94B NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

___ Only qualitative data requested

✓ Only Blind QC samples run with this batch.

___ No QC samples run with this sample batch.

___ No QC samples for this constituent and matrix type available within EM-9

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.01031	1336363	6.4	3.2	UG/L	10.	1.	2/19/92	UNDER CONTROL	Mixed-Aroclor
92.01031	53469219	< 1.		UG/L	0.0		2/19/92	UNDER CONTROL	Aroclor 1242
92.01031	11097691	6.4	3.2	UG/L	10.	1.	2/19/92	UNDER CONTROL	Aroclor 1254
92.01031	11096825	< 1.		UG/L	0.0		2/19/92	UNDER CONTROL	Aroclor 1260

REPORT NUMBER: 13088

Warren W. Brown — Analyst — 2/20/92 Date

R. Bigham — Reviewer — 2/20/92 Date

Section Leader — 2/25/92 Date

QA Officer — Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 ANALYTICAL REPORT **********

Prepared by: LAT on 15-Jun-1992

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: WAVERLY BRAUNSTEIN PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

TA-40 PCB's

SUMMARY of TOTAL PCB's for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1	92.06115	1336363	< 0.17		UG/G	5/29/92		Mixed-Aroclor
PF-40-A-2	92.06116	1336363	< 0.17		UG/G	5/29/92		Mixed-Aroclor
PF-40-A-3	92.06117	1336363	< 0.17		UG/G	5/29/92		Mixed-Aroclor
PF-40-A-4	92.06118	1336363	< 0.17		UG/G	5/29/92		Mixed-Aroclor
PF-40-CH1-2	92.06119	1336363	< 0.17		UG/G	5/29/92		Mixed-Aroclor
PF-40-CH1-4	92.06120	1336363	< 0.17		UG/G	5/29/92		Mixed-Aroclor
PF-40-CH2-2	92.06121	1336363	< 0.17		UG/G	5/29/92		Mixed-Aroclor
PF-40-CH2-4	92.06122	1336363	< 0.17		UG/G	5/29/92		Mixed-Aroclor
PF-40-A-1-QA	92.06123	1336363	< 0.17		UG/G	5/29/92		Mixed-Aroclor

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DETAILED PCB DATA for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-A-1	92.06115	1336363	< 0.17		UG/G	5/29/92		Mixed-Aroclor
PF-40-A-1	92.06115	53469219	< 0.17		UG/G	5/29/92		Aroclor 1242
PF-40-A-1	92.06115	11097691	< 0.17		UG/G	5/29/92		Aroclor 1254
PF-40-A-1	92.06115	11096825	< 0.17		UG/G	5/29/92		Aroclor 1260
PF-40-A-2	9[illegible]06116	1336363	< 0.17		UG/G	5/[illegible]		Mixed-Aroclor
PF-40-A-2	[illegible]116	53469219	< 0.17		UG/G	5/[illegible]		Aroclor 1242

PF-40-	92.06116	11097691	< 0.17	UG/G	_9/92	Aroclor 1254
PF-40-A-2	92.06116	11096825	< 0.17	UG/G	5/29/92	Aroclor 1260
PF-40-A-3	92.06117	1336363	< 0.17	UG/G	5/29/92	Mixed-Aroclor
PF-40-A-3	92.06117	53469219	< 0.17	UG/G	5/29/92	Aroclor 1242
PF-40-A-3	92.06117	11097691	< 0.17	UG/G	5/29/92	Aroclor 1254
PF-40-A-3	92.06117	11096825	< 0.17	UG/G	5/29/92	Aroclor 1260
PF-40-A-4	92.06118	1336363	< 0.17	UG/G	5/29/92	Mixed-Aroclor
PF-40-A-4	92.06118	53469219	< 0.17	UG/G	5/29/92	Aroclor 1242
PF-40-A-4	92.06118	11097691	< 0.17	UG/G	5/29/92	Aroclor 1254
PF-40-A-4	92.06118	11096825	< 0.17	UG/G	5/29/92	Aroclor 1260
PF-40-CH1-2	92.06119	1336363	< 0.17	UG/G	5/29/92	Mixed-Aroclor
PF-40-CH1-2	92.06119	53469219	< 0.17	UG/G	5/29/92	Aroclor 1242
PF-40-CH1-2	92.06119	11097691	< 0.17	UG/G	5/29/92	Aroclor 1254
PF-40-CH1-2	92.06119	11096825	< 0.17	UG/G	5/29/92	Aroclor 1260
PF-40-CH1-4	92.06120	1336363	< 0.17	UG/G	5/29/92	Mixed-Aroclor
PF-40-CH1-4	92.06120	53469219	< 0.17	UG/G	5/29/92	Aroclor 1242
PF-40-CH1-4	92.06120	11097691	< 0.17	UG/G	5/29/92	Aroclor 1254
PF-40-CH1-4	92.06120	11096825	< 0.17	UG/G	5/29/92	Aroclor 1260
PF-40-CH2-2	92.06121	1336363	< 0.17	UG/G	5/29/92	Mixed-Aroclor
PF-40-CH2-2	92.06121	53469219	< 0.17	UG/G	5/29/92	Aroclor 1242
PF-40-CH2-2	92.06121	11097691	< 0.17	UG/G	5/29/92	Aroclor 1254
PF-40-CH2-2	92.06121	11096825	< 0.17	UG/G	5/29/92	Aroclor 1260
PF-40-CH2-4	92.06122	1336363	< 0.17	UG/G	5/29/92	Mixed-Aroclor
PF-40-CH2-4	92.06122	53469219	< 0.17	UG/G	5/29/92	Aroclor 1242
PF-40-CH2-4	92.06122	11097691	< 0.17	UG/G	5/29/92	Aroclor 1254
PF-40-CH2-4	92.06122	11096825	< 0.17	UG/G	5/29/92	Aroclor 1260
PF-40-A-1-QA	92.06123	1336363	< 0.17	UG/G	5/29/92	Mixed-Aroclor
PF-40-A-1-QA	92.06123	53469219	< 0.17	UG/G	5/29/92	Aroclor 1242
PF-40-A-1-QA	92.06123	11097691	< 0.17	UG/G	5/29/92	Aroclor 1254
PF-40-A-1-QA	92.06123	11096825	< 0.17	UG/G	5/29/92	Aroclor 1260

********** EM-9 QUALITY ASSURANCE REPORT **********

POLYCHLORINATED BIPHENYLS Prepared by: LAT on 15-Jun-1992

REQUEST NUMBER: 12846 MATRIX: SS ANALYST: WAVERLY BRAUNSTEIN PROGRAM CODE: M94A NOTEBOOK: PAGE:

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: GCEC ANALYTICAL PROCEDURE:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

********** EM-9 QUALITY ASSURANCE REPORT **********

********** EM-9 QUALITY ASSURANCE REPORT **********

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
92.06160	1336363	10.3	5.2	UG/G	11.	1.	5/29/92	UNDER CONTROL	Mixed-Aroclor
92.06160	53469219	10.3	5.2	UG/G	11.	1.	5/29/92	UNDER CONTROL	Aroclor 1242
92.06160	11097691	< 0.63		UG/G	0.0		5/29/92	UNDER CONTROL	Aroclor 1254
92.06160	11096825	< 0.63		UG/G	0.0		5/29/92	UNDER CONTROL	Aroclor 1260

REPORT NUMBER: 14258

Analyst	Reviewer	Section Leader	QA Officer
6/15/92	6/15/92	6/15/92	6-15-92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in
'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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Nitrate/Cyanide Analyses

REPORT NUMBER: 13165

Soil NO3-N

********** EM-9 ANALYTICAL REPORT **********

Prepared by: E.M.HODGE on 27-Feb-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: EVANGELINE HODGE PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FIA ANALYTICAL PROCEDURE: 353.2 NOTEBOOK: 9303 PAGE: 26

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS (ppm)	COMPLETION DATE	COMMENT
PF-40-BP-1A	92.00761	NO3-N	0.079	0.04	UG/G	2/26/92	
PF-40-BP-1B	92.00762	NO3-N	2.02	0.2	UG/G	2/26/92	
PF-40-BP-1C	92.00763	NO3-N	2.27	0.2	UG/G	2/26/92	
PF-40-BP-2A	92.00764	NO3-N	0.069	0.04	UG/G	2/26/92	
PF-40-BP-2B	92.00765	NO3-N	< 0.04		UG/G	2/26/92	< 21 ppm ULB
PF-40-BP-2C	92.00766	NO3-N	0.158	0.04	UG/G	2/26/92	
PF-40-BC-1	92.00767	NO3-N	0.287	0.04	UG/G	2/26/92	
PF-40-BP-3B	92.00768	NO3-N	0.069	0.04	UG/G	2/26/92	
PF-40-BP-3C	92.00769	NO3-N	0.487	0.05	UG/G	2/26/92	
PF-40-FA-5R	92.00770	NO3-N	0.317	0.04	UG/G	2/26/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BP-1A	92.00761	NO3-N	0.079	0.04	UG/G	2/26/92	
PF-40-BP-1B	92.00762	NO3-N	2.02	0.2	UG/G	2/26/92	
PF-40-BP-1C	92.00763	NO3-N	2.28	0.2	UG/G	2/26/92	
PF-40-BP-2C	92.00766	NO3-N	0.158	0.04	UG/G	2/26/92	
PF-40-BC-1	92.00767	NO3-N	0.287	0.04	UG/G	2/26/92	
PF-40-BP-3B	92.00768	NO3-N	0.069	0.04	UG/G	2/26/92	
PF-40-BP-3C	92.00769	NO3-N	0.487	0.05	UG/G	2/26/92	
PF-40-FA-5R	92.00770	NO3-N	0.317	0.04	UG/G	2/26/92	

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REPORT NUMBER: 13165 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: E.M.HODGE on 27-Feb-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: EVANGELINE HODGE PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: 9303 PAGE: 26

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01142	NO3-N	1.87	0.2	MG/L	2.	0.08	2/26/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00804	NO3-N	0.696	0.07	MG/L	0.8	0.08	2/26/92	UNDER CONTROL
92.00804	NO3-N	0.696	0.07	MG/L	0.8	0.08	2/26/92	UNDER CONTROL

REPORT NUMBER: 13165

Analyst	Section Leader	QA Officer
2/27/92	2/27/92	2/28/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13164

Soil NO3-N

********** EM-9 ANALYTICAL REPORT **********

Prepared by: E.M.HODGE on 27-Feb-1992

REQUEST NUMBER: 12453 MATRIX: SS ANALYST: EVANGELINE HODGE PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FIA ANALYTICAL PROCEDURE: 353.2 NOTEBOOK: 9303 PAGE: 26

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00913	NO3-N	0.079	0.04	UG/G	2/26/92	
PF-40-BAE-1	92.00914	NO3-N	0.327	0.04	UG/G	2/26/92	
PF-40-EBX-W	92.00915	NO3-N	13.9	1.4	UG/G	2/26/92	
PF-40-EBX-E	92.00916	NO3-N	7.42	0.7	UG/G	2/26/92	<21 ppm WL
PF-40-SPS	92.00917	NO3-N	1.83	0.2	UG/G	2/26/92	
PF-40-DP	92.00918	NO3-N	0.417	0.04	UG/G	2/26/92	
PF-40-SD-W	92.00919	NO3-N	0.04	0.04	UG/G	2/26/92	
PF-40-SD-M	92.00920	NO3-N	0.04	0.04	UG/G	2/26/92	ok
PF-40-SD-E	92.00921	NO3-N	0.043	0.04	UG/G	2/26/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00913	NO3-N	0.079	0.04	UG/G	2/26/92	
PF-40-BAE-1	92.00914	NO3-N	0.337	0.04	UG/G	2/26/92	
PF-40-EBX-W	92.00915	NO3-N	14.2	1.4	UG/G	2/26/92	
PF-40-EBX-E	92.00916	NO3-N	7.42	0.7	UG/G	2/26/92	
PF-40-SPS	92.00917	NO3-N	1.83	0.2	UG/G	2/26/92	
PF-40-DP	92.00918	NO3-N	0.407	0.04	UG/G	2/26/92	
PF-40-SD-W	92.00919	NO3-N	0.04	0.04	UG/G	2/26/92	
PF-40-SD-M	92.00920	NO3-N	0.04	0.04	UG/G	2/26/92	
PF-40-SD-E	92.00921	NO3-N	0.043	0.04	UG/G	2/26/92	

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REPORT NUMBER: 13164 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: E.M.HODGE on 27-Feb-1992

REQUEST NUMBER: 12453 MATRIX: SS ANALYST: EVANGELINE HODGE PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: 9303 PAGE: 26

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01142	NO3-N	1.87	0.2	MG/L	2.	0.08	2/26/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01096	NO3-N	0.737	0.07	MG/L	0.8	0.08	2/26/92	UNDER CONTROL
92.01096	NO3-N	0.737	0.07	MG/L	0.8	0.08	2/26/92	UNDER CONTROL

REPORT NUMBER: 13164

Analyst	Section Leader	QA Officer
2/27/92	2/27/92	2/28/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13167

********** EM-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 27-Feb-1992

REQUEST NUMBER: 12449 MATRIX: W ANALYST: EVANGELINE HODGE PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FIA ANALYTICAL PROCEDURE: 353.2 NOTEBOOK: 9303 PAGE: 26

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00938	CN	< 0.01		MG/L	2/21/92	
PF-40-EW	92.00938	NO3-N	0.307	0.04	MG/L	2/26/92	
PF-40-DEB	92.00939	CN	< 0.01		MG/L	2/21/92	
PF-40-DEB	92.00939	NO3-N	1.02	0.1	MG/L	2/26/92	

ppm

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00938	NO3-N	0.307	0.04	MG/L	2/26/92	
PF-40-DEB	92.00939	NO3-N	1.02	0.1	MG/L	2/26/92	

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REPORT NUMBER: 13167 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: EAJ on 27-Feb-1992

REQUEST NUMBER: 12449 MATRIX: W ANALYST: EVANGELINE HODGE PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: 9303 PAGE: 26

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01142	NO3-N	1.87	0.2	MG/L	2.	0.08	2/26/92	UNDER CONTROL
00.01401	CN	440.	44.	UG/L	500.	79.	2/21/92	UNDER CONTROL

UMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01099	CN	0.119	0.01	MG/L	0.2	0.02	2/21/92	OUT OF CONTROL

REPORT NUMBER: 13167

Em H
Analyst
2/27/92
Date

OTA
Section Leader
2/27/92
Date

mag
QA Officer
2/28/92
Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

REPORT NUMBER: 14920

********** EM-9 ANALYTICAL REPORT **********

Prepared by: E.M.HODGE on 18-Aug-1992

REQUEST NUMBER: 12855 MATRIX: SS ANALYST: EVANGELINE HODGE PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ACOLR ANALYTICAL PROCEDURE: 335.3 NOTEBOOK: 09288 PAGE: 42

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06115	CN	< 0.02		UG/G	8/18/92	
PF-40-A-1	92.06115	NO3-N	3.8	0.08	UG/G	8/18/92	
PF-40-A-2	92.06116	CN	< 0.02		UG/G	8/18/92	
PF-40-A-2	92.06116	NO3-N	< 0.08		UG/G	8/18/92	
PF-40-A-3	92.06117	CN	< 0.02		UG/G	8/18/92	
PF-40-A-3	92.06117	NO3-N	4.	0.08	UG/G	8/18/92	
PF-40-A-4	92.06118	CN	< 0.02		UG/G	8/18/92	
PF-40-A-4	92.06118	NO3-N	0.81	0.08	UG/G	8/18/92	
PF-40-CH1-2	92.06119	CN	< 0.02		UG/G	8/18/92	
PF-40-CH1-2	92.06119	NO3-N	1.04	0.1	UG/G	8/18/92	
PF-40-CH1-4	92.06120	CN	< 0.02		UG/G	8/18/92	
PF-40-CH1-4	92.06120	NO3-N	1.57	0.15	UG/G	8/18/92	
PF-40-CH2-2	92.06121	CN	< 0.02		UG/G	8/18/92	
PF-40-CH2-2	92.06121	NO3-N	0.39	0.08	UG/G	8/18/92	
PF-40-CH2-4	92.06122	CN	< 0.02		UG/G	8/18/92	
PF-40-CH2-4	92.06122	NO3-N	< 0.08		UG/G	8/18/92	
PF-40-A-1-QA	92.06123	CN	< 0.02		UG/G	8/18/92	
PF-40-A-1-QA	92.06123	NO3-N	4.84	0.5	UG/G	8/18/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-CH1-4	92.06120	NO3-N	1.57	0.16	UG/G	8/18/92	
PF-40-CH2-4	92.06122	CN	< 0.02		UG/G	8/18/92	
PF-40-A-1-QA	92.06123	NO3-N	4.7	0.5	UG/G	8/18/92	

MATRIX SPIKES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	AMOUNT SPIKED	AMOUNT, RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-CH1-4	92.06120	NO3-N	0.8	0.72	UG/G	8/18/92	
PF-40-A-1-QA	92.06123	NO3-N	0.8	0.72	UG/G	8/18/92	

REPORT NUMBER: 14920 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: E.M.HODGE on 18-Aug-1992

REQUEST NUMBER: 12855 MATRIX: SS ANALYST: EVANGELINE HODGE PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: 09288 PAGE: 42

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01142	NO3-N	2.04	0.2	MG/L	2.	0.08	8/18/92	UNDER CONTROL
00.01401	CN	398.	40.	UG/L	500.	79.	8/18/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

___ Only qualitative data requested

✓ Only Open (non-blind) QC samples run with this sample batch.

___ No QC samples run with this sample batch.

___ No QC samples for this constituent and matrix type available within EM-9

REPORT NUMBER: 14920

Analyst	Reviewer	Section Leader	QA Officer
Smith	W.P.	[illegible]	may
8/18/92	8/18/92	8/19/92	8/19/92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in

TPH Analyses

TPH

TPH DATA
TA-40 LDS

To : Philip R. Fresquez, EM-8, MS K490

Thru : Chris Leibman, Section Leader, Organic Analysis

From : Stuart D. Nielsen

Date : 30 January 1992

Subject: Results for Analytical Request Number 12439 - [redacted] Recoverable Petroleum Hydrocarbons

Under request number 12439 I received four samples with two sample numbers, 92.00768, sets A and B, and 92.00769, sets A and B. The request was for the determination of total recoverable petroleum hydrocarbons by EPA Method 418.1.

The results obtained are given in the attached tables. In order to enter the results into the computer it was necessary for the Sample Receiving Section to renumber two of the samples. Thus samples 92.00768 and 92.01110 are what were received as 92.00768 sets A and B respectively. Likewise, samples 92.00769 and 92.01111 are what were received as 92.00769 sets A and B.

I assume that sets A and B of 92.00768 were expected to be duplicates and thus to yield the same results, within experimental error. The large difference between the results for the two samples was unexpected and could possibly be explained in one of two ways:
1) large inhomogeneities in the sampled area, or 2) loss of analyte - the sample with the lower result was the one used for the volatile organics analysis. I suspect the first explanation to be more likely.

These data are recorded in notebook A10100 on pages 137 through 143. If you have any questions concerning these results please contact me (5-7422) or Chris (5-6789).

Analytical Results for Request 12439

Sample Number	Total Recoverable Petroleum Hydrocarbons µg/g soil
92.00768	13.9 ± 3.47
92.01110	1264 ± 316
92.00769	28.3 ± 7.08
92.01111	49.8 ± 12.4

..cPORT NUMBER: 12872

********** EM-9 ANALYTICAL REPORT **********

Prepared by: DR. NIELSEN on 30-Jan-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Stuart Nielsen PROGRAM CODE: M94B NOTEBOOK: A10100 PAGE: 137

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: FTIR ANALYTICAL PROCEDURE: EPA 418.1

Customer Sample Results, Sample # 92.00768

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3B	92.00768	177	13.9	3.4	UG/G SOIL	1/30/92		Petroleum Hydrocarbons, Total Recoverable

REPORT NUMBER: 12872

********** EM-9 ANALYTICAL REPORT **********

Prepared by: DR. NIELSEN on 30-Jan-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Stuart Nielsen PROGRAM CODE: M948 NOTEBOOK: A10100 PAGE: 137

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: FTIR ANALYTICAL PROCEDURE: EPA 418.1

Customer Sample Results, Sample # 92.00769

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3C	92.00769	177	28.3	7.1	UG/G SOIL	1/30/92		Petroleum Hydrocarbons, Total Recoverable

REPORT NUMBER: 12872

********** EM-9 ANALYTICAL REPORT **********

Prepared by: DR. NIELSEN on 30-Jan-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Stuart Nielsen PROGRAM CODE: M94B NOTEBOOK: A10100 PAGE: 137

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: FTIR ANALYTICAL PROCEDURE: EPA 418.1

Customer Sample Results, Sample # 92.01110

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3BB	92.01110	177	1260.	320.	UG/G SOIL	1/30/92		Petroleum Hydrocarbons, Total Recoverable

REPORT NUMBER: 12872

********** EM-9 ANALYTICAL REPORT **********

Prepared by: DR. NIELSEN on 30-Jan-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Stuart Nielsen PROGRAM CODE: M94B NOTEBOOK: A10100 PAGE: 137

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: FTIR ANALYTICAL PROCEDURE: EPA 418.1

Customer Sample Results, Sample # 92.01111

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
PF-40-BP-3CB	92.01111	177	49.8	12.4	UG/G SOIL	1/30/92		Petroleum Hydrocarbons, Total Recoverable

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REPORT NUMBER: 12872 (continued)

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: DR. NIELSEN on 30-Jan-1992

REQUEST NUMBER: 12439 MATRIX: SS ANALYST: Stuart Nielsen PROGRAM CODE: M94B NOTEBOOK: A10100 PAGE: 137

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815 TECHNIQUE: FTIR ANALYTICAL PROCEDURE: EPA 418.1

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

__✓__ No QC samples for this constituent and matrix type available within EM-9

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

none

Blank Spike Results

none

Blank Spike Duplicate Results

none

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Open (non-blind) QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

REPORT NUMBER: 12872

Analyst	Reviewer	Section Leader	QA Officer
1/30/92	1/31/92	1/31/92	2/5/92
Date	Date	Date	Date

The control st[illegible] of the preceeding data was evaluated using the standard statistic[illegible] iteria set forth in

'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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Total (TAL) Metals Analyses

REPORT NUMBER: 14036

AMENDED REPORT

Tab notes

SC1215.17.01.02
TOTAL (TAL) METALS DATA
T+40 SDS

EM-9 ANALYTICAL REPORT **********

Prepared by: EAJ-AMENDED on 21-May-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: RICHARD ROBINSON PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: R6451 PAGE: 118

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	AL	5.53	1.1	%	3/11/92	
PF-40-FA-1A	92.00696	BE	1.91	0.38	UG/G	3/11/92	
PF-40-FA-1A	92.00696	CA	2100.	420.	UG/G	3/11/92	
PF-40-FA-1A	92.00696	CD	< 1.		UG/G	3/11/92	
PF-40-FA-1A	92.00696	CO	< 1.		UG/G	3/11/92	
PF-40-FA-1A	92.00696	CR	1.7	0.3	UG/G	3/16/92	
PF-40-FA-1A	92.00696	CU	16.	3.2	UG/G	3/16/92	
PF-40-FA-1A	92.00696	FE	8600.	1720.	UG/G	3/11/92	
PF-40-FA-1A	92.00696	K	2.42	0.48	%	3/11/92	
PF-40-FA-1A	92.00696	MG	450.	90.	UG/G	3/11/92	
PF-40-FA-1A	92.00696	MN	324.	65.	UG/G	3/11/92	
PF-40-FA-1A	92.00696	NA	2.67	0.54	%	3/11/92	
PF-40-FA-1A	92.00696	NI	2.	0.4	UG/G	3/16/92	
PF-40-FA-1A	92.00696	PB	13.	2.6	UG/G	3/16/92	
PF-40-FA-1A	92.00696	SB	< 2.		UG/G	3/11/92	
PF-40-FA-1A	92.00696	TL	< 4.		UG/G	3/11/92	
PF-40-FA-1A	92.00696	V	3.	1.	UG/G	3/11/92	
PF-40-FA-1A	92.00696	ZN	28.	5.6	UG/G	3/16/92	
PF-40-FA-4A	92.00697	AL	5.	1.	%	3/11/92	
PF-40-FA-4A	92.00697	BE	2.08	0.416	UG/G	3/11/92	
PF-40-FA-4A	92.00697	CA	1960.	392.	UG/G	3/11/92	
PF-40-FA-4A	92.00697	CD	< 1.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	CO	< 1.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	CR	2.	0.4	UG/G	3/16/92	
PF-40-FA-4A	92.00697	CU	0.85	0.17	UG/G	3/16/92	
PF-40-FA-4A	92.00697	FE	1.03	0.206	%	3/11/92	
PF-40-FA-4A	92.00697	K	2.18	0.436	%	3/11/92	
PF-40-FA-4A	92.00697	MG	437.	87.4	UG/G	3/11/92	
PF-40-FA-4A	92.00697	MN	379.	75.8	UG/G	3/11/92	
PF-40-FA-4A	92.00697	NA	2.38	0.476	%	3/11/92	
PF-40-FA-4A	92.00697	NI	1.8	0.6	UG/G	3/16/92	
PF-40-FA-4A	92.00697	PB	15.	3.	UG/G	3/16/92	
PF-40-FA-4A	92.00697	SB	< 2.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	TL	< 4.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	V	5.	1.	UG/G	3/11/92	
PF-40-FA-4A	92.00697	ZN	26.6	5.4	UG/G	3/16/92	
PF-40-FA-5A	92.00698	AL	5.16	1.03	%	3/11/92	

PF-40-FA-5A	92.00698	BE	1.7	0.34	UG/G	3/11/92
PF-40-FA-5A	92.00698	CA	2700.	540.	UG/G	3/11/92
PF-40-FA-5A	92.00698	CD	< 1.		UG/G	3/11/92
PF-40-FA-5A	92.00698	CO	2.	1.	UG/G	3/11/92
PF-40-FA-5A	92.00698	CR	2.	0.4	UG/G	3/16/92
PF-40-FA-5A	92.00698	CU	24.	4.8	UG/G	3/16/92
PF-40-FA-5A	92.00698	FE	1.26	0.25	%	3/11/92
PF-40-FA-5A	92.00698	K	2.	0.4	%	3/11/92
PF-40-FA-5A	92.00698	MG	1100.	220.	UG/G	3/11/92
PF-40-FA-5A	92.00698	MN	321.	64.	UG/G	3/11/92
PF-40-FA-5A	92.00698	NA	2.25	0.45	%	3/11/92
PF-40-FA-5A	92.00698	NI	2.	0.4	UG/G	3/16/92
PF-40-FA-5A	92.00698	PB	15.	3.	UG/G	3/16/92
PF-40-FA-5A	92.00698	SB	< 2.		UG/G	3/11/92
PF-40-FA-5A	92.00698	TL	< 4.		UG/G	3/11/92
PF-40-FA-5A	92.00698	V	9.	2.	UG/G	3/11/92
PF-40-FA-5A	92.00698	ZN	24.	4.8	UG/G	3/16/92
PF-40-FA-2A	92.00699	AL	5.	1.	%	3/11/92
PF-40-FA-2A	92.00699	BE	1.6	0.32	UG/G	3/11/92
PF-40-FA-2A	92.00699	CA	2700.	540.	UG/G	3/11/92
PF-40-FA-2A	92.00699	CD	< 1.		UG/G	3/11/92
PF-40-FA-2A	92.00699	CO	2.	1.	UG/G	3/11/92
PF-40-FA-2A	92.00699	CR	2.4	0.5	UG/G	3/16/92
PF-40-FA-2A	92.00699	CU	3.	0.6	UG/G	3/16/92
PF-40-FA-2A	92.00699	FE	1.28	0.26	%	3/11/92
PF-40-FA-2A	92.00699	K	2.	0.4	%	3/11/92
PF-40-FA-2A	92.00699	MG	1100.	220.	UG/G	3/11/92
PF-40-FA-2A	92.00699	MN	365.	73.	UG/G	3/11/92
PF-40-FA-2A	92.00699	NA	22.5	4.5	%	3/11/92
PF-40-FA-2A	92.00699	NI	2.	0.4	UG/G	3/16/92
PF-40-FA-2A	92.00699	PB	14.	2.8	UG/G	3/16/92
PF-40-FA-2A	92.00699	SB	< 2.		UG/G	3/11/92
PF-40-FA-2A	92.00699	TL	< 4.		UG/G	3/11/92
PF-40-FA-2A	92.00699	V	9.	2.	UG/G	3/11/92
PF-40-FA-2A	92.00699	ZN	27.	5.4	UG/G	3/16/92
PF-40-FA-15A	92.00700	AL	5.2	1.04	%	3/16/92
PF-40-FA-15A	92.00700	BE	1.61	0.32	UG/G	3/16/92
PF-40-FA-15A	92.00700	CA	2070.	414.	UG/G	3/16/92
PF-40-FA-15A	92.00700	CD	< 1.		UG/G	3/16/92
PF-40-FA-15A	92.00700	CO	2.	1.	UG/G	3/16/92
PF-40-FA-15A	92.00700	CR	2.1	0.42	UG/G	3/16/92
PF-40-FA-15A	92.00700	CU	4.6	0.9	UG/G	3/16/92
PF-40-FA-15A	92.00700	FE	9900.	1980.	UG/G	3/16/92
PF-40-FA-15A	92.00700	K	2.6	0.52	%	3/16/92
PF-40-FA-15A	92.00700	MG	740.	150.	UG/G	3/16/92
PF-40-FA-15A	92.00700	MN	312.	62.	UG/G	3/16/92
PF-40-FA-15A	92.00700	NA	2.3	0.46	%	3/16/92
PF-40-FA-15A	92.00700	NI	2.4	0.5	UG/G	3/16/92
PF-40-FA-15A	92.00700	PB	12.7	2.5	UG/G	3/16/92
PF-40-FA-15A	92.00700	SB	< 2.		UG/G	3/16/92
PF-40-FA-15A	92.00700	TL	< 4.		UG/G	3/16/92
PF-40-FA-15A	92.00700	V	6.	1.	UG/G	3/16/92
PF-40-FA-15A	92.00700	ZN	24.	4.8	UG/G	3/16/92
PF-40-FA-13A	92.00701	AL	4.6	0.92	%	3/16/92
PF-40-FA-13A	92.00701	BE	1.52	0.3	UG/G	3/16/92
PF-40-FA-13A	92.00701	CA	1900.	380.	UG/G	3/16/92
PF-40-FA-13A	92.00701	CD	< 1.		UG/G	3/16/92
PF-40-FA-13A	92.00701	CO	1.	1.	UG/G	3/16/92
PF-40-FA-13A	92.00701	CR	2.	0.4	UG/G	3/16/92
PF-40-FA-13A	92.00701	CU	1.4	0.28	UG/G	3/16/92

PF-40-FA-13A	92.00701	FE	8790.	1760.	UG/G	3/16/92
PF-40-FA-13A	92.00701	K	2.3	0.46	%	3/16/92
PF-40-FA-13A	92.00701	MG	530.	110.	UG/G	3/16/92
PF-40-FA-13A	92.00701	MN	265.	50.	UG/G	3/16/92
PF-40-FA-13A	92.00701	NA	2.2	0.44	%	3/16/92
PF-40-FA-13A	92.00701	NI	1.7	0.3	UG/G	3/16/92
PF-40-FA-13A	92.00701	PB	13.	2.6	UG/G	3/16/92
PF-40-FA-13A	92.00701	SB	< 2.		UG/G	3/16/92
PF-40-FA-13A	92.00701	TL	< 4.		UG/G	3/16/92
PF-40-FA-13A	92.00701	V	4.	1.	UG/G	3/16/92
PF-40-FA-13A	92.00701	ZN	24.	4.8	UG/G	3/16/92
PF-40-FA-16A	92.00702	AL	5.	1.	%	3/16/92
PF-40-FA-16A	92.00702	BE	1.98	0.4	UG/G	3/16/92
PF-40-FA-16A	92.00702	CA	3840.	770.	UG/G	3/16/92
PF-40-FA-16A	92.00702	CD	< 1.		UG/G	3/16/92
PF-40-FA-16A	92.00702	CO	2.	1.	UG/G	3/16/92
PF-40-FA-16A	92.00702	CR	2.	0.4	UG/G	3/16/92
PF-40-FA-16A	92.00702	CU	0.6	0.12	UG/G	3/16/92
PF-40-FA-16A	92.00702	FE	1.3	0.26	%	3/16/92
PF-40-FA-16A	92.00702	K	2.4	0.48	%	3/16/92
PF-40-FA-16A	92.00702	MG	1410.	280.	UG/G	3/16/92
PF-40-FA-16A	92.00702	MN	622.	125.	UG/G	3/16/92
PF-40-FA-16A	92.00702	NA	2.3	0.46	%	3/16/92
PF-40-FA-16A	92.00702	NI	2.2	0.4	UG/G	3/16/92
PF-40-FA-16A	92.00702	PB	12.	2.4	UG/G	3/16/92
PF-40-FA-16A	92.00702	SB	< 2.		UG/G	3/16/92
PF-40-FA-16A	92.00702	TL	< 4.		UG/G	3/16/92
PF-40-FA-16A	92.00702	V	8.	2.	UG/G	3/16/92
PF-40-FA-16A	92.00702	ZN	24.	4.8	UG/G	3/16/92
PF-40-FA-18A	92.00703	AL	5.	1.	%	3/16/92
PF-40-FA-18A	92.00703	BE	1.55	0.31	UG/G	3/16/92
PF-40-FA-18A	92.00703	CA	2550.	510.	UG/G	3/16/92
PF-40-FA-18A	92.00703	CD	< 1.		UG/G	3/16/92
PF-40-FA-18A	92.00703	CO	1.	1.	UG/G	3/16/92
PF-40-FA-18A	92.00703	CR	2.8	0.6	UG/G	3/16/92
PF-40-FA-18A	92.00703	CU	54.	10.8	UG/G	3/16/92
PF-40-FA-18A	92.00703	FE	8520.	1700.	UG/G	3/16/92
PF-40-FA-18A	92.00703	K	2.4	0.48	%	3/16/92
PF-40-FA-18A	92.00703	MG	810.	160.	UG/G	3/16/92
PF-40-FA-18A	92.00703	MN	324.	65.	UG/G	3/16/92
PF-40-FA-18A	92.00703	NA	2.3	0.46	%	3/16/92
PF-40-FA-18A	92.00703	NI	2.7	0.54	UG/G	3/16/92
PF-40-FA-18A	92.00703	PB	35.	7.	UG/G	3/16/92
PF-40-FA-18A	92.00703	SB	< 2.		UG/G	3/16/92
PF-40-FA-18A	92.00703	TL	< 4.		UG/G	3/16/92
PF-40-FA-18A	92.00703	V	6.	1.	UG/G	3/16/92
PF-40-FA-18A	92.00703	ZN	56.	11.2	UG/G	3/16/92
PF-40-FA-19A	92.00704	AL	5.4	1.08	%	3/16/92
PF-40-FA-19A	92.00704	BE	1.76	0.35	UG/G	3/16/92
PF-40-FA-19A	92.00704	CA	3190.	640.	UG/G	3/16/92
PF-40-FA-19A	92.00704	CD	< 1.		UG/G	3/16/92
PF-40-FA-19A	92.00704	CO	2.	1.	UG/G	3/16/92
PF-40-FA-19A	92.00704	CR	2.1	0.4	UG/G	3/16/92
PF-40-FA-19A	92.00704	CU	59.	12.	UG/G	3/16/92
PF-40-FA-19A	92.00704	FE	1.1	0.22	%	3/16/92
PF-40-FA-19A	92.00704	K	2.6	0.52	%	3/16/92
PF-40-FA-19A	92.00704	MG	1140.	230.	UG/G	3/16/92
PF-40-FA-19A	92.00704	MN	323.	65.	UG/G	3/16/92
PF-40-FA-19A	92.00704	NA	2.4	0.48	%	3/16/92
PF-40-FA-19A	92.00704	NI	2.5	0.5	UG/G	3/16/92

PF-40-FA-19A	92.00704	PB	27.	5.4	UG/G	3/16/92
PF-40-FA-19A	92.00704	SB	< 2.		UG/G	3/16/92
PF-40-FA-19A	92.00704	TL	< 4.		UG/G	3/16/92
PF-40-FA-19A	92.00704	V	10.	2.	UG/G	3/16/92
PF-40-FA-19A	92.00704	ZN	21.	4.2	UG/G	3/16/92
PF-40-BC-2	92.00705	AL	4.3	0.86	%	3/16/92
PF-40-BC-2	92.00705	BE	1.7	0.34	UG/G	3/16/92
PF-40-BC-2	92.00705	CA	2550.	510.	UG/G	3/16/92
PF-40-BC-2	92.00705	CD	< 1.		UG/G	3/16/92
PF-40-BC-2	92.00705	CO	1.	1.	UG/G	3/16/92
PF-40-BC-2	92.00705	CR	2.9	0.6	UG/G	3/16/92
PF-40-BC-2	92.00705	CU	68.	13.6	UG/G	3/16/92
PF-40-BC-2	92.00705	FE	9450.	1890.	UG/G	3/16/92
PF-40-BC-2	92.00705	K	1.9	0.38	%	3/16/92
PF-40-BC-2	92.00705	MG	1180.	240.	UG/G	3/16/92
PF-40-BC-2	92.00705	MN	322.	64.	UG/G	3/16/92
PF-40-BC-2	92.00705	NA	1.8	0.36	%	3/16/92
PF-40-BC-2	92.00705	NI	4.4	0.9	UG/G	3/16/92
PF-40-BC-2	92.00705	PB	20.	4.	UG/G	3/16/92
PF-40-BC-2	92.00705	SB	< 2.		UG/G	3/16/92
PF-40-BC-2	92.00705	TL	< 4.		UG/G	3/16/92
PF-40-BC-2	92.00705	V	8.	2.	UG/G	3/16/92
PF-40-BC-2	92.00705	ZN	57.	11.4	UG/G	3/16/92
PF-40-BC-3	92.00706	AL	4.6	1.	%	3/16/92
PF-40-BC-3	92.00706	BE	1.57	0.31	UG/G	3/16/92
PF-40-BC-3	92.00706	CA	2390.	480.	UG/G	3/16/92
PF-40-BC-3	92.00706	CD	< 1.		UG/G	3/16/92
PF-40-BC-3	92.00706	CO	2.	1.	UG/G	3/16/92
PF-40-BC-3	92.00706	CR	1.6	0.3	UG/G	3/16/92
PF-40-BC-3	92.00706	CU	3.1	0.62	UG/G	3/16/92
PF-40-BC-3	92.00706	FE	9100.	1820.	UG/G	3/16/92
PF-40-BC-3	92.00706	K	2.3	0.48	%	3/16/92
PF-40-BC-3	92.00706	MG	810.	160.	UG/G	3/16/92
PF-40-BC-3	92.00706	MN	310.	62.	UG/G	3/16/92
PF-40-BC-3	92.00706	NA	2.1	0.48	%	3/16/92
PF-40-BC-3	92.00706	NI	1.7	0.34	UG/G	3/16/92
PF-40-BC-3	92.00706	PB	13.	2.6	UG/G	3/16/92
PF-40-BC-3	92.00706	SB	< 2.		UG/G	3/16/92
PF-40-BC-3	92.00706	TL	< 4.		UG/G	3/16/92
PF-40-BC-3	92.00706	V	5.	1.	UG/G	3/16/92
PF-40-BC-3	92.00706	ZN	24.	4.8	UG/G	3/16/92
PF-40-BAE-2	92.00707	AL	4.1	0.82	%	3/16/92
PF-40-BAE-2	92.00707	BE	1.17	0.23	UG/G	3/16/92
PF-40-BAE-2	92.00707	CA	4410.	880.	UG/G	3/16/92
PF-40-BAE-2	92.00707	CD	< 1.		UG/G	3/16/92
PF-40-BAE-2	92.00707	CO	4.	1.	UG/G	3/16/92
PF-40-BAE-2	92.00707	FE	1.3	0.26	%	3/16/92
PF-40-BAE-2	92.00707	K	1.9	0.38	%	3/16/92
PF-40-BAE-2	92.00707	MG	1660.	332.	UG/G	3/16/92
PF-40-BAE-2	92.00707	MN	350.	70.	UG/G	3/16/92
PF-40-BAE-2	92.00707	NA	1.8	0.36	%	3/16/92
PF-40-BAE-2	92.00707	SB	< 2.		UG/G	3/16/92
PF-40-BAE-2	92.00707	TL	< 4.		UG/G	3/16/92
PF-40-BAE-2	92.00707	V	8.	2.	UG/G	3/16/92
PF-40-BAE-3	92.00708	AL	5.3	1.06	%	3/16/92
PF-40-BAE-3	92.00708	BE	1.29	0.26	UG/G	3/16/92
PF-40-BAE-3	92.00708	CA	1630.	330.	UG/G	3/16/92
PF-40-BAE-3	92.00708	CD	< 1.		UG/G	3/16/92
PF-40-BAE-3	92.00708	CO	< 1.		UG/G	3/16/92
PF-40-BAE-3	92.00708	CR	2.3	0.4	UG/G	3/16/92

PF-40-BAE-3	92.00708	CU	3.5	0.7	UG/G	3/16/92
PF-40-BAE-3	92.00708	FE	6770.	1350.	UG/G	3/16/92
PF-40-BAE-3	92.00708	K	2.7	0.54	%	3/16/92
PF-40-BAE-3	92.00708	MG	280.	60.	UG/G	3/16/92
PF-40-BAE-3	92.00708	MN	232.	46.	UG/G	3/16/92
PF-40-BAE-3	92.00708	NA	2.6	0.52	%	3/16/92
PF-40-BAE-3	92.00708	NI	1.7	0.3	UG/G	3/16/92
PF-40-BAE-3	92.00708	PB	19.	3.8	UG/G	3/16/92
PF-40-BAE-3	92.00708	SB	< 2.		UG/G	3/16/92
PF-40-BAE-3	92.00708	TL	< 4.		UG/G	3/16/92
PF-40-BAE-3	92.00708	V	2.	1.	UG/G	3/16/92
PF-40-BAE-3	92.00708	ZN	74.	14.8	UG/G	3/16/92
PF-40-BAW-2	92.00709	AL	5.1	1.02	%	3/16/92
PF-40-BAW-2	92.00709	BE	1.75	0.35	UG/G	3/16/92
PF-40-BAW-2	92.00709	CA	4280.	860.	UG/G	3/16/92
PF-40-BAW-2	92.00709	CD	< 1.		UG/G	3/16/92
PF-40-BAW-2	92.00709	CO	2.	1.	UG/G	3/16/92
PF-40-BAW-2	92.00709	CR	3.6	0.7	UG/G	3/16/92
PF-40-BAW-2	92.00709	CU	33.	6.6	UG/G	3/16/92
PF-40-BAW-2	92.00709	FE	1.1	0.22	%	3/16/92
PF-40-BAW-2	92.00709	K	2.2	0.44	%	3/16/92
PF-40-BAW-2	92.00709	MG	1470.	290.	UG/G	3/16/92
PF-40-BAW-2	92.00709	MN	310.	60.	UG/G	3/16/92
PF-40-BAW-2	92.00709	NA	2.1	0.42	%	3/16/92
PF-40-BAW-2	92.00709	NI	3.7	0.5	UG/G	3/16/92
PF-40-BAW-2	92.00709	PB	22.	4.4	UG/G	3/16/92
PF-40-BAW-2	92.00709	SB	< 2.		UG/G	3/16/92
PF-40-BAW-2	92.00709	TL	< 4.		UG/G	3/16/92
PF-40-BAW-2	92.00709	V	13.	3.	UG/G	3/16/92
PF-40-BAW-2	92.00709	ZN	64.	12.8	UG/G	3/16/92
PF-40-BAW-3	92.00710	AL	5.	1.	%	3/16/92
PF-40-BAW-3	92.00710	BE	1.89	0.38	UG/G	3/16/92
PF-40-BAW-3	92.00710	CA	9720.	1940.	UG/G	3/16/92
PF-40-BAW-3	92.00710	CD	< 1.		UG/G	3/16/92
PF-40-BAW-3	92.00710	CO	2.	1.	UG/G	3/16/92
PF-40-BAW-3	92.00710	CR	3.7	0.5	UG/G	3/16/92
PF-40-BAW-3	92.00710	CU	2.4	0.48	UG/G	3/16/92
PF-40-BAW-3	92.00710	FE	1.1	0.22	%	3/16/92
PF-40-BAW-3	92.00710	K	2.1	0.42	%	3/16/92
PF-40-BAW-3	92.00710	MG	1900.	380.	UG/G	3/16/92
PF-40-BAW-3	92.00710	MN	270.	54.	UG/G	3/16/92
PF-40-BAW-3	92.00710	NA	2.	0.4	%	3/16/92
PF-40-BAW-3	92.00710	NI	3.7	0.5	UG/G	3/16/92
PF-40-BAW-3	92.00710	PB	9.2	1.8	UG/G	3/16/92
PF-40-BAW-3	92.00710	SB	< 2.		UG/G	3/16/92
PF-40-BAW-3	92.00710	TL	< 4.		UG/G	3/16/92
PF-40-BAW-3	92.00710	V	13.	3.	UG/G	3/16/92
PF-40-BAW-3	92.00710	ZN	21.	4.2	UG/G	3/16/92

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-16A	92.00702	CR	1.7	0.3	UG/G	3/16/92	
PF-40-FA-16A	92.00702	CU	0.6	0.12	UG/G	3/16/92	
PF-40-FA-16A	92.00702	NI	2.	0.4	UG/G	3/16/92	
PF-40-FA-16A	92.00702	ZN	21.	4.2	UG/G	3/16/92	
PF-40-FA-19A	92.00704	CR	3.	0.6	UG/G	3/16/92	

PF-40-FA-19A	92.00704	CU	62.	12.4	UG/G	3/16/92
PF-40-FA-19A	92.00704	NI	3.2	0.64	UG/G	3/16/92
PF-40-FA-19A	92.00704	PB	24.	4.8	UG/G	3/16/92
PF-40-FA-19A	92.00704	ZN	33.	6.6	UG/G	3/16/92
PF-40-BC-3	92.00706	AL	5.	1.	%	3/16/92
PF-40-BC-3	92.00706	BE	1.61	0.32	UG/G	3/16/92
PF-40-BC-3	92.00706	CA	2410.	480.	UG/G	3/16/92
PF-40-BC-3	92.00706	CD	< 1.		UG/G	3/16/92
PF-40-BC-3	92.00706	CO	1.	1.	UG/G	3/16/92
PF-40-BC-3	92.00706	FE	9700.	1940.	UG/G	3/16/92
PF-40-BC-3	92.00706	K	2.4	0.48	%	3/16/92
PF-40-BC-3	92.00706	MG	750.	150.	UG/G	3/16/92
PF-40-BC-3	92.00706	MN	350.	70.	UG/G	3/16/92
PF-40-BC-3	92.00706	NA	2.4	0.48	%	3/16/92
PF-40-BC-3	92.00706	SB	< 2.		UG/G	3/16/92
PF-40-BC-3	92.00706	TL	< 4.		UG/G	3/16/92
PF-40-BC-3	92.00706	V	6.	1.	UG/G	3/16/92
PF-40-BAW-3	92.00710	CR	4.	0.8	UG/G	3/16/92
PF-40-BAW-3	92.00710	CU	2.7	0.5	UG/G	3/16/92
PF-40-BAW-3	92.00710	NI	3.5	0.7	UG/G	3/16/92
PF-40-BAW-3	92.00710	PB	8.2	1.6	UG/G	3/16/92
PF-40-BAW-3	92.00710	ZN	21.	4.2	UG/G	3/16/92

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REPORT NUMBER: 14036 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: EAJ-AMENDED on 21-May-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: RICHARD ROBINSON PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: R6451 PAGE: 118

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.00596	U	1.54	0.08	UG/G	1.71	0.04	3/13/91	UNDER CONTROL
00.00596	AL	6.3	1.3	%	8.07	0.18	3/16/92	UNDER CONTROL
00.00596	AL	8.34	1.6	%	8.07	0.18	3/11/92	UNDER CONTROL
00.00596	BE	1.34	0.27	UG/G	2.	0.3	3/16/92	UNDER CONTROL
00.00596	BE	1.5	0.3	UG/G	2.	0.3	3/11/92	UNDER CONTROL
00.00596	CA	1.4	0.28	%	1.96	0.1	3/16/92	UNDER CONTROL
00.00596	CA	1.53	0.3	%	1.96	0.1	3/11/92	UNDER CONTROL
00.00596	CD	< 1000.		NG/G	130.	40.	3/11/92	UNDER CONTROL
00.00596	CD	< 1000.		NG/G	130.	40.	3/16/92	UNDER CONTROL
00.00596	CO	8.3	1.7	UG/G	7.6	0.6	3/16/92	UNDER CONTROL
00.00596	CO	7.	1.4	UG/G	7.6	0.6	3/11/92	UNDER CONTROL
00.00596	CR	5.64	1.1	UG/G	12.3	1.3	3/16/92	OUT OF CONTROL
00.00596	FE	5.9	1.2	%	5.56	0.16	3/11/92	UNDER CONTROL
00.00596	FE	4.	0.8	%	5.56	0.16	3/16/92	UNDER CONTROL
00.00596	K	1.8	0.36	%	2.45	0.04	3/16/92	UNDER CONTROL
00.00596	K	2.	0.4	%	2.45	0.04	3/11/92	UNDER CONTROL
00.00596	MG	4850.	970.	UG/G	5400.	300.	3/11/92	UNDER CONTROL
00.00596	MG	4410.	880.	UG/G	5400.	300.	3/16/92	UNDER CONTROL
00.00596	MN	577.	115.	UG/G	720.	20.	3/16/92	UNDER CONTROL
00.00596	MN	796.	160.	UG/G	720.	20.	3/11/92	UNDER CONTROL
00.00596	NA	1.85	0.37	%	1.9	0.05	3/11/92	UNDER CONTROL
00.00596	NA	1.5	0.3	%	1.9	0.05	3/16/92	UNDER CONTROL
00.00596	NI	2.6	0.52	UG/G	8.	2.	3/16/92	WARNING 2-3 SIG
00.00596	PB	34.	6.8	UG/G	20.	2.	3/16/92	UNDER CONTROL
00.00596	PB	32.6	6.5	UG/G	20.	2.	3/16/92	UNDER CONTROL
00.00596	SB	< 2000.		NG/G	106.	18.	3/11/92	UNDER CONTROL
00.00596	SB	< 2000.		NG/G	106.	18.	3/16/92	UNDER CONTROL
00.00596	TL	< 4000.		NG/G	580.		3/11/92	UNDER CONTROL
00.00596	TL	< 4000.		NG/G	580.		3/16/92	UNDER CONTROL
00.00596	V	49.	10.	UG/G	57.	4.	3/16/92	UNDER CONTROL
00.00596	V	48.	9.6	UG/G	57.	4.	3/11/92	UNDER CONTROL
00.00596	ZN	20.	4.	UG/G	124.	5.	3/16/92	OUT OF CONTROL
00.00598	CR	10.3	2.1	UG/G	26.	3.	3/16/92	OUT OF CONTROL

00.00598 CU	9.74	1.9	UG/G	17.	1.	3/16/92	OUT OF CONTROL
00.00598 NI	0.7	0.2	UG/G	16.	3.	3/16/92	OUT OF CONTROL
00.00598 PB	15.7	3.1	UG/G	14.	3.	3/16/92	UNDER CONTROL
00.00598 ZN	26.8	5.36	UG/G	48.3	1.8	3/16/92	OUT OF CONT
00.00895 AS	59.6	6.	UG/L	49.		3/18/92	UNDER CONTROL
00.00895 AS	54.6	5.5	UG/L	49.		3/18/92	UNDER CONTROL
00.00895 AS	62.	6.2	UG/L	49.		3/18/92	UNDER CONTROL
00.00895 BE	18.5	0.9	UG/L	19.	2.	3/16/92	UNDER CONTROL
00.00895 BE	17.8	0.9	UG/L	19.	2.	3/16/92	UNDER CONTROL
00.00895 BE	17.2	0.9	UG/L	19.	2.	3/16/92	UNDER CONTROL
00.00895 CR	20.3	2.	UG/L	18.6	0.4	3/16/92	UNDER CONTROL
00.00895 CR	21.3	2.1	UG/L	18.6	0.4	3/16/92	UNDER CONTROL
00.00895 CU	23.9	2.4	UG/L	21.9	0.4	3/16/92	UNDER CONTROL
00.00895 CU	24.	2.4	UG/L	21.9	0.4	3/16/92	UNDER CONTROL
00.00895 CU	24.1	2.4	UG/L	21.9	0.4	3/16/92	UNDER CONTROL
00.00895 MN	34.8	3.5	UG/L	28.	2.	3/22/92	UNDER CONTROL
00.00895 MN	35.2	3.5	UG/L	28.	2.	3/22/92	UNDER CONTROL
00.00895 MN	36.	3.6	UG/L	28.	2.	3/22/92	UNDER CONTROL
00.00895 NI	50.	5.	UG/L	49.	3.	3/25/92	UNDER CONTROL
00.00895 NI	40.	4.	UG/L	49.	3.	3/25/92	UNDER CONTROL
00.00895 NI	51.	5.	UG/L	49.	3.	3/25/92	UNDER CONTROL
00.00895 V	47.3	2.4	UG/L	45.2	0.4	3/16/92	UNDER CONTROL
00.00895 V	48.5	2.4	UG/L	45.2	0.4	3/16/92	UNDER CONTROL
00.00895 V	47.7	2.4	UG/L	45.2	0.4	3/16/92	UNDER CONTROL
00.00895 ZN	68.6	6.9	UG/L	66.	2.	3/16/92	UNDER CONTROL
00.00895 ZN	67.1	6.7	UG/L	66.	2.	3/16/92	UNDER CONTROL
00.00895 ZN	67.3	6.7	UG/L	66.	2.	3/16/92	UNDER CONTROL
00.20193 AL	13.2	1.3	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 AL	9.25	0.93	MG/L	10.	1.	3/16/92	UNDER CONTR
00.20193 BE	9.8	0.98	MG/L	10.	1.	3/11/92	UNDER CONTRO
00.20193 BE	8.99	0.9	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 CA	9.15	0.91	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 CA	10.4	1.	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 CD	9.61	0.96	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 CD	11.4	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 CO	10.8	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 CO	9.81	0.98	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 CR	10.5	1.1	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 CU	10.7	1.1	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 FE	10.8	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 FE	9.22	0.92	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 K	87.	8.7	MG/L	100.	10.	3/11/92	UNDER CONTROL
00.20193 K	82.7	8.27	MG/L	100.	10.	3/16/92	UNDER CONTROL
00.20193 MG	10.04	1.	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 MG	10.2	1.	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 MN	9.72	0.97	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 MN	10.8	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 NA	10.1	1.	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 NA	9.5	0.95	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 NI	10.2	1.	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 PB	10.8	1.1	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 SB	9.69	0.97	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 SB	10.9	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 TL	10.13	1.01	MG/L	10.	1.	3/16/92	UNDER CONTR
00.20193 TL	10.6	1.1	MG/L	10.	1.	3/11/92	UNDER CONTRO
00.20193 V	9.96	1.	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 V	10.5	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 ZN	11.	1.1	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.21596 U	43.2	2.2	UG/L	45.	4.	3/13/91	UNDER CONTROL
00.21596 U	44.	2.2	UG/L	45.	4.	3/13/91	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
91.01646	U	71.7	3.6	UG/L	80.	8.	3/13/91	UNDER CONTROL
91.14459	AS	39.2	3.9	UG/L	40.	1.7	3/18/92	UNDER CONTROL
91.14459	BE	15.6	0.8	UG/L	16.	0.7	3/16/92	UNDER CONTROL
91.14459	CR	17.5	1.8	UG/L	18.	0.8	3/16/92	UNDER CONTROL
91.14459	CU	143.	14.	UG/L	130.	5.6	3/16/92	UNDER CONTROL
91.14459	MN	48.6	4.9	UG/L	48.	2.1	3/22/92	UNDER CONTROL
91.14459	V	47.2	2.4	UG/L	50.	2.2	3/16/92	UNDER CONTROL
91.14459	ZN	121.	12.	UG/L	120.	5.2	3/16/92	UNDER CONTROL
92.00735	AL	9.7	0.97	MG/L	10.	0.4	3/11/92	UNDER CONTROL
92.00735	BE	1.32	0.13	MG/L	1.4	0.06	3/11/92	UNDER CONTROL
92.00735	CA	0.8	0.08	MG/L	0.8	0.03	3/11/92	UNDER CONTROL
92.00735	CD	2.94	0.3	MG/L	3.	0.1	3/11/92	UNDER CONTROL
92.00735	CO	< 0.007		MG/L	0.0		3/11/92	UNDER CONTROL
92.00735	CR	5.4	0.54	MG/L	5.6	0.2	3/17/92	UNDER CONTROL
92.00735	CU	0.26	0.03	MG/L	0.26	0.01	3/17/92	UNDER CONTROL
92.00735	FE	0.3	0.2	MG/L	0.31	0.01	3/11/92	UNDER CONTROL
92.00735	K	62.8	13.	MG/L	80.	3.	3/11/92	UNDER CONTROL
92.00735	MG	4.36	0.44	MG/L	4.4	0.2	3/11/92	UNDER CONTROL
92.00735	MN	0.79	0.08	MG/L	0.8	0.03	3/11/92	UNDER CONTROL
92.00735	NA	2.02	0.2	MG/L	1.99	0.08	3/11/92	UNDER CONTROL
92.00735	NI	0.61	0.06	MG/L	0.6	0.03	3/17/92	UNDER CONTROL
92.00735	PB	3.7	0.37	MG/L	4.	0.2	3/17/92	UNDER CONTROL
92.00735	SB	13.5	1.4	MG/L	13.9	0.6	3/11/92	UNDER CONTROL
92.00735	TL	27.6	2.8	MG/L	28.	1.	3/11/92	UNDER CONTROL
92.00735	V	< 0.006		MG/L	0.0		3/11/92	UNDER CONTROL
92.00735	ZN	1.85	0.19	MG/L	1.66	0.07	3/17/92	UNDER CONTROL
92.00736	AL	13.8	1.4	MG/L	14.	0.6	3/11/92	UNDER CONTROL
92.00736	BE	2.5	0.25	MG/L	2.6	0.11	3/11/92	UNDER CONTROL
92.00736	CA	1.13	0.11	MG/L	1.2	0.05	3/11/92	UNDER CONTROL
92.00736	CD	1.29	0.13	MG/L	1.28	0.06	3/11/92	UNDER CONTROL
92.00736	CO	3.56	0.36	MG/L	3.6	0.15	3/11/92	UNDER CONTROL
92.00736	CR	4.87	0.49	MG/L	5.2	0.22	3/17/92	UNDER CONTROL
92.00736	CU	2.12	0.21	MG/L	2.16	0.09	3/17/92	UNDER CONTROL
92.00736	FE	< 0.05		MG/L	0.0		3/11/92	UNDER CONTROL
92.00736	K	25.	5.	MG/L	32.	1.4	3/11/92	UNDER CONTROL
92.00736	MG	16.	1.6	MG/L	16.	0.69	3/11/92	UNDER CONTROL
92.00736	MN	550.	55.	UG/L	560.	20.	3/11/92	UNDER CONTROL
92.00736	NA	20.	2.	MG/L	20.	0.86	3/11/92	UNDER CONTROL
92.00736	NI	< 0.04		MG/L	0.0		3/17/92	UNDER CONTROL
92.00736	PB	24.3	2.4	MG/L	24.8	1.1	3/17/92	UNDER CONTROL
92.00736	SB	0.04	0.01	MG/L	0.0		3/11/92	OUT OF CONTROL
92.00736	TL	22.	2.2	MG/L	21.6	0.9	3/11/92	UNDER CONTROL
92.00736	V	4.58	0.9	MG/L	4.8	0.2	3/11/92	UNDER CONTROL
92.00736	ZN	2.23	0.22	MG/L	2.	0.09	3/17/92	UNDER CONTROL
92.00800	AL	< 0.8		MG/L	0.0		3/11/92	UNDER CONTROL
92.00800	BE	1.85	0.09	MG/L	1.92	0.08	3/11/92	UNDER CONTROL
92.00800	CA	6.5	0.65	MG/L	6.8	0.29	3/11/92	UNDER CONTROL
92.00800	CD	2.42	0.24	MG/L	2.4	0.1	3/11/92	UNDER CONTROL
92.00800	CO	4.42	0.44	MG/L	4.4	0.19	3/11/92	UNDER CONTROL
92.00800	CR	610.	61.	UG/L	600.	30.	3/17/92	UNDER CONTROL
92.00800	CU	790.	79.	UG/L	800.	30.	3/17/92	UNDER CONTROL

92.00800 FE	2.42	0.24	MG/L	2.4	0.1	3/11/92	UNDER CONTROL
92.00800 K	< 0.4		MG/L	0.0		3/11/92	UNDER CONTROL
92.00800 MG	9.23	0.92	MG/L	9.2	0.4	3/11/92	UNDER CONTROL
92.00800 MN	80.	8.	UG/L	80.	3.	3/11/92	UNDER CONTROL
92.00800 NA	2.	0.2	MG/L	2.	0.09	3/11/92	UNDER CONTROL
92.00800 NI	6.72	0.67	MG/L	6.8	0.29	3/17/92	UNDER CONTROL
92.00800 PB	8.5	0.85	MG/L	8.8	0.38	3/17/92	UNDER CONTROL
92.00800 SB	28.7	2.9	MG/L	28.	1.2	3/11/92	UNDER CONTROL
92.00800 TL	4.99	0.5	MG/L	4.88	0.21	3/11/92	UNDER CONTROL
92.00800 V	2.35	0.24	MG/L	2.4	0.1	3/11/92	UNDER CONTROL
92.00800 ZN	1.35	0.14	MG/L	1.2	0.05	3/17/92	UNDER CONTROL

REPORT NUMBER: 14036

GD Morgan	CMa	mag
Analyst	Section Leader	QA Officer
5/26/92	5/26/92	5-26-92
Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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AMENDED REPORT

THIS IS AN AMENDED ANALYTICAL REPORT TO CORRECT A DILUTION ERROR IN SAMPLE NUMBER 92.00697, REQUEST NUMBER 12436, REPORT NUMBER 13470.

CMa 5/26/92

REPORT NUMBER: 12861 total As for pg

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 30-Jan-1992

ANALYSIS: AS REQUEST NUMBER: 12437 MATRIX: SS ANALYST: Michael Bell PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	< 0.2		UG/G	1/29/92	
PF-40-FA-4A	92.00697	0.3	0.2	UG/G	1/29/92	
PF-40-FA-5A	92.00698	0.3	0.2	UG/G	1/29/92	
PF-40-FA-2A	92.00699	0.2	0.2	UG/G	1/29/92	
PF-40-FA-15A	92.00700	0.3	0.2	UG/G	1/29/92	
PF-40-FA-13A	92.00701	0.2	0.2	UG/G	1/29/92	
PF-40-FA-16A	92.00702	0.4	0.2	UG/G	1/29/92	
PF-40-FA-18A	92.00703	0.4	0.2	UG/G	1/29/92	
PF-40-FA-19A	92.00704	0.4	0.2	UG/G	1/29/92	
PF-40-BC-2	92.00705	0.4	0.2	UG/G	1/29/92	
PF-40-BC-3	92.00706	0.2	0.2	UG/G	1/29/92	
PF-40-BAE-2	92.00707	3.1	0.2	UG/G	1/29/92	
PF-40-BAE-3	92.00708	0.3	0.2	UG/G	1/29/92	
PF-40-BAW-2	92.00709	0.7	0.2	UG/G	1/29/92	
PF-40-BAW-3	92.00710	0.7	0.2	UG/G	1/29/92	

$\bar{x}$ (LLO)
Bgr = 3.9 (± 7.1)
all < 3.9

~~No Action level~~
~~req.~~ pg.

< 30 ppm A.L
ok
pg

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	< 0.2		UG/G	1/29/92	
PF-40-FA-15A	92.00700	0.3	0.2	UG/G	1/29/92	
PF-40-BC-2	92.00705	0.5	0.2	UG/G	1/29/92	
PF-40-BAW-3	92.00710	0.7	0.2	UG/G	1/29/92	

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REPORT NUMBER: 12861 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 30-Jan-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: Michael Bell PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	45.3	9.	UG/L	51.	4.28	1/29/92	UNDER CONTROL
00.01160	47.2	9.	UG/L	51.	4.28	1/29/92	UNDER CONTROL
00.01160	46.2	9.	UG/L	51.	4.28	1/29/92	UNDER CONTROL
00.01160	44.9	9.	UG/L	51.	4.28	1/29/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00739	46.	10.	UG/L	49.	5.	1/29/92	UNDER CONTROL
92.00739	44.3	8.	UG/L	49.	5.	1/29/92	UNDER CONTROL
92.00740	43.7	8.	UG/L	55.	6.	1/29/92	UNDER CONTROL
92.00740	42.8	8.	UG/L	55.	6.	1/29/92	UNDER CONTROL

REPORT NUMBER: 12861

Analyst	Section Leader	QA Officer
MLB	R.P.	NK for MAG
1-30-92	1/30/92	1/31/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13222

********** EM-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 3-Mar-1992

ANALYSIS: BA REQUEST NUMBER: 12437 MATRIX: SS ANALYST: RICHARD ROBINSON PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	180.	36.	UG/G	2/24/92	
PF-40-FA-4A	92.00697	183.	37.	UG/G	2/24/92	
PF-40-FA-5A	92.00698	231.	46.	UG/G	2/24/92	
PF-40-FA-2A	92.00699	248.	50.	UG/G	2/24/92	
PF-40-FA-15A	92.00700	156.	31.	UG/G	2/24/92	
PF-40-FA-13A	92.00701	200.	40.	UG/G	2/24/92	
PF-40-FA-16A	92.00702	260.	52.	UG/G	2/24/92	
PF-40-FA-18A	92.00703	284.	57.	UG/G	2/24/92	
PF-40-FA-19A	92.00704	281.	56.	UG/G	2/24/92	
PF-40-BC-2	92.00705	224.	45.	UG/G	2/24/92	
PF-40-BC-3	92.00706	210.	42.	UG/G	2/24/92	
PF-40-BAE-2	92.00707	469.	94.	UG/G	2/24/92	
PF-40-BAE-3	92.00708	186.	37.	UG/G	2/24/92	
PF-40-BAW-2	92.00709	242.	48.	UG/G	2/24/92	
PF-40-BAW-3	92.00710	194.	39.	UG/G	2/24/92	

Footnotes
$\bar{x}$ 410 ppm
ULB 950 ppm

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: EAJ on 3-Mar-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: RICHARD ROBINSON PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.00596	1057.	211.	UG/G	966.	67.	2/24/92	UNDER CONTROL
00.20193	10.3	1.	MG/L	10.	1.	2/24/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00735	2.67	0.27	MG/L	2.6	0.1	2/24/92	UNDER CONTROL
92.00736	4.16	0.42	MG/L	4.	0.17	2/24/92	UNDER CONTROL
92.00800	660.	70.	UG/L	600.	30.	2/24/92	UNDER CONTROL

REPORT NUMBER: 13222

Analyst	Section Leader	QA Officer
3/6/92	3/6/92	3/6/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12868

+ total Hg

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 30-Jan-1992

ANALYSIS: HG REQUEST NUMBER: 12437 MATRIX: SS ANALYST: Michael Bell PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: CVAA ANALYTICAL PROCEDURE: 200.2 245.2

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS (ppb)	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	18.7	10.	NG/G	1/30/92	"gen tissue"
PF-40-FA-4A	92.00697	15.3	10.	NG/G	1/30/92	
PF-40-FA-5A	92.00698	20.4	10.	NG/G	1/30/92	
PF-40-FA-2A	92.00699	16.	10.	NG/G	1/30/92	
PF-40-FA-15A	92.00700	18.9	10.	NG/G	1/30/92	
PF-40-FA-13A	92.00701	18.4	10.	NG/G	1/30/92	
PF-40-FA-16A	92.00702	16.5	10.	NG/G	1/30/92	
PF-40-FA-18A	92.00703	17.6	10.	NG/G	1/30/92	
PF-40-FA-19A	92.00704	19.6	10.	NG/G	1/30/92	BG = 30 ppb
PF-40-BC-2	92.00705	18.9	10.	NG/G	1/30/92	
PF-40-BC-3	92.00706	16.7	10.	NG/G	1/30/92	
PF-40-BAE-2	92.00707	85.6	10.	NG/G	1/30/92	> BG (30 ppb ULB) clean sand
PF-40-BAE-3	92.00708	10.6	10.	NG/G	1/30/92	
PF-40-BAW-2	92.00709	34.6	10.	NG/G	1/30/92	< 20 ppm A.L.
PF-40-BAW-3	92.00710	24.8	10.	NG/G	1/30/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	17.8	10.	NG/G	1/30/92	
PF-40-FA-4A	92.00697	15.3	10.	NG/G	1/30/92	
PF-40-FA-5A	92.00698	15.9	10.	NG/G	1/30/92	
PF-40-FA-2A	92.00699	12.3	10.	NG/G	1/30/92	
PF-40-FA-15A	92.00700	17.9	10.	NG/G	1/30/92	
PF-40-FA-13A	92.00701	17.	10.	NG/G	1/30/92	
PF-40-FA-16A	92.00702	15.5	10.	NG/G	1/30/92	
PF-40-FA-18A	92.00703	16.	10.	NG/G	1/30/92	
PF-40-FA-19A	92.00704	16.6	10.	NG/G	1/30/92	
PF-40-BC-2	92.00705	16.6	10.	NG/G	1/30/92	
PF-40-BC-3	92.00706	15.4	10.	NG/G	1/30/92	
PF-40-BAE-2	92.00707	67.2	10.	NG/G	1/30/92	
PF-40-BAE-3	92.00708	10.4	10.	NG/G	1/30/92	
PF-40-BAW-2	92.00709	31.1	10.	NG/G	1/30/92	
PF-40-BAW-3	92.00710	22.6	10.	NG/G	1/30/92	

REPORT NUMBER: 12868 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 30-Jan-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: Michael Bell PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.00600	36.2	10.	NG/G	32.	10.	1/30/92	UNDER CONTROL
00.00600	35.9	10.	NG/G	32.	10.	1/30/92	UNDER CONTROL
00.23653	3.81	0.38	UG/L	4.	0.2	1/30/92	UNDER CONTROL
00.23653	3.83	0.38	UG/L	4.	0.2	1/30/92	UNDER CONTROL
)0.23653	3.87	0.4	UG/L	4.	0.2	1/30/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00737	1.4	0.2	UG/L	1.5	0.09	1/30/92	UNDER CONTROL
92.00738	0.1	0.1	UG/L	0.0		1/30/92	UNDER CONTROL

REPORT NUMBER: 12868

MGB — Analyst — 1·30·92 — Date

N.P. — Section Leader — 1/30/92 — Date

NK for MAG — QA Officer — 1/31/92 — Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12846

Total Ag

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 29-Jan-1992

ANALYSIS: AG REQUEST NUMBER: 12437 MATRIX: SS ANALYST: Barbara Hemberger PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FAA ANALYTICAL PROCEDURE: 272.1

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	2.6	1.	UG/G	1/29/92	
PF-40-FA-4A	92.00697	< 1.		UG/G	1/29/92	
PF-40-FA-5A	92.00698	< 1.		UG/G	1/29/92	
PF-40-FA-2A	92.00699	< 1.		UG/G	1/29/92	
PF-40-FA-15A	92.00700	1.1	1.	UG/G	1/29/92	
PF-40-FA-13A	92.00701	< 1.		UG/G	1/29/92	
PF-40-FA-16A	92.00702	< 1.		UG/G	1/29/92	
PF-40-FA-18A	92.00703	< 1.		UG/G	1/29/92	
PF-40-FA-19A	92.00704	< 1.		UG/G	1/29/92	
PF-40-BC-2	92.00705	< 1.		UG/G	1/29/92	
PF-40-BC-3	92.00706	< 1.		UG/G	1/29/92	
PF-40-BAE-2	92.00707	10.7	1.	UG/G	1/29/92	
PF-40-BAE-3	92.00708	< 1.		UG/G	1/29/92	
PF-40-BAW-2	92.00709	< 1.		UG/G	1/29/92	
PF-40-BAW-3	92.00710	< 1.		UG/G	1/29/92	

< 200 ppm A.L

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	1.1	1.	UG/G	1/29/92	
PF-40-FA-4A	92.00697	< 1.		UG/G	1/29/92	
PF-40-FA-5A	92.00698	< 1.		UG/G	1/29/92	
PF-40-FA-2A	92.00699	< 1.		UG/G	1/29/92	
PF-40-FA-15A	92.00700	< 1.		UG/G	1/29/92	
PF-40-FA-13A	92.00701	< 1.		UG/G	1/29/92	
PF-40-FA-16A	92.00702	< 1.		UG/G	1/29/92	
PF-40-FA-18A	92.00703	< 1.		UG/G	1/29/92	
PF-40-FA-19A	92.00704	< 1.		UG/G	1/29/92	
PF-40-BC-2	92.00705	< 1.		UG/G	1/29/92	
PF-40-BC-3	92.00706	< 1.		UG/G	1/29/92	
PF-40-BAE-2	92.00707	27.7	3.	UG/G	1/29/92	
PF-40-BAE-3	92.00708	< 1.		UG/G	1/29/92	
PF-40-BAW-2	92.00709	< 1.		UG/G	1/29/92	
PF-40-BAW-3	92.00710	< 1.		UG/G	1/29/92	

REPORT NUMBER: 12846 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 29-Jan-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: Barbara Hemberger PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	32.	3.	UG/L	32.	2.45	1/29/92	UNDER CONTROL
00.01160	35.	3.5	UG/L	32.	2.45	1/29/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00739	546.	55.	UG/L	510.	51.	1/29/92	UNDER CONTROL
92.00739	544.	54.	UG/L	510.	51.	1/29/92	UNDER CONTROL
92.00740	602.	60.	UG/L	570.	60.	1/29/92	UNDER CONTROL
92.00740	601.	60.	UG/L	570.	60.	1/29/92	UNDER CONTROL

REPORT NUMBER: 12846

BH	K. P.	NK for MAG
Analyst	Section Leader	QA Officer
1/29/92	1/29/92	1/29/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12862

Total x TA-40 SDS.

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 30-Jan-1992

ANALYSIS: SE REQUEST NUMBER: 12437 MATRIX: SS ANALYST: Michael Bell PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	< 0.2		UG/G	1/29/92	NO Action level ug.
PF-40-FA-4A	92.00697	< 0.2		UG/G	1/29/92	
PF-40-FA-5A	92.00698	< 0.2		UG/G	1/29/92	
PF-40-FA-2A	92.00699	< 0.2		UG/G	1/29/92	
PF-40-FA-15A	92.00700	< 0.2		UG/G	1/29/92	all < 0.2 BG
PF-40-FA-13A	92.00701	< 0.2		UG/G	1/29/92	
PF-40-FA-16A	92.00702	< 0.2		UG/G	1/29/92	
PF-40-FA-18A	92.00703	< 0.2		UG/G	1/29/92	
PF-40-FA-19A	92.00704	< 0.2		UG/G	1/29/92	
PF-40-BC-2	92.00705	< 0.2		UG/G	1/29/92	
PF-40-BC-3	92.00706	< 0.2		UG/G	1/29/92	
PF-40-BAE-2	92.00707	< 0.2		UG/G	1/29/92	
PF-40-BAE-3	92.00708	< 0.2		UG/G	1/29/92	
PF-40-BAW-2	92.00709	< 0.2		UG/G	1/29/92	
PF-40-BAW-3	92.00710	< 0.2		UG/G	1/29/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	< 0.2		UG/G	1/29/92	
PF-40-FA-15A	92.00700	< 0.2		UG/G	1/29/92	
PF-40-BC-2	92.00705	< 0.2		UG/G	1/29/92	
PF-40-BAW-3	92.00710	< 0.2		UG/G	1/29/92	

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REPORT NUMBER: 12862 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 30-Jan-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: Michael Bell PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	8.3	2.	UG/L	8.1	1.1	1/29/92	UNDER CONTROL
00.01160	7.1	2.	UG/L	8.1	1.1	1/29/92	UNDER CONTROL
00.01160	7.2	2.	UG/L	8.1	1.1	1/29/92	UNDER CONTROL
00.01160	7.7	2.	UG/L	8.1	1.1	1/29/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00739	49.	9.	UG/L	53.	5.	1/29/92	UNDER CONTROL
92.00739	50.2	10.	UG/L	53.	5.	1/29/92	UNDER CONTROL
92.00740	50.8	10.	UG/L	59.	6.	1/29/92	UNDER CONTROL
92.00740	52.5	10.	UG/L	59.	6.	1/29/92	UNDER CONTROL

REPORT NUMBER: 12862

Analyst	Section Leader	QA Officer
1-30-92	1/30/92	1/31/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13574

Totals

********** EM-9 ANALYTICAL REPORT **********

Prepared by: CB on 1-Apr-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: RICHARD ROBINSON PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: A5656 PAGE: 87

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAE-2	92.00707	CR	20.	4.	UG/G	3/31/92	
PF-40-BAE-2	92.00707	CU	584.	117.	UG/G	3/31/92	
PF-40-BAE-2	92.00707	NI	45.	9.	UG/G	3/31/92	
PF-40-BAE-2	92.00707	PB	1470.	294.	UG/G	3/31/92	
PF-40-BAE-2	92.00707	ZN	2750.	550.	UG/G	3/31/92	
PF-40-BP-1A	92.00761	AL	5.97	1.2	%	3/31/92	
PF-40-BP-1A	92.00761	BA	302.	60.	UG/G	3/31/92	
PF-40-BP-1A	92.00761	BE	2.28	0.46	UG/G	3/31/92	
PF-40-BP-1A	92.00761	CA	5070.	1000.	UG/G	3/31/92	
PF-40-BP-1A	92.00761	CD	< 1.		UG/G	3/31/92	
PF-40-BP-1A	92.00761	CO	3.4	0.7	UG/G	3/31/92	
PF-40-BP-1A	92.00761	CR	6.5	1.3	UG/G	3/31/92	
PF-40-BP-1A	92.00761	CU	57.	11.	UG/G	3/31/92	
PF-40-BP-1A	92.00761	FE	1.55	0.31	%	3/31/92	
PF-40-BP-1A	92.00761	K	2.73	0.55	%	3/31/92	
PF-40-BP-1A	92.00761	MG	2130.	430.	UG/G	3/31/92	
PF-40-BP-1A	92.00761	MN	455.	91.	UG/G	3/31/92	
PF-40-BP-1A	92.00761	NA	2.42	0.48	%	3/31/92	
PF-40-BP-1A	92.00761	NI	4.	2.	UG/G	3/31/92	
PF-40-BP-1A	92.00761	PB	22.5	4.5	UG/G	3/31/92	
PF-40-BP-1A	92.00761	SB	< 2.		UG/G	3/31/92	
PF-40-BP-1A	92.00761	TL	< 1.		UG/G	3/31/92	
PF-40-BP-1A	92.00761	V	14.7	2.9	UG/G	3/31/92	
PF-40-BP-1A	92.00761	ZN	54.	11.	UG/G	3/31/92	
PF-40-BP-1B	92.00762	AL	5.52	1.1	%	3/31/92	
PF-40-BP-1B	92.00762	BA	149.	40.	UG/G	3/31/92	
PF-40-BP-1B	92.00762	BE	2.5	0.5	UG/G	3/31/92	
PF-40-BP-1B	92.00762	CA	425.	85.	UG/G	3/31/92	
PF-40-BP-1B	92.00762	CD	< 1.		UG/G	3/31/92	
PF-40-BP-1B	92.00762	CO	2.26	0.5	UG/G	3/31/92	
PF-40-BP-1B	92.00762	CR	2.9	0.6	UG/G	3/31/92	
PF-40-BP-1B	92.00762	CU	1.78	0.5	UG/G	3/31/92	
PF-40-BP-1B	92.00762	FE	1.09	0.22	%	3/31/92	
PF-40-BP-1B	92.00762	K	2.91	0.58	%	3/31/92	
PF-40-BP-1B	92.00762	MG	606.	120.	UG/G	3/31/92	
PF-40-BP-1B	92.00762	MN	302.	60.	UG/G	3/31/92	
PF-40-BP-1B	92.00762	NA	2.54	0.51	%	3/31/92	

PF-40-BP-1B	92.00762	NI	< 2.		UG/G	3/31/92
PF-40-BP-1B	92.00762	PB	8.	3.	UG/G	3/31/92
PF-40-BP-1B	92.00762	SB	< 2.		UG/G	3/31/92
PF-40-BP-1B	92.00762	TL	< 1.		UG/G	3/31/92
PF-40-BP-1B	92.00762	V	6.	1.2	UG/G	3/31/92
PF-40-BP-1B	92.00762	ZN	40.	8.	UG/G	3/31/92
PF-40-BP-1C	92.00763	AL	5.33	1.1	%	3/31/92
PF-40-BP-1C	92.00763	BA	129.	26.	UG/G	3/31/92
PF-40-BP-1C	92.00763	BE	2.41	0.48	UG/G	3/31/92
PF-40-BP-1C	92.00763	CA	1700.	340.	UG/G	3/31/92
PF-40-BP-1C	92.00763	CD	< 1.		UG/G	3/31/92
PF-40-BP-1C	92.00763	CO	1.74	0.4	UG/G	3/31/92
PF-40-BP-1C	92.00763	CR	3.72	0.7	UG/G	3/31/92
PF-40-BP-1C	92.00763	CU	1.27	0.5	UG/G	3/31/92
PF-40-BP-1C	92.00763	FE	1.05	0.21	%	3/31/92
PF-40-BP-1C	92.00763	K	2.74	0.55	%	3/31/92
PF-40-BP-1C	92.00763	MG	626.	160.	UG/G	3/31/92
PF-40-BP-1C	92.00763	MN	330.	66.	UG/G	3/31/92
PF-40-BP-1C	92.00763	NA	2.31	0.46	UG/G	3/31/92
PF-40-BP-1C	92.00763	NI	2.	2.	UG/G	3/31/92
PF-40-BP-1C	92.00763	PB	10.	3.	UG/G	3/31/92
PF-40-BP-1C	92.00763	SB	< 2.		UG/G	3/31/92
PF-40-BP-1C	92.00763	TL	< 1.		UG/G	3/31/92
PF-40-BP-1C	92.00763	V	8.	1.6	UG/G	3/31/92
PF-40-BP-1C	92.00763	ZN	42.	8.	UG/G	3/31/92
PF-40-BP-2A	92.00764	AL	5.93	1.2	%	4/01/92
PF-40-BP-2A	92.00764	BA	280.	56.	UG/G	4/01/92
PF-40-BP-2A	92.00764	BE	2.15	0.43	UG/G	4/01/92
PF-40-BP-2A	92.00764	CA	4350.	870.	UG/G	4/01/92
PF-40-BP-2A	92.00764	CD	< 1.		UG/G	4/01/92
PF-40-BP-2A	92.00764	CO	3.	0.6	UG/G	4/01/92
PF-40-BP-2A	92.00764	CR	5.	1.	UG/G	4/01/92
PF-40-BP-2A	92.00764	CU	68.	14.	UG/G	4/01/92
PF-40-BP-2A	92.00764	FE	1.38	0.28	%	4/01/92
PF-40-BP-2A	92.00764	K	2.86	0.57	%	4/01/92
PF-40-BP-2A	92.00764	MG	1730.	350.	UG/G	4/01/92
PF-40-BP-2A	92.00764	MN	418.	84.	UG/G	4/01/92
PF-40-BP-2A	92.00764	NA	2.48	0.5	%	4/01/92
PF-40-BP-2A	92.00764	NI	3.	2.	UG/G	4/01/92
PF-40-BP-2A	92.00764	PB	34.	7.	UG/G	3/31/92
PF-40-BP-2A	92.00764	SB	< 2.		UG/G	4/01/92
PF-40-BP-2A	92.00764	TL	< 1.		UG/G	4/01/92
PF-40-BP-2A	92.00764	V	13.	2.6	UG/G	4/01/92
PF-40-BP-2A	92.00764	ZN	49.	9.8	UG/G	4/01/92
PF-40-BP-2B	92.00765	AL	5.45	1.1	%	4/01/92
PF-40-BP-2B	92.00765	BA	182.	36.	UG/G	4/01/92
PF-40-BP-2B	92.00765	BE	1.81	0.36	UG/G	4/01/92
PF-40-BP-2B	92.00765	CA	1960.	390.	UG/G	4/01/92
PF-40-BP-2B	92.00765	CD	< 1.		UG/G	4/01/92
PF-40-BP-2B	92.00765	CO	2.	0.4	UG/G	4/01/92
PF-40-BP-2B	92.00765	CR	2.	0.5	UG/G	4/01/92
PF-40-BP-2B	92.00765	CU	43.	8.6	UG/G	4/01/92
PF-40-BP-2B	92.00765	FE	8800.	1800.	UG/G	4/01/92
PF-40-BP-2B	92.00765	K	2.98	0.6	%	4/01/92
PF-40-BP-2B	92.00765	MG	450.	90.	UG/G	4/01/92
PF-40-BP-2B	92.00765	MN	300.	60.	UG/G	4/01/92
PF-40-BP-2B	92.00765	NA	2.56	0.51	%	4/01/92
PF-40-BP-2B	92.00765	NI	5.	2.	UG/G	4/01/92
PF-40-BP-2B	92.00765	PB	16.	3.	UG/G	3/31/92
PF-40-BP-2B	92.00765	SB	< 2.		UG/G	4/01/92

PF-40-BP-2B	92.00765	TL	< 1.		UG/G	4/01/92
PF-40-BP-2B	92.00765	V	6.	1.2	UG/G	4/01/92
PF-40-BP-2B	92.00765	ZN	43.	8.6	UG/G	4/01/92
PF-40-BP-2C	92.00766	AL	5.28	1.1	%	4/01/92
PF-40-BP-2C	92.00766	BA	143.	29.	UG/G	4/01/92
PF-40-BP-2C	92.00766	BE	6.74	1.3	UG/G	4/01/92
PF-40-BP-2C	92.00766	CA	1500.	300.	UG/G	4/01/92
PF-40-BP-2C	92.00766	CD	5.	1.	UG/G	4/01/92
PF-40-BP-2C	92.00766	CO	6.62	1.3	UG/G	4/01/92
PF-40-BP-2C	92.00766	CR	7.	1.4	UG/G	4/01/92
PF-40-BP-2C	92.00766	CU	6.	1.2	UG/G	4/01/92
PF-40-BP-2C	92.00766	FE	8230.	1600.	UG/G	4/01/92
PF-40-BP-2C	92.00766	K	2.89	0.58	%	4/01/92
PF-40-BP-2C	92.00766	MG	436.	87.	UG/G	4/01/92
PF-40-BP-2C	92.00766	MN	377.	75.	UG/G	4/01/92
PF-40-BP-2C	92.00766	NA	2.48	0.5	%	4/01/92
PF-40-BP-2C	92.00766	NI	6.	2.	UG/G	4/01/92
PF-40-BP-2C	92.00766	PB	9.	3.	UG/G	3/31/92
PF-40-BP-2C	92.00766	SB	< 2.		UG/G	4/01/92
PF-40-BP-2C	92.00766	TL	< 1.		UG/G	4/01/92
PF-40-BP-2C	92.00766	V	10.	2.	UG/G	4/01/92
PF-40-BP-2C	92.00766	ZN	36.	7.2	UG/G	4/01/92
PF-40-BC-1	92.00767	AL	3.75	0.75	%	4/01/92
PF-40-BC-1	92.00767	BA	365.	73.	UG/G	4/01/92
PF-40-BC-1	92.00767	BE	2.14	0.43	UG/G	4/01/92
PF-40-BC-1	92.00767	CA	2920.	580.	UG/G	4/01/92
PF-40-BC-1	92.00767	CD	5.	1.	UG/G	4/01/92
PF-40-BC-1	92.00767	CO	18.	3.6	UG/G	4/01/92
PF-40-BC-1	92.00767	CR	40.	8.	UG/G	4/01/92
PF-40-BC-1	92.00767	CU	2880.	580.	UG/G	4/01/92
PF-40-BC-1	92.00767	FE	6.19	1.2	%	4/01/92
PF-40-BC-1	92.00767	K	1.69	0.34	%	4/01/92
PF-40-BC-1	92.00767	MG	4960.	990.	UG/G	4/01/92
PF-40-BC-1	92.00767	MN	513.	100.	UG/G	4/01/92
PF-40-BC-1	92.00767	NA	1.48	0.3	%	4/01/92
PF-40-BC-1	92.00767	NI	68.	14.	UG/G	4/01/92
PF-40-BC-1	92.00767	PB	2110.	422.	UG/G	3/31/92
PF-40-BC-1	92.00767	SB	43.	8.6	UG/G	4/01/92
PF-40-BC-1	92.00767	TL	< 1.		UG/G	4/01/92
PF-40-BC-1	92.00767	V	11.	2.2	UG/G	4/01/92
PF-40-BC-1	92.00767	ZN	6360.	1300.	UG/G	4/01/92
PF-40-BP-3B	92.00768	AL	4.97	0.99	%	4/01/92
PF-40-BP-3B	92.00768	BA	182.	36.	UG/G	4/01/92
PF-40-BP-3B	92.00768	BE	1.11	0.22	UG/G	4/01/92
PF-40-BP-3B	92.00768	CA	2430.	490.	UG/G	4/01/92
PF-40-BP-3B	92.00768	CD	< 1.		UG/G	4/01/92
PF-40-BP-3B	92.00768	CO	2.	0.4	UG/G	4/01/92
PF-40-BP-3B	92.00768	CR	6.	1.2	UG/G	4/01/92
PF-40-BP-3B	92.00768	CU	8.	1.6	UG/G	4/01/92
PF-40-BP-3B	92.00768	FE	1.04	0.21	%	4/01/92
PF-40-BP-3B	92.00768	K	2.29	0.46	%	4/01/92
PF-40-BP-3B	92.00768	MG	1390.	280.	UG/G	4/01/92
PF-40-BP-3B	92.00768	MN	186.	37.	UG/G	4/01/92
PF-40-BP-3B	92.00768	NA	2.	0.4	%	4/01/92
PF-40-BP-3B	92.00768	NI	3.	2.	UG/G	4/01/92
PF-40-BP-3B	92.00768	PB	9.	3.	UG/G	3/31/92
PF-40-BP-3B	92.00768	SB	< 2.		UG/G	4/01/92
PF-40-BP-3B	92.00768	TL	< 1.		UG/G	4/01/92
PF-40-BP-3B	92.00768	V	12.	2.4	UG/G	4/01/92
PF-40-BP-3B	92.00768	ZN	28.	5.6	UG/G	4/01/92

PF-40-BP-3C	92.00769	AL	6.	1.2	%	4/01/92
PF-40-BP-3C	92.00769	BA	208.	42.	UG/G	4/01/92
PF-40-BP-3C	92.00769	BE	2.64	0.53	UG/G	4/01/92
PF-40-BP-3C	92.00769	CA	2580.	520.	UG/G	4/01/92
PF-40-BP-3C	92.00769	CD	< 1.		UG/G	4/01/92
PF-40-BP-3C	92.00769	CO	3.	0.6	UG/G	4/01/92
PF-40-BP-3C	92.00769	CR	8.	1.6	UG/G	4/01/92
PF-40-BP-3C	92.00769	CU	8.	1.6	UG/G	4/01/92
PF-40-BP-3C	92.00769	FE	1.37	0.27	%	4/01/92
PF-40-BP-3C	92.00769	K	2.69	0.54	%	4/01/92
PF-40-BP-3C	92.00769	MG	2120.	420.	UG/G	4/01/92
PF-40-BP-3C	92.00769	MN	260.	52.	UG/G	4/01/92
PF-40-BP-3C	92.00769	NA	2.22	0.44	%	4/01/92
PF-40-BP-3C	92.00769	NI	6.	2.	UG/G	4/01/92
PF-40-BP-3C	92.00769	PB	12.	3.	UG/G	3/31/92
PF-40-BP-3C	92.00769	SB	< 2.		UG/G	4/01/92
PF-40-BP-3C	92.00769	TL	< 1.		UG/G	4/01/92
PF-40-BP-3C	92.00769	V	15.	3.	UG/G	4/01/92
PF-40-BP-3C	92.00769	ZN	45.	9.	UG/G	4/01/92
PF-40-FA-5R	92.00770	AL	6.	1.2	%	4/01/92
PF-40-FA-5R	92.00770	BA	262.	52.	UG/G	4/01/92
PF-40-FA-5R	92.00770	BE	1.67	0.33	UG/G	4/01/92
PF-40-FA-5R	92.00770	CA	3110.	820.	UG/G	4/01/92
PF-40-FA-5R	92.00770	CD	< 1.		UG/G	4/01/92
PF-40-FA-5R	92.00770	CO	3.	0.6	UG/G	4/01/92
PF-40-FA-5R	92.00770	CR	5.	1.	UG/G	4/01/92
PF-40-FA-5R	92.00770	CU	40.	8.	UG/G	4/01/92
PF-40-FA-5R	92.00770	FE	1.78	0.36	%	4/01/92
PF-40-FA-5R	92.00770	K	3.	0.6	%	4/01/92
PF-40-FA-5R	92.00770	MG	1560.	310.	UG/G	4/01/92
PF-40-FA-5R	92.00770	MN	424.	85.	UG/G	4/01/92
PF-40-FA-5R	92.00770	NA	2.69	0.54	%	4/01/92
PF-40-FA-5R	92.00770	NI	5.	2.	UG/G	4/01/92
PF-40-FA-5R	92.00770	PB	2710.	540.	UG/G	3/31/92
PF-40-FA-5R	92.00770	SB	< 2.		UG/G	4/01/92
PF-40-FA-5R	92.00770	TL	< 1.		UG/G	4/01/92
PF-40-FA-5R	92.00770	V	12.	2.4	UG/G	4/01/92
PF-40-FA-5R	92.00770	ZN	54.	11.	UG/G	4/01/92

> B.G.

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BP-2B	92.00765	AL	5.44	1.1	%	4/01/92	
PF-40-BP-2B	92.00765	BA	196.	39.	UG/G	4/01/92	
PF-40-BP-2B	92.00765	BE	1.94	0.39	UG/G	4/01/92	
PF-40-BP-2B	92.00765	CA	2320.	460.	UG/G	4/01/92	
PF-40-BP-2B	92.00765	CD	< 1.		UG/G	4/01/92	
PF-40-BP-2B	92.00765	CO	2.	0.4	UG/G	4/01/92	
PF-40-BP-2B	92.00765	CR	2.	0.5	UG/G	4/01/92	
PF-40-BP-2B	92.00765	CU	31.	6.2	UG/G	4/01/92	
PF-40-BP-2B	92.00765	FE	1.06	0.21	%	4/01/92	
PF-40-BP-2B	92.00765	K	2.91	0.58	%	4/01/92	
PF-40-BP-2B	92.00765	MG	620.	120.	UG/G	4/01/92	
PF-40-BP-2B	92.00765	MN	312.	62.	UG/G	4/01/92	
PF-40-BP-2B	92.00765	NA	2.55	0.51	%	4/01/92	
PF-40-BP-2B	92.00765	NI	6.	2.	UG/G	4/01/92	
PF-40-BP-2B	92.00765	SB	< 2.		UG/G	4/01/92	

PF-40-BP-2B	92.00765	TL	< 1.		UG/G	4/01/92
PF-40-BP-2B	92.00765	V	6.	1.2	UG/G	4/01/92
PF-40-BP-2B	92.00765	ZN	54.	11.	UG/G	4/01/92
PF-40-BC-1	92.00767	PB	3340.	670.	UG/G	3/31/92
PF-40-BP-3B	92.00768	PB	7.	3.	UG/G	3/31/92
PF-40-FA-5R	92.00770	AL	6.07	1.2	%	4/01/92
PF-40-FA-5R	92.00770	BA	313.	63.	UG/G	4/01/92
PF-40-FA-5R	92.00770	BE	1.72	0.34	UG/G	4/01/92
PF-40-FA-5R	92.00770	CA	4070.	810.	UG/G	4/01/92
PF-40-FA-5R	92.00770	CD	1.	1.	UG/G	4/01/92
PF-40-FA-5R	92.00770	CO	3.	0.6	UG/G	4/01/92
PF-40-FA-5R	92.00770	CR	5.	1.	UG/G	4/01/92
PF-40-FA-5R	92.00770	CU	56.	11.	UG/G	4/01/92
PF-40-FA-5R	92.00770	FE	1.34	0.27	%	4/01/92
PF-40-FA-5R	92.00770	K	2.91	0.58	%	4/01/92
PF-40-FA-5R	92.00770	MG	1280.	260.	UG/G	4/01/92
PF-40-FA-5R	92.00770	MN	456.	91.	UG/G	4/01/92
PF-40-FA-5R	92.00770	NA	2.69	0.54	%	4/01/92
PF-40-FA-5R	92.00770	NI	3.	2.	UG/G	4/01/92
PF-40-FA-5R	92.00770	PB	2980.	600.	UG/G	3/31/92
PF-40-FA-5R	92.00770	SB	< 2.		UG/G	4/01/92
PF-40-FA-5R	92.00770	TL	< 1.		UG/G	4/01/92
PF-40-FA-5R	92.00770	V	12.	2.4	UG/G	4/01/92
PF-40-FA-5R	92.00770	ZN	48.	9.6	UG/G	4/01/92

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REPORT NUMBER: 13574 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 1-Apr-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: RICHARD ROBINSON PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: A5656 PAGE: 87

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.00596	AL	7.62	1.5	%	8.07	0.18	4/01/92	UNDER CONTROL
00.00596	BA	961.	190.	UG/G	966.	67.	4/01/92	UNDER CONTROL
00.00596	BE	1.87	0.37	UG/G	2.	0.3	4/01/92	UNDER CONTROL
00.00596	CA	1.54	0.31	%	1.96	0.1	4/01/92	UNDER CONTROL
00.00596	CD	< 1000.		NG/G	130.	40.	4/01/92	UNDER CONTROL
00.00596	CO	10.	2.	UG/G	7.6	0.6	4/01/92	UNDER CONTROL
00.00596	CR	7.	1.4	UG/G	12.3	1.3	4/01/92	WARNING 2-3 SIG
00.00596	CU	< 1.		UG/G	7.	1.	4/01/92	OUT OF CONTROL
00.00596	FE	4.59	0.92	%	5.56	0.16	4/01/92	UNDER CONTROL
00.00596	K	2.28	0.46	%	2.45	0.04	4/01/92	UNDER CONTROL
00.00596	MG	4980.	990.	UG/G	5400.	300.	4/01/92	UNDER CONTROL
00.00596	MN	638.	130.	UG/G	720.	20.	4/01/92	UNDER CONTROL
00.00596	NA	1.85	0.37	%	1.9	0.05	4/01/92	UNDER CONTROL
00.00596	NI	2.5	0.5	UG/G	8.	2.	4/01/92	WARNING 2-3 SIG
00.00596	PB	23.6	5.	UG/G	20.	2.	3/31/92	UNDER CONTROL
00.00596	SB	< 2000.		NG/G	106.	18.	4/01/92	UNDER CONTROL
00.00596	TL	< 1000.		NG/G	580.		4/01/92	UNDER CONTROL
00.00596	V	52.	10.	UG/G	57.	4.	4/01/92	UNDER CONTROL
00.00596	ZN	48.	9.6	UG/G	124.	5.	4/01/92	OUT OF CONTROL
00.00598	AL	2.71	0.54	%	3.06	0.11	4/01/92	UNDER CONTROL
00.00598	BA	251.	50.	UG/G	300.	40.	4/01/92	UNDER CONTROL
00.00598	BE	0.88	0.18	UG/G	0.81	0.15	4/01/92	UNDER CONTROL
00.00598	CA	12.6	2.5	%	14.63	0.4	4/01/92	UNDER CONTROL
00.00598	CD	< 1000.		NG/G	120.	30.	4/01/92	UNDER CONTROL
00.00598	CO	5.	1.	UG/G	5.5	0.8	4/01/92	UNDER CONTROL
00.00598	CR	17.	3.4	UG/G	26.	3.	4/01/92	UNDER CONTROL
00.00598	CU	10.	2.	UG/G	17.	1.	4/01/92	OUT OF CONTROL
.00598	FE	1.35	0.27	%	1.51	0.06	4/01/92	UNDER CONTROL
00.00598	K	1.21	0.24	%	1.16	0.05	4/01/92	UNDER CONTROL
00.00598	MG	4.79	0.96	%	4.98	0.1	4/01/92	UNDER CONTROL
00.00598	MN	443.	89.	UG/G	520.	20.	4/01/92	UNDER CONTROL
00.00598	NA	6690.	1300.	UG/G	7400.	400.	4/01/92	UNDER CONTROL
00.00598	NI	9.	2.	UG/G	16.	3.	4/01/92	UNDER CONTROL

00.00598 PB	15.2	3.	UG/G	14.	3.	3/31/92	UNDER CONTROL
00.00598 SB	< 2000.		NG/G	323.	6.	4/01/92	UNDER CONTROL
00.00598 TL	< 1000.		NG/G	180.		4/01/92	UNDER CONTROL
00.00598 V	37.	7.4	UG/G	36.	4.	4/01/92	UNDER CONTROL
00.00598 ZN	26.	5.2	UG/G	48.3	1.8	4/01/92	OUT OF CONTROL
00.20193 AL	10.6	1.1	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 BA	9.93	0.99	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 BE	10.3	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 CA	10.3	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 CD	10.2	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 CO	10.5	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 CR	10.1	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 CU	10.	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 FE	10.4	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 K	96.8	9.7	MG/L	100.	10.	4/01/92	UNDER CONTROL
00.20193 MG	10.5	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 MN	10.4	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 NA	10.5	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 NI	10.9	1.1	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 PB	10.5	1.1	MG/L	10.	1.	3/31/92	UNDER CONTROL
00.20193 SB	10.5	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 TL	11.5	1.2	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 V	10.2	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL
00.20193 ZN	10.5	1.	MG/L	10.	1.	4/01/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Open (non-blind) QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within EM-9

REPORT NUMBER: 13574

Analyst	Section Leader	QA Officer
	CTG	NK for MAG
4/1/92	4/2/92	4/2/92
Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

.e control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 ANALYTICAL REPORT **********

TR Prepared by: BHEMBERGER on 12-Feb-1992

ANALYSIS: AS REQUEST NUMBER: 12437 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2 NOTEBOOK: R7338 PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BP-1A	92.00761	0.7	0.2	UG/G	2/11/92	
PF-40-BP-1B	92.00762	0.5	0.2	UG/G	2/11/92	
PF-40-BP-1C	92.00763	0.6	0.2	UG/G	2/11/92	
PF-40-BP-2A	92.00764	0.5	0.2	UG/G	2/11/92	
PF-40-BP-2B	92.00765	0.5	0.2	UG/G	2/11/92	
PF-40-BP-2C	92.00766	0.5	0.2	UG/G	2/11/92	
PF-40-BC-1	92.00767	2.2	0.2	UG/G	2/11/92	
PF-40-BP-3B	92.00768	1.5	0.2	UG/G	2/11/92	
PF-40-BP-3C	92.00769	0.9	0.2	UG/G	2/11/92	
PF-40-FA-5R	92.00770	0.4	0.2	UG/G	2/11/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-5R	92.00770	0.4	0.2	UG/G	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 12-Feb-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	47.3	10.	UG/L	51.	4.28	2/11/92	UNDER CONTROL

UMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00802	50.3	10.	UG/L	52.	5.	2/11/92	UNDER CONTROL
92.00802	52.7	10.	UG/L	52.	5.	2/11/92	UNDER CONTROL

REPORT NUMBER: 13018

Analyst	Section Leader	QA Officer
2-12-92	2/12/92	2/13/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12987

Total Hg

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 11-Feb-1992

ANALYSIS: HG REQUEST NUMBER: 12437 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: CVAA ANALYTICAL PROCEDURE: 200.2 & 245.2 NOTEBOOK: Y04110 PAGE: 51

CUSTOMER SAMPLES:

	CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS (ppb)	COMPLETION DATE	COMMENT	
	PF-40-BP-1A	92.00761	< 2.		NG/G	2/11/92	OPEN VESSEL	
	PF-40-BP-1B	92.00762	< 2.		NG/G	2/11/92	OPEN VESSEL	
	PF-40-BP-1C	92.00763	< 2.		NG/G	2/11/92	OPEN VESSEL	< 70 ppb
	PF-40-BP-2A	92.00764	< 2.		NG/G	2/11/92	OPEN VESSEL	
*	PF-40-BP-2B	92.00765	98.	10.	NG/G	2/11/92	OPEN VESSEL	> 30 ULB ppb Background.
	PF-40-BP-2C	92.00766	< 2.		NG/G	2/11/92	OPEN VESSEL	
	PF-40-BC-1	92.00767	< 2.		NG/G	2/11/92	OPEN VESSEL	< 20 ppm A
	PF-40-BP-3B	92.00768	< 2.		NG/G	2/11/92	OPEN VESSEL	
	PF-40-BP-3C	92.00769	< 2.		NG/G	2/11/92	OPEN VESSEL	
	PF-40-FA-5R	92.00770	< 2.		NG/G	2/11/92	OPEN VESSEL	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-5R	92.00770	< 2.		NG/G	2/11/92	OPEN VESSEL

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 11-Feb-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.23653	4.2	0.4	UG/L	4.	0.2	2/11/92	UNDER CONTROL

UMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00803	4.1	0.4	UG/L	4.	0.24	2/11/92	UNDER CONTROL

REPORT NUMBER: 12987

Analyst	Section Leader	QA Officer
2-11-92	2/11/92	2/11/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12877

Total Ag

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 31-Jan-1992

ANALYSIS: AG REQUEST NUMBER: 12437 MATRIX: SS ANALYST: Barbara Hemberger PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FAA ANALYTICAL PROCEDURE: 272.1

CUSTOMER SAMPLES:

ppM

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BP-1A	92.00761	< 1.		UG/G	1/31/92	
PF-40-BP-1B	92.00762	< 1.		UG/G	1/31/92	
PF-40-BP-1C	92.00763	< 1.		UG/G	1/31/92	
PF-40-BP-2A	92.00764	< 1.		UG/G	1/31/92	
PF-40-BP-2B	92.00765	1.4	1.	UG/G	1/31/92	
PF-40-BP-2C	92.00766	< 1.		UG/G	1/31/92	
PF-40-BC-1	92.00767	21.2	2.	UG/G	1/31/92	
PF-40-BP-3B	92.00768	< 1.		UG/G	1/31/92	
PF-40-BP-3C	92.00769	< 1.		UG/G	1/31/92	
PF-40-FA-5R	92.00770	< 1.		UG/G	1/31/92	

< 200 ppm A.L. pk

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-5R	92.00770	< 1.		UG/G	1/31/92	

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REPORT NUMBER: 12877 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 31-Jan-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: Barbara Hemberger PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	34.	3.	UG/L	32.	2.45	1/31/92	UNDER CONTROL
00.24370	504.	50.	UG/L	481.	21.	1/31/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00759	< 10.		UG/L	0.0		1/31/92	UNDER CONTROL
92.00760	518.	52.	UG/L	500.	22.	1/31/92	UNDER CONTROL
92.00801	417.	42.	UG/L	400.	17.	1/31/92	UNDER CONTROL

REPORT NUMBER: 12877

Analyst	Section Leader	QA Officer
1/31/92	2/3/92	2/3/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13019

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********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 12-Feb-1992

ANALYSIS: SE REQUEST NUMBER: 12437 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2 NOTEBOOK: R7338 PAGE:

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BP-1A	92.00761	< 2.		UG/G	2/11/92	
PF-40-BP-1B	92.00762	< 0.2		UG/G	2/11/92	
PF-40-BP-1C	92.00763	< 0.2		UG/G	2/11/92	
PF-40-BP-2A	92.00764	< 0.2		UG/G	2/11/92	
PF-40-BP-2B	92.00765	< 0.2		UG/G	2/11/92	
PF-40-BP-2C	92.00766	< 0.2		UG/G	2/11/92	
PF-40-BC-1	92.00767	< 0.2		UG/G	2/11/92	
PF-40-BP-3B	92.00768	< 0.2		UG/G	2/11/92	
PF-40-BP-3C	92.00769	< 0.2		UG/G	2/11/92	
PF-40-FA-5R	92.00770	< 0.2		UG/G	2/11/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-5R	92.00770	< 0.2		UG/G	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 12-Feb-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	9.7	2.	UG/L	8.1	1.1	2/11/92	UNDER CONTROL

UMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00802	58.3	12.	UG/L	56.	6.	2/11/92	UNDER CONTROL
92.00802	61.	12.	UG/L	56.	6.	2/11/92	UNDER CONTROL

REPORT NUMBER: 13019

Analyst	Section Leader	QA Officer
2-12-92	2/12/92	2/13/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13578

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********** EM-9 ANALYTICAL REPORT **********

Prepared by: JDMORGAN on 2-Apr-1992

REQUEST NUMBER: 12453 MATRIX: SS ANALYST: RICHARD ROBINSON PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: A10523 PAGE: 49

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00913	AL	4.98	1.	%	3/26/92	
PF-40-BAW-1	92.00913	BA	278.	56.	UG/G	3/26/92	
PF-40-BAW-1	92.00913	BE	1.87	0.37	UG/G	3/26/92	
PF-40-BAW-1	92.00913	CA	3940.	790.	UG/G	3/26/92	
PF-40-BAW-1	92.00913	CD	< 1.		UG/G	3/26/92	
PF-40-BAW-1	92.00913	CO	3.	1.	UG/G	3/26/92	
PF-40-BAW-1	92.00913	CR	6.	1.	UG/G	3/26/92	
PF-40-BAW-1	92.00913	CU	61.	12.	UG/G	3/26/92	
PF-40-BAW-1	92.00913	FE	1.19	0.24	%	3/26/92	
PF-40-BAW-1	92.00913	K	2.19	0.44	%	3/26/92	
PF-40-BAW-1	92.00913	MG	1510.	300.	UG/G	3/26/92	
PF-40-BAW-1	92.00913	MN	417.	83.	UG/G	3/26/92	
PF-40-BAW-1	92.00913	NA	2.04	0.41	%	3/26/92	
PF-40-BAW-1	92.00913	NI	5.81	1.	UG/G	3/31/92	
PF-40-BAW-1	92.00913	PB	137.	27.	UG/G	3/31/92	
PF-40-BAW-1	92.00913	SB	< 3.		UG/G	3/26/92	
PF-40-BAW-1	92.00913	TL	< 4.		UG/G	3/26/92	
PF-40-BAW-1	92.00913	V	13.	2.6	UG/G	3/26/92	
PF-40-BAW-1	92.00913	ZN	199.	40.	UG/G	3/26/92	
PF-40-BAE-1	92.00914	AL	5.73	1.1	%	3/26/92	
PF-40-BAE-1	92.00914	BA	291.	58.	UG/G	3/26/92	
PF-40-BAE-1	92.00914	BE	1.96	0.39	UG/G	3/26/92	
PF-40-BAE-1	92.00914	CA	4410.	880.	UG/G	3/26/92	
PF-40-BAE-1	92.00914	CD	< 1.		UG/G	3/26/92	
PF-40-BAE-1	92.00914	CO	2.	1.	UG/G	3/26/92	
PF-40-BAE-1	92.00914	CR	7.	1.	UG/G	3/26/92	
PF-40-BAE-1	92.00914	CU	83.	17.	UG/G	3/26/92	
PF-40-BAE-1	92.00914	FE	1.41	0.28	%	3/26/92	
PF-40-BAE-1	92.00914	K	2.56	0.51	%	3/26/92	
PF-40-BAE-1	92.00914	MG	1760.	350.	UG/G	3/26/92	
PF-40-BAE-1	92.00914	MN	412.	82.	UG/G	3/26/92	
PF-40-BAE-1	92.00914	NA	2.56	0.51	%	3/26/92	
PF-40-BAE-1	92.00914	NI	8.47	2.	UG/G	3/31/92	
PF-40-BAE-1	92.00914	PB	41.	8.	UG/G	3/31/92	
PF-40-BAE-1	92.00914	SB	< 3.		UG/G	3/26/92	
PF-40-BAE-1	92.00914	TL	< 4.		UG/G	3/26/92	
PF-40-BAE-1	92.00914	V	11.	2.2	UG/G	3/26/92	

PF-40-BAE-1	92.00914	ZN	163.	33.	UG/G	3/26/92
PF-40-EBX-W	92.00915	AL	5.99	1.2	%	3/26/92
PF-40-EBX-W	92.00915	BA	292.	58.	UG/G	3/26/92
PF-40-EBX-W	92.00915	BE	2.1	0.42	UG/G	3/26/92
PF-40-EBX-W	92.00915	CA	4210.	840.	UG/G	3/26/92
PF-40-EBX-W	92.00915	CD	< 1.		UG/G	3/26/92
PF-40-EBX-W	92.00915	CO	3.	1.	UG/G	3/26/92
PF-40-EBX-W	92.00915	CR	5.	1.	UG/G	3/26/92
PF-40-EBX-W	92.00915	CU	55.	11.	UG/G	3/26/92
PF-40-EBX-W	92.00915	FE	1.28	0.26	%	3/26/92
PF-40-EBX-W	92.00915	K	2.63	0.53	%	3/26/92
PF-40-EBX-W	92.00915	MG	1430.	290.	UG/G	3/26/92
PF-40-EBX-W	92.00915	MN	410.	82.	UG/G	3/26/92
PF-40-EBX-W	92.00915	NA	2.52	0.5	%	3/26/92
PF-40-EBX-W	92.00915	NI	4.	1.	UG/G	3/31/92
PF-40-EBX-W	92.00915	PB	< 4.		UG/G	3/31/92
PF-40-EBX-W	92.00915	SB	< 3.		UG/G	3/26/92
PF-40-EBX-W	92.00915	TL	< 4.		UG/G	3/26/92
PF-40-EBX-W	92.00915	V	11.	2.2	UG/G	3/26/92
PF-40-EBX-W	92.00915	ZN	88.	14.	UG/G	3/26/92
PF-40-EBX-E	92.00916	AL	5.21	1.	%	3/26/92
PF-40-EBX-E	92.00916	BA	262.	52.	UG/G	3/26/92
PF-40-EBX-E	92.00916	BE	1.85	0.37	UG/G	3/26/92
PF-40-EBX-E	92.00916	CA	3810.	760.	UG/G	3/26/92
PF-40-EBX-E	92.00916	CD	< 1.		UG/G	3/26/92
PF-40-EBX-E	92.00916	CO	2.2	1.	UG/G	3/26/92
PF-40-EBX-E	92.00916	CR	5.	1.	UG/G	3/26/92
PF-40-EBX-E	92.00916	CU	128.	26.	UG/G	3/26/92
PF-40-EBX-E	92.00916	FE	1.19	0.24	%	3/26/92
PF-40-EBX-E	92.00916	K	2.17	0.43	%	3/26/92
PF-40-EBX-E	92.00916	MG	1570.	310.	UG/G	3/26/92
PF-40-EBX-E	92.00916	MN	342.	68.	UG/G	3/26/92
PF-40-EBX-E	92.00916	NA	2.08	0.42	%	3/26/92
PF-40-EBX-E	92.00916	NI	4.	1.	UG/G	3/31/92
PF-40-EBX-E	92.00916	PB	32.	6.	UG/G	3/31/92
PF-40-EBX-E	92.00916	SB	< 3.		UG/G	3/26/92
PF-40-EBX-E	92.00916	TL	< 4.		UG/G	3/26/92
PF-40-EBX-E	92.00916	V	13.	2.6	UG/G	3/26/92
PF-40-EBX-E	92.00916	ZN	91.	18.	UG/G	3/26/92
PF-40-SPS	92.00917	AL	5.86	1.2	%	3/26/92
PF-40-SPS	92.00917	BA	241.	48.	UG/G	3/26/92
PF-40-SPS	92.00917	BE	1.76	0.35	UG/G	3/26/92
PF-40-SPS	92.00917	CA	2960.	590.	UG/G	3/26/92
PF-40-SPS	92.00917	CD	< 1.		UG/G	3/26/92
PF-40-SPS	92.00917	CO	2.	1.	UG/G	3/26/92
PF-40-SPS	92.00917	CR	3.	1.	UG/G	3/26/92
PF-40-SPS	92.00917	CU	20.	4.	UG/G	3/26/92
PF-40-SPS	92.00917	FE	1.52	0.3	%	3/26/92
PF-40-SPS	92.00917	K	2.59	0.52	%	3/26/92
PF-40-SPS	92.00917	MG	873.	170.	UG/G	3/26/92
PF-40-SPS	92.00917	MN	445.	89.	UG/G	3/26/92
PF-40-SPS	92.00917	NA	2.6	0.52	%	3/26/92
PF-40-SPS	92.00917	NI	3.7	1.	UG/G	3/31/92
PF-40-SPS	92.00917	PB	< 4.		UG/G	3/31/92
PF-40-SPS	92.00917	SB	< 3.		UG/G	3/26/92
PF-40-SPS	92.00917	TL	< 4.		UG/G	3/26/92
PF-40-SPS	92.00917	V	10.	2.	UG/G	3/26/92
PF-40-SPS	92.00917	ZN	70.	14.	UG/G	3/26/92
PF-40-DP	92.00918	AL	5.56	1.1	%	3/26/92
PF-40-DP	92.00918	BA	446.	89.	UG/G	3/26/92

PF-40-DP	92.00918	BE	1.71	0.34	UG/G	3/26/92
PF-40-DP	92.00918	CA	5700.	1140.	UG/G	3/26/92
PF-40-DP	92.00918	CD	< 1.		UG/G	3/26/92
PF-40-DP	92.00918	CO	4.	1.	UG/G	3/26/92
PF-40-DP	92.00918	CR	9.	2.	UG/G	3/26/92
PF-40-DP	92.00918	CU	9.	1.8	UG/G	3/26/92
PF-40-DP	92.00918	FE	1.43	0.29	%	3/26/92
PF-40-DP	92.00918	K	1.96	0.39	%	3/26/92
PF-40-DP	92.00918	MG	2200.	440.	UG/G	3/26/92
PF-40-DP	92.00918	MN	344.	69.	UG/G	3/26/92
PF-40-DP	92.00918	NA	2.09	0.42	%	3/26/92
PF-40-DP	92.00918	NI	8.1	2.	UG/G	3/31/92
PF-40-DP	92.00918	PB	< 4.		UG/G	3/31/92
PF-40-DP	92.00918	SB	< 3.		UG/G	3/26/92
PF-40-DP	92.00918	TL	< 4.		UG/G	3/26/92
PF-40-DP	92.00918	V	22.	4.4	UG/G	3/26/92
PF-40-DP	92.00918	ZN	48.	9.6	UG/G	3/26/92
PF-40-SD-W	92.00919	AL	5.13	1.	%	3/26/92
PF-40-SD-W	92.00919	BA	231.	46.	UG/G	3/26/92
PF-40-SD-W	92.00919	BE	1.9	0.38	UG/G	3/26/92
PF-40-SD-W	92.00919	CA	3510.	700.	UG/G	3/26/92
PF-40-SD-W	92.00919	CD	< 1.		UG/G	3/26/92
PF-40-SD-W	92.00919	CO	2.	1.	UG/G	3/26/92
PF-40-SD-W	92.00919	CR	5.	1.	UG/G	3/26/92
PF-40-SD-W	92.00919	CU	34.	6.8	UG/G	3/26/92
PF-40-SD-W	92.00919	FE	1.37	0.27	%	3/26/92
PF-40-SD-W	92.00919	K	2.14	0.43	%	3/26/92
PF-40-SD-W	92.00919	MG	1270.	250.	UG/G	3/26/92
PF-40-SD-W	92.00919	MN	479.	96.	UG/G	3/26/92
PF-40-SD-W	92.00919	NA	2.21	0.44	%	3/26/92
PF-40-SD-W	92.00919	NI	6.	1.	UG/G	3/31/92
PF-40-SD-W	92.00919	PB	5.	4.	UG/G	3/31/92
PF-40-SD-W	92.00919	SB	< 3.		UG/G	3/26/92
PF-40-SD-W	92.00919	TL	< 4.		UG/G	3/26/92
PF-40-SD-W	92.00919	V	11.	2.2	UG/G	3/26/92
PF-40-SD-W	92.00919	ZN	75.	15.	UG/G	3/26/92
PF-40-SD-M	92.00920	AL	5.39	1.1	%	3/30/92
PF-40-SD-M	92.00920	BA	270.	54.	UG/G	3/30/92
PF-40-SD-M	92.00920	BE	1.29	0.26	UG/G	3/30/92
PF-40-SD-M	92.00920	CA	3000.	600.	UG/G	3/30/92
PF-40-SD-M	92.00920	CD	< 1.		UG/G	3/30/92
PF-40-SD-M	92.00920	CO	1.	1.	UG/G	3/30/92
PF-40-SD-M	92.00920	CR	2.	1.	UG/G	3/30/92
PF-40-SD-M	92.00920	CU	174.	35.	UG/G	3/30/92
PF-40-SD-M	92.00920	FE	1.14	0.23	%	3/30/92
PF-40-SD-M	92.00920	K	2.25	0.45	%	3/30/92
PF-40-SD-M	92.00920	MG	751.	150.	UG/G	3/30/92
PF-40-SD-M	92.00920	MN	404.	81.	UG/G	3/30/92
PF-40-SD-M	92.00920	NA	2.57	0.51	%	3/30/92
PF-40-SD-M	92.00920	NI	3.	1.	UG/G	3/31/92
PF-40-SD-M	92.00920	PB	< 4.		UG/G	3/31/92
PF-40-SD-M	92.00920	SB	< 3.		UG/G	3/30/92
PF-40-SD-M	92.00920	TL	< 4.		UG/G	3/30/92
PF-40-SD-M	92.00920	V	8.	1.6	UG/G	3/30/92
PF-40-SD-M	92.00920	ZN	58.	11.6	UG/G	3/30/92
PF-40-SD-E	92.00921	AL	5.44	1.1	%	3/30/92
PF-40-SD-E	92.00921	BA	204.	41.	UG/G	3/30/92
PF-40-SD-E	92.00921	BE	1.84	0.37	UG/G	3/30/92
PF-40-SD-E	92.00921	CA	2720.	540.	UG/G	3/30/92
PF-40-SD-E	92.00921	CD	< 1.		UG/G	3/30/92

PF-40-SD-E	92.00921	CO	1.	1.	UG/G	3/30/92
PF-40-SD-E	92.00921	CR	3.	1.	UG/G	3/30/92
PF-40-SD-E	92.00921	CU	15.	3.	UG/G	3/30/92
PF-40-SD-E	92.00921	FE	1.03	0.21	%	3/30/92
PF-40-SD-E	92.00921	K	2.27	0.45	%	3/30/92
PF-40-SD-E	92.00921	MG	909.	180.	UG/G	3/30/92
PF-40-SD-E	92.00921	MN	300.	60.	UG/G	3/30/92
PF-40-SD-E	92.00921	NA	2.4	0.48	%	3/30/92
PF-40-SD-E	92.00921	NI	3.	1.	UG/G	3/31/92
PF-40-SD-E	92.00921	PB	< 4.		UG/G	3/31/92
PF-40-SD-E	92.00921	SB	< 3.		UG/G	3/30/92
PF-40-SD-E	92.00921	TL	< 4.		UG/G	3/30/92
PF-40-SD-E	92.00921	V	8.	1.6	UG/G	3/30/92
PF-40-SD-E	92.00921	ZN	54.	11.	UG/G	3/30/92

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REPORT NUMBER: 13578 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: JDMORGAN on 2-Apr-1992

REQUEST NUMBER: 12453 MATRIX: SS ANALYST: RICHARD ROBINSON PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: A10523 PAGE: 49

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.00596	AL	7.49	1.5	%	8.07	0.18	3/30/92	UNDER CONTROL
00.00596	BE	2.05	0.41	UG/G	2.	0.3	3/30/92	UNDER CONTROL
0.00596	CA	1.77	0.35	%	1.96	0.1	3/30/92	UNDER CONTROL
J0.00596	CD	< 1000.		NG/G	130.	40.	3/30/92	UNDER CONTROL
00.00596	CO	9.8	2.	UG/G	7.6	0.6	3/30/92	UNDER CONTROL
00.00596	CR	6.9	1.	UG/G	12.3	1.3	3/30/92	OUT OF CONTROL
00.00596	FE	4.66	0.93	%	5.56	0.16	3/30/92	UNDER CONTROL
00.00596	K	2.03	0.41	%	2.45	0.04	3/30/92	UNDER CONTROL
00.00596	MG	4870.	970.	UG/G	5400.	300.	3/30/92	UNDER CONTROL
00.00596	MN	688.	140.	UG/G	720.	20.	3/30/92	UNDER CONTROL
00.00596	NA	1.72	0.34	%	1.9	0.05	3/30/92	UNDER CONTROL
00.00596	NI	3.84	0.77	UG/G	8.	2.	3/31/92	UNDER CONTROL
00.00596	PB	30.9	6.2	UG/G	20.	2.	3/31/92	UNDER CONTROL
00.00596	SB	< 3000.		NG/G	106.	18.	3/30/92	UNDER CONTROL
00.00596	TL	< 4000.		NG/G	580.		3/30/92	UNDER CONTROL
00.00596	V	53.	11.	UG/G	57.	4.	3/30/92	UNDER CONTROL
00.00598	AL	2.41	0.48	%	3.06	0.11	3/30/92	UNDER CONTROL
00.00598	BA	232.	46.	UG/G	300.	40.	3/30/92	UNDER CONTROL
00.00598	BE	1.04	0.21	UG/G	0.81	0.15	3/30/92	UNDER CONTROL
00.00598	CA	12.5	2.5	%	14.63	0.4	3/30/92	UNDER CONTROL
00.00598	CD	< 1000.		NG/G	120.	30.	3/30/92	UNDER CONTROL
00.00598	CO	5.	1.	UG/G	5.5	0.8	3/30/92	UNDER CONTROL
00.00598	CR	18.	3.6	UG/G	26.	3.	3/30/92	UNDER CONTROL
00.00598	CU	24.	4.8	UG/G	17.	1.	3/30/92	UNDER CONTROL
00.00598	FE	1.2	0.24	%	1.51	0.06	3/30/92	UNDER CONTROL
00.00598	K	1.08	0.22	%	1.16	0.05	3/30/92	UNDER CONTROL
00.00598	MG	4.3	0.86	%	4.98	0.1	3/30/92	UNDER CONTROL
0.00598	MN	475.	95.	UG/G	520.	20.	3/30/92	UNDER CONTROL
J0.00598	NA	5930.	1200.	UG/G	7400.	400.	3/30/92	UNDER CONTROL
00.00598	NI	12.	2.	UG/G	16.	3.	3/30/92	UNDER CONTROL
00.00598	PB	8.77	3.	UG/G	14.	3.	3/31/92	UNDER CONTROL
00.00598	SB	< 3000.		NG/G	323.	6.	3/30/92	UNDER CONTROL
00.00598	TL	< 4000.		NG/G	180.		3/30/92	UNDER CONTROL

00.00598 V	38.	7.6	UG/G	36.	4.	3/30/92	UNDER CONTROL
00.00598 ZN	40.	8.	UG/G	48.3	1.8	3/30/92	UNDER CONTROL
00.20193 AL	10.3	1.03	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 AL	10.4	1.	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 BA	9.77	0.98	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 BA	10.1	1.01	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 BE	10.	1.	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 BE	8.86	0.886	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 CA	10.2	1.02	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 CA	10.1	1.	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 CD	10.3	1.	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 CD	10.8	1.08	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 CO	10.4	1.04	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 CO	10.7	1.1	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 CR	10.1	1.	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 CR	9.9	0.99	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 CU	10.	1.	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 CU	9.85	0.99	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 FE	9.9	0.99	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 FE	10.2	1.	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 K	100.	20.	MG/L	100.	10.	3/30/92	UNDER CONTROL
00.20193 K	89.6	8.96	MG/L	100.	10.	3/23/92	UNDER CONTROL
00.20193 MG	10.2	1.02	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 MG	10.4	1.	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 MN	10.5	1.05	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 MN	10.6	1.1	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 NA	10.2	1.02	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 NA	10.	1.	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 NI	10.8	1.1	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 NI	10.	1.	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 PB	10.4	1.	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 PB	10.6	1.06	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 SB	9.5	0.95	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 SB	10.8	1.1	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 TL	11.1	1.11	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 TL	11.4	1.1	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 V	10.1	1.	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20193 V	10.8	1.08	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 ZN	10.6	1.06	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193 ZN	10.8	1.1	MG/L	10.	1.	3/30/92	UNDER CONTROL
00.20333 BA	5.	0.5	MG/L	5.	0.5	3/23/92	UNDER CONTROL
00.20333 BE	0.895	0.0895	MG/L	1.	0.1	3/23/92	UNDER CONTROL
00.20333 CD	5.3	0.53	MG/L	5.	0.5	3/23/92	UNDER CONTROL
00.20333 CR	4.9	0.49	MG/L	5.	0.5	3/23/92	UNDER CONTROL
00.20333 NI	5.	0.5	MG/L	5.	0.5	3/23/92	UNDER CONTROL
00.20333 PB	15.7	1.57	MG/L	15.	2.	3/23/92	UNDER CONTROL
00.20333 SB	9.6	0.96	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20333 TL	16.1	1.61	MG/L	15.	2.	3/23/92	UNDER CONTROL
00.24619 AL	49.	5.	MG/L	49.92	2.15	3/30/92	UNDER CONTROL
00.24619 BA	4.78	0.48	MG/L	4.98	0.21	3/30/92	UNDER CONTROL
00.24619 BE	0.24	0.02	MG/L	0.25	0.01	3/30/92	UNDER CONTROL
00.24619 CA	24.8	2.5	MG/L	25.02	1.08	3/30/92	UNDER CONTROL
00.24619 CD	0.52	0.05	MG/L	0.5	0.02	3/30/92	UNDER CONTROL
00.24619 CO	0.53	0.05	MG/L	0.5	0.02	3/30/92	UNDER CONTROL
00.24619 CR	2.41	0.24	MG/L	2.51	0.11	3/30/92	UNDER CONTROL
00.24619 CU	2.28	0.23	MG/L	2.49	0.11	3/30/92	UNDER CONTROL
00.24619 FE	97.5	9.8	MG/L	101.	4.3	3/30/92	UNDER CONTROL
00.24619 K	47.8	9.6	MG/L	50.2	2.16	3/30/92	UNDER CONTROL
00.24619 MG	10.3	1.	MG/L	10.11	0.43	3/30/92	UNDER CONTROL
00.24619 MN	5.08	0.51	MG/L	5.	0.22	3/30/92	UNDER CONTROL

00.24619 NA	5.	0.5	MG/L	4.97	0.21	3/30/92	UNDER CONTROL
00.24619 NI	0.52	0.05	MG/L	0.5	0.02	3/31/92	UNDER CONTROL
00.24619 PB	2.76	2.7	MG/L	2.51	0.11	3/31/92	UNDER CONTROL
00.24619 SB	2.59	0.26	MG/L	2.48	0.11	3/30/92	UNDER CONTROL
00.24619 TL	2.55	0.26	MG/L	2.5	0.11	3/30/92	UNDER CONTROL
00.24619 V	2.44	0.24	MG/L	2.5	0.11	3/30/92	UNDER CONTROL
00.24619 ZN	2.47	0.25	MG/L	2.51	0.11	3/30/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01098	AL	7.8	0.78	MG/L	8.	0.3	3/30/92	UNDER CONTROL
92.01098	BA	3.56	0.36	MG/L	3.6	0.2	3/30/92	UNDER CONTROL
92.01098	BE	1.06	0.11	MG/L	1.	0.04	3/30/92	UNDER CONTROL
92.01098	CA	3.24	0.32	MG/L	3.2	0.1	3/30/92	UNDER CONTROL
92.01098	CD	2.51	0.25	MG/L	2.4	0.1	3/30/92	UNDER CONTROL
92.01098	CO	4.32	0.43	MG/L	4.	0.2	3/30/92	UNDER CONTROL
92.01098	CR	< 0.01		MG/L	0.0		3/23/92	UNDER CONTROL
92.01098	CU	0.33	0.03	MG/L	0.34	0.01	3/30/92	UNDER CONTROL
92.01098	FE	0.81	0.08	MG/L	0.81	0.03	3/30/92	UNDER CONTROL
92.01098	K	19.	1.9	MG/L	26.	1.	3/30/92	OUT OF CONTROL
92.01098	MG	16.8	1.7	MG/L	16.3	0.7	3/30/92	UNDER CONTROL
92.01098	MN	0.51	0.05	MG/L	0.48	0.02	3/30/92	UNDER CONTROL
92.01098	NA	< 0.01		MG/L	0.0		3/30/92	UNDER CONTROL
92.01098	NI	4.1	0.41	MG/L	3.8	0.2	3/31/92	UNDER CONTROL
92.01098	PB	8.5	0.85	MG/L	8.	0.3	3/31/92	UNDER CONTROL
92.01098	SB	16.9	1.7	MG/L	15.9	0.7	3/30/92	UNDER CONTROL
92.01098	TL	18.7	1.9	MG/L	18.	0.8	3/30/92	UNDER CONTROL
92.01098	V	1.8	0.18	MG/L	1.8	0.08	3/30/92	UNDER CONTROL
92.01098	ZN	1.5	0.15	MG/L	1.4	0.06	3/30/92	UNDER CONTROL

REPORT NUMBER: 13578

Analyst	Section Leader	QA Officer
		NK for MAG
4/2/92	4/2/92	4/2/92
Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13016

Total AS

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 12-Feb-1992

ANALYSIS: AS REQUEST NUMBER: 12453 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2 NOTEBOOK: R7338 PAGE: 53

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00913	0.6	0.2	UG/G	2/11/92	
PF-40-BAE-1	92.00914	0.7	0.2	UG/G	2/11/92	
PF-40-EBX-W	92.00915	0.6	0.2	UG/G	2/11/92	
PF-40-EBX-E	92.00916	0.7	0.2	UG/G	2/11/92	
PF-40-SPS	92.00917	0.6	0.2	UG/G	2/11/92	
PF-40-DP	92.00918	1.2	0.2	UG/G	2/11/92	
PF-40-SD-W	92.00919	0.3	0.2	UG/G	2/11/92	
PF-40-SD-M	92.00920	0.4	0.2	UG/G	2/11/92	
PF-40-SD-E	92.00921	0.4	0.2	UG/G	2/11/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-SD-E	92.00921	0.4	0.2	UG/G	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 12-Feb-1992

REQUEST NUMBER: 12453 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	50.	10.	UG/L	51.	4.28	2/11/92	UNDER CONTROL
00.01160	47.5	10.	UG/L	51.	4.28	2/11/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01094	51.9	10.	UG/L	52.	5.	2/11/92	UNDER CONTROL

REPORT NUMBER: 13016

Analyst	Section Leader	QA Officer
2-12-92	2/12/92	2/13/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13009

Total Hg

********** EM-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 11-Feb-1992

ANALYSIS: HG REQUEST NUMBER: 12453 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: CVAA ANALYTICAL PROCEDURE: 200.2 & 245.2 NOTEBOOK: Y04110 PAGE: 54

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS (ppb)	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00913	< 2.		NG/G	2/11/92	
PF-40-BAE-1	92.00914	16.	2.	NG/G	2/11/92	
PF-40-EBX-W	92.00915	< 2.		NG/G	2/11/92	
PF-40-EBX-E	92.00916	< 2.		NG/G	2/11/92	
PF-40-SPS	92.00917	< 2.		NG/G	2/11/92	
PF-40-DP	92.00918	32.	3.	NG/G	2/11/92	
PF-40-SD-W	92.00919	< 2.		NG/G	2/11/92	
PF-40-SD-M	92.00920	< 2.		NG/G	2/11/92	
PF-40-SD-E	92.00921	< 2.		NG/G	2/11/92	

< 20 ppm A.L.

ok

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-SD-E	92.00921	< 2.		NG/G	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: EAJ on 11-Feb-1992

REQUEST NUMBER: 12453 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.00600	21.3	2.1	NG/G	32.	10.	2/11/92	UNDER CONTROL
00.23653	4.14	0.41	UG/L	4.	0.2	2/11/92	UNDER CONTROL
00.23653	4.12	0.41	UG/L	4.	0.2	2/11/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01097	1.08	0.11	UG/L	1.5	0.09	2/11/92	WARNING 2-3 SIG

REPORT NUMBER: 13009

Analyst	Section Leader	QA Officer
		NK for MAG
2-11-92	2/11/92	2/12/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12878

Total Ag

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 31-Jan-1992

ANALYSIS: AG REQUEST NUMBER: 12453 MATRIX: SS ANALYST: Barbara Hemberger PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FAA ANALYTICAL PROCEDURE: 272.1

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS (ppm)	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00913	1.1	1.	UG/G	1/31/92	
PF-40-BAE-1	92.00914	2.3	1.	UG/G	1/31/92	
PF-40-EBX-W	92.00915	< 1.		UG/G	1/31/92	
PF-40-EBX-E	92.00916	< 1.		UG/G	1/31/92	
PF-40-SPS	92.00917	< 1.		UG/G	1/31/92	
PF-40-DP	92.00918	< 1.		UG/G	1/31/92	
PF-40-SD-W	92.00919	< 1.		UG/G	1/31/92	
PF-40-SD-M	92.00920	< 1.		UG/G	1/31/92	
PF-40-SD-E	92.00921	< 1.		UG/G	1/31/92	

< 200 ppm A.L. by OK

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-SD-E	92.00921	< 1.		UG/G	1/31/92	

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BOC-2 1,550 mg/L

BC-1

REPORT NUMBER: 12878 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 31-Jan-1992

REQUEST NUMBER: 12453 MATRIX: SS ANALYST: Barbara Hemberger PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	33.	3.	UG/L	32.	2.45	1/31/92	UNDER CONTROL
00.24370	498.	50.	UG/L	481.	21.	1/31/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01095	900.	90.	UG/L	900.	39.	1/30/92	UNDER CONTROL

REPORT NUMBER: 12878

BH	CTa	mag
Analyst	Section Leader	QA Officer
1/31/92	2/3/92	2/3/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13017

Total Se

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 12-Feb-1992

ANALYSIS: SE REQUEST NUMBER: 12453 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 270.2 NOTEBOOK: R7338 PAGE: 53

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00913	< 0.2		UG/G	2/11/92	
PF-40-BAE-1	92.00914	< 0.2		UG/G	2/11/92	
PF-40-EBX-W	92.00915	< 0.2		UG/G	2/11/92	
PF-40-EBX-E	92.00916	< 0.2		UG/G	2/11/92	
PF-40-SPS	92.00917	< 0.2		UG/G	2/11/92	
PF-40-DP	92.00918	< 0.2		UG/G	2/11/92	
PF-40-SD-W	92.00919	< 0.2		UG/G	2/11/92	
PF-40-SD-M	92.00920	< 0.2		UG/G	2/11/92	
PF-40-SD-E	92.00921	< 0.2		UG/G	2/11/92	

ok

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-SD-E	92.00921	< 0.2		UG/G	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 12-Feb-1992

REQUEST NUMBER: 12453 MATRIX: SS ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	9.1	2.	UG/L	8.1	1.1	2/11/92	UNDER CONTROL
00.01160	9.4	2.	UG/L	8.1	1.1	2/11/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01094	59.6	12.	UG/L	56.	6.	2/11/92	UNDER CONTROL

REPORT NUMBER: 13017

Analyst	Section Leader	QA Officer
2-12-92	2/12/92	2/13/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13473

********** EM-9 ANALYTICAL REPORT **********

Prepared by: CB on 24-Mar-1992

REQUEST NUMBER: 12449 MATRIX: W ANALYST: RICHARD ROBINSON PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: 10523 PAGE: 43

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00938	AL	< 0.02		MG/L	3/23/92	
PF-40-EW	92.00938	BA	0.11	0.01	MG/L	3/23/92	
PF-40-EW	92.00938	BE	< 0.03		UG/L	3/23/92	
PF-40-EW	92.00938	CA	10.6	1.1	MG/L	3/23/92	
PF-40-EW	92.00938	CD	< 0.003		MG/L	3/23/92	
PF-40-EW	92.00938	CO	< 0.01		MG/L	3/23/92	
PF-40-EW	92.00938	CR	< 0.01		MG/L	3/23/92	
PF-40-EW	92.00938	CU	< 0.01		MG/L	3/23/92	
PF-40-EW	92.00938	FE	< 0.01		MG/L	3/23/92	
PF-40-EW	92.00938	K	< 1.		MG/L	3/23/92	
PF-40-EW	92.00938	MG	3.47	0.35	MG/L	3/23/92	
PF-40-EW	92.00938	MN	0.004	0.001	MG/L	3/23/92	
PF-40-EW	92.00938	NA	13.	1.3	MG/L	3/23/92	
PF-40-EW	92.00938	NI	< 0.01		MG/L	3/23/92	
PF-40-EW	92.00938	PB	< 0.05		MG/L	3/23/92	
PF-40-EW	92.00938	SB	< 0.02		MG/L	3/23/92	
PF-40-EW	92.00938	TL	< 0.03		MG/L	3/23/92	
PF-40-EW	92.00938	V	0.01	0.006	MG/L	3/23/92	
PF-40-EW	92.00938	ZN	0.014	0.002	MG/L	3/23/92	
PF-40-DEB	92.00939	AL	0.08	0.02	MG/L	3/23/92	
PF-40-DEB	92.00939	BA	0.149	0.015	MG/L	3/23/92	
PF-40-DEB	92.00939	BE	0.07	0.03	UG/L	3/23/92	
PF-40-DEB	92.00939	CA	14.6	1.5	MG/L	3/23/92	
PF-40-DEB	92.00939	CD	< 0.003		MG/L	3/23/92	
PF-40-DEB	92.00939	CO	< 0.01		MG/L	3/23/92	
PF-40-DEB	92.00939	CR	< 0.01		MG/L	3/23/92	
PF-40-DEB	92.00939	CU	< 0.01		MG/L	3/23/92	
PF-40-DEB	92.00939	FE	0.03	0.01	MG/L	3/23/92	
PF-40-DEB	92.00939	K	2.	1.	MG/L	3/23/92	
PF-40-DEB	92.00939	MG	3.07	0.31	MG/L	3/23/92	
PF-40-DEB	92.00939	MN	0.02	0.002	MG/L	3/23/92	
PF-40-DEB	92.00939	NA	13.	1.3	MG/L	3/23/92	
PF-40-DEB	92.00939	NI	< 0.01		MG/L	3/23/92	
PF-40-DEB	92.00939	PB	< 0.05		MG/L	3/23/92	
PF-40-DEB	92.00939	SB	< 0.02		MG/L	3/23/92	
PF-40-DEB	92.00939	TL	< 0.03		MG/L	3/23/92	
PF-40-DEB	92.00939	V	< 0.006		MG/L	3/23/92	

PF-40-DEB	92.00939 ZN	0.03	0.003	MG/L	3/23/92

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REPORT NUMBER: 13473 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 24-Mar-1992

REQUEST NUMBER: 12449 MATRIX: W ANALYST: RICHARD ROBINSON PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: 10523 PAGE: 43

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.20193	AL	10.3	1.03	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	BA	10.1	1.01	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	BE	8.86	0.886	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	CA	10.2	1.02	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	CD	10.8	1.08	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	CO	10.4	1.04	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	CR	9.9	0.99	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	CU	10.	1.	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	FE	9.9	0.99	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	K	89.6	8.96	MG/L	100.	10.	3/23/92	UNDER CONTROL
00.20193	MG	10.2	1.02	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	MN	10.5	1.05	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	NA	10.2	1.02	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	NI	10.	1.	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	PB	10.6	1.06	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	SB	9.5	0.95	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	TL	11.1	1.11	MG/L	10.	1.-	3/23/92	UNDER CONTROL
00.20193	V	10.8	1.08	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20193	ZN	10.6	1.06	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20333	BA	5.	0.5	MG/L	5.	0.5	3/23/92	UNDER CONTROL
00.20333	BE	0.895	0.0895	MG/L	1.	0.1	3/23/92	UNDER CONTROL
00.20333	CD	5.3	0.53	MG/L	5.	0.5	3/23/92	UNDER CONTROL
00.20333	CR	4.9	0.49	MG/L	5.	0.5	3/23/92	UNDER CONTROL
00.20333	NI	5.	0.5	MG/L	5.	0.5	3/23/92	UNDER CONTROL
00.20333	PB	15.7	1.57	MG/L	15.	2.	3/23/92	UNDER CONTROL
00.20333	SB	9.6	0.96	MG/L	10.	1.	3/23/92	UNDER CONTROL
00.20333	TL	16.1	1.61	MG/L	15.	2.	3/23/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01098	AL	7.44	0.74	MG/L	8.	0.3	3/23/92	UNDER CONTROL
92.01098	BA	3.35	0.34	MG/L	3.6	0.2	3/23/92	UNDER CONTROL
92.01098	BE	0.97	0.097	MG/L	1.	0.04	3/23/92	UNDER CONTROL
92.01098	CA	2.96	0.3	MG/L	3.2	0.1	3/23/92	UNDER CONTROL
92.01098	CD	2.41	0.24	MG/L	2.4	0.1	3/23/92	UNDER CONTROL
92.01098	CO	3.9	0.39	MG/L	4.	0.2	3/23/92	UNDER CONTROL
92.01098	CR	< 0.01		MG/L	0.0		3/23/92	UNDER CONTROL
92.01098	CU	0.31	0.03	MG/L	0.34	0.01	3/23/92	UNDER CONTROL
92.01098	FE	0.75	0.08	MG/L	0.81	0.03	3/23/92	UNDER CONTROL
92.01098	K	20.1	2.	MG/L	26.	1.	3/23/92	WARNING 2-3 SIG
92.01098	MG	14.7	1.5	MG/L	16.3	0.7	3/23/92	UNDER CONTROL
92.01098	MN	0.46	0.05	MG/L	0.48	0.02	3/23/92	UNDER CONTROL
92.01098	NA	< 0.05		MG/L	0.0		3/23/92	UNDER CONTROL
92.01098	NI	3.54	0.35	MG/L	3.8	0.2	3/23/92	UNDER CONTROL
92.01098	PB	7.65	0.77	MG/L	8.	0.3	3/23/92	UNDER CONTROL
92.01098	SB	15.7	1.6	MG/L	15.9	0.7	3/23/92	UNDER CONTROL
92.01098	TL	17.2	1.7	MG/L	18.	0.8	3/23/92	UNDER CONTROL
92.01098	V	1.83	0.18	MG/L	1.8	0.08	3/23/92	UNDER CONTROL
92.01098	ZN	1.4	0.14	MG/L	1.4	0.06	3/23/92	UNDER CONTROL

REPORT NUMBER: 13473

Analyst	Section Leader	QA Officer
3/24/92	3/24/92	3/25/92
Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12991

JCLP AS

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 11-Feb-1992

ANALYSIS: AS REQUEST NUMBER: 12449 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2 NOTEBOOK: R7338 PAGE: 53

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00938	< 2.		UG/L	2/11/92	
PF-40-DEB	92.00939	< 2.		UG/L	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 11-Feb-1992

REQUEST NUMBER: 12449 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	50.	10.	UG/L	51.	4.28	2/11/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01094	51.9	10.	UG/L	52.	5.	2/11/92	UNDER CONTROL

REPORT NUMBER: 12991

Analyst	Section Leader	QA Officer
2-11-92	2/11/92	2/11/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13005

TCLP Hg

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 11-Feb-1992

ANALYSIS: HG REQUEST NUMBER: 12449 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: CVAA ANALYTICAL PROCEDURE: 245.2 NOTEBOOK: Y04110 PAGE: 56

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS (ppb)	COMPLETION DATE	COMMENT
PF-40-EW	92.00938	< 0.1		UG/L	2/11/92	
PF-40-DEB	92.00939	< 0.1		UG/L	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 11-Feb-1992

REQUEST NUMBER: 12449 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.23653	4.1	0.4	UG/L	4.	0.2	2/11/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

___ Only qualitative data requested

X Only Open (non-blind) QC samples run with this sample batch.

___ No QC samples run with this sample batch.

___ No QC samples for this constituent and matrix type available within EM-9

REPORT NUMBER: 13005

Analyst	Section Leader	QA Officer
2-11-92	2-11-92	2/12/92
Date	Date	Date

NK for MAG

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12869

TCLP Ag

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 30-Jan-1992

ANALYSIS: AG REQUEST NUMBER: 12449 MATRIX: W ANALYST: Barbara Hemberger PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FAA ANALYTICAL PROCEDURE: 272.1

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00938	< 10.		UG/L	1/30/92	
PF-40-DEB	92.00939	< 10.		UG/L	1/30/92	

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REPORT NUMBER: 12869 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 30-Jan-1992

REQUEST NUMBER: 12449 MATRIX: W ANALYST: Barbara Hemberger PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.24356	790.	79.	UG/L	802.	35.	1/30/92	UNDER CONTROL
00.24370	478.	48.	UG/L	481.	21.	1/30/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01095	900.	90.	UG/L	900.	39.	1/30/92	UNDER CONTROL

REPORT NUMBER: 12869

BH
Analyst
1/30/92
Date

H P.
Section Leader
1/30/92
Date

NK for MAG
QA Officer
1/31/92
Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12989

+CLP Se

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 11-Feb-1992

ANALYSIS: SE REQUEST NUMBER: 12449 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 270.2 NOTEBOOK: R7338 PAGE: 53

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00938	2.		UG/L	2/11/92	
PF-40-DEB	92.00939	< 2.		UG/L	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 11-Feb-1992

REQUEST NUMBER: 12449 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	9.1	2.	UG/L	8.1	1.1	2/11/92	UNDER CONTROL

UMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01094	59.6	12.	UG/L	56.	6.	2/11/92	UNDER CONTROL

REPORT NUMBER: 12989

Analyst	Section Leader	QA Officer
2-11-92	2/11/92	2/11/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 14761

********** EM-9 ANALYTICAL REPORT **********

Prepared by: CB on 4-Aug-1992

REQUEST NUMBER: 12855 MATRIX: SS ANALYST: JANET MORGAN PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: 10523 PAGE: 124

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06115	AL	7.39	1.48	%	8/04/92	
PF-40-A-1	92.06115	BA	414.	83.	UG/G	8/04/92	
PF-40-A-1	92.06115	BE	2.5	0.5	UG/G	8/04/92	
PF-40-A-1	92.06115	CA	0.66	0.13	%	8/04/92	
PF-40-A-1	92.06115	CD	< 1.		UG/G	8/04/92	
PF-40-A-1	92.06115	CO	5.	1.	UG/G	8/04/92	
PF-40-A-1	92.06115	CR	12.	2.4	UG/G	8/04/92	
PF-40-A-1	92.06115	CU	304.	60.8	UG/G	8/04/92	
PF-40-A-1	92.06115	FE	1.58	0.32	%	8/04/92	
PF-40-A-1	92.06115	K	3.58	0.72	%	8/04/92	
PF-40-A-1	92.06115	MG	0.24	0.05	%	8/04/92	
PF-40-A-1	92.06115	MN	394.	79.	UG/G	8/04/92	
PF-40-A-1	92.06115	NA	2.76	0.55	%	8/04/92	
PF-40-A-1	92.06115	NI	8.	3.	UG/G	8/04/92	
PF-40-A-1	92.06115	PB	48.	10.	UG/G	8/04/92	
PF-40-A-1	92.06115	SB	< 6.		UG/G	8/04/92	
PF-40-A-1	92.06115	TL	21.	20.	UG/G	8/04/92	
PF-40-A-1	92.06115	V	19.	4.	UG/G	8/04/92	
PF-40-A-1	92.06115	ZN	72.5	15.	UG/G	8/04/92	
PF-40-A-2	92.06116	AL	7.24	1.44	%	8/04/92	
PF-40-A-2	92.06116	BA	589.	120.	UG/G	8/04/92	
PF-40-A-2	92.06116	BE	2.1	0.4	UG/G	8/04/92	
PF-40-A-2	92.06116	CA	0.95	0.19	%	8/04/92	
PF-40-A-2	92.06116	CD	< 1.		UG/G	8/04/92	
PF-40-A-2	92.06116	CO	4.8	1.	UG/G	8/04/92	
PF-40-A-2	92.06116	CR	12.	2.	UG/G	8/04/92	
PF-40-A-2	92.06116	CU	63.	13.	UG/G	8/04/92	
PF-40-A-2	92.06116	FE	1.46	0.29	%	8/04/92	
PF-40-A-2	92.06116	K	3.32	0.66	%	8/04/92	
PF-40-A-2	92.06116	MG	0.32	0.06	%	8/04/92	
PF-40-A-2	92.06116	MN	368.	74.	UG/G	8/04/92	
PF-40-A-2	92.06116	NA	2.8	0.56	%	8/04/92	
PF-40-A-2	92.06116	NI	12.	3.	UG/G	8/04/92	
PF-40-A-2	92.06116	PB	34.	7.	UG/G	8/04/92	
PF-40-A-2	92.06116	SB	< 6.		UG/G	8/04/92	
PF-40-A-2	92.06116	TL	25.	20.	UG/G	8/04/92	
PF-40-A-2	92.06116	V	20.	4.	UG/G	8/04/92	

PF-40-A-2	92.06116	ZN	55.	11.	UG/G	8/04/92
PF-40-A-3	92.06117	AL	7.04	1.4	%	8/04/92
PF-40-A-3	92.06117	BA	383.	77.	UG/G	8/04/92
PF-40-A-3	92.06117	BE	2.38	0.48	UG/G	8/04/92
PF-40-A-3	92.06117	CA	0.5	0.1	%	8/04/92
PF-40-A-3	92.06117	CD	< 1.		UG/G	8/04/92
PF-40-A-3	92.06117	CO	3.5	0.7	UG/G	8/04/92
PF-40-A-3	92.06117	CR	7.6	1.5	UG/G	8/04/92
PF-40-A-3	92.06117	CU	212.	42.	UG/G	8/04/92
PF-40-A-3	92.06117	FE	1.58	0.32	%	8/04/92
PF-40-A-3	92.06117	K	3.58	0.72	%	8/04/92
PF-40-A-3	92.06117	MG	0.2	0.04	%	8/04/92
PF-40-A-3	92.06117	MN	458.	92.	UG/G	8/04/92
PF-40-A-3	92.06117	NA	2.91	0.58	%	8/04/92
PF-40-A-3	92.06117	NI	6.	3.	UG/G	8/04/92
PF-40-A-3	92.06117	PB	48.	9.6	UG/G	8/04/92
PF-40-A-3	92.06117	SB	< 6.		UG/G	8/04/92
PF-40-A-3	92.06117	TL	28.	20.	UG/G	8/04/92
PF-40-A-3	92.06117	V	13.	3.	UG/G	8/04/92
PF-40-A-3	92.06117	ZN	79.	16.	UG/G	8/04/92
PF-40-A-4	92.06118	AL	7.37	0.15	%	8/04/92
PF-40-A-4	92.06118	BA	241.	48.	UG/G	8/04/92
PF-40-A-4	92.06118	BE	2.8	0.56	UG/G	8/04/92
PF-40-A-4	92.06118	CA	0.34	0.07	%	8/04/92
PF-40-A-4	92.06118	CD	< 1.		UG/G	8/04/92
PF-40-A-4	92.06118	CO	3.2	0.6	UG/G	8/04/92
PF-40-A-4	92.06118	CR	5.4	1.1	UG/G	8/04/92
PF-40-A-4	92.06118	CU	45.	9.	UG/G	8/04/92
PF-40-A-4	92.06118	FE	1.41	0.28	%	8/04/92
PF-40-A-4	92.06118	K	4.05	0.8	%	8/04/92
PF-40-A-4	92.06118	MG	0.14	0.03	%	8/04/92
PF-40-A-4	92.06118	MN	362.	72.4	UG/G	8/04/92
PF-40-A-4	92.06118	NA	3.04	0.61	%	8/04/92
PF-40-A-4	92.06118	NI	25.	5.	UG/G	8/04/92
PF-40-A-4	92.06118	PB	46.	9.	UG/G	8/04/92
PF-40-A-4	92.06118	SB	< 6.		UG/G	8/04/92
PF-40-A-4	92.06118	TL	25.	20.	UG/G	8/04/92
PF-40-A-4	92.06118	V	10.	2.	UG/G	8/04/92
PF-40-A-4	92.06118	ZN	77.	15.	UG/G	8/04/92
PF-40-CH1-2	92.06119	AL	7.02	0.14	%	8/04/92
PF-40-CH1-2	92.06119	BA	463.	93.	UG/G	8/04/92
PF-40-CH1-2	92.06119	BE	2.3	0.46	UG/G	8/04/92
PF-40-CH1-2	92.06119	CA	0.7	0.14	%	8/04/92
PF-40-CH1-2	92.06119	CD	< 1.		UG/G	8/04/92
PF-40-CH1-2	92.06119	CO	4.9	1.	UG/G	8/04/92
PF-40-CH1-2	92.06119	CR	9.8	2.	UG/G	8/04/92
PF-40-CH1-2	92.06119	CU	153.	31.	UG/G	8/04/92
PF-40-CH1-2	92.06119	FE	1.45	0.29	%	8/04/92
PF-40-CH1-2	92.06119	K	3.31	0.7	%	8/04/92
PF-40-CH1-2	92.06119	MG	0.25	0.05	%	8/04/92
PF-40-CH1-2	92.06119	MN	398.	80.	UG/G	8/04/92
PF-40-CH1-2	92.06119	NA	2.75	0.55	%	8/04/92
PF-40-CH1-2	92.06119	NI	5.	3.	UG/G	8/04/92
PF-40-CH1-2	92.06119	PB	36.	7.	UG/G	8/04/92
PF-40-CH1-2	92.06119	SB	10.	6.	UG/G	8/04/92
PF-40-CH1-2	92.06119	TL	26.	20.	UG/G	8/04/92
PF-40-CH1-2	92.06119	V	19.	4.	UG/G	8/04/92
PF-40-CH1-2	92.06119	ZN	80.	16.	UG/G	8/04/92
PF-40-CH1-4	92.06120	AL	6.9	0.14	%	8/04/92
PF-40-CH1-4	92.06120	BA	217.	43.	UG/G	8/04/92

PF-40-CH1-4	92.06120	BE	2.49	0.5	UG/G	8/04/92
PF-40-CH1-4	92.06120	CA	0.31	0.06	%	8/04/92
PF-40-CH1-4	92.06120	CD	< 1.		UG/G	8/04/92
PF-40-CH1-4	92.06120	CO	2.1	0.6	UG/G	8/04/92
PF-40-CH1-4	92.06120	CR	4.4	0.9	UG/G	8/04/92
PF-40-CH1-4	92.06120	CU	16.3	3.	UG/G	8/04/92
PF-40-CH1-4	92.06120	FE	1.21	0.24	%	8/04/92
PF-40-CH1-4	92.06120	K	3.8	0.8	%	8/04/92
PF-40-CH1-4	92.06120	MG	933.	186.	UG/G	8/04/92
PF-40-CH1-4	92.06120	MN	391.	78.	UG/G	8/04/92
PF-40-CH1-4	92.06120	NA	3.09	0.6	%	8/04/92
PF-40-CH1-4	92.06120	NI	4.	3.	UG/G	8/04/92
PF-40-CH1-4	92.06120	PB	39.	8.	UG/G	8/04/92
PF-40-CH1-4	92.06120	SB	< 6.		UG/G	8/04/92
PF-40-CH1-4	92.06120	TL	24.	20.	UG/G	8/04/92
PF-40-CH1-4	92.06120	V	6.	1.	UG/G	8/04/92
PF-40-CH1-4	92.06120	ZN	91.6	18.	UG/G	8/04/92
PF-40-CH2-2	92.06121	AL	6.49	1.3	%	8/04/92
PF-40-CH2-2	92.06121	BA	176.	35.2	UG/G	8/04/92
PF-40-CH2-2	92.06121	BE	2.63	0.52	UG/G	8/04/92
PF-40-CH2-2	92.06121	CA	0.24	0.05	%	8/04/92
PF-40-CH2-2	92.06121	CD	< 1.		UG/G	8/04/92
PF-40-CH2-2	92.06121	CO	3.1	0.6	UG/G	8/04/92
PF-40-CH2-2	92.06121	CR	3.2	0.8	UG/G	8/04/92
PF-40-CH2-2	92.06121	CU	2.2	0.5	UG/G	8/04/92
PF-40-CH2-2	92.06121	FE	1.09	0.22	%	8/04/92
PF-40-CH2-2	92.06121	K	3.71	0.74	%	8/04/92
PF-40-CH2-2	92.06121	MG	562.	112.	UG/G	8/04/92
PF-40-CH2-2	92.06121	MN	334.	67.	UG/G	8/04/92
PF-40-CH2-2	92.06121	NA	2.95	0.59	%	8/04/92
PF-40-CH2-2	92.06121	NI	4.	3.	UG/G	8/04/92
PF-40-CH2-2	92.06121	PB	36.	7.	UG/G	8/04/92
PF-40-CH2-2	92.06121	SB	< 6.		UG/G	8/04/92
PF-40-CH2-2	92.06121	TL	21.	20.	UG/G	8/04/92
PF-40-CH2-2	92.06121	V	4.	1.	UG/G	8/04/92
PF-40-CH2-2	92.06121	ZN	55.8	12.	UG/G	8/04/92
PF-40-CH2-4	92.06122	AL	7.24	1.4	%	8/04/92
PF-40-CH2-4	92.06122	BA	663.	133.	UG/G	8/04/92
PF-40-CH2-4	92.06122	BE	2.21	0.44	UG/G	8/04/92
PF-40-CH2-4	92.06122	CA	1.25	0.25	%	8/04/92
PF-40-CH2-4	92.06122	CD	< 1.		UG/G	8/04/92
PF-40-CH2-4	92.06122	CO	5.8	1.2	UG/G	8/04/92
PF-40-CH2-4	92.06122	CR	13.6	2.7	UG/G	8/04/92
PF-40-CH2-4	92.06122	CU	17.8	3.6	UG/G	8/04/92
PF-40-CH2-4	92.06122	FE	1.63	0.3	%	8/04/92
PF-40-CH2-4	92.06122	K	3.12	0.6	%	8/04/92
PF-40-CH2-4	92.06122	MG	0.44	0.09	%	8/04/92
PF-40-CH2-4	92.06122	MN	412.	82.	UG/G	8/04/92
PF-40-CH2-4	92.06122	NA	2.7	0.54	%	8/04/92
PF-40-CH2-4	92.06122	NI	12.	3.	UG/G	8/04/92
PF-40-CH2-4	92.06122	PB	30.6	6.	UG/G	8/04/92
PF-40-CH2-4	92.06122	SB	< 6.		UG/G	8/04/92
PF-40-CH2-4	92.06122	TL	27.	20.	UG/G	8/04/92
PF-40-CH2-4	92.06122	V	26.	5.	UG/G	8/04/92
PF-40-CH2-4	92.06122	ZN	47.	9.	UG/G	8/04/92
PF-40-A-1-QA	92.06123	AL	7.1	1.4	%	8/04/92
PF-40-A-1-QA	92.06123	BA	440.	88.	UG/G	8/04/92
PF-40-A-1-QA	92.06123	BE	2.39	0.48	UG/G	8/04/92
PF-40-A-1-QA	92.06123	CA	0.63	0.13	%	8/04/92
PF-40-A-1-QA	92.06123	CD	< 1.		UG/G	8/04/92

PF-40-A-1-QA	92.06123	CO	4.1	0.8	UG/G	8/04/92
PF-40-A-1-QA	92.06123	CR	9.6	1.9	UG/G	8/04/92
PF-40-A-1-QA	92.06123	CU	90.8	18.	UG/G	8/04/92
PF-40-A-1-QA	92.06123	FE	1.58	0.32	%	8/04/92
PF-40-A-1-QA	92.06123	K	3.35	0.7	%	8/04/92
PF-40-A-1-QA	92.06123	MG	0.24	0.05	%	8/04/92
PF-40-A-1-QA	92.06123	MN	387.	77.	UG/G	8/04/92
PF-40-A-1-QA	92.06123	NA	2.71	1.	%	8/04/92
PF-40-A-1-QA	92.06123	NI	8.	3.	UG/G	8/04/92
PF-40-A-1-QA	92.06123	PB	44.	9.	UG/G	8/04/92
PF-40-A-1-QA	92.06123	SB	< 6.		UG/G	8/04/92
PF-40-A-1-QA	92.06123	TL	24.	20.	UG/G	8/04/92
PF-40-A-1-QA	92.06123	V	19.	4.	UG/G	8/04/92
PF-40-A-1-QA	92.06123	ZN	67.1	13.	UG/G	8/04/92

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REPORT NUMBER: 14761 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 4-Aug-1992

REQUEST NUMBER: 12855 MATRIX: SS ANALYST: JANET MORGAN PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: 10523 PAGE: 124

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.00596	AL	7.52	1.5	%	8.07	0.18	8/04/92	UNDER CONTROL
00.00596	BA	994.	200.	UG/G	966.	67.	8/04/92	UNDER CONTROL
00.00596	BE	1.67	0.34	UG/G	2.	0.3	8/04/92	UNDER CONTROL
00.00596	CA	1.56	0.31	%	1.96	0.1	8/04/92	UNDER CONTROL
00.00596	CD	< 1000.		NG/G	130.	40.	8/04/92	UNDER CONTROL
00.00596	CO	7.	1.4	UG/G	7.6	0.6	8/04/92	UNDER CONTROL
00.00596	CR	< 15.		UG/G	12.3	1.3	8/04/92	UNDER CONTROL
00.00596	CU	< 9.		UG/G	7.	1.	8/04/92	UNDER CONTROL
00.00596	FE	4.96	1.	%	5.56	0.16	8/04/92	UNDER CONTROL
00.00596	K	2.23	0.45	%	2.45	0.04	8/04/92	UNDER CONTROL
00.00596	MG	4800.	1000.	UG/G	5400.	300.	8/04/92	UNDER CONTROL
00.00596	MN	623.	130.	UG/G	720.	20.	8/04/92	UNDER CONTROL
00.00596	NA	1.73	0.34	%	1.9	0.05	8/04/92	UNDER CONTROL
00.00596	NI	5.	3.	UG/G	8.	2.	8/04/92	UNDER CONTROL
00.00596	PB	27.	5.	UG/G	20.	2.	8/04/92	UNDER CONTROL
00.00596	SB	< 6000.		NG/G	106.	18.	8/04/92	UNDER CONTROL
00.00596	TL	30000.	20000.	NG/G	580.		8/04/92	UNDER CONTROL
00.00596	V	52.	10.	UG/G	57.	4.	8/04/92	UNDER CONTROL
00.00596	ZN	95.	19.	UG/G	124.	5.	8/04/92	UNDER CONTROL
00.00598	AL	2.42	0.48	%	3.06	0.11	8/04/92	UNDER CONTROL
00.00598	BA	284.	57.	UG/G	300.	40.	8/04/92	UNDER CONTROL
00.00598	BE	0.93	0.2	UG/G	0.81	0.15	8/04/92	UNDER CONTROL
00.00598	CA	13.1	2.6	%	14.63	0.4	8/04/92	UNDER CONTROL
00.00598	CD	< 1000.		NG/G	120.	30.	8/04/92	UNDER CONTROL
00.00598	CO	4.4	0.9	UG/G	5.5	0.8	8/04/92	UNDER CONTROL
00.00598	CR	18.	3.6	UG/G	26.	3.	8/04/92	UNDER CONTROL
00.00598	CU	12.2	2.4	UG/G	17.	1.	8/04/92	UNDER CONTROL
00.00598	FE	1.33	0.26	%	1.51	0.06	8/04/92	UNDER CONTROL
00.00598	K	1.18	0.24	%	1.16	0.05	8/04/92	UNDER CONTROL
00.00598	MG	4.23	0.85	%	4.98	0.1	8/04/92	UNDER CONTROL
00.00598	MN	463.	82.	UG/G	520.	20.	8/04/92	UNDER CONTROL
00.00598	NA	6200.	1200.	UG/G	7400.	400.	8/04/92	UNDER CONTROL
00.00598	NI	14.	3.	UG/G	16.	3.	8/04/92	UNDER CONTROL

00.00598 PB	16.	3.	UG/G	14.	3.	8/04/92	UNDER CONTROL
00.00598 SB	< 6000.		NG/G	323.	6.	8/04/92	UNDER CONTROL
00.00598 V	29.	6.	UG/G	36.	4.	8/04/92	UNDER CONTROL
00.00598 ZN	32.7	6.5	UG/G	48.3	1.8	8/04/92	WARNING 2-3
00.20417 AL	3.9	0.39	MG/L	4.	0.4	8/04/92	UNDER CONTR
00.20417 AL	4.2	0.4	MG/L	4.	0.4	8/04/92	UNDER CONTROL
00.20417 BA	4.2	0.4	MG/L	4.	0.4	8/04/92	UNDER CONTROL
00.20417 BA	4.2	0.42	MG/L	4.	0.4	8/04/92	UNDER CONTROL
00.20417 BE	3.4	0.3	MG/L	3.2	0.3	8/04/92	UNDER CONTROL
00.20417 BE	3.4	0.34	MG/L	3.2	0.3	8/04/92	UNDER CONTROL
00.20417 CO	45.	4.5	MG/L	40.	4.	8/04/92	UNDER CONTROL
00.20417 CO	45.	4.5	MG/L	40.	4.	8/04/92	UNDER CONTROL
00.20417 MG	25.	2.5	MG/L	24.	2.4	8/04/92	UNDER CONTROL
00.20417 MG	25.	2.5	MG/L	24.	2.4	8/04/92	UNDER CONTROL
00.20417 MN	5.1	0.5	MG/L	4.8	0.5	8/04/92	UNDER CONTROL
00.20417 MN	5.	0.5	MG/L	4.8	0.5	8/04/92	UNDER CONTROL
00.20417 NI	4.5	0.45	MG/L	4.	0.4	8/04/92	UNDER CONTROL
00.20417 NI	4.7	0.5	MG/L	4.	0.4	8/04/92	UNDER CONTROL
00.20417 TL	17.4	1.7	MG/L	16.	1.6	8/04/92	UNDER CONTROL
00.20417 TL	17.5	1.8	MG/L	16.	1.6	8/04/92	UNDER CONTROL
00.24619 AL	51.	5.1	MG/L	49.92	2.15	8/04/92	UNDER CONTROL
00.24619 AL	51.	5.1	MG/L	49.92	2.15	8/04/92	UNDER CONTROL
00.24619 BA	5.06	0.51	MG/L	4.98	0.21	8/04/92	UNDER CONTROL
00.24619 BA	5.1	0.51	MG/L	4.98	0.21	8/04/92	UNDER CONTROL
00.24619 BE	0.24	0.024	MG/L	0.25	0.01	8/04/92	UNDER CONTROL
00.24619 BE	0.24	0.02	MG/L	0.25	0.01	8/04/92	UNDER CONTROL
00.24619 CA	23.	2.3	MG/L	25.02	1.08	8/04/92	UNDER CONTROL
00.24619 CA	23.4	2.3	MG/L	25.02	1.08	8/04/92	UNDER CONTROL
00.24619 CD	0.63	0.06	MG/L	0.5	0.02	8/04/92	WARNING 2-3 SIG
00.24619 CD	0.62	0.06	MG/L	0.5	0.02	8/04/92	UNDER CONTR
00.24619 CO	0.51	0.05	MG/L	0.5	0.02	8/04/92	UNDER CONTROL
00.24619 CO	0.52	0.05	MG/L	0.5	0.02	8/04/92	UNDER CONTROL
00.24619 CR	2.51	0.25	MG/L	2.51	0.11	8/04/92	UNDER CONTROL
00.24619 CR	2.51	0.25	MG/L	2.51	0.11	8/04/92	UNDER CONTROL
00.24619 CU	2.55	0.26	MG/L	2.49	0.11	8/04/92	UNDER CONTROL
00.24619 CU	2.6	0.3	MG/L	2.49	0.11	8/04/92	UNDER CONTROL
00.24619 FE	104.	10.4	MG/L	101.	4.3	8/04/92	UNDER CONTROL
00.24619 FE	104.	10.	MG/L	101.	4.3	8/04/92	UNDER CONTROL
00.24619 K	50.	5.	MG/L	50.2	2.16	8/04/92	UNDER CONTROL
00.24619 K	50.	5.	MG/L	50.2	2.16	8/04/92	UNDER CONTROL
00.24619 MG	10.	1.	MG/L	10.11	0.43	8/04/92	UNDER CONTROL
00.24619 MG	10.2	1.	MG/L	10.11	0.43	8/04/92	UNDER CONTROL
00.24619 MN	4.86	0.49	MG/L	5.	0.22	8/04/92	UNDER CONTROL
00.24619 MN	4.84	0.48	MG/L	5.	0.22	8/04/92	UNDER CONTROL
00.24619 NA	5.05	0.51	MG/L	4.97	0.21	8/04/92	UNDER CONTROL
00.24619 NA	5.08	0.51	MG/L	4.97	0.21	8/04/92	UNDER CONTROL
00.24619 NI	0.54	0.05	MG/L	0.5	0.02	8/04/92	UNDER CONTROL
00.24619 NI	0.55	0.05	MG/L	0.5	0.02	8/04/92	UNDER CONTROL
00.24619 PB	2.51	0.25	MG/L	2.51	0.11	8/04/92	UNDER CONTROL
00.24619 PB	2.54	0.25	MG/L	2.51	0.11	8/04/92	UNDER CONTROL
00.24619 SB	2.42	0.24	MG/L	2.48	0.11	8/04/92	UNDER CONTROL
00.24619 SB	2.41	0.24	MG/L	2.48	0.11	8/04/92	UNDER CONTROL
00.24619 TL	2.64	0.26	MG/L	2.5	0.11	8/04/92	UNDER CONTROL
00.24619 TL	2.6	0.26	MG/L	2.5	0.11	8/04/92	UNDER CONTROL
00.24619 V	2.46	0.25	MG/L	2.5	0.11	8/04/92	UNDER CONTRO
00.24619 V	2.46	0.25	MG/L	2.5	0.11	8/04/92	UNDER CONTR
00.24619 ZN	2.47	0.25	MG/L	2.51	0.11	8/04/92	UNDER CONTROL
00.24619 ZN	2.46	0.25	MG/L	2.51	0.11	8/04/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.06207	AL	< 0.01		MG/L	0.0		8/04/92	UNDER CONTROL
92.06207	BA	0.52	0.05	MG/L	0.5	0.02	8/04/92	UNDER CONTROL
92.06207	BE	4.01	0.4	MG/L	4.	0.2	8/04/92	UNDER CONTROL
92.06207	CA	11.4	1.1	MG/L	12.	0.5	8/04/92	UNDER CONTROL
92.06207	CD	0.34	0.03	MG/L	0.3	0.01	8/04/92	UNDER CONTROL
92.06207	CO	0.37	0.04	MG/L	0.36	0.02	8/04/92	UNDER CONTROL
92.06207	CR	0.41	0.04	MG/L	0.4	0.02	8/04/92	UNDER CONTROL
92.06207	CU	< 0.004		MG/L	0.0		8/04/92	UNDER CONTROL
92.06207	FE	2.91	0.29	MG/L	2.8	0.1	8/04/92	UNDER CONTROL
92.06207	K	61.1	6.1	MG/L	60.	2.6	8/04/92	UNDER CONTROL
92.06207	MG	3.75	0.38	MG/L	3.8	0.2	8/04/92	UNDER CONTROL
92.06207	MN	0.93	0.09	MG/L	0.96	0.04	8/04/92	UNDER CONTROL
92.06207	NA	1.23	0.12	MG/L	1.19	0.05	8/04/92	UNDER CONTROL
92.06207	NI	0.85	0.08	MG/L	0.8	0.03	8/04/92	UNDER CONTROL
92.06207	PB	26.2	2.6	MG/L	26.	1.	8/04/92	UNDER CONTROL
92.06207	SB	2.72	0.27	MG/L	3.	0.1	8/04/92	UNDER CONTROL
92.06207	TL	13.9	1.4	MG/L	14.4	0.6	8/04/92	UNDER CONTROL
92.06207	V	4.4	0.44	MG/L	4.6	0.2	8/04/92	UNDER CONTROL
92.06207	ZN	0.4	0.04	MG/L	0.4	0.02	8/04/92	UNDER CONTROL

REPORT NUMBER: 14761

Analyst	Reviewer	Section Leader	QA Officer
8/4/92	8/4/92	8/5/92	8/5/92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 14213

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 10-Jun-1992

ANALYSIS: AS REQUEST NUMBER: 12855 MATRIX: SS ANALYST: MICHAEL BELL PROGRAM CODE: M9

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2 NOTEBOOK: R7338 PAGE: 135

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06115	1.2	0.1	UG/G	6/10/92	
PF-40-A-2	92.06116	0.9	0.1	UG/G	6/10/92	
PF-40-A-3	92.06117	0.8	0.1	UG/G	6/10/92	
PF-40-A-4	92.06118	0.6	0.1	UG/G	6/10/92	
PF-40-CH1-2	92.06119	0.8	0.1	UG/G	6/10/92	
PF-40-CH1-4	92.06120	0.5	0.1	UG/G	6/10/92	
PF-40-CH2-2	92.06121	< 0.2		UG/G	6/10/92	
PF-40-CH2-4	92.06122	0.6	0.1	UG/G	6/10/92	
PF-40-A-1-QA	92.06123	1.1	0.1	UG/G	6/10/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06115	0.9	0.1	UG/G	6/10/92	
PF-40-A-1	92.06115	1.1	0.1	UG/G	6/10/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 10-Jun-1992

REQUEST NUMBER: 12855 MATRIX: SS ANALYST: MICHAEL BELL PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.25251	57.6	5.8	UG/L	55.	2.4	6/10/92	UNDER CONTROL
00.25251	59.9	6.	UG/L	55.	2.4	6/10/92	UNDER CONTROL

JMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.06209	8.6	0.9	UG/L	8.	0.3	6/10/92	UNDER CONTROL

REPORT NUMBER: 14213

Analyst	Reviewer	Section Leader	QA Officer
6/10/92	6/10/92	6/10/92	6/10/92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 14208

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 10-Jun-1992

ANALYSIS: HG REQUEST NUMBER: 12855 MATRIX: SS ANALYST: MICHAEL BELL PROGRAM CODE: MS

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: CVAA ANALYTICAL PROCEDURE: 245.2 NOTEBOOK: Y04110 PAGE: 118

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06115	21.	10.	NG/G	6/10/92	
PF-40-A-2	92.06116	10.	10.	NG/G	6/10/92	
PF-40-A-3	92.06117	10.	10.	NG/G	6/10/92	
PF-40-A-4	92.06118	< 10.		NG/G	6/10/92	
PF-40-CH1-2	92.06119	11.	10.	NG/G	6/10/92	
PF-40-CH1-4	92.06120	< 10.		NG/G	6/10/92	
PF-40-CH2-2	92.06121	< 10.		NG/G	6/10/92	
PF-40-CH2-4	92.06122	< 10.		NG/G	6/10/92	
PF-40-A-1-QA	92.06123	11.	10.	NG/G	6/10/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06115	21.	10.	NG/G	6/10/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06115	2.	1.9	UG/L	6/10/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 10-Jun-1992

REQUEST NUMBER: 12855 MATRIX: SS ANALYST: MICHAEL BELL PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.23653	4.	0.4	UG/L	4.	0.2	6/10/92	UNDER CONTROL
00.23653	3.9	0.4	UG/L	4.	0.2	6/10/92	UNDER CONTROL

JMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.06208	2.5	0.2	UG/L	3.	0.18	6/10/92	UNDER CONTROL

REPORT NUMBER: 14208

Analyst	Reviewer	Section Leader	QA Officer
6/10/92	6-10-92		6/10/92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 14172 TA-40 Total Ag

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 8-Jun-1992

ANALYSIS: AG REQUEST NUMBER: 12855 MATRIX: SS ANALYST: BARBARA HEMBERGER PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FAA ANALYTICAL PROCEDURE: 272.1 NOTEBOOK: R7719 PAGE: 40

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	ppm UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06115	1.6	0.2	UG/G	6/08/92	
PF-40-A-2	92.06116	1.5	0.2	UG/G	6/08/92	
PF-40-A-3	92.06117	< 1.		UG/G	6/08/92	
PF-40-A-4	92.06118	< 1.		UG/G	6/08/92	
PF-40-CH1-2	92.06119	< 1.		UG/G	6/08/92	
PF-40-CH1-4	92.06120	< 1.		UG/G	6/08/92	
PF-40-CH2-2	92.06121	< 1.		UG/G	6/08/92	
PF-40-CH2-4	92.06122	< 1.		UG/G	6/08/92	
PF-40-A-1-QA	92.06123	< 1.		UG/G	6/08/92	

dR < 200 ppm A.L.

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 8-Jun-1992

REQUEST NUMBER: 12855 MATRIX: SS ANALYST: BARBARA HEMBERGER PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.24370	482.	48.	UG/L	481.	21.	6/08/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.06204	834.	73.	UG/L	762.	33.	6/08/92	UNDER CONTROL

REPORT NUMBER: 14172	Analyst	Reviewer	Section Leader	QA Officer
	6/8/92	6-8-92	6/8/92	6/8/92
	Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 10-Jun-1992

REQUEST NUMBER: 12855 MATRIX: SS ANALYST: MICHAEL BELL PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.23653	4.	0.4	UG/L	4.	0.2	6/10/92	UNDER CONTROL
00.23653	3.9	0.4	UG/L	4.	0.2	6/10/92	UNDER CONTROL

JMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.06208	2.5	0.2	UG/L	3.	0.18	6/10/92	UNDER CONTROL

REPORT NUMBER: 14208

Analyst	Reviewer	Section Leader	QA Officer
6/10/92	6-10-92		6/10/92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 10-Jun-1992

ANALYSIS: SE REQUEST NUMBER: 12855 MATRIX: SS ANALYST: MICHAEL BELL PROGRAM CODE: MK

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 270.2 NOTEBOOK: R7338 PAGE: 137

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06115	< 0.2		UG/G	6/10/92	
PF-40-A-2	92.06116	< 0.2		UG/G	6/10/92	
PF-40-A-3	92.06117	< 0.2		UG/G	6/10/92	
PF-40-A-4	92.06118	< 0.2		UG/G	6/10/92	
PF-40-CH1-2	92.06119	< 0.2		UG/G	6/10/92	
PF-40-CH1-4	92.06120	< 0.2		UG/G	6/10/92	
PF-40-CH2-2	92.06121	< 0.2		UG/G	6/10/92	
PF-40-CH2-4	92.06122	< 0.2		UG/G	6/10/92	
PF-40-A-1-QA	92.06123	< 0.2		UG/G	6/10/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06115	< 0.2		UG/G	6/10/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 10-Jun-1992

REQUEST NUMBER: 12855 MATRIX: SS ANALYST: MICHAEL BELL PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.25251	84.4	8.4	UG/L	79.	3.4	6/10/92	UNDER CONTROL
00.25251	85.4	8.5	UG/L	79.	3.4	6/10/92	UNDER CONTROL

MMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.06209	68.4	6.8	UG/L	64.	3.	6/10/92	UNDER CONTROL

REPORT NUMBER: 14214

Analyst	Reviewer	Section Leader	QA Officer
6/10/92	6/10/92	6/10/92	6/10/92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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TO: CHARLIE APEL, INORGANIC SECTION LEADER CJA

FROM: JANET D. MORGAN, INORGANIC SECTION JDM 3/18/92

DATE: 3/18/92

SUBJECT: PARTIAL RESULTS FOR R12437 AND METHOD DEVELOPMENT

IN AN EFFORT TO IMPROVE OUR DIGESTION METHODS THE SAMPLES IN THE ATTACHED REPORT WERE PREPARED WITH AN ACID DIGESTION OF (1) HNO3 AND HF, AND (2) HNO3, H2O2, AND HCL (EPA 3050). THE HNO3/HF DIGESTION SHOWS IMPROVED RECOVERIES FOR AL, BE, CA, CD, CO, FE, K, MG, MN, NA, SB, TL, AND V ON THE SOIL QC 00.00596. THE PB RECOVERIES BY EPA 3050 ARE BEST, YET MARGINAL AND THE RECOVERIES FOR CR, CU, NI AND ZN ARE "OUT OF CONTROL" BY BOTH METHODS AND ARE BEING STUDIED.

THE RESULTS IN THIS REPORT FOR THE ELEMENTS AL, BE, CA, CD, CO, FE, MG, MN, NA, SB, TL, AND V WERE OBTAINED BY THE HNO3/HF DIGEST, THE OTHERS WERE OBTAINED BY THE EPA 3050 METHOD.

WE REALIZE THESE RESULTS ARE "PAST DUE" AND WE ARE MAKING EVERY EFFORT TO REPORT THE BEST POSSIBLE ANALYSIS IN A TIMELY MANNER. THE ICPES RESULTS FOR THE REMAINING SAMPLES ON THIS REQUEST SHOULD BE COMPLETED WITHIN TWO WEEKS.

NOT entered — was amended

REPORT NUMBER: 13470

********** EM-9 ANALYTICAL REPORT **********

Prepared by: CB on 23-Mar-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: RICHARD ROBINSON PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: R6451 PAGE: 118

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00696	AL	5.53	1.1	%	3/11/92	
PF-40-FA-1A	92.00696	BE	1.91	0.38	UG/G	3/11/92	
PF-40-FA-1A	92.00696	CA	2100.	420.	UG/G	3/11/92	
PF-40-FA-1A	92.00696	CD	< 1.		UG/G	3/11/92	
PF-40-FA-1A	92.00696	CO	< 1.		UG/G	3/11/92	
PF-40-FA-1A	92.00696	CR	1.7	0.3	UG/G	3/16/92	
PF-40-FA-1A	92.00696	CU	16.	3.2	UG/G	3/16/92	
PF-40-FA-1A	92.00696	FE	8600.	1720.	UG/G	3/11/92	
PF-40-FA-1A	92.00696	K	2.42	0.48	%	3/11/92	
PF-40-FA-1A	92.00696	MG	450.	90.	UG/G	3/11/92	
PF-40-FA-1A	92.00696	MN	324.	65.	UG/G	3/11/92	
PF-40-FA-1A	92.00696	NA	2.67	0.54	%	3/11/92	
PF-40-FA-1A	92.00696	NI	2.	0.4	UG/G	3/16/92	
PF-40-FA-1A	92.00696	PB	13.	2.6	UG/G	3/16/92	
PF-40-FA-1A	92.00696	SB	< 2.		UG/G	3/11/92	
PF-40-FA-1A	92.00696	TL	< 4.		UG/G	3/11/92	
PF-40-FA-1A	92.00696	V	3.	1.	UG/G	3/11/92	
PF-40-FA-1A	92.00696	ZN	28.	5.6	UG/G	3/16/92	
PF-40-FA-4A	92.00697	AL	5.	1.	%	3/11/92	
PF-40-FA-4A	92.00697	BE	733.	147.	UG/G	3/11/92	
PF-40-FA-4A	92.00697	CA	6500.	1300.	UG/G	3/11/92	
PF-40-FA-4A	92.00697	CD	< 1.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	CO	< 1.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	CR	2.	0.4	UG/G	3/16/92	
PF-40-FA-4A	92.00697	CU	0.85	0.17	UG/G	3/16/92	
PF-40-FA-4A	92.00697	FE	< 2.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	K	< 140.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	MG	< 10.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	MN	0.016	0.003	UG/G	3/11/92	
PF-40-FA-4A	92.00697	NA	< 6.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	NI	1.8	0.6	UG/G	3/16/92	
PF-40-FA-4A	92.00697	PB	15.	3.	UG/G	3/16/92	
PF-40-FA-4A	92.00697	SB	< 2.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	TL	< 4.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	V	< 1.		UG/G	3/11/92	
PF-40-FA-4A	92.00697	ZN	26.6	5.4	UG/G	3/16/92	
PF-40-FA-5A	92.00698	AL	5.16	1.03	%	3/11/92	

PF-40-FA-5A	92.00698	BE	1.7	0.34	UG/G	3/11/92
PF-40-FA-5A	92.00698	CA	2700.	540.	UG/G	3/11/92
PF-40-FA-5A	92.00698	CD	< 1.		UG/G	3/11/92
PF-40-FA-5A	92.00698	CO	2.	1.	UG/G	3/11/92
PF-40-FA-5A	92.00698	CR	2.	0.4	UG/G	3/16/92
PF-40-FA-5A	92.00698	CU	24.	4.8	UG/G	3/16/92
PF-40-FA-5A	92.00698	FE	1.26	0.25	%	3/11/92
PF-40-FA-5A	92.00698	K	2.	0.4	%	3/11/92
PF-40-FA-5A	92.00698	MG	1100.	220.	UG/G	3/11/92
PF-40-FA-5A	92.00698	MN	321.	64.	UG/G	3/11/92
PF-40-FA-5A	92.00698	NA	2.25	0.45	%	3/11/92
PF-40-FA-5A	92.00698	NI	2.	0.4	UG/G	3/16/92
PF-40-FA-5A	92.00698	PB	15.	3.	UG/G	3/16/92
PF-40-FA-5A	92.00698	SB	< 2.		UG/G	3/11/92
PF-40-FA-5A	92.00698	TL	< 4.		UG/G	3/11/92
PF-40-FA-5A	92.00698	V	9.	2.	UG/G	3/11/92
PF-40-FA-5A	92.00698	ZN	24.	4.8	UG/G	3/16/92
PF-40-FA-2A	92.00699	AL	5.	1.	%	3/11/92
PF-40-FA-2A	92.00699	BE	1.6	0.32	UG/G	3/11/92
PF-40-FA-2A	92.00699	CA	2700.	540.	UG/G	3/11/92
PF-40-FA-2A	92.00699	CD	< 1.		UG/G	3/11/92
PF-40-FA-2A	92.00699	CO	2.	1.	UG/G	3/11/92
PF-40-FA-2A	92.00699	CR	2.4	0.5	UG/G	3/16/92
PF-40-FA-2A	92.00699	CU	3.	0.6	UG/G	3/16/92
PF-40-FA-2A	92.00699	FE	1.28	0.26	%	3/11/92
PF-40-FA-2A	92.00699	K	2.	0.4	%	3/11/92
PF-40-FA-2A	92.00699	MG	1100.	220.	UG/G	3/11/92
PF-40-FA-2A	92.00699	MN	365.	73.	UG/G	3/11/92
PF-40-FA-2A	92.00699	NA	22.5	4.5	%	3/11/92
PF-40-FA-2A	92.00699	NI	2.	0.4	UG/G	3/16/92
PF-40-FA-2A	92.00699	PB	14.	2.8	UG/G	3/16/92
PF-40-FA-2A	92.00699	SB	< 2.		UG/G	3/11/92
PF-40-FA-2A	92.00699	TL	< 4.		UG/G	3/11/92
PF-40-FA-2A	92.00699	V	9.	2.	UG/G	3/11/92
PF-40-FA-2A	92.00699	ZN	27.	5.4	UG/G	3/16/92
PF-40-FA-15A	92.00700	AL	5.2	1.04	%	3/16/92
PF-40-FA-15A	92.00700	BE	1.61	0.32	UG/G	3/16/92
PF-40-FA-15A	92.00700	CA	2070.	414.	UG/G	3/16/92
PF-40-FA-15A	92.00700	CD	< 1.		UG/G	3/16/92
PF-40-FA-15A	92.00700	CO	2.	1.	UG/G	3/16/92
PF-40-FA-15A	92.00700	CR	2.1	0.42	UG/G	3/16/92
PF-40-FA-15A	92.00700	CU	4.4	0.9	UG/G	3/16/92
PF-40-FA-15A	92.00700	FE	9900.	1980.	UG/G	3/16/92
PF-40-FA-15A	92.00700	K	2.6	0.52	%	3/16/92
PF-40-FA-15A	92.00700	MG	740.	150.	UG/G	3/16/92
PF-40-FA-15A	92.00700	MN	312.	62.	UG/G	3/16/92
PF-40-FA-15A	92.00700	NA	2.3	0.46	%	3/16/92
PF-40-FA-15A	92.00700	NI	2.4	0.5	UG/G	3/16/92
PF-40-FA-15A	92.00700	PB	12.7	2.5	UG/G	3/16/92
PF-40-FA-15A	92.00700	SB	< 2.		UG/G	3/16/92
PF-40-FA-15A	92.00700	TL	< 4.		UG/G	3/16/92
PF-40-FA-15A	92.00700	V	6.	1.	UG/G	3/16/92
PF-40-FA-15A	92.00700	ZN	24.	4.8	UG/G	3/16/92
PF-40-FA-13A	92.00701	AL	4.6	0.92	%	3/16/92
PF-40-FA-13A	92.00701	BE	1.52	0.3	UG/G	3/16/92
PF-40-FA-13A	92.00701	CA	1900.	380.	UG/G	3/16/92
PF-40-FA-13A	92.00701	CD	< 1.		UG/G	3/16/92
PF-40-FA-13A	92.00701	CO	1.	1.	UG/G	3/16/92
PF-40-FA-13A	92.00701	CR	2.	0.4	UG/G	3/16/92
PF-40-FA-13A	92.00701	CU	1.4	0.28	UG/G	3/16/92

PF-40-FA-13A	92.00701	FE	8790.	1760.	UG/G	3/16/92
PF-40-FA-13A	92.00701	K	2.3	0.46	%	3/16/92
PF-40-FA-13A	92.00701	MG	530.	110.	UG/G	3/16/92
PF-40-FA-13A	92.00701	MN	265.	50.	UG/G	3/16/92
PF-40-FA-13A	92.00701	NA	2.2	0.44	%	3/16/92
PF-40-FA-13A	92.00701	NI	1.7	0.3	UG/G	3/16/92
PF-40-FA-13A	92.00701	PB	13.	2.6	UG/G	3/16/92
PF-40-FA-13A	92.00701	SB	< 2.		UG/G	3/16/92
PF-40-FA-13A	92.00701	TL	< 4.		UG/G	3/16/92
PF-40-FA-13A	92.00701	V	4.	1.	UG/G	3/16/92
PF-40-FA-13A	92.00701	ZN	24.	4.8	UG/G	3/16/92
PF-40-FA-16A	92.00702	AL	5.	1.	%	3/16/92
PF-40-FA-16A	92.00702	BE	1.98	0.4	UG/G	3/16/92
PF-40-FA-16A	92.00702	CA	3840.	770.	UG/G	3/16/92
PF-40-FA-16A	92.00702	CD	< 1.		UG/G	3/16/92
PF-40-FA-16A	92.00702	CO	2.	1.	UG/G	3/16/92
PF-40-FA-16A	92.00702	CR	2.	0.4	UG/G	3/16/92
PF-40-FA-16A	92.00702	CU	0.6	0.12	UG/G	3/16/92
PF-40-FA-16A	92.00702	FE	1.3	0.26	%	3/16/92
PF-40-FA-16A	92.00702	K	2.4	0.48	%	3/16/92
PF-40-FA-16A	92.00702	MG	1410.	280.	UG/G	3/16/92
PF-40-FA-16A	92.00702	MN	622.	125.	UG/G	3/16/92
PF-40-FA-16A	92.00702	NA	2.3	0.46	%	3/16/92
PF-40-FA-16A	92.00702	NI	2.2	0.4	UG/G	3/16/92
PF-40-FA-16A	92.00702	PB	12.	2.4	UG/G	3/16/92
PF-40-FA-16A	92.00702	SB	< 2.		UG/G	3/16/92
PF-40-FA-16A	92.00702	TL	< 4.		UG/G	3/16/92
PF-40-FA-16A	92.00702	V	8.	2.	UG/G	3/16/92
PF-40-FA-16A	92.00702	ZN	24.	4.8	UG/G	3/16/92
PF-40-FA-18A	92.00703	AL	5.	1.	%	3/16/92
PF-40-FA-18A	92.00703	BE	1.55	0.31	UG/G	3/16/92
PF-40-FA-18A	92.00703	CA	2550.	510.	UG/G	3/16/92
PF-40-FA-18A	92.00703	CD	< 1.		UG/G	3/16/92
PF-40-FA-18A	92.00703	CO	1.	1.	UG/G	3/16/92
PF-40-FA-18A	92.00703	CR	2.8	0.6	UG/G	3/16/92
PF-40-FA-18A	92.00703	CU	54.	10.8	UG/G	3/16/92
PF-40-FA-18A	92.00703	FE	8520.	1700.	UG/G	3/16/92
PF-40-FA-18A	92.00703	K	2.4	0.48	%	3/16/92
PF-40-FA-18A	92.00703	MG	810.	160.	UG/G	3/16/92
PF-40-FA-18A	92.00703	MN	324.	65.	UG/G	3/16/92
PF-40-FA-18A	92.00703	NA	2.3	0.46	%	3/16/92
PF-40-FA-18A	92.00703	NI	2.7	0.54	UG/G	3/16/92
PF-40-FA-18A	92.00703	PB	35.	7.	UG/G	3/16/92
PF-40-FA-18A	92.00703	SB	< 2.		UG/G	3/16/92
PF-40-FA-18A	92.00703	TL	< 4.		UG/G	3/16/92
PF-40-FA-18A	92.00703	V	6.	1.	UG/G	3/16/92
PF-40-FA-18A	92.00703	ZN	56.	11.2	UG/G	3/16/92
PF-40-FA-19A	92.00704	AL	5.4	1.08	%	3/16/92
PF-40-FA-19A	92.00704	BE	1.76	0.35	UG/G	3/16/92
PF-40-FA-19A	92.00704	CA	3190.	640.	UG/G	3/16/92
PF-40-FA-19A	92.00704	CD	< 1.		UG/G	3/16/92
PF-40-FA-19A	92.00704	CO	2.	1.	UG/G	3/16/92
PF-40-FA-19A	92.00704	CR	2.1	0.4	UG/G	3/16/92
PF-40-FA-19A	92.00704	CU	59.	12.	UG/G	3/16/92
PF-40-FA-19A	92.00704	FE	1.1	0.22	%	3/16/92
PF-40-FA-19A	92.00704	K	2.6	0.52	%	3/16/92
PF-40-FA-19A	92.00704	MG	1140.	230.	UG/G	3/16/92
PF-40-FA-19A	92.00704	MN	323.	65.	UG/G	3/16/92
PF-40-FA-19A	92.00704	NA	2.4	0.48	%	3/16/92
PF-40-FA-19A	92.00704	NI	2.5	0.5	UG/G	3/16/92

PF-40-FA-19A	92.00704	PB	27.	5.4	UG/G	3/16/92
PF-40-FA-19A	92.00704	SB	< 2.		UG/G	3/16/92
PF-40-FA-19A	92.00704	TL	< 4.		UG/G	3/16/92
PF-40-FA-19A	92.00704	V	10.	2.	UG/G	3/16/92
PF-40-FA-19A	92.00704	ZN	21.	4.2	UG/G	3/16/92
PF-40-BC-2	92.00705	AL	4.3	0.86	%	3/16/92
PF-40-BC-2	92.00705	BE	1.7	0.34	UG/G	3/16/92
PF-40-BC-2	92.00705	CA	2550.	510.	UG/G	3/16/92
PF-40-BC-2	92.00705	CD	< 1.		UG/G	3/16/92
PF-40-BC-2	92.00705	CO	1.	1.	UG/G	3/16/92
PF-40-BC-2	92.00705	CR	2.9	0.6	UG/G	3/16/92
PF-40-BC-2	92.00705	CU	68.	13.6	UG/G	3/16/92
PF-40-BC-2	92.00705	FE	9450.	1890.	UG/G	3/16/92
PF-40-BC-2	92.00705	K	1.9	0.38	%	3/16/92
PF-40-BC-2	92.00705	MG	1180.	240.	UG/G	3/16/92
PF-40-BC-2	92.00705	MN	322.	64.	UG/G	3/16/92
PF-40-BC-2	92.00705	NA	1.8	0.36	%	3/16/92
PF-40-BC-2	92.00705	NI	4.4	0.9	UG/G	3/16/92
PF-40-BC-2	92.00705	PB	20.	4.	UG/G	3/16/92
PF-40-BC-2	92.00705	SB	< 2.		UG/G	3/16/92
PF-40-BC-2	92.00705	TL	< 4.		UG/G	3/16/92
PF-40-BC-2	92.00705	V	8.	2.	UG/G	3/16/92
PF-40-BC-2	92.00705	ZN	57.	11.4	UG/G	3/16/92
PF-40-BC-3	92.00706	AL	4.6	1.	%	3/16/92
PF-40-BC-3	92.00706	BE	1.57	0.31	UG/G	3/16/92
PF-40-BC-3	92.00706	CA	2390.	480.	UG/G	3/16/92
PF-40-BC-3	92.00706	CD	< 1.		UG/G	3/16/92
PF-40-BC-3	92.00706	CO	2.	1.	UG/G	3/16/92
PF-40-BC-3	92.00706	CR	1.6	0.3	UG/G	3/16/92
PF-40-BC-3	92.00706	CU	3.1	0.62	UG/G	3/16/92
PF-40-BC-3	92.00706	FE	9100.	1820.	UG/G	3/16/92
PF-40-BC-3	92.00706	K	2.3	0.48	%	3/16/92
PF-40-BC-3	92.00706	MG	810.	160.	UG/G	3/16/92
PF-40-BC-3	92.00706	MN	310.	62.	UG/G	3/16/92
PF-40-BC-3	92.00706	NA	2.1	0.48	%	3/16/92
PF-40-BC-3	92.00706	NI	1.7	0.34	UG/G	3/16/92
PF-40-BC-3	92.00706	PB	13.	2.6	UG/G	3/16/92
PF-40-BC-3	92.00706	SB	< 2.		UG/G	3/16/92
PF-40-BC-3	92.00706	TL	< 4.		UG/G	3/16/92
PF-40-BC-3	92.00706	V	5.	1.	UG/G	3/16/92
PF-40-BC-3	92.00706	ZN	24.	4.8	UG/G	3/16/92
PF-40-BAE-2	92.00707	AL	4.1	0.82	%	3/16/92
PF-40-BAE-2	92.00707	BE	1.17	0.23	UG/G	3/16/92
PF-40-BAE-2	92.00707	CA	4410.	880.	UG/G	3/16/92
PF-40-BAE-2	92.00707	CD	< 1.		UG/G	3/16/92
PF-40-BAE-2	92.00707	CO	4.	1.	UG/G	3/16/92
PF-40-BAE-2	92.00707	FE	1.3	0.26	%	3/16/92
PF-40-BAE-2	92.00707	K	1.9	0.38	%	3/16/92
PF-40-BAE-2	92.00707	MG	1660.	332.	UG/G	3/16/92
PF-40-BAE-2	92.00707	MN	350.	70.	UG/G	3/16/92
PF-40-BAE-2	92.00707	NA	1.8	0.36	%	3/16/92
PF-40-BAE-2	92.00707	SB	< 2.		UG/G	3/16/92
PF-40-BAE-2	92.00707	TL	< 4.		UG/G	3/16/92
PF-40-BAE-2	92.00707	V	8.	2.	UG/G	3/16/92
PF-40-BAE-3	92.00708	AL	5.3	1.06	%	3/16/92
PF-40-BAE-3	92.00708	BE	1.29	0.26	UG/G	3/16/92
PF-40-BAE-3	92.00708	CA	1630.	330.	UG/G	3/16/92
PF-40-BAE-3	92.00708	CD	< 1.		UG/G	3/16/92
PF-40-BAE-3	92.00708	CO	< 1.		UG/G	3/16/92
PF-40-BAE-3	92.00708	CR	2.3	0.4	UG/G	3/16/92

PF-40-BAE-3	92.00708	CU	3.5	0.7	UG/G	3/16/92
PF-40-BAE-3	92.00708	FE	6770.	1350.	UG/G	3/16/92
PF-40-BAE-3	92.00708	K	2.7	0.54	%	3/16/92
PF-40-BAE-3	92.00708	MG	280.	60.	UG/G	3/16/92
PF-40-BAE-3	92.00708	MN	232.	46.	UG/G	3/16/92
PF-40-BAE-3	92.00708	NA	2.6	0.52	%	3/16/92
PF-40-BAE-3	92.00708	NI	1.7	0.3	UG/G	3/16/92
PF-40-BAE-3	92.00708	PB	19.	3.8	UG/G	3/16/92
PF-40-BAE-3	92.00708	SB	< 2.		UG/G	3/16/92
PF-40-BAE-3	92.00708	TL	< 4.		UG/G	3/16/92
PF-40-BAE-3	92.00708	V	2.	1.	UG/G	3/16/92
PF-40-BAE-3	92.00708	ZN	74.	14.8	UG/G	3/16/92
PF-40-BAW-2	92.00709	AL	5.1	1.02	%	3/16/92
PF-40-BAW-2	92.00709	BE	1.75	0.35	UG/G	3/16/92
PF-40-BAW-2	92.00709	CA	4280.	860.	UG/G	3/16/92
PF-40-BAW-2	92.00709	CD	< 1.		UG/G	3/16/92
PF-40-BAW-2	92.00709	CO	2.	1.	UG/G	3/16/92
PF-40-BAW-2	92.00709	CR	3.6	0.7	UG/G	3/16/92
PF-40-BAW-2	92.00709	CU	33.	6.6	UG/G	3/16/92
PF-40-BAW-2	92.00709	FE	1.1	0.22	%	3/16/92
PF-40-BAW-2	92.00709	K	2.2	0.44	%	3/16/92
PF-40-BAW-2	92.00709	MG	1470.	290.	UG/G	3/16/92
PF-40-BAW-2	92.00709	MN	310.	60.	UG/G	3/16/92
PF-40-BAW-2	92.00709	NA	2.1	0.42	%	3/16/92
PF-40-BAW-2	92.00709	NI	3.7	0.5	UG/G	3/16/92
PF-40-BAW-2	92.00709	PB	22.	4.4	UG/G	3/16/92
PF-40-BAW-2	92.00709	SB	< 2.		UG/G	3/16/92
PF-40-BAW-2	92.00709	TL	< 4.		UG/G	3/16/92
PF-40-BAW-2	92.00709	V	13.	3.	UG/G	3/16/92
PF-40-BAW-2	92.00709	ZN	64.	12.8	UG/G	3/16/92
PF-40-BAW-3	92.00710	AL	5.	1.	%	3/16/92
PF-40-BAW-3	92.00710	BE	1.89	0.38	UG/G	3/16/92
PF-40-BAW-3	92.00710	CA	9720.	1940.	UG/G	3/16/92
PF-40-BAW-3	92.00710	CD	< 1.		UG/G	3/16/92
PF-40-BAW-3	92.00710	CO	2.	1.	UG/G	3/16/92
PF-40-BAW-3	92.00710	CR	3.7	0.5	UG/G	3/16/92
PF-40-BAW-3	92.00710	CU	2.4	0.48	UG/G	3/16/92
PF-40-BAW-3	92.00710	FE	1.1	0.22	%	3/16/92
PF-40-BAW-3	92.00710	K	2.1	0.42	%	3/16/92
PF-40-BAW-3	92.00710	MG	1900.	380.	UG/G	3/16/92
PF-40-BAW-3	92.00710	MN	270.	54.	UG/G	3/16/92
PF-40-BAW-3	92.00710	NA	2.	0.4	%	3/16/92
PF-40-BAW-3	92.00710	NI	3.7	0.5	UG/G	3/16/92
PF-40-BAW-3	92.00710	PB	9.2	1.8	UG/G	3/16/92
PF-40-BAW-3	92.00710	SB	< 2.		UG/G	3/16/92
PF-40-BAW-3	92.00710	TL	< 4.		UG/G	3/16/92
PF-40-BAW-3	92.00710	V	13.	3.	UG/G	3/16/92
PF-40-BAW-3	92.00710	ZN	21.	4.2	UG/G	3/16/92

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-16A	92.00702	CR	1.7	0.3	UG/G	3/16/92	
PF-40-FA-16A	92.00702	CU	0.6	0.12	UG/G	3/16/92	
PF-40-FA-16A	92.00702	NI	2.	0.4	UG/G	3/16/92	
PF-40-FA-16A	92.00702	ZN	21.	4.2	UG/G	3/16/92	
PF-40-FA-19A	92.00704	CR	3.	0.6	UG/G	3/16/92	

PF-40-FA-19A	92.00704	CU	62.	12.4	UG/G	3/16/92
PF-40-FA-19A	92.00704	NI	3.2	0.64	UG/G	3/16/92
PF-40-FA-19A	92.00704	PB	24.	4.8	UG/G	3/16/92
PF-40-FA-19A	92.00704	ZN	33.	6.6	UG/G	3/16/92
PF-40-BC-3	92.00706	AL	5.	1.	%	3/16/92
PF-40-BC-3	92.00706	BE	1.61	0.32	UG/G	3/16/92
PF-40-BC-3	92.00706	CA	2410.	480.	UG/G	3/16/92
PF-40-BC-3	92.00706	CD	< 1.		UG/G	3/16/92
PF-40-BC-3	92.00706	CO	1.	1.	UG/G	3/16/92
PF-40-BC-3	92.00706	FE	9700.	1940.	UG/G	3/16/92
PF-40-BC-3	92.00706	K	2.4	0.48	%	3/16/92
PF-40-BC-3	92.00706	MG	750.	150.	UG/G	3/16/92
PF-40-BC-3	92.00706	MN	350.	70.	UG/G	3/16/92
PF-40-BC-3	92.00706	NA	2.4	0.48	%	3/16/92
PF-40-BC-3	92.00706	SB	< 2.		UG/G	3/16/92
PF-40-BC-3	92.00706	TL	< 4.		UG/G	3/16/92
PF-40-BC-3	92.00706	V	6.	1.	UG/G	3/16/92
PF-40-BAW-3	92.00710	CR	4.	0.8	UG/G	3/16/92
PF-40-BAW-3	92.00710	CU	2.7	0.5	UG/G	3/16/92
PF-40-BAW-3	92.00710	NI	3.5	0.7	UG/G	3/16/92
PF-40-BAW-3	92.00710	PB	8.2	1.6	UG/G	3/16/92
PF-40-BAW-3	92.00710	ZN	21.	4.2	UG/G	3/16/92

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REPORT NUMBER: 13470 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 23-Mar-1992

REQUEST NUMBER: 12437 MATRIX: SS ANALYST: RICHARD ROBINSON PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: R6451 PAGE: 118

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.00594	U	1.54	0.08	UG/G	1.71	0.04	3/13/91	UNDER CONTROL
00.00596	AL	8.34	1.6	%	8.07	0.18	3/11/92	UNDER CONTROL
00.00596	AL	6.3	1.3	%	8.07	0.18	3/16/92	UNDER CONTROL
00.00596	BE	1.34	0.27	UG/G	2.	0.3	3/16/92	UNDER CONTROL
00.00596	BE	1.5	0.3	UG/G	2.	0.3	3/11/92	UNDER CONTROL
00.00596	CA	1.4	0.28	%	1.96	0.1	3/16/92	UNDER CONTROL
00.00596	CA	1.53	0.3	%	1.96	0.1	3/11/92	UNDER CONTROL
00.00596	CD	< 1000.		NG/G	130.	40.	3/16/92	UNDER CONTROL
00.00596	CD	< 1000.		NG/G	130.	40.	3/11/92	UNDER CONTROL
00.00596	CO	7.	1.4	UG/G	7.6	0.6	3/11/92	UNDER CONTROL
00.00596	CO	8.3	1.7	UG/G	7.6	0.6	3/16/92	UNDER CONTROL
00.00596	CR	5.64	1.1	UG/G	12.3	1.3	3/16/92	OUT OF CONTROL
00.00596	FE	4.	0.8	%	5.56	0.16	3/16/92	UNDER CONTROL
00.00596	FE	5.9	1.2	%	5.56	0.16	3/11/92	UNDER CONTROL
00.00596	K	1.8	0.36	%	2.45	0.04	3/16/92	UNDER CONTROL
00.00596	K	2.	0.4	%	2.45	0.04	3/11/92	UNDER CONTROL
00.00596	MG	4410.	880.	UG/G	5400.	300.-	3/16/92	UNDER CONTROL
00.00596	MG	4850.	970.	UG/G	5400.	300.	3/11/92	UNDER CONTROL
00.00596	MN	577.	115.	UG/G	720.	20.	3/16/92	UNDER CONTROL
00.00596	MN	796.	160.	UG/G	720.	20.	3/11/92	UNDER CONTROL
00.00596	NA	1.5	0.3	%	1.9	0.05	3/16/92	UNDER CONTROL
00.00596	NA	1.85	0.37	%	1.9	0.05	3/11/92	UNDER CONTROL
00.00596	NI	2.6	0.52	UG/G	8.	2.	3/16/92	WARNING 2-3 SIG
00.00596	PB	34.	6.8	UG/G	20.	2.	3/16/92	UNDER CONTROL
00.00596	PB	32.6	6.5	UG/G	20.	2.	3/16/92	UNDER CONTROL
00.00596	SB	< 2000.		NG/G	106.	18.	3/11/92	UNDER CONTROL
00.00596	SB	< 2000.		NG/G	106.	18.	3/16/92	UNDER CONTROL
00.00596	TL	< 4000.		NG/G	580.		3/11/92	UNDER CONTROL
00.00596	TL	< 4000.		NG/G	580.		3/16/92	UNDER CONTROL
00.00596	V	49.	10.	UG/G	57.	4.	3/16/92	UNDER CONTROL
00.00596	V	48.	9.6	UG/G	57.	4.	3/11/92	UNDER CONTROL
00.00596	ZN	20.	4.	UG/G	124.	5.	3/16/92	OUT OF CONTROL
00.00598	CR	10.3	2.1	UG/G	26.	3.	3/16/92	OUT OF CONTROL

00.00598 CU	9.74	1.9	UG/G	17.	1.	3/16/92	OUT OF CONTROL
00.00598 NI	0.7	0.2	UG/G	16.	3.	3/16/92	OUT OF CONTROL
00.00598 PB	15.7	3.1	UG/G	14.	3.	3/16/92	UNDER CONTROL
00.00598 ZN	26.8	5.36	UG/G	48.3	1.8	3/16/92	OUT OF CONTROL
00.00895 AS	54.6	5.5	UG/L	49.		3/18/92	UNDER CONTROL
00.00895 AS	62.	6.2	UG/L	49.		3/18/92	UNDER CONTROL
00.00895 AS	59.6	6.	UG/L	49.		3/18/92	UNDER CONTROL
00.00895 BE	18.5	0.9	UG/L	19.	2.	3/16/92	UNDER CONTROL
00.00895 BE	17.8	0.9	UG/L	19.	2.	3/16/92	UNDER CONTROL
00.00895 BE	17.2	0.9	UG/L	19.	2.	3/16/92	UNDER CONTROL
00.00895 CR	20.3	2.	UG/L	18.6	0.4	3/16/92	UNDER CONTROL
00.00895 CR	21.3	2.1	UG/L	18.6	0.4	3/16/92	UNDER CONTROL
00.00895 CU	24.	2.4	UG/L	21.9	0.4	3/16/92	UNDER CONTROL
00.00895 CU	24.1	2.4	UG/L	21.9	0.4	3/16/92	UNDER CONTROL
00.00895 CU	23.9	2.4	UG/L	21.9	0.4	3/16/92	UNDER CONTROL
00.00895 MN	36.	3.6	UG/L	28.	2.	3/22/92	UNDER CONTROL
00.00895 MN	34.8	3.5	UG/L	28.	2.	3/22/92	UNDER CONTROL
00.00895 MN	35.2	3.5	UG/L	28.	2.	3/22/92	UNDER CONTROL
00.00895 V	48.5	2.4	UG/L	45.2	0.4	3/16/92	UNDER CONTROL
00.00895 V	47.7	2.4	UG/L	45.2	0.4	3/16/92	UNDER CONTROL
00.00895 V	47.3	2.4	UG/L	45.2	0.4	3/16/92	UNDER CONTROL
00.00895 ZN	68.6	6.9	UG/L	66.	2.	3/16/92	UNDER CONTROL
00.00895 ZN	67.1	6.7	UG/L	66.	2.	3/16/92	UNDER CONTROL
00.00895 ZN	67.3	6.7	UG/L	66.	2.	3/16/92	UNDER CONTROL
00.20193 AL	9.25	0.93	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 AL	13.2	1.3	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 BE	9.8	0.98	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 BE	8.99	0.9	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 CA	10.4	1.	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 CA	9.15	0.91	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 CD	9.61	0.96	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 CD	11.4	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 CO	9.81	0.98	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 CO	10.8	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 CR	10.5	1.1	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 CU	10.7	1.1	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 FE	10.8	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 FE	9.22	0.92	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 K	82.7	8.27	MG/L	100.	10.	3/16/92	UNDER CONTROL
00.20193 K	87.	8.7	MG/L	100.	10.	3/11/92	UNDER CONTROL
00.20193 MG	10.2	1.	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 MG	10.04	1.	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 MN	10.8	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 MN	9.72	0.97	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 NA	10.1	1.	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 NA	9.5	0.95	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 NI	10.2	1.	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 PB	10.8	1.1	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 SB	9.69	0.97	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 SB	10.9	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 TL	10.6	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 TL	10.13	1.01	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 V	10.5	1.1	MG/L	10.	1.	3/11/92	UNDER CONTROL
00.20193 V	9.96	1.	MG/L	10.	1.	3/16/92	UNDER CONTROL
00.20193 ZN	11.	1.1	MG/L	10.	1.	3/16/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00735	AL	9.7	0.97	MG/L	10.	0.4	3/11/92	UNDER CONTROL
92.00735	BE	1.32	0.13	MG/L	1.4	0.06	3/11/92	UNDER CONTROL
92.00735	CA	0.8	0.08	MG/L	0.8	0.03	3/11/92	UNDER CONTROL
92.00735	CD	2.94	0.3	MG/L	3.	0.1	3/11/92	UNDER CONTROL
92.00735	CO	< 0.007		MG/L	0.0		3/11/92	UNDER CONTROL
92.00735	CR	5.4	0.54	MG/L	5.6	0.2	3/17/92	UNDER CONTROL
92.00735	CU	0.26	0.03	MG/L	0.26	0.01	3/17/92	UNDER CONTROL
92.00735	FE	0.3	0.2	MG/L	0.31	0.01	3/11/92	UNDER CONTROL
92.00735	K	62.8	13.	MG/L	80.	3.	3/11/92	UNDER CONTROL
92.00735	MG	4.36	0.44	MG/L	4.4	0.2	3/11/92	UNDER CONTROL
92.00735	MN	0.79	0.08	MG/L	0.8	0.03	3/11/92	UNDER CONTROL
92.00735	NA	2.02	0.2	MG/L	1.99	0.08	3/11/92	UNDER CONTROL
92.00735	NI	0.61	0.06	MG/L	0.6	0.03	3/17/92	UNDER CONTROL
92.00735	PB	3.7	0.37	MG/L	4.	0.2	3/17/92	UNDER CONTROL
92.00735	SB	13.5	1.4	MG/L	13.9	0.6	3/11/92	UNDER CONTROL
92.00735	TL	27.6	2.8	MG/L	28.	1.	3/11/92	UNDER CONTROL
92.00735	V	< 0.006		MG/L	0.0		3/11/92	UNDER CONTROL
92.00735	ZN	1.85	0.19	MG/L	1.66	0.07	3/17/92	UNDER CONTROL
92.00736	AL	13.8	1.4	MG/L	14.	0.6	3/11/92	UNDER CONTROL
92.00736	BE	2.5	0.25	MG/L	2.6	0.11	3/11/92	UNDER CONTROL
92.00736	CA	1.13	0.11	MG/L	1.2	0.05	3/11/92	UNDER CONTROL
92.00736	CD	1.29	0.13	MG/L	1.28	0.06	3/11/92	UNDER CONTROL
92.00736	CO	3.56	0.36	MG/L	3.6	0.15	3/11/92	UNDER CONTROL
92.00736	CR	4.87	0.49	MG/L	5.2	0.22	3/17/92	UNDER CONTROL
92.00736	CU	2.12	0.21	MG/L	2.16	0.09	3/17/92	UNDER CONTROL
92.00736	FE	< 0.05		MG/L	0.0		3/11/92	UNDER CONTROL
92.00736	K	25.	5.	MG/L	32.	1.4	3/11/92	UNDER CONTROL
92.00736	MG	16.	1.6	MG/L	16.	0.69	3/11/92	UNDER CONTROL
92.00736	MN	550.	55.	UG/L	560.	20.	3/11/92	UNDER CONTROL
92.00736	NA	20.	2.	MG/L	20.	0.86	3/11/92	UNDER CONTROL
92.00736	NI	< 0.04		MG/L	0.0		3/17/92	UNDER CONTROL
92.00736	PB	24.3	2.4	MG/L	24.8	1.1	3/17/92	UNDER CONTROL
92.00736	SB	0.04	0.01	MG/L	0.0		3/11/92	OUT OF CONTROL
92.00736	TL	22.	2.2	MG/L	21.6	0.9	3/11/92	UNDER CONTROL
92.00736	V	4.58	0.9	MG/L	4.8	0.2	3/11/92	UNDER CONTROL
92.00736	ZN	2.23	0.22	MG/L	2.	0.09	3/17/92	UNDER CONTROL
92.00800	AL	< 0.8		MG/L	0.0		3/11/92	UNDER CONTROL
92.00800	BE	1.85	0.09	MG/L	1.92	0.08	3/11/92	UNDER CONTROL
92.00800	CA	6.5	0.65	MG/L	6.8	0.29	3/11/92	UNDER CONTROL
92.00800	CD	2.42	0.24	MG/L	2.4	0.4	3/11/92	UNDER CONTROL
92.00800	CO	4.42	0.44	MG/L	4.4	0.19	3/11/92	UNDER CONTROL
92.00800	CR	610.	61.	UG/L	600.	30.	3/17/92	UNDER CONTROL
92.00800	CU	790.	79.	UG/L	800.	30.	3/17/92	UNDER CONTROL
92.00800	FE	2.42	0.24	MG/L	2.4	0.1	3/11/92	UNDER CONTROL
92.00800	K	< 0.4		MG/L	0.0		3/11/92	UNDER CONTROL
92.00800	MG	9.23	0.92	MG/L	9.2	0.4	3/11/92	UNDER CONTROL
92.00800	MN	80.	8.	UG/L	80.	3.	3/11/92	UNDER CONTROL
92.00800	NA	2.	0.2	MG/L	2.	0.09	3/11/92	UNDER CONTROL
92.00800	NI	6.72	0.67	MG/L	6.8	0.29	3/17/92	UNDER CONTROL
92.00800	PB	8.5	0.85	MG/L	8.8	0.38	3/17/92	UNDER CONTROL
92.00800	SB	28.7	2.9	MG/L	28.	1.2	3/11/92	UNDER CONTROL
92.00800	TL	4.99	0.5	MG/L	4.88	0.21	3/11/92	UNDER CONTROL
92.00800	V	2.35	0.24	MG/L	2.4	0.1	3/11/92	UNDER CONTROL
92.00800	ZN	1.35	0.14	MG/L	1.2	0.05	3/17/92	UNDER CONTROL

REPORT NUMBER: 13470

J D Morgan	CJa	mag
Analyst	Section Leader	QA Officer
3/24/92	3/24/92	3/25/92
Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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TCLP Metals Analyses

REPORT NUMBER: 13144

TCLP metals BAE → 5 mg/L Pb

301215.17.01.02
TCLP DATA
TA-40 SDS

********** EM-9 ANALYTICAL REPORT **********

Prepared by: CB on 25-Feb-1992

REQUEST NUMBER: 12438 MATRIX: SE ANALYST: RICHARD D ROBINSO PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: R7056 PAGE: 139

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	BA	0.34	0.03	MG/L	2/25/92	100 mg/L
PF-40-FA-1A	92.00711	CD	< 0.01		MG/L	2/25/92	1 "
PF-40-FA-1A	92.00711	CR	< 0.01		MG/L	2/25/92	5 "
PF-40-FA-1A	92.00711	PB	< 0.05		MG/L	2/25/92	5 "
PF-40-FA-4A	92.00712	BA	0.31	0.03	MG/L	2/25/92	
PF-40-FA-4A	92.00712	CD	< 0.01		MG/L	2/25/92	
PF-40-FA-4A	92.00712	CR	< 0.01		MG/L	2/25/92	
PF-40-FA-4A	92.00712	PB	< 0.05		MG/L	2/25/92	
PF-40-FA-5A	92.00713	BA	0.55	0.06	MG/L	2/25/92	
PF-40-FA-5A	92.00713	CD	< 0.01		MG/L	2/25/92	
PF-40-FA-5A	92.00713	CR	< 0.01		MG/L	2/25/92	
PF-40-FA-5A	92.00713	PB	< 0.05		MG/L	2/25/92	
PF-40-FA-2A	92.00714	BA	0.65	0.07	MG/L	2/25/92	
PF-40-FA-2A	92.00714	CD	< 0.01		MG/L	2/25/92	
PF-40-FA-2A	92.00714	CR	< 0.01		MG/L	2/25/92	
PF-40-FA-2A	92.00714	PB	< 0.05		MG/L	2/25/92	
PF-40-FA-15A	92.00715	BA	0.42	0.04	MG/L	2/25/92	
PF-40-FA-15A	92.00715	CD	< 0.01		MG/L	2/25/92	
PF-40-FA-15A	92.00715	CR	< 0.01		MG/L	2/25/92	
PF-40-FA-15A	92.00715	PB	< 0.05		MG/L	2/25/92	
PF-40-FA-13A	92.00716	BA	0.41	0.04	MG/L	2/25/92	
PF-40-FA-13A	92.00716	CD	< 0.01		MG/L	2/25/92	
PF-40-FA-13A	92.00716	CR	< 0.01		MG/L	2/25/92	
PF-40-FA-13A	92.00716	PB	< 0.05		MG/L	2/25/92	
PF-40-FA-16A	92.00717	BA	0.36	0.04	MG/L	2/25/92	
PF-40-FA-16A	92.00717	CD	< 0.01		MG/L	2/25/92	
PF-40-FA-16A	92.00717	CR	0.01	0.01	MG/L	2/25/92	
PF-40-FA-16A	92.00717	PB	< 0.05		MG/L	2/25/92	
PF-40-FA-18A	92.00718	BA	0.37	0.04	MG/L	2/25/92	
PF-40-FA-18A	92.00718	CD	< 0.01		MG/L	2/25/92	
PF-40-FA-18A	92.00718	CR	< 0.01		MG/L	2/25/92	
PF-40-FA-18A	92.00718	PB	< 0.05		MG/L	2/25/92	
PR-40-FA-19A	92.00719	BA	0.47	0.05	MG/L	2/25/92	
PR-40-FA-19A	92.00719	CD	< 0.01		MG/L	2/25/92	
PR-40-FA-19A	92.00719	CR	0.01	0.01	MG/L	2/25/92	
PR-40-FA-19A	92.00719	PB	< 0.05		MG/L	2/25/92	
PF-40-BC-2	92.00720	BA	0.43	0.04	MG/L	2/25/92	

PF-40-BC-2	92.00720	CD	< 0.01		MG/L	2/25/92	
PF-40-BC-2	92.00720	CR	< 0.01		MG/L	2/25/92	ok
PF-40-BC-2	92.00720	PB	< 0.05		MG/L	2/25/92	
PF-40-BC-3	92.00721	BA	0.24	0.02	MG/L	2/25/92	
PF-40-BC-3	92.00721	CD	< 0.01		MG/L	2/25/92	
PF-40-BC-3	92.00721	CR	< 0.01		MG/L	2/25/92	ok
PF-40-BC-3	92.00721	PB	< 0.05		MG/L	2/25/92	
PF-40-BAE-2	92.00722	BA	1.9	0.19	MG/L	2/25/92	
PF-40-BAE-2	92.00722	CD	0.06	0.01	MG/L	2/25/92	
PF-40-BAE-2	92.00722	CR	0.03	0.01	MG/L	2/25/92	
PF-40-BAE-2	92.00722	PB	13.	1.3	MG/L	2/25/92	> 5 mg/L
PF-40-BAE-3	92.00723	BA	8.8	0.88	MG/L	2/25/92	
PF-40-BAE-3	92.00723	CD	0.15	0.02	MG/L	2/25/92	
PF-40-BAE-3	92.00723	CR	0.23	0.02	MG/L	2/25/92	ok
PF-40-BAE-3	92.00723	PB	1.6	0.16	MG/L	2/25/92	
PF-40-BAW-2	92.00724	BA	14.	1.4	MG/L	2/25/92	
PF-40-BAW-2	92.00724	CD	0.15	0.02	MG/L	2/25/92	
PF-40-BAW-2	92.00724	CR	0.39	0.04	MG/L	2/25/92	ok
PF-40-BAW-2	92.00724	PB	0.31	0.05	MG/L	2/25/92	
PF-40-BAW-3	92.00725	BA	0.92	0.09	MG/L	2/25/92	
PF-40-BAW-3	92.00725	CD	< 0.01		MG/L	2/25/92	
PF-40-BAW-3	92.00725	CR	0.05	0.01	MG/L	2/25/92	ok
PF-40-BAW-3	92.00725	PB	< 0.05		MG/L	2/25/92	
PF-40-BP-1A	92.00771	BA	0.41	0.04	MG/L	2/25/92	
PF-40-BP-1A	92.00771	CD	< 0.01		MG/L	2/25/92	
PF-40-BP-1A	92.00771	CR	0.01	0.01	MG/L	2/25/92	ok
PF-40-BP-1A	92.00771	PB	< 0.05		MG/L	2/25/92	
PF-40-BP-1B	92.00772	BA	0.87	0.09	MG/L	2/25/92	
PF-40-BP-1B	92.00772	CD	< 0.01		MG/L	2/25/92	
PF-40-BP-1B	92.00772	CR	0.03	0.01	MG/L	2/25/92	ok
PF-40-BP-1B	92.00772	PB	< 0.05		MG/L	2/25/92	
PF-40-BP-1C	92.00773	BA	0.44	0.04	MG/L	2/25/92	
PF-40-BP-1C	92.00773	CD	0.04	0.01	MG/L	2/25/92	
PF-40-BP-1C	92.00773	CR	< 0.01		MG/L	2/25/92	ok
PF-40-BP-1C	92.00773	PB	< 0.05		MG/L	2/25/92	
PF-40-BP-2A	92.00774	BA	0.38	0.04	MG/L	2/25/92	
PF-40-BP-2A	92.00774	CD	< 0.01		MG/L	2/25/92	
PF-40-BP-2A	92.00774	CR	< 0.01		MG/L	2/25/92	ok
PF-40-BP-2A	92.00774	PB	< 0.05		MG/L	2/25/92	
PF-40-BP-2B	92.00775	BA	0.27	0.03	MG/L	2/25/92	
PF-40-BP-2B	92.00775	CD	< 0.01		MG/L	2/25/92	
PF-40-BP-2B	92.00775	CR	< 0.01		MG/L	2/25/92	ok
PF-40-BP-2B	92.00775	PB	< 0.05		MG/L	2/25/92	
PF-40-BP-2C	92.00776	BA	0.33	0.03	MG/L	2/25/92	
PF-40-BP-2C	92.00776	CD	< 0.01		MG/L	2/25/92	
PF-40-BP-2C	92.00776	CR	< 0.01		MG/L	2/25/92	ok
PF-40-BP-2C	92.00776	PB	< 0.05		MG/L	2/25/92	
PF-40-BC-1	92.00777	BA	2.2	0.22	MG/L	2/25/92	
PF-40-BC-1	92.00777	CD	0.04	0.01	MG/L	2/25/92	
PF-40-BC-1	92.00777	CR	< 0.01		MG/L	2/25/92	
PF-40-BC-1	92.00777	PB	110.	11.	MG/L	2/25/92	> 5 mg/L
PF-40-BP-3B	92.00778	BA	0.79	0.08	MG/L	2/25/92	
PF-40-BP-3B	92.00778	CD	< 0.01		MG/L	2/25/92	
PF-40-BP-3B	92.00778	CR	< 0.01		MG/L	2/25/92	ok
PF-40-BP-3B	92.00778	PB	< 0.05		MG/L	2/25/92	
PF-40-BP-3C	92.00779	BA	0.88	0.09	MG/L	2/25/92	
PF-40-BP-3C	92.00779	CD	< 0.01		MG/L	2/25/92	ok
PF-40-BP-3C	92.00779	CR	0.01	0.01	MG/L	2/25/92	
PF-40-BP-3C	92.00779	PB	< 0.05		MG/L	2/25/92	
PF-40-FA-5R	92.00780	BA	0.44	0.04	MG/L	2/25/92	

Pb * in area out.

Pb * in area

PF-40-FA-5R	92.00780 CD	0.02	0.01	MG/L	2/25/92	
PF-40-FA-5R	92.00780 CR	< 0.01		MG/L	2/25/92	
PF-40-FA-5R	92.00780 PB	< 0.05		MG/L	2/25/92	

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REPORT NUMBER: 13144 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 25-Feb-1992

REQUEST NUMBER: 12438 MATRIX: SE ANALYST: RICHARD D ROBINSO PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: R7056 PAGE: 139

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.20193	BA	10.	1.	MG/L	10.	1.	2/25/92	UNDER CONTROL
00.20193	BA	11.	1.1	MG/L	10.	1.	2/25/92	UNDER CONTROL
00.20193	CD	11.	1.1	MG/L	10.	1.	2/25/92	UNDER CONTROL
).20193	CD	12.	1.2	MG/L	10.	1.	2/25/92	UNDER CONTROL
00.20193	CR	11.	1.1	MG/L	10.	1.	2/25/92	UNDER CONTROL
00.20193	CR	12.	1.2	MG/L	10.	1.	2/25/92	UNDER CONTROL
00.20193	PB	11.	1.1	MG/L	10.	1.	2/25/92	UNDER CONTROL
00.20193	PB	11.	1.1	MG/L	10.	1.	2/25/92	UNDER CONTROL
00.22757	BA	2.5	0.25	MG/L	2.5	0.25	2/25/92	UNDER CONTROL
00.22757	CD	1.5	0.15	MG/L	1.5	0.15	2/25/92	UNDER CONTROL
00.22757	CR	3.2	0.32	MG/L	3.	0.3	2/25/92	UNDER CONTROL
00.22757	PB	10.	1.	MG/L	10.	1.	2/25/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00733	BA	2.6	0.26	MG/L	2.8	0.1	2/25/92	UNDER CONTROL
92.00733	CD	1.9	0.19	MG/L	2.	0.08	2/25/92	UNDER CONTROL
92.00733	CR	5.2	0.52	MG/L	5.2	0.2	2/25/92	UNDER CONTROL
92.00733	PB	< 0.05		MG/L	0.0		2/25/92	UNDER CONTROL
92.00734	BA	< 2.		UG/L	0.0		2/25/92	UNDER CONTROL
92.00734	CD	320.	30.	UG/L	320.	13.	2/25/92	UNDER CONTROL
92.00734	CR	400.	40.	UG/L	400.	17.	2/25/92	UNDER CONTROL
92.00734	PB	20.	2.	MG/L	20.	0.8	2/25/92	UNDER CONTROL
.00798	BA	2.8	0.28	MG/L	2.8	0.1	2/25/92	UNDER CONTROL
..00798	CD	2.	0.2	MG/L	2.	0.08	2/25/92	UNDER CONTROL
92.00798	CR	5.5	0.55	MG/L	5.2	0.2	2/25/92	UNDER CONTROL
92.00798	PB	< 0.05		MG/L	0.0		2/25/92	UNDER CONTROL

REPORT NUMBER: 13144

Analyst	Section Leader	QA Officer
2/26/92	2/26/92	2-27-92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13208

+CLP

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 2-Mar-1992

ANALYSIS: AS REQUEST NUMBER: 12438 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2 NOTEBOOK: R7338 PAGE: 66

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	< 2.		UG/L	2/13/92	
PF-40-FA-4A	92.00712	< 2.		UG/L	2/13/92	
PF-40-FA-5A	92.00713	< 2.		UG/L	2/13/92	
PF-40-FA-2A	92.00714	< 2.		UG/L	2/13/92	
PF-40-FA-15A	92.00715	< 2.		UG/L	2/13/92	
PF-40-FA-13A	92.00716	< 2.		UG/L	2/13/92	
PF-40-FA-16A	92.00717	3.2	2.	UG/L	2/13/92	
PF-40-FA-18A	92.00718	< 2.		UG/L	2/13/92	
PR-40-FA-19A	92.00719	< 2.		UG/L	2/13/92	
PF-40-BC-2	92.00720	2.3	2.	UG/L	2/13/92	
PF-40-BC-3	92.00721	2.	2.	UG/L	2/13/92	
PF-40-BAE-2	92.00722	< 2.		UG/L	2/13/92	
PF-40-BAE-3	92.00723	< 2.		UG/L	2/28/92	
PF-40-BAW-2	92.00724	2.5	2.	UG/L	2/28/92	
PF-40-BAW-3	92.00725	2.4	2.	UG/L	2/28/92	
PF-40-BP-1A	92.00771	< 2.		UG/L	2/28/92	
PF-40-BP-1B	92.00772	< 2.		UG/L	2/28/92	
PF-40-BP-1C	92.00773	< 2.		UG/L	2/28/92	
PF-40-BP-2A	92.00774	< 2.		UG/L	2/28/92	
PF-40-BP-2B	92.00775	< 2.		UG/L	2/28/92	
PF-40-BP-2C	92.00776	< 2.		UG/L	2/28/92	
PF-40-BC-1	92.00777	< 2.		UG/L	2/28/92	
PF-40-BP-3B	92.00778	< 2.		UG/L	2/28/92	
PF-40-BP-3C	92.00779	< 2.		UG/L	2/28/92	
PF-40-FA-5R	92.00780	< 2.		UG/L	2/28/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	< 2.		UG/L	2/13/92	
PF-40-FA-5A	92.00713	< 2.		UG/L	2/13/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE DUPLICATES (continued):

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BP-2A	92.00774	< 2.		UG/L	2/28/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	100.	79.	UG/L	2/13/92	
PF-40-FA-4A	92.00712	100.	77.	UG/L	2/28/92	
PF-40-FA-5A	92.00713	100.	76.	UG/L	2/28/92	
PF-40-FA-2A	92.00714	100.	73.	UG/L	2/28/92	
PF-40-FA-15A	92.00715	100.	73.	UG/L	2/28/92	
PF-40-FA-13A	92.00716	100.	72.	UG/L	2/28/92	
PF-40-FA-16A	92.00717	100.	75.	UG/L	2/28/92	
PF-40-FA-18A	92.00718	100.	76.	UG/L	2/28/92	
PR-40-FA-19A	92.00719	100.	74.	UG/L	2/28/92	
PF-40-BC-2	92.00720	200.	159.	UG/L	2/28/92	
PF-40-BC-3	92.00721	200.	158.	UG/L	2/28/92	
PF-40-BAE-2	92.00722	200.	139.	UG/L	2/28/92	
PF-40-BAE-3	92.00723	100.	105.	UG/L	2/28/92	
PF-40-BAW-2	92.00724	100.	108.	UG/L	2/28/92	
PF-40-BAW-3	92.00725	200.	195.	UG/L	2/28/92	
PF-40-BP-1A	92.00771	200.	217.	UG/L	3/02/92	
PF-40-BP-1B	92.00772	200.	229.	UG/L	2/28/92	
PF-40-BP-1C	92.00773	200.	219.	UG/L	2/28/92	
PF-40-BP-2A	92.00774	200.	246.	UG/L	2/28/92	
PF-40-BP-2B	92.00775	100.	92.	UG/L	2/28/92	
PF-40-BP-2C	92.00776	100.	90.	UG/L	2/28/92	
PF-40-BC-1	92.00777	100.	68.	UG/L	2/28/92	
PF-40-BP-3B	92.00778	100.	96.	UG/L	2/28/92	
PF-40-BP-3C	92.00779	100.	96.	UG/L	2/28/92	
PF-40-FA-5R	92.00780	100.	99.	UG/L	2/28/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 2-Mar-1992

REQUEST NUMBER: 12438 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	49.3	10.	UG/L	51.	4.28	2/13/92	UNDER CONTROL
00.01160	54.9	11.	UG/L	51.	4.28	2/28/92	UNDER CONTROL
00.01160	39.1	8.	UG/L	51.	4.28	2/28/92	UNDER CONTROL

JMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00825	49.5	10.	UG/L	49.	5.	2/13/92	UNDER CONTROL
92.00825	48.6	10.	UG/L	49.	5.	2/13/92	UNDER CONTROL
92.00826	65.7	13.	UG/L	52.	5.	2/28/92	UNDER CONTROL
92.00827	57.1	12.	UG/L	55.	6.	2/28/92	UNDER CONTROL

REPORT NUMBER: 13208

Analyst	Section Leader	QA Officer
3/2/92	3/3/92	3/3/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13010

TCLP Hg

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 12-Feb-1992

ANALYSIS: HG REQUEST NUMBER: 12438 MATRIX: SE ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: CVAA ANALYTICAL PROCEDURE: 245.2 NOTEBOOK: Y04110 PAGE: 52

CUSTOMER SAMPLES:

ppb

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	0.1	0.1	UG/L	2/11/92	
PF-40-FA-4A	92.00712	0.1	0.1	UG/L	2/11/92	
PF-40-FA-5A	92.00713	< 0.1		UG/L	2/11/92	
PF-40-FA-2A	92.00714	< 0.1		UG/L	2/11/92	
PF-40-FA-15A	92.00715	< 0.1		UG/L	2/11/92	
PF-40-FA-13A	92.00716	< 0.1		UG/L	2/11/92	
PF-40-FA-16A	92.00717	< 0.1		UG/L	2/11/92	
PF-40-FA-18A	92.00718	< 0.1		UG/L	2/11/92	
~~PR-40-FA-19A~~	92.00719	< 0.1		UG/L	2/11/92	
PF-40-BC-2	92.00720	0.2	0.1	UG/L	2/11/92	
PF-40-BC-3	92.00721	0.2	0.1	UG/L	2/11/92	
PF-40-BAE-2	92.00722	< 0.1		UG/L	2/11/92	
PF-40-BAE-3	92.00723	0.2	0.1	UG/L	2/11/92	
PF-40-BAW-2	92.00724	0.2	0.1	UG/L	2/11/92	
PF-40-BAW-3	92.00725	0.2	0.1	UG/L	2/11/92	
PF-40-BP-1A	92.00771	< 0.1		UG/L	2/11/92	
PF-40-BP-1B	92.00772	< 0.1		UG/L	2/11/92	
PF-40-BP-1C	92.00773	< 0.1		UG/L	2/11/92	
PF-40-BP-2A	92.00774	< 0.1		UG/L	2/11/92	
PF-40-BP-2B	92.00775	< 0.1		UG/L	2/11/92	
PF-40-BP-2C	92.00776	< 0.1		UG/L	2/11/92	
PF-40-BC-1	92.00777	< 0.1		UG/L	2/11/92	
PF-40-BP-3B	92.00778	< 0.1		UG/L	2/11/92	
PF-40-BP-3C	92.00779	< 0.1		UG/L	2/11/92	
PF-40-FA-5R	92.00780	< 0.1		UG/L	2/11/92	

ok <.2 mg/L
~~mg <(200 /L~~
~~≥ 2 mg/L Hg~~
~~OR~~
~~≥ 2 mg Hg~~
2/28/92

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PR-40-FA-19A	92.00719	< 0.1		UG/L	2/11/92	
PF-40-BP-2C	92.00776	< 0.1		UG/L	2/11/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE DUPLICATES (continued):

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BC-1	92.00777	< 0.1		UG/L	2/11/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PR-40-FA-19A	92.00719	2.	1.99	UG/L	2/11/92	
PF-40-BP-2C	92.00776	2.	2.2	UG/L	2/11/92	
PF-40-BC-1	92.00777	2.	2.1	UG/L	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 12-Feb-1992

REQUEST NUMBER: 12438 MATRIX: SE ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.23653	4.1	0.4	UG/L	4.	0.2	2/11/92	UNDER CONTROL
00.23653	4.2	0.4	UG/L	4.	0.2	2/11/92	UNDER CONTROL
00.23653	4.1	0.4	UG/L	4.	0.2	2/11/92	UNDER CONTROL
00.23653	4.2	0.4	UG/L	4.	0.2	2/11/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00731	3.5	0.3	UG/L	3.5	0.21	2/11/92	UNDER CONTROL
92.00731	3.3	0.3	UG/L	3.5	0.21	2/11/92	UNDER CONTROL
92.00732	2.4	0.2	UG/L	2.5	0.15	2/11/92	UNDER CONTROL
92.00732	2.3	0.2	UG/L	2.5	0.15	2/11/92	UNDER CONTROL
92.00797	< 0.1		UG/L	0.0		2/11/92	UNDER CONTROL

REPORT NUMBER: 13010

Analyst	Section Leader	QA Officer
2-12-92	2/12/92	2/12/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13209 TCLP-Se

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 2-Mar-1992

ANALY[redacted] REQUEST NUMBER: 12438 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 270.2 NOTEBOOK: R7338 PAGE: 66

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	< 2.		UG/L	2/13/92	
PF-40-FA-4A	92.00712	< 2.		UG/L	2/13/92	
PF-40-FA-5A	92.00713	< 2.		UG/L	2/13/92	
PF-40-FA-2A	92.00714	< 2.		UG/L	2/13/92	
PF-40-FA-15A	92.00715	< 2.		UG/L	2/13/92	
PF-40-FA-13A	92.00716	< 2.		UG/L	2/13/92	
PF-40-FA-16A	92.00717	< 2.		UG/L	2/13/92	
PF-40-FA-18A	92.00718	< 2.		UG/L	2/13/92	
PR-40-FA-19A	92.00719	< 2.		UG/L	2/13/92	
PF-40-BC-2	92.00720	< 2.		UG/L	2/13/92	
PF-40-BC-3	92.00721	< 2.		UG/L	2/13/92	
PF-40-BAE-2	92.00722	< 2.		UG/L	2/13/92	
PF-40-BAE-3	92.00723	< 2.		UG/L	2/28/92	
PF-40-BAW-2	92.00724	< 2.		UG/L	2/28/92	
PF-40-BAW-3	92.00725	< 2.		UG/L	2/28/92	
PF-40-BP-1A	92.00771	< 2.		UG/L	2/28/92	
PF-40-BP-1B	92.00772	< 2.		UG/L	2/28/92	
PF-40-BP-1C	92.00773	< 2.		UG/L	2/28/92	
PF-40-BP-2A	92.00774	< 2.		UG/L	2/28/92	
PF-40-BP-2B	92.00775	< 2.		UG/L	2/28/92	
PF-40-BP-2C	92.00776	< 2.		UG/L	2/28/92	
PF-40-BC-1	92.00777	< 2.		UG/L	2/28/92	
PF-40-BP-3B	92.00778	< 2.		UG/L	2/28/92	
PF-40-BP-3C	92.00779	< 2.		UG/L	2/28/92	
PF-40-FA-5R	92.00780	< 2.		UG/L	2/28/92	

ppb

= 1mg/L

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	< 2.		UG/L	2/13/92	
PF-40-FA-5A	92.00713	< 2.		UG/L	2/13/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE DUPLICATES (continued):

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BP-2A	92.00774	< 2.		UG/L	2/28/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	100.	71.	UG/L	2/28/92	
PF-40-FA-4A	92.00712	100.	69.	UG/L	2/28/92	
PF-40-FA-5A	92.00713	100.	68.	UG/L	2/28/92	
PF-40-FA-2A	92.00714	100.	64.	UG/L	2/28/92	
PF-40-FA-15A	92.00715	100.	68.	UG/L	2/28/92	
PF-40-FA-13A	92.00716	100.	68.	UG/L	2/28/92	
PF-40-FA-16A	92.00717	100.	66.	UG/L	2/28/92	
PF-40-FA-18A	92.00718	100.	66.	UG/L	2/28/92	
PR-40-FA-19A	92.00719	100.	66.	UG/L	2/28/92	
PF-40-BC-2	92.00720	100.	136.	UG/L	2/28/92	
PF-40-BC-3	92.00721	100.	133.	UG/L	2/28/92	
PF-40-BAE-2	92.00722	100.	138.	UG/L	2/28/92	
PF-40-BAE-3	92.00723	100.	69.	UG/L	2/28/92	
PF-40-BAW-2	92.00724	100.	70.	UG/L	2/28/92	
PF-40-BAW-3	92.00725	100.	79.	UG/L	2/28/92	
PF-40-BP-1A	92.00771	100.	75.	UG/L	2/28/92	
PF-40-BP-1B	92.00772	100.	79.	UG/L	2/28/92	
PF-40-BP-1C	92.00773	100.	80.	UG/L	2/28/92	
PF-40-BP-2A	92.00774	100.	84.	UG/L	2/28/92	
PF-40-BP-2B	92.00775	100.	133.	UG/L	2/28/92	
PF-40-BP-2C	92.00776	100.	139.	UG/L	2/28/92	
PF-40-BC-1	92.00777	100.	123.	UG/L	2/28/92	
PF-40-BP-3B	92.00778	100.	138.	UG/L	2/28/92	
PF-40-BP-3C	92.00779	100.	141.	UG/L	2/28/92	
PF-40-FA-5R	92.00780	100.	79.	UG/L	2/28/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 2-Mar-1992

REQUEST NUMBER: 12438 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	8.	2.	UG/L	8.1	1.1	2/13/92	UNDER CONTROL
00.01160	7.3	2.	UG/L	8.1	1.1	2/28/92	UNDER CONTROL
00.01160	6.8	2.	UG/L	8.1	1.1	2/28/92	UNDER CONTROL

JMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00825	51.9	10.	UG/L	53.	5.	2/13/92	UNDER CONTROL
92.00825	49.5	10.	UG/L	53.	5.	2/13/92	UNDER CONTROL
92.00826	56.5	11.	UG/L	56.	6.	2/28/92	UNDER CONTROL
92.00827	56.3	11.	UG/L	59.	6.	2/28/92	UNDER CONTROL

REPORT NUMBER: 13209

Analyst	Section Leader	QA Officer
3/2/92	3/3/92	3/3/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13037

TCLB

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 14-Feb-1992

ANALYSIS: AG REQUEST NUMBER: 12438 MATRIX: SE ANALYST: BARBARA HEMBERG PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FAA ANALYTICAL PROCEDURE: 272.1 NOTEBOOK: R7719 PAGE: 23

CUSTOMER SAMPLES:

ppb

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	< 10.		UG/L	2/12/92	
PF-40-FA-4A	92.00712	< 10.		UG/L	2/12/92	
PF-40-FA-5A	92.00713	< 10.		UG/L	2/12/92	
PF-40-FA-2A	92.00714	< 10.		UG/L	2/12/92	
PF-40-FA-15A	92.00715	< 10.		UG/L	2/12/92	
PF-40-FA-13A	92.00716	< 10.		UG/L	2/12/92	
PF-40-FA-16A	92.00717	< 10.		UG/L	2/12/92	
PF-40-FA-18A	92.00718	< 10.		UG/L	2/12/92	
PR-40-FA-19A	92.00719	< 10.		UG/L	2/12/92	
PF-40-BC-2	92.00720	< 10.		UG/L	2/14/92	
PF-40-BC-3	92.00721	< 10.		UG/L	2/14/92	
PF-40-BAE-2	92.00722	< 10.		UG/L	2/14/92	
PF-40-BAE-3	92.00723	< 10.		UG/L	2/14/92	
PF-40-BAW-2	92.00724	< 10.		UG/L	2/14/92	
PF-40-BAW-3	92.00725	12.	10.	UG/L	2/14/92	
PF-40-BP-1A	92.00771	< 10.		UG/L	2/14/92	
PF-40-BP-1B	92.00772	< 10.		UG/L	2/14/92	
PF-40-BP-1C	92.00773	< 10.		UG/L	2/14/92	
PF-40-BP-2A	92.00774	< 10.		UG/L	2/14/92	
PF-40-BP-2B	92.00775	< 10.		UG/L	2/14/92	
PF-40-BP-2C	92.00776	< 10.		UG/L	2/14/92	
PF-40-BC-1	92.00777	10.	10.	UG/L	2/14/92	
PF-40-BP-3B	92.00778	< 10.		UG/L	2/14/92	
PF-40-BP-3C	92.00779	< 10.		UG/L	2/14/92	
PF-40-FA-5R	92.00780	< 10.		UG/L	2/14/92	

ok

<5 ppm

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	10.	10.	UG/L	2/12/92	
PF-40-FA-5A	92.00713	< 10.		UG/L	2/12/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE DUPLICATES (continued):

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BP-2A	92.00774	< 10.		UG/L	2/14/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-FA-1A	92.00711	50.	54.	UG/L	2/12/92	
PF-40-FA-4A	92.00712	50.	52.	UG/L	2/12/92	
PF-40-FA-5A	92.00713	50.	52.	UG/L	2/12/92	
PF-40-FA-2A	92.00714	50.	51.	UG/L	2/12/92	
PF-40-FA-15A	92.00715	50.	52.	UG/L	2/12/92	
PF-40-FA-13A	92.00716	50.	51.	UG/L	2/12/92	
PF-40-FA-16A	92.00717	50.	50.	UG/L	2/12/92	
PF-40-FA-18A	92.00718	50.	50.	UG/L	2/12/92	
PR-40-FA-19A	92.00719	50.	50.	UG/L	2/12/92	
PF-40-BAE-2	92.00722	100.	88.	UG/L	2/14/92	
PF-40-BAE-3	92.00723	100.	101.	UG/L	2/14/92	
PF-40-BAW-2	92.00724	100.	104.	UG/L	2/14/92	
PF-40-BAW-3	92.00725	100.	99.	UG/L	2/14/92	
PF-40-BP-1A	92.00771	100.	100.	UG/L	2/14/92	
PF-40-BP-1B	92.00772	100.	101.	UG/L	2/14/92	
PF-40-BP-1C	92.00773	100.	99.	UG/L	2/14/92	
PF-40-BP-2A	92.00774	100.	102.	UG/L	2/14/92	
PF-40-BP-2B	92.00775	100.	101.	UG/L	2/14/92	
PF-40-BP-2C	92.00776	100.	100.	UG/L	2/14/92	
PF-40-BC-1	92.00777	100.	90.	UG/L	2/14/92	
PF-40-BP-3B	92.00778	100.	100.	UG/L	2/14/92	
PF-40-BP-3C	92.00779	100.	102.	UG/L	2/14/92	
PF-40-FA-5R	92.00780	100.	102.	UG/L	2/14/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 14-Feb-1992

REQUEST NUMBER: 12438 MATRIX: SE ANALYST: BARBARA HEMBERG PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	33.	3.	UG/L	32.	2.45	2/12/92	UNDER CONTROL
00.01160	32.	3.	UG/L	32.	2.45	2/12/92	UNDER CONTROL
00.01160	31.	3.	UG/L	32.	2.45	2/14/92	UNDER CONTROL
00.01160	32.	3.	UG/L	32.	2.45	2/14/92	UNDER CONTROL
00.24370	474.	47.	UG/L	481.	21.	2/14/92	UNDER CONTROL
00.24370	475.	48.	UG/L	481.	21.	2/14/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.00729	801.	80.	UG/L	800.	34.	2/12/92	UNDER CONTROL
92.00729	795.	80.	UG/L	800.	34.	2/12/92	UNDER CONTROL
92.00730	895.	90.	UG/L	900.	39.	2/12/92	UNDER CONTROL
92.00730	903.	90.	UG/L	900.	39.	2/12/92	UNDER CONTROL
92.00799	593.	59.	UG/L	600.	26.	2/14/92	UNDER CONTROL
92.00799	591.	59.	UG/L	600.	26.	2/14/92	UNDER CONTROL

REPORT NUMBER: 13037

Analyst	Section Leader	QA Officer
2/14/92	2/14/92	2/28/92
Date	Date	Date

.ne control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

REPORT NUMBER: 13239

JCLP

********** EM-9 ANALYTICAL REPORT **********

Prepared by: CB on 4-Mar-1992

REQUEST NUMBER: 12452 MATRIX: SE ANALYST: RICHARD D ROBINSO PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: 7056 PAGE: 140

CUSTOMER SAMPLES:

ppm

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00922	BA	1.14	0.11	MG/L	3/03/92	
PF-40-BAW-1	92.00922	CD	< 0.01		MG/L	3/03/92	
PF-40-BAW-1	92.00922	CR	< 0.01		MG/L	3/03/92	
PF-40-BAW-1	92.00922	PB	0.2	0.05	MG/L	3/03/92	
PF-40-BAE-1	92.00923	BA	1.11	0.11	MG/L	3/03/92	
PF-40-BAE-1	92.00923	CD	0.01	0.01	MG/L	3/03/92	all ok
PF-40-BAE-1	92.00923	CR	0.01	0.01	MG/L	3/03/92	
PF-40-BAE-1	92.00923	PB	1.03	0.1	MG/L	3/03/92	pg
PF-40-EBX-W	92.00924	BA	0.85	0.09	MG/L	3/03/92	
PF-40-EBX-W	92.00924	CD	< 0.01		MG/L	3/03/92	
PF-40-EBX-W	92.00924	CR	< 0.01		MG/L	3/03/92	
PF-40-EBX-W	92.00924	PB	< 0.05		MG/L	3/03/92	
PF-40-EBX-E	92.00925	BA	0.79	0.08	MG/L	3/03/92	
PF-40-EBX-E	92.00925	CD	< 0.01		MG/L	3/03/92	
PF-40-EBX-E	92.00925	CR	< 0.01		MG/L	3/03/92	
PF-40-EBX-E	92.00925	PB	0.05	0.05	MG/L	3/03/92	
PF-40-SPS	92.00926	BA	0.13	0.01	MG/L	3/03/92	
PF-40-SPS	92.00926	CD	< 0.01		MG/L	3/03/92	
PF-40-SPS	92.00926	CR	< 0.01		MG/L	3/03/92	
PF-40-SPS	92.00926	PB	0.05	0.05	MG/L	3/03/92	
PF-40-DP	92.00927	BA	0.93	0.09	MG/L	3/03/92	
PF-40-DP	92.00927	CD	< 0.01		MG/L	3/03/92	
PF-40-DP	92.00927	CR	0.01	0.01	MG/L	3/03/92	
PF-40-DP	92.00927	PB	< 0.05		MG/L	3/03/92	
PF-40-SD-W	92.00928	BA	0.52	0.05	MG/L	3/03/92	
PF-40-SD-W	92.00928	CD	< 0.01		MG/L	3/03/92	
PF-40-SD-W	92.00928	CR	< 0.01		MG/L	3/03/92	
PF-40-SD-W	92.00928	PB	< 0.05		MG/L	3/03/92	
PF-40-SD-M	92.00929	BA	0.65	0.07	MG/L	3/03/92	
PF-40-SD-M	92.00929	CD	< 0.01		MG/L	3/03/92	
PF-40-SD-M	92.00929	CR	< 0.01		MG/L	3/03/92	
PF-40-SD-M	92.00929	PB	0.06	0.05	MG/L	3/03/92	
PF-40-SD-E	92.00930	BA	0.59	0.06	MG/L	3/03/92	
PF-40-SD-E	92.00930	CD	< 0.01		MG/L	3/03/92	
PF-40-SD-E	92.00930	CR	< 0.01		MG/L	3/03/92	
PF-40-SD-E	92.00930	PB	< 0.05		MG/L	3/03/92	

Data in file

REPORT NUMBER: 13239 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 4-Mar-1992

REQUEST NUMBER: 12452 MATRIX: SE ANALYST: RICHARD D ROBINSO PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: 7056 PAGE: 140

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.20193	BA	11.	1.1	MG/L	10.	1.	3/03/92	UNDER CONTROL
00.20193	CD	11.2	1.1	MG/L	10.	1.	3/03/92	UNDER CONTROL
00.20193	CR	11.4	1.1	MG/L	10.	1.	3/03/92	UNDER CONTROL
00.20193	PB	11.5	1.2	MG/L	10.	1.	3/03/92	UNDER CONTROL
00.22757	BA	2.5	0.25	MG/L	2.5	0.25	2/20/92	UNDER CONTROL
00.22757	BA	2.68	0.27	MG/L	2.5	0.25	3/03/92	UNDER CONTROL
00.22757	CD	1.55	0.16	MG/L	1.5	0.15	3/03/92	UNDER CONTROL
00.22757	CD	1.6	0.16	MG/L	1.5	0.15	2/20/92	UNDER CONTROL
00.22757	CR	3.2	0.32	MG/L	3.	0.3	2/20/92	UNDER CONTROL
00.22757	CR	3.25	0.33	MG/L	3.	0.3	3/03/92	UNDER CONTROL
00.22757	PB	11.1	1.1	MG/L	10.	1.	3/03/92	UNDER CONTROL
00.22757	PB	10.6	1.1	MG/L	10.	1.	2/20/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01036	BA	3.13	0.31	MG/L	3.	0.1	2/20/92	UNDER CONTROL
92.01036	BA	2.93	0.29	MG/L	3.	0.1	3/03/92	UNDER CONTROL
92.01036	CD	400.	40.	UG/L	400.	17.	2/20/92	UNDER CONTROL
92.01036	CD	370.	40.	UG/L	400.	17.	3/03/92	UNDER CONTROL
92.01036	CR	1.98	0.19	MG/L	2.	0.09	3/03/92	UNDER CONTROL
92.01036	CR	2.1	0.21	MG/L	2.	0.09	2/20/92	UNDER CONTROL
92.01036	PB	< 0.05		MG/L	0.0		2/20/92	UNDER CONTROL
92.01036	PB	< 0.05		MG/L	0.0		3/03/92	UNDER CONTROL

Analyst	Section Leader	QA Officer
3/5/92	3/6/92	3/6/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 3-Mar-1992

A[redacted] AS REQUEST NUMBER: 12452 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2 NOTEBOOK: R7338 PAGE: 53

CUSTOMER SAMPLES:

ppb

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00922	< 2.		UG/L	3/02/92	
PF-40-BAE-1	92.00923	< 2.		UG/L	3/02/92	
PF-40-EBX-W	92.00924	< 2.		UG/L	3/02/92	
PF-40-EBX-E	92.00925	< 2.		UG/L	3/02/92	
PF-40-SPS	92.00926	< 2.		UG/L	3/02/92	
PF-40-DP	92.00927	< 2.		UG/L	3/02/92	
PF-40-SD-W	92.00928	< 2.		UG/L	3/02/92	
PF-40-SD-M	92.00929	< 2.		UG/L	3/02/92	
PF-40-SD-E	92.00930	2.3	2.	UG/L	3/02/92	< 5 ppm

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-SPS	92.00926	< 2.		UG/L	3/02/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00922	100.	92.	UG/L	3/02/92	
PF-40-BAE-1	92.00923	100.	105.	UG/L	3/02/92	
PF-40-EBX-W	92.00924	100.	103.	UG/L	3/02/92	
PF-40-EBX-E	92.00925	100.	103.	UG/L	3/02/92	
PF-40-SPS	92.00926	100.	103.	UG/L	3/02/92	
PF-40-DP	92.00927	100.	101.	UG/L	3/02/92	
PF-40-SD-W	92.00928	100.	102.	UG/L	3/02/92	
PF-40-SD-M	92.00929	100.	102.	UG/L	3/02/92	
PF-40-SD-E	92.00930	100.	99.	UG/L	3/02/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 3-Mar-1992

REQUEST NUMBER: 12452 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	50.9	10.	UG/L	51.	4.28	3/02/92	UNDER CONTROL
00.01160	51.4	10.	UG/L	51.	4.28	3/02/92	UNDER CONTROL
00.01160	50.	10.	UG/L	51.	4.28	2/11/92	UNDER CONTROL
00.01160	53.9	10.	UG/L	51.	4.28	3/02/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01037	52.5	10.	UG/L	55.	6.	2/11/92	UNDER CONTROL
92.01037	56.	12.	UG/L	55.	6.	3/02/92	UNDER CONTROL

REPORT NUMBER: 13213

Analyst	Section Leader	QA Officer
3/4/92	3/4/92	3/4/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13022

TCLP Hg

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 12-Feb-1992

ANALYSIS: HG REQUEST NUMBER: 12452 MATRIX: SE ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: CVAA ANALYTICAL PROCEDURE: TCLP & 245.2 NOTEBOOK: Y04110 PAGE: 1

CUSTOMER SAMPLES:

ppb

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00922	< 0.1		UG/L	2/12/92	
PF-40-BAE-1	92.00923	0.1	0.1	UG/L	2/12/92	
PF-40-EBX-W	92.00924	0.1	0.1	UG/L	2/12/92	
PF-40-EBX-E	92.00925	< 0.1		UG/L	2/12/92	
PF-40-SPS	92.00926	< 0.1		UG/L	2/12/92	
PF-40-DP	92.00927	< 0.1		UG/L	2/12/92	
PF-40-SD-W	92.00928	< 0.1		UG/L	2/12/92	
PF-40-SD-M	92.00929	< 0.1		UG/L	2/12/92	
PF-40-SD-E	92.00930	< 0.1		UG/L	2/12/92	

ok
< 2 mg/L

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00922	< 0.1		UG/L	2/12/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 12-Feb-1992

REQUEST NUMBER: 12452 MATRIX: SE ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.23653	4.	0.4	UG/L	4.	0.2	2/12/92	UNDER CONTROL
00.23653	3.98	0.4	UG/L	4.	0.2	2/12/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01035	3.6	0.4	UG/L	3.5	0.21	2/12/92	UNDER CONTROL

REPORT NUMBER: 13022

Analyst	Section Leader	QA Officer
2-12-92	2/12/92	2/13/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 3-Mar-1992

ANALYSIS: SE REQUEST NUMBER: 12452 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 270.2 NOTEBOOK: R7338 PAGE: 53

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00922	< 2.		UG/L	3/02/92	
PF-40-BAE-1	92.00923	< 2.		UG/L	3/02/92	
PF-40-EBX-W	92.00924	< 2.		UG/L	3/02/92	
PF-40-EBX-E	92.00925	< 2.		UG/L	3/02/92	
PF-40-SPS	92.00926	< 2.		UG/L	3/02/92	
PF-40-DP	92.00927	< 2.		UG/L	3/02/92	
PF-40-SD-W	92.00928	< 2.		UG/L	3/02/92	
PF-40-SD-M	92.00929	< 2.		UG/L	3/02/92	
PF-40-SD-E	92.00930	< 2.		UG/L	3/02/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-SPS	92.00926	< 2.		UG/L	3/02/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00922	100.	87.	UG/L	3/02/92	
PF-40-BAE-1	92.00923	100.	88.	UG/L	3/02/92	
PF-40-EBX-W	92.00924	100.	86.	UG/L	3/02/92	
PF-40-EBX-E	92.00925	100.	86.	UG/L	3/02/92	
PF-40-SPS	92.00926	100.	100.	UG/L	3/02/92	
PF-40-DP	92.00927	100.	88.	UG/L	3/02/92	
PF-40-SD-W	92.00928	100.	92.	UG/L	3/02/92	
PF-40-SD-M	92.00929	100.	95.	UG/L	3/02/92	
PF-40-SD-E	92.00930	100.	87.	UG/L	3/02/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 3-Mar-1992

REQUEST NUMBER: 12452 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	7.4	2.	UG/L	8.1	1.1	3/02/92	UNDER CONTROL
00.01160	8.2	2.	UG/L	8.1	1.1	3/02/92	UNDER CONTROL
00.01160	9.1	2.	UG/L	8.1	1.1	2/11/92	UNDER CONTROL
00.01160	7.8	2.	UG/L	8.1	1.1	3/02/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01037	65.8	14.	UG/L	59.	6.	2/11/92	UNDER CONTROL
92.01037	62.3	12.	UG/L	59.	6.	3/02/92	UNDER CONTROL

REPORT NUMBER: 13212

BH/MB	C7a	mag
Analyst	Section Leader	QA Officer
3/4/92	3/4/92	3/4/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 14-Feb-1992

ANALYSIS: AG REQUEST NUMBER: 12452 MATRIX: SE ANALYST: BARBARA HEMBERG PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FAA ANALYTICAL PROCEDURE: 272.1 NOTEBOOK: R7719 PAGE: 25

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00922	< 10.		UG/L	2/14/92	
PF-40-BAE-1	92.00923	< 10.		UG/L	2/14/92	
PF-40-EBX-W	92.00924	< 10.		UG/L	2/14/92	
PF-40-EBX-E	92.00925	< 10.		UG/L	2/14/92	
PF-40-SPS	92.00926	< 10.		UG/L	2/14/92	
PF-40-DP	92.00927	< 10.		UG/L	2/14/92	
PF-40-SD-W	92.00928	< 10.		UG/L	2/14/92	
PF-40-SD-M	92.00929	< 10.		UG/L	2/14/92	
PF-40-SD-E	92.00930	< 10.		UG/L	2/14/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-SPS	92.00926	< 10.		UG/L	2/14/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-BAW-1	92.00922	100.	103.	UG/L	2/14/92	
PF-40-BAE-1	92.00923	100.	102.	UG/L	2/14/92	
PF-40-EBX-W	92.00924	100.	105.	UG/L	2/14/92	
PF-40-EBX-E	92.00925	100.	103.	UG/L	2/14/92	
PF-40-SPS	92.00926	100.	99.	UG/L	2/14/92	
PF-40-DP	92.00927	100.	104.	UG/L	2/14/92	
PF-40-SD-W	92.00928	100.	102.	UG/L	2/14/92	
PF-40-SD-M	92.00929	100.	104.	UG/L	2/14/92	
PF-40-SD-E	92.00930	100.	104.	UG/L	2/14/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 14-Feb-1992

REQUEST NUMBER: 12452 MATRIX: SE ANALYST: BARBARA HEMBERG PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	35.	4.	UG/L	32.	2.45	2/14/92	UNDER CONTROL
00.01160	32.	3.	UG/L	32.	2.45	2/14/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01034	798.	80.	UG/L	800.	34.	1/30/92	UNDER CONTROL

REPORT NUMBER: 13046

BH — Analyst — 2/14/92 Date

CJa — Section Leader — 2/14/92 Date

mag — QA Officer — 2/28/92 Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13146

TCLP

********** EM-9 ANALYTICAL REPORT **********

Prepared by: CB on 25-Feb-1992

REQUEST NUMBER: 12448 MATRIX: W ANALYST: RICHARD D ROBINSO PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: 10523 PAGE: 43

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00940	BA	0.2	0.02	MG/L	2/20/92	.BATCH 12448
PF-40-EW	92.00940	CD	< 0.01		MG/L	2/20/92	BATCH 12448
PF-40-EW	92.00940	CR	< 0.01		MG/L	2/20/92	BATCH 12448
PF-40-EW	92.00940	PB	< 0.05		MG/L	2/20/92	BATCH 12448
PF-40-DEB	92.00941	BA	0.22	0.02	MG/L	2/20/92	BATCH 12448
PF-40-DEB	92.00941	CD	< 0.01		MG/L	2/20/92	BATCH 12448
PF-40-DEB	92.00941	CR	< 0.01		MG/L	2/25/92	
PF-40-DEB	92.00941	PB	< 0.05		MG/L	2/20/92	BATCH 12448

oh

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REPORT NUMBER: 13146 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 25-Feb-1992

REQUEST NUMBER: 12448 MATRIX: W ANALYST: RICHARD D ROBINSO PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: 10523 PAGE: 43

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.22757	BA	2.5	0.25	MG/L	2.5	0.25	2/20/92	UNDER CONTROL
00.22757	CD	1.6	0.16	MG/L	1.5	0.15	2/20/92	UNDER CONTROL
00.22757	CR	3.2	0.32	MG/L	3.	0.3	2/20/92	UNDER CONTROL
00.22757	PB	10.6	1.1	MG/L	10.	1.	2/20/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01036	BA	3.	0.3	MG/L	3.	0.1	2/20/92	UNDER CONTROL
92.01036	CD	400.	40.	UG/L	400.	17.	2/20/92	UNDER CONTROL
92.01036	CR	2.1	0.21	MG/L	2.	0.09	2/20/92	UNDER CONTROL
92.01036	PB	< 0.05		MG/L	0.0	-	2/20/92	UNDER CONTROL

REPORT NUMBER: 13146

Analyst	Section Leader	QA Officer
2/26/92	2/26/92	2-27-92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12990

TCLP As

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 11-Feb-1992

ANALYSIS: AS REQUEST NUMBER: 12448 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2 NOTEBOOK: R7338 PAGE: 53

CUSTOMER SAMPLES:

ppb

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00940	< 2.		UG/L	2/11/92	
PF-40-DEB	92.00941	< 2.		UG/L	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 11-Feb-1992

REQUEST NUMBER: 12448 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M948

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	50.	10.	UG/L	51.	4.28	2/11/92	UNDER CONTROL

UMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01037	52.5	10.	UG/L	55.	6.	2/11/92	UNDER CONTROL

REPORT NUMBER: 12990

Analyst	Section Leader	QA Officer
2-11-92	2/11/92	2/11/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 13003

TCLP Hg

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 11-Feb-1992

ANALYSIS: HG REQUEST NUMBER: 12448 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: CVAA ANALYTICAL PROCEDURE: 245.2 NOTEBOOK: Y04110 PAGE: 56

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	ppb UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00940	< 0.1		UG/L	2/11/92	ok
PF-40-DEB	92.00941	< 0.1		UG/L	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 11-Feb-1992

REQUEST NUMBER: 12448 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.23653	4.1	0.4	UG/L	4.	0.2	2/11/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

___ Only qualitative data requested

X Only Open (non-blind) QC samples run with this sample batch.

___ No QC samples run with this sample batch.

___ No QC samples for this constituent and matrix type available within EM-9

REPORT NUMBER: 13003

Analyst	Section Leader	QA Officer
2-11-92	2/11/92	2/12/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12988

TCLP Cr

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 11-Feb-1992

ANALYSIS: SE REQUEST NUMBER: 12448 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 270.2 NOTEBOOK: R7338 PAGE: 53

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00940	< 2.		UG/L	2/11/92	
PF-40-DEB	92.00941	< 2.		UG/L	2/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 11-Feb-1992

REQUEST NUMBER: 12448 MATRIX: W ANALYST: MICHAEL G BELL PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.01160	9.1	2.	UG/L	8.1	1.1	2/11/92	UNDER CONTROL

JMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01037	65.8	14.	UG/L	59.	6.	2/11/92	UNDER CONTROL

REPORT NUMBER: 12988

Analyst	Section Leader	QA Officer
2-11-92	2/11/92	2/11/92
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 12870

+ CLP Ag

********** EM-9 ANALYTICAL REPORT **********

Prepared by: BHEMBERGER on 30-Jan-1992

ANALYSIS: AG REQUEST NUMBER: 12448 MATRIX: W ANALYST: Barbara Hemberger PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FAA ANALYTICAL PROCEDURE: 272.1

CUSTOMER SAMPLES:

ppb

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-EW	92.00940	< 10.		UG/L	1/30/92	
PF-40-DEB	92.00941	< 10.		UG/L	1/30/92	

ok

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REPORT NUMBER: 12870 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: BHEMBERGER on 30-Jan-1992

REQUEST NUMBER: 12448 MATRIX: W ANALYST: Barbara Hemberger PROGRAM CODE: M94B

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.24356	795.	80.	UG/L	802.	35.	1/30/92	UNDER CONTROL
00.24370	478.	48.	UG/L	481.	21.	1/30/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.01034	798.	80.	UG/L	800.	34.	1/30/92	UNDER CONTROL

REPORT NUMBER: 12870

BH — Analyst — 1/30/92 Date

H. P — Section Leader — 1/30/92 Date

NK for MAG — QA Officer — 1/31/92 Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 14251

TCLP Ba, Cd, Cr, Pb

********** EM-9 ANALYTICAL REPORT **********

Prepared by: CB on 12-Jun-1992

REQUEST NUMBER: 12856 MATRIX: SE ANALYST: JANET MORGAN PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ICPES ANALYTICAL PROCEDURE: NOTEBOOK: A011276 PAGE: 82

CUSTOMER SAMPLES:

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	ppm UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06126	BA	0.68	0.07	MG/L	6/12/92	< 100 mg/L
PF-40-A-1	92.06126	CD	< 0.01		MG/L	6/12/92	< 1
PF-40-A-1	92.06126	CR	< 0.01		MG/L	6/12/92	< 1
PF-40-A-1	92.06126	PB	< 0.05		MG/L	6/12/92	< 5
PF-40-A-2	92.06127	BA	0.83	0.08	MG/L	6/12/92	
PF-40-A-2	92.06127	CD	< 0.01		MG/L	6/12/92	
PF-40-A-2	92.06127	CR	< 0.01		MG/L	6/12/92	
PF-40-A-2	92.06127	PB	< 0.05		MG/L	6/12/92	
PF-40-A-3	92.06128	BA	0.77	0.08	MG/L	6/12/92	
PF-40-A-3	92.06128	CD	< 0.01		MG/L	6/12/92	
PF-40-A-3	92.06128	CR	< 0.01		MG/L	6/12/92	
PF-40-A-3	92.06128	PB	< 0.05		MG/L	6/12/92	
PF-40-A-4	92.06129	BA	0.28	0.03	MG/L	6/12/92	
PF-40-A-4	92.06129	CD	< 0.01		MG/L	6/12/92	
PF-40-A-4	92.06129	CR	< 0.01		MG/L	6/12/92	
PF-40-A-4	92.06129	PB	< 0.05		MG/L	6/12/92	
PF-40-CH1-2	92.06130	BA	0.62	0.06	MG/L	6/12/92	
PF-40-CH1-2	92.06130	CD	< 0.01		MG/L	6/12/92	
PF-40-CH1-2	92.06130	CR	< 0.01		MG/L	6/12/92	
PF-40-CH1-2	92.06130	PB	< 0.05		MG/L	6/12/92	
PF-40-CH1-4	92.06131	BA	0.25	0.03	MG/L	6/12/92	
PF-40-CH1-4	92.06131	CD	< 0.01		MG/L	6/12/92	
PF-40-CH1-4	92.06131	CR	< 0.01		MG/L	6/12/92	
PF-40-CH1-4	92.06131	PB	< 0.05		MG/L	6/12/92	
PF-40-CH2-2	92.06132	BA	0.17	0.02	MG/L	6/12/92	
PF-40-CH2-2	92.06132	CD	< 0.01		MG/L	6/12/92	
PF-40-CH2-2	92.06132	CR	< 0.01		MG/L	6/12/92	
PF-40-CH2-2	92.06132	PB	< 0.05		MG/L	6/12/92	
PF-40-CH2-4	92.06133	BA	0.62	0.06	MG/L	6/12/92	
PF-40-CH2-4	92.06133	CD	< 0.01		MG/L	6/12/92	
PF-40-CH2-4	92.06133	CR	< 0.01		MG/L	6/12/92	
PF-40-CH2-4	92.06133	PB	< 0.05		MG/L	6/12/92	
PF-40-A-1-QA	92.06134	BA	0.71	0.07	MG/L	6/12/92	
PF-40-A-1-QA	92.06134	CD	< 0.01		MG/L	6/12/92	
PF-40-A-1-QA	92.06134	CR	< 0.01		MG/L	6/12/92	
PF-40-A-1-QA	92.06134	PB	< 0.05		MG/L	6/12/92	

rd. 6/15/

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REPORT NUMBER: 14251 (continued)

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 12-Jun-1992

REQUEST NUMBER: 12856 MATRIX: SE ANALYST: JANET MORGAN PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

NOTEBOOK: A011276 PAGE: 82

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.20333	BA	5.31	0.53	MG/L	5.	0.5	6/12/92	UNDER CONTROL
00.20333	CD	5.18	0.52	MG/L	5.	0.5	6/12/92	UNDER CONTROL
00.20333	CR	5.27	0.53	MG/L	5.	0.5	6/12/92	UNDER CONTROL
00.20333	PB	15.8	1.6	MG/L	15.	2.	6/12/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
[illegible]06145	BA	6.09	0.61	MG/L	5.6	0.2	6/12/92	UNDER CONTROL
[illegible]2.06145	CD	1.1	0.11	MG/L	1.08	0.05	6/12/92	UNDER CONTROL
92.06145	CR	1.28	0.13	MG/L	1.2	0.05	6/12/92	UNDER CONTROL
92.06145	PB	30.6	3.1	MG/L	29.4	1.3	6/12/92	UNDER CONTROL

REPORT NUMBER: 14251	Analyst	Reviewer	Section Leader	QA Officer
	CDM		R. P.	NK for MAG
	6/12/92		6/12/92	6/12/92
	Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 14229

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 11-Jun-1992

ANALYSIS: AS REQUEST NUMBER: 12856 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M9

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 206.2 NOTEBOOK: R7338 PAGE: 139

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06126	2.	2.	UG/L	6/11/92	
PF-40-A-2	92.06127	3.	2.	UG/L	6/11/92	
PF-40-A-3	92.06128	< 2.		UG/L	6/11/92	
PF-40-A-4	92.06129	< 2.		UG/L	6/11/92	
PF-40-CH1-2	92.06130	< 2.		UG/L	6/11/92	
PF-40-CH1-4	92.06131	< 2.		UG/L	6/11/92	
PF-40-CH2-2	92.06132	< 2.		UG/L	6/11/92	
PF-40-CH2-4	92.06133	< 2.		UG/L	6/11/92	
PF-40-A-1-QA	92.06134	< 2.		UG/L	6/11/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06126	< 2.		UG/L	6/11/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06126	100.	99.	UG/L	6/11/92	
PF-40-A-3	92.06128	100.	107.	UG/L	6/11/92	
PF-40-A-1-QA	92.06134	100.	104.	UG/L	6/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 11-Jun-1992

REQUEST NUMBER: 12856 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.25251	60.1	6.	UG/L	55.	2.4	6/11/92	UNDER CONTROL
00.25251	60.	6.	UG/L	55.	2.4	6/11/92	UNDER CONTROL

UMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.06147	59.	6.	UG/L	60.	2.6	6/11/92	UNDER CONTROL

REPORT NUMBER: 14229

Analyst	Reviewer	Section Leader	QA Officer
6-11-92		6-11-92	6-11-92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 14200

********** EM-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 9-Jun-1992

ANALYSIS: HG REQUEST NUMBER: 12856 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M9

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: CVAA ANALYTICAL PROCEDURE: 245.2 NOTEBOOK: Y04110 PAGE: 108

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06126	< 0.1		UG/L	6/08/92	
PF-40-A-2	92.06127	< 0.1		UG/L	6/08/92	
PF-40-A-3	92.06128	< 0.1		UG/L	6/08/92	
PF-40-A-4	92.06129	< 0.1		UG/L	6/08/92	
PF-40-CH1-2	92.06130	< 0.1		UG/L	6/08/92	
PF-40-CH1-4	92.06131	< 0.1		UG/L	6/08/92	
PF-40-CH2-2	92.06132	< 0.1		UG/L	6/08/92	
PF-40-CH2-4	92.06133	< 0.1		UG/L	6/08/92	
PF-40-A-1-QA	92.06134	0.1	0.1	UG/L	6/08/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-4	92.06129	< 0.1		UG/L	6/08/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-A-4	92.06129	2.	1.8	UG/L	6/08/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: EAJ on 9-Jun-1992

REQUEST NUMBER: 12856 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.23653	3.8	0.4	UG/L	4.	0.2	6/08/92	UNDER CONTROL
00.24494	6.5	0.7	UG/L	7.	0.41	6/08/92	UNDER CONTROL

MMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

There were no blind Quality Control materials run with the samples reported above for one of the following reasons:

___ Only qualitative data requested

___ Only Open (non-blind) QC samples run with this sample batch.

___ No QC samples run with this sample batch.

X No QC samples for this constituent and matrix type available within EM-9

3rd std

REPORT NUMBER: 14200

Analyst	Reviewer	Section Leader	QA Officer
MS	[illegible]	[illegible]	mag
6/8/92	6/8/92	6/8/92	6/10/92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

.e control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

REPORT NUMBER: 14232

********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 11-Jun-1992

ANALYSIS: SE REQUEST NUMBER: 12856 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: ETVAA ANALYTICAL PROCEDURE: 270.2 NOTEBOOK: R7338 PAGE: 139

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06126	9.	2.	UG/L	6/11/92	
PF-40-A-2	92.06127	8.	2.	UG/L	6/11/92	
PF-40-A-3	92.06128	< 2.		UG/L	6/11/92	
PF-40-A-4	92.06129	< 2.		UG/L	6/11/92	
PF-40-CH1-2	92.06130	< 2.		UG/L	6/11/92	
PF-40-CH1-4	92.06131	< 2.		UG/L	6/11/92	
PF-40-CH2-2	92.06132	< 2.		UG/L	6/11/92	
PF-40-CH2-4	92.06133	< 2.		UG/L	6/11/92	
PF-40-A-1-QA	92.06134	< 2.		UG/L	6/11/92	

CUSTOMER SAMPLE DUPLICATES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06126	< 2.		UG/L	6/11/92	

********** EM-9 ANALYTICAL REPORT **********

CUSTOMER SAMPLE MATRIX SPIKES :

CUSTOMER NUMBER	SAMPLE NUMBER	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06126	100.	78.	UG/L	6/11/92	
PF-40-A-3	92.06128	100.	81.	UG/L	6/11/92	
PF-40-A-1-QA	92.06134	100.	82.	UG/L	6/11/92	

********** EM-9 QUALITY ASSURANCE REPORT *********

Prepared by: MGBELL on 11-Jun-1992

REQUEST NUMBER: 12856 MATRIX: SE ANALYST: MICHAEL BELL PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.25251	84.3	8.4	UG/L	79.	3.4	6/11/92	UNDER CONTROL
00.25251	79.5	8.	UG/L	79.	3.4	6/11/92	UNDER CONTROL

UMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.06147	40.	4.	UG/L	40.	1.7	6/11/92	UNDER CONTROL

REPORT NUMBER: 14232

Analyst	Reviewer	Section Leader	QA Officer
6-11-92	6/11/92	6/11/92	6/11/92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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********** EM-9 ANALYTICAL REPORT **********

Prepared by: MGBELL on 8-Jun-1992

ANALYSIS: AG REQUEST NUMBER: 12856 MATRIX: SE ANALYST: BARBARA HEMBERGER PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

ANALYTICAL TECHNIQUE: FAA ANALYTICAL PROCEDURE: 272.1 NOTEBOOK: R7719 PAGE: 39

CUSTOMER SAMPLES:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
PF-40-A-1	92.06126	< 10.		UG/L	6/08/92	
PF-40-A-2	92.06127	< 10.		UG/L	6/08/92	
PF-40-A-3	92.06128	< 10.		UG/L	6/08/92	
PF-40-A-4	92.06129	< 10.		UG/L	6/08/92	
PF-40-CH1-2	92.06130	< 10.		UG/L	6/08/92	
PF-40-CH1-4	92.06131	< 10.		UG/L	6/08/92	
PF-40-CH2-2	92.06132	< 10.		UG/L	6/08/92	
PF-40-CH2-4	92.06133	< 10.		UG/L	6/08/92	
PF-40-A-1-QA	92.06134	< 10.		UG/L	6/08/92	

********** EM-9 QUALITY ASSURANCE REPORT **********

Prepared by: MGBELL on 8-Jun-1992

REQUEST NUMBER: 12856 MATRIX: SE ANALYST: BARBARA HEMBERGER PROGRAM CODE: M94A

OWNER: Philip R. Fresquez GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0815

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
00.24370	470.	47.	UG/L	481.	21.	6/08/92	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QC SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYTICAL RESULT	ANALYTICAL UNCERTAINTY	UNITS	QC VALUE	QC UNCERTAINTY	COMPLETION DATE	COMMENT
92.06148	0.997	0.098	MG/L	1.	0.04	6/08/92	UNDER CONTROL

REPORT NUMBER: 14171

Analyst	Reviewer	Section Leader	QA Officer
7/16/92	7/16/92	7/16/92	7-10-92
Date	Date	Date	Date

No Sample Discrepancies Noted by Sample Management Section

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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Closure Certification Report for the Technical Area 40 Scrap Detonation Site

Volume II

Prepared for:

Los Alamos National Laboratory
Los Alamos, New Mexico

Prepared by:

IT Corporation
557 Oppenheimer Road, Suite 200
Los Alamos, New Mexico 87544

March 1995

APPENDIX D

REMEDIAL ACTION PLAN (RAP)

REMEDIAL ACTION PLAN FOR FIELD ACTIVITIES AT THE TA-40 SCRAP DETONATION SITE

Prepared for:

Environmental Restoration Program
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Prepared by:

IT Corporation
557 Oppenheimer Road, Suite 200
Los Alamos, New Mexico 87544

December 9, 1994

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1.0 Introduction

The Los Alamos National Laboratory (LANL) Technical Area (TA)-40 Scrap Detonation Site (SDS) was used for the open burning and detonation of waste explosive material until April 1985. Earlier investigations of the site revealed that soils in the Burn Cage Area (BCA) and East Burn Area (EBA) were contaminated with lead and other heavy metals and required remediation. As a result, an amendment to the Final Closure Plan (FCP) was developed to address the clean-up of the BCA and EBA.

Closure activities at the TA-40 SDS were initiated by IT Corporation (IT) in September 1994 and entailed the removal and field screening of contaminated soil from the BCA and EBA. During the initial effort, the contaminated soil at the BCA was remediated as specified in the amendment to the FCP, although the area of contamination proved somewhat more extensive than originally indicated. Following removal of contaminated soil from the BCA, a verification sample was collected and sent to an off-site laboratory for total and Toxicity Characteristic Leacheate Procedure (TCLP) lead analyses. Analytical results demonstrated that remediation of the BCA was successful.

Excavation began at the EBA as per the FCP amendment but was suspended when it was discovered that the area of contamination was considerably more extensive than the "approximately 6 x 6-foot-area" indicated in the FCP amendment. This Remedial Action Plan (RAP) was developed to outline the specific remediation activities that will be performed to complete closure of the TA-40 SDS.

2.0 Purpose and Scope

The purpose of this RAP is to present the specific field activities that will be performed in order to complete the remaining remediation activities at the TA-40 SDS and thereby complete closure of the site. This plan, in conjunction with the Waste Management Plan (WMP) and Site-Specific Health and Safety Plan (SSHASP), will serve as the guiding document for the execution of field activities at the TA-40 SDS. All IT personnel, as well as any subcontractors to IT, will abide by the provisions contained herein.

3.0 Field Activities at the TA-40 SDS

This section presents the general field activities that will be performed in order to complete closure of the TA-40 SDS.

3.1 Mobilization and Site Set-up

The initial task associated with the remediation of the TA-40 SDS will be the mobilization and set-up of the equipment, supplies, and support vehicles necessary to perform the remediation activities. Among the major items to be mobilized and set-up at the site will be a

command/office trailer, a Caterpillar 426 backhoe, two pick-up trucks which will transport much of the smaller equipment and supplies, portable generators, and the Energy Dispersive X-Ray Fluorescence (EDXRF) instrumentation. Most of the remaining equipment and supplies mobilized will be comprised of safety equipment and other support items.

Once all personnel and equipment are on site and after a pre-job safety briefing has been given, actual site set-up activities will commence. The primary objectives during site set-up will be placement and electrical hook-up of the command/office trailer, delineation of the various work zones at the site (i.e., exclusion zone (EZ), contamination reduction zone (CRZ), and support zone), unpacking and checking of support equipment and supplies, and set-up and checking of safety-related equipment. As part of set-up operations, all vital equipment, particularly safety equipment, will be checked for proper operation. Actual remediation operations will not commence until all mobilization and site set-up activities have been completed.

3.2 Contaminated Soil Removal

Following completion of all site set-up activities, the initial task will be the excavation of soils that are visually contaminated and identified as contaminated by field screening using EDXRF instrumentation. The area of concern at the EBA is the approximately 15- by 15- by 4-foot deep area identified during the initial excavation effort. Soil will be removed using a backhoe and placed in visqueen-lined rolloff bins which will be situated near the excavation to minimize spread of potentially contaminated soils. In addition, visqueen will be placed on the ground beneath the swing radius of the backhoe to control the spread of potentially contaminated soil. Excavation will proceed in one-foot lifts until field screening (Section 3.3) and visual assessment indicate that the contamination has been successfully removed. Soil placed in the rolloff bins will be adequately protected from weather and/or other disturbance to prevent release to the environment.

3.3 Field Screening

Field screening of soils will be performed concurrently during soil excavation operations using EDXRF instrumentation. Personnel will collect soil screening samples at each one-foot lift to determine whether contaminated soil has been adequately removed. A grid system will be established once the actual size of the sample area is determined. For each lift, four randomly determined locations and two biased locations (i.e., soil from visually contaminated areas) within the grid will be sampled. Screening samples will be collected in small (approximately 150 gram), disposable containers and transferred to the on-site screening area for analysis immediately following collection.

If any of the six field screenings from a particular lift indicate total lead concentrations in excess of 100 parts per million (ppm), then the entire lift will be considered contaminated. The excavation will then be advanced to the next one-foot interval and the field screening process repeated. Conversely, if none of the six field screenings from a particular lift indicate total lead concentrations greater than 100 ppm, then four additional, randomly selected field screenings will be collected. If the four additional field screenings also indicate total lead concentrations less than 100 ppm, then the entire lift will be considered "clean" and verification sampling will be

performed. Otherwise the excavation will continue and the field screening process repeated.

Data generated during field screening activities will later be used in determining the appropriate number of waste characterization samples to be collected.

3.4 Soil Sampling

Two types of soil sampling will be performed at the conclusion of excavation operations: waste characterization sampling and remediation verification sampling. Waste characterization sampling will be performed on the soil that was placed in the rolloff bins in order to properly identify the waste for shipping and disposal purposes. All waste characterization sampling will be accomplished as directed in the LANL-approved, site-specific WMP.

Once field screening indicates that a particular lift is "clean," five verification samples will be collected to confirm that the area was remediated to the pre-determined level. Sampling locations will be determined by dividing the final lift into four, roughly equal areas. One sample will be collected from the center of each of the four areas and one sample will be collected from the center of the lift itself. Verification samples will be sent to an off-site analytical laboratory to be analyzed for total and TCLP lead.

3.5 Excavation Backfill and Site Restoration

Site restoration will consist of restoring the work site to its original condition to the extent possible. This will primarily involve backfilling and re-grading both the BCA and EBA to contours consistent with the surrounding terrain. Backfill material, consisting of clean, crushed tuff material and/or commercially available fill material, will be placed in each of the excavations and compacted in one-foot lifts. Compaction will be accomplished by compressing the fill material in the excavation using the bucket of the backhoe and/or by driving the backhoe over the area. Following backfill operations, the BCA and EBA will be seeded with native plant species to promote revegetation. Additional site restoration activities will include the removal of debris and other work-related materials and equipment from the work area. Backfill operations and final site restoration activities will not be performed until verification sample analyses have been received and reviewed by IT and LANL personnel.

3.6 Decontamination Activities

Decontamination of personnel and equipment will be performed throughout the duration of field activities at the TA-40 SDS to prevent the spread of contaminated or potentially contaminated materials into areas outside the EZ. Three types of decontamination activities will be carried out at the work site: (1) decontamination of personnel and small equipment leaving the EZ; (2) decontamination of large equipment using a high-pressure sprayer; and (3) decontamination of equipment used to collect verification soil samples. Specific decontamination procedures are given in the SSHASP and site-specific WMP.

Various project equipment/items may also require additional decontamination prior to removal from the site if radiological screening, performed by LANL Environment, Safety, and Health

(ESH-1) personnel, indicates contamination. If necessary, radiological decontamination of equipment/items will be accomplished using the procedures for chemical decontamination specified in the SSHASP. The disposition of any radiologically-contaminated equipment/items will be determined by ESH-1 personnel.

3.7 Disposition of Wastes Generated at the TA-40 SDS

Wastes generated as a result of field activities at TA-40 will include hazardous or potentially hazardous solid wastes (e.g. personal protective equipment), hazardous or potentially hazardous liquid wastes generated through decontamination activities, and non-hazardous solid wastes. All potentially hazardous and non-hazardous wastes generated as a result of remediation activities at the TA-40 SDS will be handled, managed, and disposed of in accordance with the provisions given in the site specific WMP.

3.8 Demobilization

Demobilization involves the removal of all project-related equipment, supplies, and personnel from the TA-40 SDS. Equipment/items used at the site may be demobilized all at once at the end of the project or whenever they are no longer needed for site operations. Prior to removal from the site, all potentially contaminated equipment/items will be decontaminated or disposed of as appropriate. Additionally, ESH-1 personnel may perform radiological release of some or all of the equipment/items used on site.

APPENDIX E

WASTE MANAGEMENT PLAN (WMP)

Document:	LANL TA-40 SDS WMP
Revision No.:	0
Date:	December 1, 1994

SITE-SPECIFIC WASTE MANAGEMENT PLAN

TECHNICAL AREA 40 SCRAP DETONATION SITE

IT CORPORATION
LOS ALAMOS, NEW MEXICO

December 1994

REVISION 0

WASTE MANAGEMENT PLAN REVIEW
TECHNICAL AREA 40 SCRAP DETONATION SITE
FIELD ACTIVITIES, 1994

CST-17	Signature	12/1/94 Date
CST-17	Signature	12/1/94 Date
Pat Shanley ESH-19	Signature	12-1-94 Date
Dave McInroy Project Leader	Signature	12/6/94 Date
Andrew Norris ER/EM	Signature	12-5-94 Date

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ACRONYM LIST

AP	Administrative Procedure
AR	Administrative Requirement
BCA	Burn Cage Area
BCAD	Burn Cage Area Drum
COC	contaminant of concern
CST	Chemical Science and Technology Division
CST-5	Chemical and Mixed Waste Science Group
CST-14	Solid Radioactive Waste Management Group
CST-17	Waste Services Group
CWDR	Chemical Waste Disposal Request
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EBA	East Burn Area
EBAD	East Burn Area Drum
EES	Earth and Environmental Science Group
EDXRF	energy dispersive x-ray fluorescence
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
ER/EM	Environmental Restoration/Environmental Management
ESA	Engineering Science and Applications Group
ESA-DE	Engineering Science and Applications, Design and Engineering Group
ESH	Environment Safety and Health Division
ESH-5	Industrial Hygiene Group
ESH-19	Hazardous and Solid Waste Group
EZ	exclusion zone
FTL	Field Team Leader
LANL	Los Alamos National Laboratory
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MSDS	Material Safety Data Sheet
PPE	personnel protective equipment

ACRONYM LIST (Continued)

ppm	part per million
RCRA	Resource Conservation and Recovery Act
SDS	Scrap Detonation Site
SOP	Standard Operating Procedure
SSHASP	site-specific Health and Safety Plan
SSO	Site Safety Officer
TA	Technical Area
TCLP	toxicity characteristic leachate procedure
WAC	waste acceptance criteria
WMP	Waste Management Plan
WPF	Waste Profile Form

1.0 ACCEPTABLE KNOWLEDGE

1.1 Introduction

The Waste Management Plan (WMP) presented herein describes procedures to be implemented during generation, handling, temporary storage, and shipping of materials accumulated during field activities at the Technical Area (TA) 40 Scrap Detonation Site (SDS) at the Los Alamos National Laboratory (LANL). All potential wastes will be managed in accordance with LANL-Environmental Restoration (ER)-Administrative Procedure (AP)-05.3 *Management of Environmental Restoration Program Wastes* and generated within guidelines set forth in LANL-Administrative Requirement (AR)-10-8 *Waste Minimization*. All field investigation activities will be performed within the health and safety requirements provided in the site-specific Health and Safety Plan (SSHASP).

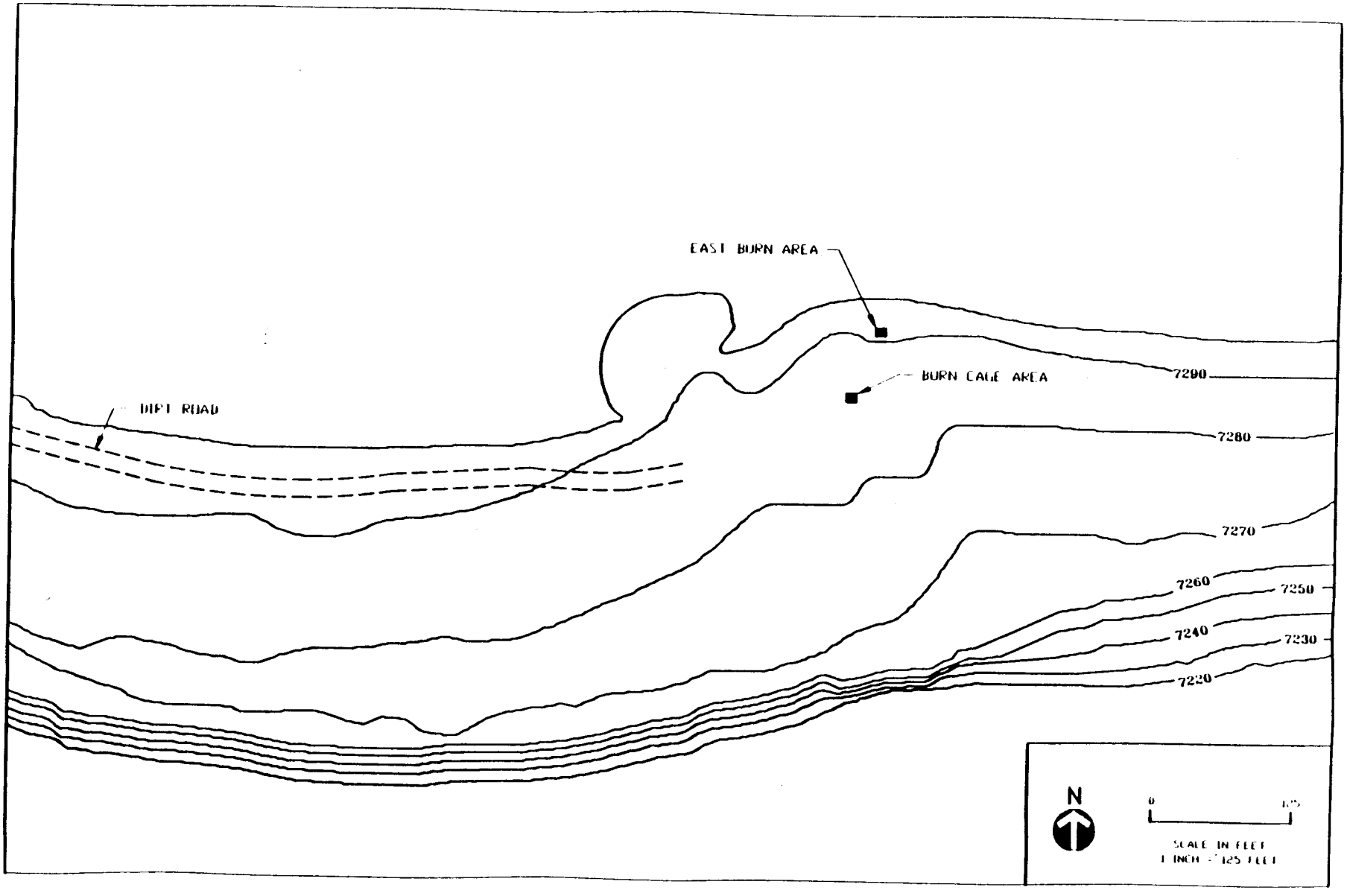
1.2 Site Description and History

The TA-40 SDS, located on a south-facing mesa-rim shelf, includes a burn area, a detonation area, and the surrounding area. The shelf has cliffs both to the north, below the mesa top, and to the south overlooking Pajarito Canyon.

The burn area consists of four elements: a former trench, whose exact dimensions and location are unknown; a wire cage approximately 4- by 4- by 5-feet (ft) high, with a steel plate floor, used to contain the materials being burned; and two small (approximately 6- by 6-ft) burn areas. This WMP addresses field activities confined to remediation of the current burn cage location, and the eastern-most burn area (East Burn Area [EBA]) (Figure 1).

TA-40 SDS operational dates are unknown, but are believed to have begun sometime after 1961. Thermal treatment operations at the site were discontinued on April 12, 1985.

The burn cage was used to dispose of trash suspected of explosives contamination and other combustible wastes. The wastes were stacked in the cage and burned, using kerosene to ensure complete burning. Burning was initiated using explosive detonators set off remotely.



TA-40 SCRAP DETONATION SITE
FIGURE 1

1.3 Scope of Work

This WMP addresses two issues. First, the disposal of approximately 40, 55-gallon drums of contaminated soil, personnel protective equipment (PPE), and decontamination water from the first phase of remediation at the site. The drums were filled in late September 1994, and are currently stored at the site in a <90 day storage area approved by the Hazardous and Solid Waste Group (ESH-19) (Site ID #1204).

Second, removal and disposal of contaminated soil from an area approximately 15- by 15- by 4-ft deep, that is scheduled for excavation in November 1994. Based on field analysis performed on samples collected with a hand auger, some of the soil in the EBA has been determined to be contaminated and will be removed from the EBA using a backhoe, and containerized appropriately. Samples will be collected and submitted to an offsite analytical laboratory to determine proper shipping and disposal of the soil. Once the analytical results are received, the waste will be disposed of in accordance with ESH-19, Chemical and Mixed Waste Science Group (CST-5), Solid Radioactive Waste Management Group (CST-14), Waste Services Group (CST-17), ER Program procedures, policies, standard operating procedures, and directives.

1.4 Hazardous Constituents

Based on historical sampling, lead was identified as the only potential contaminant of concern (COC) at the TA-40 SDS EBA. Additional sampling will be performed for waste characterization. Upon receipt of analytical results, a Waste Profile Form (WPF) shall be completed and submitted to ESH-19 (after January 1, 1995 submit to CST-17) where applicable Resource Conservation and Recovery Act (RCRA) waste codes will be assigned.

1.5 Radionuclides

No radioactive elements have been reported at the site. However, radiological monitoring will be performed for health and safety purposes and the Mobile Radiological Analysis Lab will be used for radiological screening for waste management purposes.

2.0 WASTE CHARACTERIZATION SAMPLING AND ANALYSIS PLAN

2.1 Investigation Derived Waste

This WMP addresses wastes generated during the remediation and closure of the TA-40 SDS. Wastes produced during the investigation of the site have already been appropriately managed.

2.2 Remediation Waste

This section will present the approach to waste characterization at the TA-40 SDS. Waste streams, waste stream quantities and characterization methods are summarized in Table 2-1.

2.2.1 Characterization of Soil Previously Excavated

In September 1994, soil was excavated from two sites at the TA-40 SDS. Nine drums were filled with soil from the EBA, and 26 drums were filled with soil from the Burn Cage Area (BCA). One sample from each drum was collected and analyzed in the field using energy dispersive x-ray fluorescence (EDXRF). The field screening data for lead were used to estimate the number of samples required to characterize the waste based on U.S. Environmental Protection Agency (EPA) guidance presented in Chapter 9 of SW-846, and LANL's draft "Guidance on Sampling Procedures for ER Waste Characterization," dated October 17, 1994.

The field screening data (in mg/kg) were converted to an equivalent, theoretical toxicity characteristic leachate procedure (TCLP) concentration (in mg/L) based on the assumption that all of the lead is leachable, therefore using a dilution factor of 20 (the field-detected concentration was divided by 20). Using the theoretical TCLP values thus obtained, the average concentration and variance were estimated and used in Formula 8 (Table 9-1 of SW-846). Calculation results indicated one sample was required to characterize the nine drums, and 442 samples for the 26 drums. As the cost of analyzing 442 sampies far exceeds the estimated cost of disposal of the 26 drums as hazardous waste, the situation was reevaluated.

TABLE 2-1

TA-40 SCRAP DETONATION SITE
WASTE STREAM DESCRIPTION, QUANTITIES AND CHARACTERIZATION METHODS

Waste Stream	Quantity to be Generated	Information Used in Characterization
Lead contaminated soil generated during the remediation and closure of the TA-40 Scrap Detonation Site	Currently onsite there are 35, 55-gallon drums of contaminated soil. Future closure activities may produce approximately 45 cubic yards of soil that will be placed in rolloff boxes.	TCLP Metals TCLP Volatiles TCLP Semi-Volatile Organics TCLP Pesticides TCLP Herbicides Gross Alpha/Beta/Gamma and tritium
Personnel Protective Equipment (PPE)	Approximately 4, 55-gallon drums	Use soil data for characterization
Decontamination Water	Approximately 10, 55-gallon drums	Use soil data for characterization

TABLE 2-2

SAMPLES REQUIRED TO CHARACTERIZE WASTE IN THE EAST BURN AREA DRUMS (EBAD)

Drum Number	Lead Concentration (mg/kg)	Lead Avg. Conc. (mg/kg)	Lead TCLP (est., mg/L)
EBAD1	770 793 766	776	39
EBAD2	109 126 123	119	6
EBAD3	304 302 273	293	15
EBAD4	850 846 868	855	43
EBAD5	81 95 87	88	4
EBAD6	1781 1893 1764	1813	91
EBAD7	1602 1586 2112	1767	88
EBAD8	1906 1791 1752	1816	91
EBAD9	1234 1278 1268	1260	63
	Overall average ($\bar{x}$)=		49
	Standard deviation (s)=		36
		t=	1.397
		cl=	5
		and so, n=	1

Calculation of n: $n = \frac{t^2 \times s^2}{(cl - \bar{x})^2}$

where: n is the number of samples;
t is Student's t statistic for n-1 degrees of freedom; s^2 is the population variance;
cl is the concentration limit (regulatory); and $\bar{x}$ is the population average.

The lead toxicity characteristic leaching procedure (TCLP) concentration is found by dividing the average concentration by 20.

TABLE 2-3
SAMPLES REQUIRED TO CHARACTERIZE WASTE IN THE BURN CAGE AREA DRUMS (BCAD)

Drum Number	Lead Concentration (mg/kg)	Lead Avg. Conc. (mg/kg)	Lead TCLP (est., mg/L)	Drum Number	Lead Concentration (mg/kg)	Lead Avg. Conc. (mg/kg)	Lead TCLP (est., mg/L)
BCAD1	168			BCAD15	102		
	221				87		
	202	197	10		96	95	5
BCAD2	173			BCAD16	95		
	145				67		
	136	151	8		91	84	4
BCAD3	57			BCAD17	125		
	83				85		
	88	76	4		100	103	5
BCAD4	84			BCAD18	121		
	93				91		
	101	93	5		96	103	5
BCAD5	57			BCAD19	104		
	87				75		
	68	71	4		93	91	5
BCAD6	68			BCAD20	91		
	80				118		
	90	79	4		98	102	5
BCAD7	106			BCAD21	98		
	77				102		
	88	90	5		92	97	5
BCAD8	65			BCAD22	69		
	64				127		
	94	74	4		108	101	5
BCAD9	92			BCAD23	61		
	98				60		
	74	88	4		106	76	4
BCAD10	109			BCAD24	97		
	60				132		
	81	83	4		76	102	5
BCAD11	67			BCAD25	84		
	54				115		
	66	62	3		133	111	6
BCAD12	81			BCAD26	173		
	104				144		
	63	83	4		154	157	8
BCAD13	89			Overall average ($\bar{x}$)=			5
	74			Standard deviation (s)=			2
	84	82	4				
BCAD14	108					t=	1.316
	93					cl=	5
	99	100	5			and so, n=	442

Calculation of n: $n = \frac{t^2 \times s^2}{(cl - \bar{x})^2}$

where n is the number of samples;
t is Student's t statistic for n-1 degrees of freedom; s^2 is the population variance;
cl is the concentration limit (regulatory); and $\bar{x}$ is the population average.

The lead toxicity characteristic leaching procedure (TCLP) concentration is found by dividing the average concentration by 20.

The EDXRF sampling results determined that two of the drums from the EBA (drums EBAD2 and EBAD5) have lead concentrations consistent with concentrations found in the drums from the BCA; all of the other EBA drums have lead concentrations significantly higher (Table 2-2 and Table 2-3). Drums EBAD2 and EBAD5 will be grouped with the BCA drums for the following reasons (hereafter the 26 BCA drums and the 2 EBA drums will be collectively referred to as the 28 BCA drums):

- activities conducted and materials burned at the EBA and the BCA are believed to have been similar
- the soil excavated from both areas was visually similar
- lead concentrations for drums EBAD2 and EBAD5 are consistent with lead concentrations from the BCA drums
- segregation of wastes based on similar historical process and contaminant concentration is desirable for waste minimization purposes
- removing drums EBAD2 and EBAD5 from the EBA sample population will reduce the variance for the EBA, and will not adversely impact the variance of the BCA sample population.

The average theoretical TCLP lead concentration in the soil from the BCA is, to one significant digit, the same as the regulatory level of 5 mg/L. It is expected that the lead will not be completely leachable, and the analytical results will show that the actual TCLP lead concentrations will be significantly lower than the estimated theoretical concentration. As a result, the analysis of a limited number of samples are expected to adequately characterize the soil. Based on this assumption and the high analytical cost of 442 samples, the decision was made to collect only four samples for analysis.

2.2.1.1 Sampling Approach

Each group of drums (Group 1 consisting of the 7 drums from the EBA and Group 2 consisting of the 26 drums from the BCA and 2 drums from the EBA [EBAD2 and EBAD5]) will be separated into two strata based upon concentrations. Group 1 stratum 1 will be comprised of drums EBAD6, EBAD7, and EBAD8. Group 1 stratum 2 will be comprised of drums EBAD1, EBAD3, EBAD4, and EBAD9. Group 2 stratum 1 will

contain drums EBAD5, BCAD3, BCAD5 through BCAD13, BCAD16, BCAD19, and BCAD23. Group 2 stratum 2 will consist of the rest of the BCA drums, including EBAD2.

Based on historical knowledge of site activities, analytical results from previous characterizations, and field screening for volatile organics during excavation, no organic contamination is expected to be associated with either group of drums. However, for required waste characterization information, one sample from each of the four strata will be analyzed for the entire suite of TCLP constituents. To provide more complete information on the contaminant of concern (lead), one additional sample from each of the four strata will be analyzed by the TCLP for lead only. A total of eight samples will be analyzed, four from the EBA and four from the BCA.

2.2.1.2 Full Suite TCLP Samples

To minimize the chances for loss of volatiles, the full suite TCLP samples will not be composited. The drums within each of the four strata will be numbered consecutively, beginning with the number 1. One drum from each of the strata will be selected, using standard techniques involving random number tables or a random number generator (if a random number generator is used, the algorithm and selection of "seed" value will be documented in the final closure report). The selected drum sampling will involve hand auguring down at the center of the drum, and selection of three subsamples from the resulting core (one each from the bottom, middle, and top of the core), placing the subsamples (without mixing) into a single container, and sealing the container using appropriate protocols for samples containing volatiles.

2.2.1.3 Lead-Only TCLP Samples

A composite sample will be collected from each of the four strata for lead-only analysis by the TCLP. The Group 1 stratum 1 sample will be composited from all three drums, and the Group 1 stratum 2 sample will be composited from all four drums. Three subsamples will be collected from each drum, as described for the full suite TCLP samples. To sample the BCA drums, four drums from Group 2 stratum 1, and four drums from Group 2 stratum 2 will be randomly selected, and a sample composited from the selected drums within each strata as described above.

2.2.1.4 Sampling for Radioactivity

A sufficient quantity of sample will be collected during sampling for full suite TCLP and lead-only TCLP to "split" each sample. No above-background radioactivity is expected to be present at the site; however, to be protective of human health and the environment, and to satisfy LANL's Waste Acceptance Criteria (WAC), the splits from one hundred percent of the samples will be sent to LANL's field radiological laboratory for gross alpha, beta, gamma, and tritium screening.

2.2.1.5 Evaluation of Analytical Data

Upon receipt of the waste characterization analytical results, each constituent will be evaluated using the procedures outlined in Chapter 9 of SW-846 and the current draft of LANL's "Guidance on Sampling Procedures for ER Waste Characterization" to determine if a sufficient number of samples were analyzed. If additional samples are indicated, Waste Management, ER, and other appropriate representatives will meet to determine whether additional analytical costs are justified. An alternative to additional sampling would be to handle and dispose of the soil as if the contaminant concentrations in all the drums were as high as the highest detected concentrations.

2.2.2 Additional Excavation

During the previous excavation, a contaminated area approximately 15- by 15- by 4-ft deep was discovered adjacent to the EBA. It is anticipated that excavation of the additional soil will generate approximately 45 cubic yards of waste, which will be placed into four rolloff bins. It is possible that additional contaminated soil will be found and removed during the excavation activities. Two samples were collected from within the newly discovered area and analyzed for metals using the TCLP in October 1994. The TCLP analysis found lead at concentrations of 49 and 11 mg/L, well above regulatory levels. None of the other metals exceeded the TCLP regulatory levels.

The soil will be excavated based on visual contamination. During excavation, a number of samples will be collected for field screening using the EDXRF. The field screening data will be used to (1) provide input to the SW-846 equations to determine the number of fixed-laboratory analytical samples needed for characterization of the waste; (2) gain

information on the homogeneity of the waste in each rolloff bin and between rolloff bins; and (3) determine when all contaminated soil has been removed.

The homogeneity of the material within the rolloff bins and between the rolloff bins will be evaluated based on visual observation of the soil as it is placed in the bins, along with the results of the field screening. If there is low confidence in the homogeneity between the bins, a minimum of four samples will be collected from each bin. The bins will be divided into a three dimensional grid, and sample locations within the bins will be selected through the use of random number tables or a random number generator using standard methods as outlined in Chapter 9 of SW-846. One of the four samples will be a grab sample, and will be analyzed for the full suite of TCLP constituents. The other three samples will be composited from within the bin, and analyzed by the TCLP for lead only.

If the material is believed to be fairly homogeneous between the bins, one sample each for full suite TCLP (grab sample) and lead only TCLP (composite sample) from each bin may be considered representative of all of the soil excavated, and used to characterize the waste. A minimum of two samples will be collected from each bin. Sampling locations within the bins will be chosen randomly as described above.

When the fixed-laboratory analytical results are received, the data will be evaluated using guidance in SW-846 to determine if a sufficient number of samples were collected. If additional samples are indicated, Waste Management, ER, and other appropriate representatives will meet to determine whether additional analytical costs are justified. An alternative to additional sampling would be to handle and dispose of the soil as if the contaminant concentrations in all the bins were as high as the highest detected concentrations.

2.3 Radionuclides

No radioactive elements have been reported at the site. However, radiological monitoring will be performed for health and safety purposes and the Mobile Radiological Analysis Lab will be used for radiological screening for waste management purposes.

3.0 PERSONNEL

The personnel assigned to waste management responsibilities for the TA-40 SDS field activities are provided in the following sections along with a summary of their respective duties. All IT field personnel training records will be maintained at IT's Los Alamos office.

3.1 Waste Generator

The Waste Generator for the TA-40 SDS field activities is Edward Essington, Earth and Environmental Science Group (EES-15). The responsibilities of the Waste Generator include:

- ensuring compliance with LANL waste management policies and procedures;
- establishing and managing waste storage area(s);
- assisting in identifying waste minimization opportunities;
- ensuring waste characterization is completed in a timely and cost-efficient manner;
- initiating waste profile and disposal requests;
- complying with WAC; and
- reviewing and signing all WPFs and Chemical Waste Disposal Request Forms (CWDR).

3.2 Waste Management Coordinator

The Waste Management Coordinator for the TA-40 SDS field activities is Edward Essington, EES-15. The responsibilities of the Waste Management Coordinator include:

- functioning as the primary contact with Environment Safety and Health (ESH) and Chemical Science and Technology (CST) Divisions of LANL;
- ensuring that waste collection and storage areas are regularly inspected and safe;

- ensuring that site documentation and storage inspection reports are properly prepared and submitted to appropriate divisions, as required;
- ensuring compliance with appropriate regulations and LANL policies and procedures;
- reviewing and signing all WPFs and CWDRs; and
- oversight of waste generation activities.

3.3 On-Site Waste Manager

The On-site Waste Manager for the TA-40 SDS field activities is Glenn VanDerpoel. The responsibilities of the On-site Waste Manager include:

- assisting the waste generator and waste management coordinator as needed;
- maintaining an On-site Waste Manager log book;
- ensuring waste minimization practices are followed;
- ensuring that the proper waste containers are used;
- ensuring that waste containers are properly labeled;
- performing periodic inspections of the on-site temporary drum storage area;
- ensuring that copies of characterization documentation (e.g., Chain-of-Custody Forms, Material Safety Data Sheets [MSDS]) are attached to waste containers, as appropriate;
- ensuring that containers are properly closed and secured;
- ensuring that the Waste Management Coordinator's instructions to field personnel are followed; and
- ensuring that this WMP is followed.

3.4 Field Team Leader

The Field Team Leader (FTL) for the TA-40 SDS field activities is Glenn VanDerpoel. The responsibilities of the FTL include:

- ensuring that the WMP is implemented by the field team members and subcontractors;
- providing guidance on U.S. Department of Transportation (DOT) issues that arise on-site as waste materials and samples are relocated or transported off site;
- ensuring that trained and competent personnel are on-site.

3.5 Site Safety Officer

The IT Site Safety Officer (SSO) for the TA-40 SDS field activities is Troy Winton. The responsibilities of the SSO include:

- ensuring that all personnel are trained in appropriate safety procedures, are familiar with the SSHASP, and that all safety procedures are followed during field activities;
- performing and documenting initial inspections of all site equipment;
- conducting daily health and safety briefings for field team members; and
- performing field screening of materials for organic vapors and gross alpha and beta/gamma radiation.

The LANL SSO for the TA-40 SDS field activities is George Marino, Industrial Hygiene Group (ESH-5).

3.6 Radiation Screening Personnel

The IT SSO will perform all on-site radiological field screening.

4.0 WASTE MINIMIZATION

4.1 General Procedures

In accordance with LANL AR 10-8, LANL-ER-AP-05.3, and U.S. Department of Energy (DOE) waste minimization directives, all activities will be planned and performed in a manner that will minimize the generation of waste during the TA-40 SDS field activities. The practices that will minimize the accumulation of waste include the following:

- segregation of materials by waste type based on field screening and field analysis;
- segregation of sanitary waste from potentially-contaminated materials;
- re-use of disposable equipment, if possible;
- pre-job and daily tailgate briefings on minimization requirements; and
- practice of contamination avoidance.

4.2 Field Screening and Field Analysis

Field screening of soil will be performed on-site by trained field personnel for the presence of lead. Field instrumentation will be used to confirm visual identification of the contaminated soil during excavation by the backhoe.

4.3 Field Packaging

Materials will be segregated in the field according to field-screening and field-analytical results. The contaminated soil will be excavated using a backhoe and placed in plastic-lined rolloff boxes; covered for weather protection, and labelled appropriately.

Following completion of each workshift, PPE and other disposables that have been in direct contact with contaminated materials will be inspected for visible contamination; if contamination is determined then waste will be placed into sealable plastic bags, labeled with the date, and placed in a drum. Disposables (i.e., PPE) that have not been in contact with contaminated materials, and which visual inspection does not indicate contamination, will be contained in double plastic bags and placed in a municipal refuse dumpster. Non-contaminated materials that have been kept separated from contaminated materials will be disposed of as municipal refuse waste.

4.4 Municipal Refuse Waste

All material known not to be contaminated, such as visibly non-contaminated PPE, lunch wrappers, cans, office paper, equipment packaging, and wrapping is referred to as municipal refuse waste. Municipal refuse waste will be segregated from other waste in drum liners or plastic bags to minimize the potential for contamination and will be

disposed of with other non-contaminated materials. The On-site Waste Manager will record disposal of non-contaminated exclusion zone (EZ) waste and the knowledge of process associated with that material.

4.5 Reusing Disposable Equipment

As part of the Spill Prevention, Control, and Countermeasures Implementation Plan, plastic sheeting will be placed beneath the backhoe to minimize potential contamination of the equipment and to contain potential equipment leaks or fuel spills. If the backhoe needs to be moved during the excavation, the plastic sheeting will be reused if not torn or contaminated. At completion of excavation activities, the plastic sheeting will be evaluated and disposed of in the rolloff box, if contaminated, and with the municipal trash if non-contaminated.

4.6 Waste Minimization Training

Waste minimization will also be emphasized at tailgate meetings. Site workers will be reminded to keep materials and working areas clean and free of excess debris that could become contaminated. Personnel will be instructed on limiting personal and equipment contact with potentially-contaminated materials. All field team members will have read this WMP, the appropriate AR's and AP's, and will be encouraged to recommend alternate or additional site procedures that may increase waste minimization effectiveness.

5.0 DECONTAMINATION

Non-disposable sampling and excavating equipment that has been in contact with surface and/or subsurface materials will be decontaminated between sample locations, and at the end of the task, to prevent 1) potentially contaminated materials from leaving a sample location, 2) cross-contamination between sample locations, 3) to ensure sample integrity, and 4) to protect the health and safety of field personnel. The decontamination procedures that will be performed are described in the following sections.

5.1 Chemical Decontamination

Sampling equipment may be pressure washed or bucket washed and rinsed. Temporary chemical decontamination facilities, including an excavation equipment decontamination

pad and sampling-equipment decontamination stations, will be constructed at the site. These decontamination facilities are discussed in the following sections.

5.2.1 Excavation Equipment Decontamination Pad

The excavation equipment (backhoe) decontamination pad will be constructed of a double-lined contained area with a sump at one end to collect fluids. The sump will be created simply by utilizing the surface grade. The liner will consist of a heavy-duty plastic sheet (6 mil or greater thickness) of a length and width greater than the size of the backhoe. The plastic sheet edges will be bermed using timbers, pipes, or other similar materials. The backhoe will be driven on to the pad and pressure washed. A sump pump attached to a hose will be used to transfer sump fluids to a nearby closed-top, bunged 55-gallon steel drum. Backhoe decontamination (i.e., pressure washing) will be performed prior to de-mobilizing from the site. However, high levels of contamination detected during field activities may warrant additional backhoe decontamination.

5.2.2 Sampling Equipment Decontamination Stations

Non-dedicated sampling equipment will be decontaminated between samples (if sufficient quantities of sampling equipment are available), as necessary. In either case, decontaminated ("clean") equipment will be utilized to obtain each sample. Decontamination stations will be located near the excavation to facilitate sampling-equipment decontamination. Decontamination procedures will be performed sequentially at stations consisting of a Liqui-nox® (or equivalent)/potable water wash station, a potable water rinse station, and a final de-ionized water rinse station. Heavy-duty plastic sheeting will be placed beneath all four stations to catch spilled liquids. Edges of the sheeting will be bermed using timbers, piping, or other similar material. Wash and water rinse stations will use 5-gallon plastic buckets, long-handled brushes and multi-gallon sprayers. Sampling-equipment will be submerged in the bottom of the buckets, if possible, while washing and rinsing to minimize splashing and spilling of fluids. The wash water and potable rinse water will be collectively transferred to an appropriately labeled closed-top, bunged, 55-gallon steel drum, as necessary.

6.0 MATERIAL AND WASTE HANDLING

This section presents a discussion of the types and quantities of materials that will be generated; procedures for drum labeling, transport and temporary storage; characterization procedures for investigation-derived materials; and waste transport to storage/disposal locations.

6.1 Types and Quantities of Materials Generated

The types of waste materials that will be generated during field activities at the TA-40 SDS will include both solid and liquid waste materials. All field activities will be conducted in accordance with ESH-19, CST-5, CST-14, CST-17, and ER Program procedures, and DOE waste minimization directives.

Solid materials generated may include:

- disposable personnel protective equipment;
- spill-prevention plastic;
- sample residues and excavation material; and
- wastes generated outside the contamination reduction or exclusion zones.

Liquids generated may include:

- de-ionized water; and
- Liqui-nox® (or equivalent), potable water, and steam-cleaning condensate.

The total volume of solid materials anticipated to be generated during the site investigation is estimated to be approximately 55 cubic yards.

The total volume of liquid material anticipated to be generated during the site investigation is estimated to be approximately 10 55-gallon drums. Approximately 10 of these drums will be pressure washing rinsate and wash/rinse water.

6.2 Container Labeling

All materials generated during the site investigation, including PPE, other disposable items, and liquid wastes will be placed into DOT-approved containers (e.g., 55-gallon

drums, rolloff boxes). Liquid wastes will be placed in closed-top, bunged 55-gallon drums.

All empty drums stored on-site will be labeled as "Empty Drum." Drums which receive any type of material generated as a result of field activities (e.g., soil, PPE, decontamination fluids, etc.) will be labeled immediately upon placement of material in the container. Drum labels will include:

- "LANL Environmental Restoration Program"
- the investigation site ID (i.e., TA-40 Scrap Detonation Site)
- depth interval from which the material in the container originated (if appropriate)
- date on which material was first placed in the drum (generation date)
- the specific type of material in the drum.

In addition to the above labeling, a unique number will be assigned and marked on each container. Labels will be contained in a clear, waterproof, sealable pouch which will be fixed to the container. Placed inside the pouch will be the above label with the following information typed in bold letters:

"PENDING ANALYSIS"

"For additional information call:"

Upon completion of investigation, WPFs will be submitted to ESH-19 and CST-17. Upon receipt of approved WPFs, permanent labels will be affixed to the containers in accordance with the appropriate labeling specifications provided by ESH-19 and CST-17.

6.3 Materials Handling and Transport within the Scrap Detonation Site

Materials will be segregated by the use of plastic bags, drums, labeling, and record keeping. The On-site Waste Manager will maintain a logbook with information regarding the generation date, origin, type, temporary storage location, and disposal of all materials generated during site activities.

Segregated materials may be moved within the site without shipping papers or special containers. At the end of each day, all materials will have been placed in labeled

containers. All drums of RCRA regulated hazardous waste will be sealed and moved to <90 day storage area prior to leaving the site at the end of each day.

6.4 Temporary Drum Storage

Due to the known presence of RCRA hazardous waste, a <90 day storage area has been established. The <90 day storage area meets the requirements specified by ESH-19. The area has been registered with ESH-19 (Site ID #1204).

6.5 Waste Characterization

Waste materials will be characterized using previous analytical results, laboratory results, field screening, and the presence or absence of visible contamination on PPE or disposable items. Suspected contaminated materials will be managed as potential hazardous waste and will be properly stored in the designated <90 day storage area pending results of laboratory analyses.

Suspect contaminated material, other than soils and decontamination fluids that cannot be characterized directly (i.e., PPE, plastic), will be characterized through analytical results of the soils, liquids, and vapors associated with the respective contamination and direct field screening.

Decontamination fluids will be characterized based upon the results of the soil characterization data.

The designated Waste Generator for this investigation will complete and submit the appropriate WPFs to ESH-19 to assist in profiling materials generated during this investigation.

6.6 Waste Transport to Storage/Disposal Destinations

Upon receipt of reviewed and approved WPFs, the necessary CWDRs or Radioactive Solid Waste Disposal Record will be initiated by the Waste Generator and the Waste Coordinator and submitted to CST-17. Prior to any shipment, a Uniform Hazardous Waste Manifest will be completed. All waste will be transported under DOT requirements with appropriate placarding, labeling, packaging, and shipping papers.

7.0 DOCUMENTATION

The on-site Waste Managers will maintain a detailed logbook of all materials placed in each drum and rolloff bin. As previously noted, each drum and rolloff bin will be labeled with a unique number corresponding to the number in the logbook.

Additionally, the following forms will be used for waste management purposes at the site:

- Chain-of-Custody/Request for Analysis Forms in accordance with LANL-ER-Standard Operating Procedure (SOP)-1.04
- Sample Collection Logs in accordance with LANL-ER-SOP-1.04
- Field Screening and Field Analysis Reports
- MSDSs
- Hazardous and Mixed Waste Facility Inspection Record Forms
- WPFs in accordance with LANL AR 10-9
- CWDRs
- Shipping Manifests

8.0 TRAINING

The waste generator and the waste management coordinator have completed all applicable LANL training requirements. Documentation of training is available upon request.

ATTACHMENT 1

AMENDMENT TO THE WMP

Document:	Amendment to the LANL TA-40 SDS WMP
Revision No.:	0
Date:	January 25, 1995

AMENDMENT TO THE

SITE-SPECIFIC WASTE MANAGEMENT PLAN

TECHNICAL AREA 40 SCRAP DETONATION SITE

IT CORPORATION
LOS ALAMOS, NEW MEXICO

January 1995

Document:	**Amendment to the LANL TA-40 SDS WMP**
Revision No.:	**0**
Date:	**January 25, 1995**

AMENDMENT TO THE SITE-SPECIFIC WASTE MANAGEMENT PLAN TECHNICAL AREA 40 SCRAP DETONATION SITE JANUARY 1995

CST-17	Rosemary Glenn Signature	1-30-95 Date
Pat Shanley ESH-19	P. Shanley Signature	1-25 Date
Dave McInroy Project Leader	D. McInroy Signature	1/26/95 Date
Andrew Norris ER/EM	A. E. Norris Signature	Jan. 25, 1995 Date

Introduction

This amendment to the approved Site-Specific Waste Management Plan (WMP) for the Technical Area 40 Scrap Detonation Site (SDS) of December 1994 outlines the proposed changes to the sampling methodology described in Section 2.2.2 of the WMP. The proposed changes will become a part of the WMP upon approval by all of the original reviewers (see attached signature page). Specifically, it is proposed that four biased samples be collected and analyzed for the full suite of toxicity characteristic leachate procedure (TCLP) constituents to characterize the wastes excavated from the area adjacent to the East Burn Area (EBA).

Discussion

As described in the approved WMP, a contaminated area was discovered adjacent to the EBA. In December 1994, approximately 60 cubic yards of soil were excavated from this area and placed into six rolloff bins. Based on visual observation and the manner in which excavated materials were placed in the six rolloff bins, little variation between bins exists. Therefore, it is appropriate to evaluate the excavated material as a single volume of waste rather than evaluate each rolloff bin separately.

Energy dispersive x-ray fluorescence (EDXRF) screening results of the excavated material indicate that total lead concentrations are highly variable, ranging from 0 to 2,305 milligrams per kilogram (mg/kg). The number of data points was 82, the average concentration was 478 mg/kg, and the standard deviation was 608 mg/kg. Thirteen of the samples had lead concentrations greater than 1,000 mg/kg, and of those, five had concentrations greater than 2,000 mg/kg. The EDXRF results were evaluated using Los Alamos National Laboratory (LANL) guidance and U.S. Environmental Protection Agency (EPA) methods described in Chapter 9 of SW-846 to determine that 1,273 samples would be required to characterize the waste (based on the cleanup level of 500 mg/kg identified in the Amendment to the Final Closure Plan). For purposes of waste characterization, it is appropriate to use a TCLP regulatory limit for lead of 5 mg/L, which is equivalent to a total lead concentration of 100 mg/kg if the lead is assumed to be 100% leachable. Recalculating using 100 mg/kg rather than the cleanup level of 500 mg/kg results in a total of four samples required to characterize the waste.

A meeting of LANL project personnel was held on January 11, 1995 to discuss the waste characterization sampling strategy. It was the consensus of the project team that, based on the EDXRF results and analytical results (total and TCLP lead) of two biased samples collected in December 1994, the waste should be considered hazardous for lead. The result of this decision is that a minimum number of samples would be required (based on a qualitative cost/benefit analysis of disposal cost versus analytical cost). Because of the variation of lead concentrations in the waste, a limited number of random samples could

miss the areas of high concentration. Therefore, to minimize analytical costs and determine the "upper bound" of contaminant concentrations, collection of four biased samples is proposed. The assumption will be made that the concentrations found in the biased samples are representative of the entire volume of waste. Based on the EDXRF screening, visibly contaminated soil tended to have high lead concentrations, therefore, the biased samples will be selected based on visual contamination.

Typically, four samples are considered the minimum number for statistical analysis. Results of the four biased samples (full-suite TCLP) will be evaluated using LANL guidance and EPA's SW-846 methods to determine whether enough samples were analyzed. The two December sample results will be utilized to provide a total of six TCLP data points for evaluation of lead concentrations. A meeting will be held with appropriate LANL personnel to discuss the results of the evaluation, and decide whether additional samples are needed.

Conclusions

Upon approval of this amendment by reviewers of the December 1994 Site-Specific WMP, four biased samples will be collected from the rolloff bins and submitted for full-suite TCLP analysis. The sample locations will be selected through visual inspection of the six rolloff bins. Four bins will be selected, and one grab sample will be collected from the most visibly contaminated waste in each bin. The analytical results will be evaluated using LANL guidance and SW-846 methods, and the results discussed with appropriate LANL personnel prior to completion of the waste profile forms.

ATTACHMENT 2

ANALYTICAL RESULTS OF THE WASTE CHARACTERIZATION SAMPLING

Waste Characterization Data - Rolloff

ENRECO

ENRECO LABORATORIES
6661-A CANYON DRIVE
AMARILLO, TEXAS 79110

Attn: CUSTOMER SERVICES
Phone: (806) 353-4425

IT CORPORATION
557 OPPENHEIMER DRIVE
SUITE 200
LOS ALAMOS, NM 87544
Attn: GLENN VAN DERPOEL

Purchase Order: 24157 OP
Invoice Number:

Order #: 95-01-028
Date: 01/23/95 15:05
Work ID: AAC1453 THRU AAC1456
Date Received: 01/17/95
Date Completed: 01/23/95

Client Code: ITCORP

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	AAC1453
02	AAC1454
03	AAC1455
04	AAC1456

Certified By
Alan D. King

ENRECO

TEST RESULTS BY SAMPLE

Sample: 01A AAC1453 (BIM 2342) Collected: 01/13/95 14:00

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	7.8			01/17/95	CS
FINAL pH	5.1			01/18/95	CS
TCLP METAL ANALYSIS					
ARSENIC	<0.2	0.2	mg/l	01/18/95	WDP
BARIUM	3.9	0.1	mg/l	01/18/95	WDP
CADMIUM	<0.05	0.05	mg/l	01/18/95	WDP
CHROMIUM	<0.05	0.05	mg/l	01/18/95	WDP
LEAD	3.80	0.05	mg/l	01/18/95	WDP
MERCURY	<0.002	0.002	mg/l	01/18/95	WDP
SELENIUM	<0.2	0.2	mg/l	01/18/95	WDP
SILVER	<0.05	0.05	mg/l	01/18/95	WDP
NICKEL	<0.05	0.05	mg/l	01/18/95	WDP
THALLIUM	<0.10	0.10	mg/l	01/18/95	WDP
TCLP ORGANICS					
BENZENE	0.007	0.005	mg/l	01/19/95	LMW
CARBON TETRACHLORIDE	<0.005	0.005	mg/l	01/19/95	LMW
CHLORDANE	<0.03	0.03	mg/l	01/19/95	LMW
CHLOROBENZENE	<0.005	0.005	mg/l	01/19/95	LMW
CHLOROFORM	<0.005	0.005	mg/l	01/19/95	LMW
CRESOL(O,M,P)	<0.01	0.01	mg/l	01/19/95	LMW
2,4-D	<0.1	0.1	mg/l	01/19/95	LMW
1,4-DICHLOROBENZENE	<0.005	0.005	mg/l	01/19/95	LMW
1,2-DICHLOROETHANE	<0.005	0.005	mg/l	01/19/95	LMW
1,1-DICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4-DINITROTOLUENE	<0.01	0.01	mg/l	01/19/95	LMW
ENDRIN	<0.01	0.01	mg/l	01/19/95	LMW
HEPTACHLOR	<0.008	0.008	mg/l	01/19/95	LMW
HEPTACHLOR EPOXIDE	<0.008	0.008	mg/l	01/19/95	LMW
HEXACHLOROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROBUTADIENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROETHANE	<0.01	0.01	mg/l	01/19/95	LMW
LINDANE	<0.01	0.01	mg/l	01/19/95	LMW
METHOXYCLOR	<0.1	0.1	mg/l	01/19/95	LMW
METHYL ETHYL KETONE	<0.02	0.02	mg/l	01/19/95	LMW
NITROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
PENTACHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
PYRIDINE	<0.05	0.05	mg/l	01/19/95	LMW
TETRACHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
TOXAPHENE	<0.1	0.1	mg/l	01/19/95	LMW
TRICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4,5-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,6-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,5-TP(SILVEX)	<0.1	0.1	mg/l	01/19/95	LMW
VINYL CHLORIDE	<0.01	0.01	mg/l	01/19/95	LMW

****DATA IN LIMIT COLUMN IS INSTRUMENTAL DETECTION LIMIT---NOT REGULATORY COMPLIANCE LIMITS****

ENRECO

Order # 95-01-028 ENRECO LABORATORIES
01/23/95 15:05

Sample: 02A AAC1454 (Bin 5219) Collected: 01/13/95 14:30

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	8.0			01/17/95	CS
FINAL pH	5.0			01/18/95	CS
TCLP METAL ANALYSIS					
ARSENIC	<0.2	0.2	mg/l	01/18/95	WDP
BARIUM	2.0	0.1	mg/l	01/18/95	WDP
CADMIUM	<0.05	0.05	mg/l	01/18/95	WDP
CHROMIUM	<0.05	0.05	mg/l	01/18/95	WDP
LEAD	15.0	0.05	mg/l	01/18/95	WDP
MERCURY	<0.002	0.002	mg/l	01/18/95	WDP
SELENIUM	<0.2	0.2	mg/l	01/18/95	WDP
SILVER	<0.05	0.05	mg/l	01/18/95	WDP
NICKEL	0.12	0.05	mg/l	01/18/95	WDP
THALLIUM	<0.10	0.10	mg/l	01/18/95	WDP
TCLP ORGANICS					
BENZENE	0.007	0.005	mg/l	01/19/95	LMW
CARBON TETRACHLORIDE	<0.005	0.005	mg/l	01/19/95	LMW
CHLORDANE	<0.03	0.03	mg/l	01/19/95	LMW
CHLOROBENZENE	<0.005	0.005	mg/l	01/19/95	LMW
CHLOROFORM	<0.005	0.005	mg/l	01/19/95	LMW
CRESOL(O,M,P)	<0.01	0.01	mg/l	01/19/95	LMW
2,4-D	<0.1	0.1	mg/l	01/19/95	LMW
1,4-DICHLOROBENZENE	<0.005	0.005	mg/l	01/19/95	LMW
1,2-DICHLOROETHANE	<0.005	0.005	mg/l	01/19/95	LMW
1,1-DICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4-DINITROTOLUENE	<0.01	0.01	mg/l	01/19/95	LMW
ENDRIN	<0.01	0.01	mg/l	01/19/95	LMW
HEPTACHLOR	<0.008	0.008	mg/l	01/19/95	LMW
HEPTACHLOR EPOXIDE	<0.008	0.008	mg/l	01/19/95	LMW
HEXACHLOROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROBUTADIENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROETHANE	<0.01	0.01	mg/l	01/19/95	LMW
LINDANE	<0.01	0.01	mg/l	01/19/95	LMW
METHOXYCLOR	<0.1	0.1	mg/l	01/19/95	LMW
METHYL ETHYL KETONE	<0.02	0.02	mg/l	01/19/95	LMW
NITROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
PENTACHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
PYRIDINE	<0.05	0.05	mg/l	01/19/95	LMW
TETRACHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
TOXAPHENE	<0.1	0.1	mg/l	01/19/95	LMW
TRICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4,5-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,6-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,5-TP(SILVEX)	<0.1	0.1	mg/l	01/19/95	LMW
VINYL CHLORIDE	<0.01	0.01	mg/l	01/19/95	LMW

****DATA IN LIMIT COLUMN IS INSTRUMENTAL DETECTION LIMIT---NOT REGULATORY COMPLIANCE LIMITS****

ENRECO

Sample: 03A AAC1455 (Bin 52215) Collected: 01/13/95 14:30

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	8.3			01/17/95	CS
FINAL pH	5.0			01/18/95	CS
TCLP METAL ANALYSIS					
ARSENIC	<0.2	0.2	mg/l	01/18/95	WDP
BARIUM	2.0	0.1	mg/l	01/18/95	WDP
CADMIUM	<0.05	0.05	mg/l	01/18/95	WDP
CHROMIUM	<0.05	0.05	mg/l	01/18/95	WDP
LEAD	32.0	0.05	mg/l	01/18/95	WD
MERCURY	<0.002	0.002	mg/l	01/18/95	WD
SELENIUM	<0.2	0.2	mg/l	01/18/95	WDP
SILVER	<0.05	0.05	mg/l	01/18/95	WDP
NICKEL	0.12	0.05	mg/l	01/18/95	WDP
THALLIUM	<0.10	0.10	mg/l	01/18/95	WDP
TCLP ORGANICS					
BENZENE	<0.005	0.005	mg/l	01/19/95	LMW
CARBON TETRACHLORIDE	<0.005	0.005	mg/l	01/19/95	LMW
CHLORDANE	<0.03	0.03	mg/l	01/19/95	LMW
CHLOROBENZENE	0.105	0.005	mg/l	01/19/95	LMW
CHLOROFORM	<0.005	0.005	mg/l	01/19/95	LMW
CRESOL(O,M,P)	<0.01	0.01	mg/l	01/19/95	LMW
2,4-D	<0.1	0.1	mg/l	01/19/95	LMW
1,4-DICHLOROBENZENE	<0.005	0.005	mg/l	01/19/95	LMW
1,2-DICHLOROETHANE	<0.005	0.005	mg/l	01/19/95	LMW
1,1-DICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4-DINITROTOLUENE	<0.01	0.01	mg/l	01/19/95	LMW
ENDRIN	<0.01	0.01	mg/l	01/19/95	LMW
HEPTACHLOR	<0.008	0.008	mg/l	01/19/95	LMW
HEPTACHLOR EPOXIDE	<0.008	0.008	mg/l	01/19/95	LMW
HEXACHLOROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROBUTADIENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROETHANE	<0.01	0.01	mg/l	01/19/95	LMW
LINDANE	<0.01	0.01	mg/l	01/19/95	LMW
METHOXYCLOR	<0.1	0.1	mg/l	01/19/95	LMW
METHYL ETHYL KETONE	<0.02	0.02	mg/l	01/19/95	LMW
NITROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
PENTACHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
PYRIDINE	<0.05	0.05	mg/l	01/19/95	LMW
TETRACHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
TOXAPHENE	<0.1	0.1	mg/l	01/19/95	LMW
TRICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4,5-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,6-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,5-TP(SILVEX)	<0.1	0.1	mg/l	01/19/95	LMW
VINYL CHLORIDE	<0.01	0.01	mg/l	01/19/95	LMW

****DATA IN LIMIT COLUMN IS INSTRUMENTAL DETECTION LIMIT---NOT REGULATORY COMPLIANCE LIMITS****

ENRECO

Sample: 04A AAC1456 (Ein 129007) Collected: 01/13/95 15:30

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	8.3			01/17/95	CS
FINAL pH	5.1			01/18/95	CS
TCLP METAL ANALYSIS					
ARSENIC	<0.2	0.2	mg/l	01/18/95	WDP
BARIUM	2.1	0.1	mg/l	01/18/95	WDP
CADMIUM	<0.05	0.05	mg/l	01/18/95	WDP
CHROMIUM	<0.05	0.05	mg/l	01/18/95	WDP
LEAD	30.0	0.05	mg/l	01/18/95	WDP
MERCURY	<0.002	0.002	mg/l	01/18/95	WDP
SELENIUM	<0.2	0.2	mg/l	01/18/95	WDP
SILVER	<0.05	0.05	mg/l	01/18/95	WDP
NICKEL	0.12	0.05	mg/l	01/18/95	WDP
THALLIUM	<0.10	0.10	mg/l	01/18/95	WDP
TCLP ORGANICS					
BENZENE	<0.005	0.005	mg/l	01/19/95	LMW
CARBON TETRACHLORIDE	<0.005	0.005	mg/l	01/19/95	LMW
CHLORDANE	<0.03	0.03	mg/l	01/19/95	LMW
CHLOROBENZENE	<0.005	0.005	mg/l	01/19/95	LMW
CHLOROFORM	<0.005	0.005	mg/l	01/19/95	LMW
CRESOL(O,M,P)	<0.01	0.01	mg/l	01/19/95	LMW
2,4-D	<0.1	0.1	mg/l	01/19/95	LMW
1,4-DICHLOROBENZENE	<0.005	0.005	mg/l	01/19/95	LMW
1,2-DICHLOROETHANE	<0.005	0.005	mg/l	01/19/95	LMW
1,1-DICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4-DINITROTOLUENE	<0.01	0.01	mg/l	01/19/95	LMW
ENDRIN	<0.01	0.01	mg/l	01/19/95	LMW
HEPTACHLOR	<0.008	0.008	mg/l	01/19/95	LMW
HEPTACHLOR EPOXIDE	<0.008	0.008	mg/l	01/19/95	LMW
HEXACHLOROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROBUTADIENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROETHANE	<0.01	0.01	mg/l	01/19/95	LMW
LINDANE	<0.01	0.01	mg/l	01/19/95	LMW
METHOXYCLOR	<0.1	0.1	mg/l	01/19/95	LMW
METHYL ETHYL KETONE	<0.02	0.02	mg/l	01/19/95	LMW
NITROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
PENTACHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
PYRIDINE	<0.05	0.05	mg/l	01/19/95	LMW
TETRACHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
TOXAPHENE	<0.1	0.1	mg/l	01/19/95	LMW
TRICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4,5-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,6-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,5-TP(SILVEX)	<0.1	0.1	mg/l	01/19/95	LMW
VINYL CHLORIDE	<0.01	0.01	mg/l	01/19/95	LMW

****DATA IN LIMIT COLUMN IS INSTRUMENTAL DETECTION LIMIT---NOT REGULATORY COMPLIANCE LIMITS****

TEST METHODOLOGIES

TEST CODE : TCL_EL

TEST NAME : TCLP EXTRACTION

TCLP EXTRACTION : FEDERAL REGULATION; VOL 55, NO. 126, APPENDIX II, METHOD 1311 FOR SEMIVOLATILES AND METALS

ZERO HEADSPACE EXTRACTION "ZHE" FOR VOLATILES

TCLP LIQUID/LIQUID EXTRACTIONS PER SW846: 3RD EDITION FOR SEMI-VOLATILE ANALYSES.

TEST CODE : TCLP_M

TEST NAME : TCLP METALS ANALYSES

SW846; 3RD EDITION 3010, TOTAL METALS DIGESTION FOR ICP ANALYSIS (As, Ba, Cd, Cr, Pb, Se, Ag)

SW846; 3RD EDITION 7470, DIGESTION AND TOTAL Hg ANALYSIS BY MANAUL COLD VAPOR AAS

SW846; 3RD EDITION 6010, TOTAL METALS BY ICP ANALYSIS (As, Ba, Cd, Cr, Pb, Se, Ag, Ni, Tl)

TEST CODE : TCLP_O

TEST NAME : TCLP ORGANICS

METHOD 8240/8270 GAS CHROMATOGRAPHY WITH MASS SELECTIVE DETECTOR. SW-846 TEST METHODS FOR EVALUATING SOLID WASTES.

DETECTION LIMIT FOR THESE SAMPLES ARE LISTED IN THE LIMIT COLUMN OF THE INDIVIDUAL SAMPLES.

ENRECO Laboratories Group - ICP Data

Date 1/18/95 Analyst wdp File Name 950118.icp

QA Data

	Precision	Recovery	QC	Blank
As	1.4	104.8	96.0	<0.2
Ba	1.2	105.5	96.1	<0.1
Cd	1.3	98.2	87.6	<0.05
Cr	2.4	94.4	92.9	<0.05
Pb	1.7	106.6	96.0	<0.05
Se	1.3	97.2	93.7	<0.2
Ag	1.8	81.2	101.6	<0.05
Ni	1.6	103.3	93.8	<0.05
Tl	0.6	99.3	88.7	<0.10
Hg	0.0	105.0	112.0	<0.002

ENRECO LABORATORIES
ORGANICS DEPARTMENT
QUALITY ASSURANCE REPORT

QC #
PROCEDURE__TCLP-ORGANICS__DATE OF THIS REPORT 01/20/95
ANALYST___LMW__DATE OF ANALYSIS____01/18/95_____
WORKORDER NUMBERS
95-01-028

ENRECO SAMPLE NO.	95-01-028-1A	ZHE					
STANDARD ID	SAMPLE RESULTS	SPIKE AMOUNT	MS RESULTS	MS %REC	MSD RESULTS	MS %REC	RPD
VINYL CHLORIDE	0.00	50.00	51.50	103.0%	48.78	97.6%	-5.4
1,1-DCE	0.00	50.00	51.39	102.8%	48.70	97.4%	-5.4
MEK	0.00	50.00	57.50	115.0%	69.22	138.4%	18.5
CHLOROFORM	0.00	50.00	52.25	104.5%	49.64	99.3%	-5.1
CARBON TETRACHLORIDE	0.00	50.00	50.66	101.3%	46.46	92.9%	-8.6
BENZENE	7.18	50.00	57.60	100.8%	52.83	91.3%	-8.6
1,2-DCE	0.00	50.00	57.58	115.2%	64.43	128.9%	11.2
TRICHLOROETHANE	0.00	50.00	45.06	90.1%	48.91	97.8%	8.2
TETRACHLOROETHENE	0.00	50.00	44.88	89.8%	46.49	93.0%	3.5
CHLOROBENZENE	0.00	50.00	46.28	92.6%	50.11	100.2%	7.9
1,4-DCB	0.00	50.00	44.33	88.7%	53.76	107.5%	19.2
SURROGATES %REC							
1,2-DICHLOROETHANE-d4	102		113		114		
TOLUENE d-8	105		105		103		
BROMOFLUOROBENZENE	103		104		109		

BLANK		CONC
TCLP-VOAs		bdl

ENPECO LABORATORIES-ORGANICS DEPT.

SAMPLE ANALYSIS DATA SHEET

Lab Sample ID: _____ Sample Point: _____

Lab Project: _____ Date Sampled: _____

Client: _____ Date Received: _____

Analyst: _____ QA/QC Supervisor: _____

Lab File: /chem/hal.i/tclp0118.b/tclo1101011.d Date Analyzed: 01/13/[illegible]
Analysis Method: tclpvoa.m Date Reported: 01/15/[illegible]
Sample ID: eor
Dilution Factor: 1.00

COMPOUND	$\overline{RRF}$	RRF	%D
VINYL CHLORIDE	1.284	1.306	-1.7
1 1-DICHLOROETHENE	1.754	1.854	-5.7
2-BUTANONE	0.120	0.109	9.7
CHLOROFORM	3.232	3.494	-8.1
CARBON TETRACHLORIDE	3.117	3.243	-4.0
BENZENE	3.597	3.863	-7.4
1 2-DICHLOROETHANE	1.101	1.264	-14.8
TRICHLOROETHENE	0.556	0.473	15.0
TETRACHLOROETHENE	0.669	0.524	21.7
CHLOROBENZENE	1.103	1.120	-1.6
1,4-DICHLOROBENZENE	0.912	0.782	14.3
1,2-DICHLOROETHANE-d4	0.994	1.118	-12.4
TOLUENE d-8	0.844	0.852	-0.9
BROMOFLUOROBENZENE	0.717	0.743	-3.6

ENRECO LABORATORIES
ORGANICS DEPARTMENT
QUALITY ASSURANCE REPORT

SEMIVOLATILES QC#
PROCEDURE__TCLP-ORGANICS__DATE OF THIS REPORT 01/23/95
ANALYST___LMW__DATE OF ANALYSIS____01/19/95_____
WORKORDER NUMBERS: 95-01-028
95-01-033
95-01-034

ENRECO SAMPLE NO.	95-01-028-1a						
	SAMPLE	SPIKE	MS	MS	MSD	MS	
STANDARD ID	RESULTS	AMOUNT	RESULTS	%REC	RESULTS	%REC	RPD
PYRIDINE	0.00	40.00	40.57	101.4%	39.93	99.8%	-1.6
o-CRESOL	0.00	40.00	35.47	88.7%	40.39	101.0%	13.0
m,p-CRESOLS	0.00	40.00	37.27	93.2%	44.60	111.5%	17.9
HEXACHLOROETHANE	0.00	40.00	39.85	99.6%	40.64	101.6%	2.0
NITROBENZENE	0.00	40.00	39.35	98.4%	40.76	101.9%	3.5
HEXACHLOROBUTADIENE	0.00	40.00	42.94	107.4%	42.60	106.5%	-0.8
2 4 6-TRICHLOROPHENOL	0.00	40.00	30.57	76.4%	35.26	88.2%	14.2
2 4 5-TRICHLOROPHENOL	0.00	40.00	30.57	76.4%	35.26	88.2%	14.2
2 4-DINITROTOLUENE	0.00	40.00	29.17	72.9%	32.53	81.3%	10.9
HEXACHLOROBENZENE	0.00	40.00	39.75	99.4%	41.09	102.7%	3.3
PENTACHLOROPHENOL	0.00	0.00	0.00	#DIV/0!	0.00	#DIV/0!	#DIV/0!
SURROGATES							
2-FLUOROPHENOL	39		50		54		
PHENOL-d6	24		42		48		
NITROBENZENE-d5	69		66		69		
2-FLUOROBIPHENYL	61		65		67		
2 4 6-TRIBROMOPHENOL	57		50		65		
TERPHYENYL-d14	64		64		71		

BLANK		CONC
TCLP BNAs		bdl

INITIAL CALIBRATION DATA

Calibration Date : 19 Jan 95 15:06 INSTRUMENT
Report Date : 23 Jan 95 12:17
Quantitation by : Area
Calib Method : Internal Standard
Response Factor : Averaged
Include Origin : Yes

Calibration File Names:
Level1: s.i/tclp0119.b/tclp0101001.d Level2: s.i/tclp0119.b/tclp0201002.d
Level3: s.i/tclp0119.b/tclp0301003.d Level4: s.i/tclp0119.b/tclp0401004.d
Level5: s.i/tclp0119.b/tclp0501005.d Level6:

	Compound	Level 1 RF	Level 2 RF	Level 3 RF	Level 4 RF	Level 5 RF	Averaged RF	%RSD
*	4 14-Dichlorobenzene-d4	3.344E-06	3.075E-06	2.477E-06	2.744E-06	3.486E-06	3.03L-006	13.79
	1 Pyridine	0.46084	0.48235	0.45850	0.46632	0.44541	0.46268	2.90
$	2 2-Fluorophenol	0.39273	0.41134	0.40744	0.37277	0.37187	0.39123	4.76
$	3 Phenol-d6	0.43060	0.46404	0.47191	0.44158	0.43438	0.44850	4.11
	5 o-Cresol	0.31701	0.33622	0.33561	0.31276	0.30680	0.32168	4.19
	6 m,p-Cresols	0.67794	0.70074	0.66025	0.61407	0.60339	0.65128	6.38
	7 Hexachloroethane	0.21647	0.22667	0.21404	0.21574	0.20353	0.21529	3.82
*	10 Naphthalene-d8	1.044E-06	9.630E-07	7.706E-07	8.543E-07	1.136E-06	9.54L-007	15.27
$	8 Nitrobenzene-d5	0.14635	0.16171	0.15348	0.15733	0.15437	0.15465	3.65
	9 Nitrobenzene	0.14895	0.16020	0.15201	0.15051	0.15154	0.15266	2.90
	11 Hexachlorobutadiene	0.10780	0.10827	0.09673	0.09510	0.09344	0.10027	7.17
*	15 Acenaphthene-d10	2.011E-06	1.936E-06	1.581E-06	1.739E-06	2.410E-06	1.94L-006	16.23
	12 2 4 6-Trichlorophenol	0.10694	0.11540	0.12254	0.11979	0.11508	0.11595	5.11
	13 2 4 5-Trichlorophenol	0.10694	0.11540	0.12254	0.11979	0.11508	0.11595	5.11
$	14 2-Fluorobiphenyl	0.47752	0.49833	0.46879	0.45557	0.44473	0.46899	4.40
	16 2 4-Dinitrotoluene	0.08974	0.10298	0.10510	0.10564	0.09737	0.10017	6.67
$	17 2 4 6-Tribromophenol	0.11347	0.11556	0.11540	0.11679	0.11279	0.11480	1.42
	18 Hexachlorobenzene	0.15179	0.14631	0.13722	0.13936	0.13039	0.14102	5.87
	19 Pentachlorophenol	0.02357	0.02603	0.03416	0.03839	0.03165	0.03076	19.55
*	20 Phenanthrene-d10	1.629E-06	1.681E-06	1.447E-06	1.560E-06	2.298E-06	1.72L-006	19.32
$	21 terphyenyl-d14	0.28094	0.28772	0.26033	0.25960	0.25808	0.26933	5.17

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 319404
Page 1 of 3

Project Name/No. [1] TA-40 SDS/769989
Sample Team Members [2] GV/DM
Profit Center No. [3]
Project Manager [4] Jeff Tucker
Purchase Order No. [6] 24157
Required Report Date [11] 1/24/95

Samples Shipment Date [7] 1/16/95
Lab Destination [8]
Lab Contact [9]
Project Contact/Phone [12]
Carrier/Waybill No. [13]

Bill to: [5] IT Corp
5301 Central Ave NE Suite 700
Albuquerque NM 87108

Report to: [10] IT Corp
557 Oppenheimer Rd Suite 200
Los Alamos NM 87544
505 662 1200

White: To accompany samples
Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
AAC1453	Soil	131400 Jan 95	2x40ml	G	4°C	TCLP VOA		
↓	↓	↓	1x125ml	G	4°C	TCLP Pest		
			1x125ml	G	4°C	TCLP Herb		
			1x125ml	G	4°C	TCLP SVOA		
			1x250ml	P	4°C	TCLP Metals		
AAC1454	Soil	131430 Jan 95	2x40ml	G	↓	TCLP VOA		
↓	↓	↓	1x125ml	G		TCLP Pest		
			1x125ml	G		TCLP Herb		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard [X] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ]

Sample Disposal: [25]
Return to Client [ ] Disposal by Lab [X] Archive (mos.)

Turnaround Time Required: [26] 5 days
Normal [ ] Rush [ ]

QC Level: [27]
I [ ] II [ ] III [ ] Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) [signature] IT Corp	Date: 1/16/95 Time: 10:00 AM	1. Received by [28] (Signature/Affiliation)	Date: Time:
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29]
Questions? contact: Jeff Tucker or G[illegible] VanDerpool 505 662 1200

*See back of form for special instructions

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 319403
Page ~~1~~ 2 of 3

Project Name/No. [1] TA-40 SDS/760125
Sample Team Members [2] EV/DM
Profit Center No. [3]
Project Manager [4] Jeff Tucker
Purchase Order No. [6] 24157
Required Report Date [11] 1/24/95

Samples Shipment Date [7] 1/16/95
Lab Destination [8]
Lab Contact [9]
Project Contact/Phone [12]
Carrier/Waybill No. [13]

Bill to: [5] IT Corp
5301 Central Ave NE Suite 700
Albuquerque NM 87108

Report to: [10] IT Corp
557 Oppenheimer Rd Suite 200
Los Alamos NM 87544
505 662 1200

White: To accompany samples

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
AAC1454	Soil	1314 30 Jan 95	1x125ml, G		4°C	TCLP SVOA		
↓	↓	↓	1x250ml, P		4°C	TCLP Metals		
AAC1455	Soil	1315 00 Jan 95	2x40ml, G		4°C	TCLP VOA		
↓	↓	↓	1x125ml, G		↓	TCLP Pest		
			1x125ml, G			TCLP Herb		
			↓			TCLP SVOA		
						TCLP Metals		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard [X] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ]

Sample Disposal: [25]
Return to Client [ ] Disposal by Lab [X] Archive (mos.)

Turnaround Time Required: [26] 5 day TAT
Normal [ ] Rush [ ]

QC Level: [27]
I [ ] II [ ] III [ ] Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) [signature] IT Corp	Date: 1/16/95 Time: 10:01 AM	1. Received by [28] (Signature/Affiliation)	Date: Time:
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: [29] Questions? Contact: Jeff Tucker or Glenn VanDerpool 505 662 1200

IN. NATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 019405
Page 1 of 3

Project Name/No. TA-40SDS/760906
Sample Team Members [2] GV/DM
Profit Center No. [3]
Project Manager [4] Jeff Tucker
Purchase Order No. [6] 24157
Required Report Date [11] 1/24/95

Samples Shipment Date [7] 1/16/95
Lab Destination [8]
Lab Contact [9]
Project Contact/Phone [12]
Carrier/Waybill No. [13]

Bill to: [5] IT Corp
5301 Central Ave NE Suite 700
Albuquerque NM 87108

Report to: [10] IT Corp
557 Oppenheimer Rd Suite 200
Los Alamos NM 87544
505 662 1200

White: To accompany samples
Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number [14]	Sample Description/Type [15]	Date/Time Collected [16]	Container Type [17]	Sample Volume [18]	Pre-servative [19]	Requested Testing Program [20]	Condition on Receipt [21]	Disposal Record No. [22]
AAC1456	Soil	151530 Jan95	2x40ml	6	4°C	TCLP VOA		
↓	↓	↓	↓		↓	TCLP Pest		
						TCLP Herb		
						TCLP SVOA		
						TCLP Metals		

Special Instructions: [23]

Possible Hazard Identification: [24]
Non-hazard [X] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ]

Sample Disposal: [25]
Return to Client [ ] Disposal by Lab [X] Archive (mos.)

Turnaround Time Required: [26] 5 day TAT
Normal [ ] Rush [ ]

QC Level: [27]
I. [ ] II. [ ] III. [ ] Project Specific (specify):

1. Relinquished by [28] (Signature/Affiliation) IT Corp — Date: 1/16/95 Time: 10:02 A.M.	1. Received by [28] (Signature/Affiliation) — Date: Time:
2. Relinquished by (Signature/Affiliation) — Date: Time:	2. Received by (Signature/Affiliation) — Date: Time:
3. Relinquished by (Signature/Affiliation) — Date: Time:	3. Received by (Signature/Affiliation) — Date: Time:

Comments: [29] Question? contact Jeff Tucker or Glenn Vanf[illegible]el 505 662 1200

Waste Characterization Data - Drums

DATA CHEM LABORATORIES
A Sorenson Company

ENVIRONMENTAL WASTE REPORT (TCLP)

Form TCLP-A
Page 1 of 5
Part 1 of 2

Date NOV 29 1994
Agency Identification Number S94-0770-BI
Account No. 03018

IT Corporation
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544
Attention: Jeffrey Tucker

FAX (505) 662-1222
Telephone (505) 662-1200

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 17, 1994

Date Samples Received at Laboratory November 19, 1994

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	BL-46656-1 / BL-46656-1	TB-46656-1 / TB-46656-1	QC-46656-1 / QC-46656-1	AAC1436 / EN 3751	AAC1436MD / EN 3751MD	AAC1436MS / EN 3751MS	AAC1436MSD / EN 3751MSD	AAC1437 / EN 3752
Arsenic/TCLP (As) 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		ND*	ND*	1.9	ND*	ND*	1.8	1.8	ND*
Barium/TCLP (Ba) 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		ND*	0.02	1.9	2.1	2.1	3.9	3.9	2.3
Cadmium/TCLP (Cd) 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		ND*	ND*	0.43	0.14	0.14	0.58	0.56	0.10
Chromium/TCLP (Cr) 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		ND*	ND*	0.44	ND*	ND*	0.44	0.44	ND*
Lead/TCLP (Pb) 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		ND*	ND*	0.9	30.	30.	31.	30.	9.7
Selenium/TCLP (Se) 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		ND*	ND*	2.0	ND*	ND*	2.0	2.0	ND*
Silver/TCLP (Ag) 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		ND*	ND*	0.43	ND*	ND*	0.23	0.15	ND*
Nickel/TCLP 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		ND*	ND*	ND*	0.31	0.31	0.30	0.29	0.37

* See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
[1] Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

Boyd Nelson
Analyst: Boyd E. Nellson

John Kershisnik
Reviewer: John T. Kershisnik

This report is 18 total pages.

DATA CHEM LABORATORIES
A Sorenson Company

ENVIRONMENTAL WASTE REPORT (TCLP)

Date [illegible] 1994
Agency Identification Number S94-0770-BI
Account No. 03018

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	BL-46656-1 / BL-46656-1	TB-46656-1 / TB-46656-1	QC-46656-1 / QC-46656-1	AAC1436 / EN 3751	AAC1436MD / EN 3751MD	AAC1436MS / EN 3751MS	AAC1436MSD / EN 3751MSD	AAC1437 / EN 3752
Thallium/TCLP 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*

* See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
[1] Analyses completed on or before this date.

** Parameter not analyzed (See comments page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page).

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DATA CHEM LABORATORIES
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ENVIRONMENTAL WASTE REPORT (TCLP)

Form TCLP-A
Page 3 of 5
Part 2 of 2

Date NOV 2 9 1994
Agency Identification Number S94-0770-BI
Account No. 03018

IT Corporation
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544
Attention: Jeffrey Tucker

FAX (505) 662-1222
Telephone (505) 662-1200

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 17, 1994

Date Samples Received at Laboratory November 19, 1994

Analytical Results

Parameter Name / Analysis Date / Method / Prep Method / Units	Field Number / Lab Number	AAC1438 EN 3753	AAC1439 EN 3754	AAC1440 EN 3755					* Limit of Detection
Arsenic/TCLP (As) 11/23/1994 6010 [1] 3015/1311 [1] mg/L		ND*	ND*	ND*					0.5
Barium/TCLP (Ba) 11/23/1994 6010 [1] 3015/1311 [1] mg/L		0.42	0.39	0.34					0.02
Cadmium/TCLP (Cd) 11/23/1994 6010 [1] 3015/1311 [1] mg/L		ND*	ND*	ND*					0.01
Chromium/TCLP (Cr) 11/23/1994 6010 [1] 3015/1311 [1] mg/L		ND*	ND*	ND*					0.02
Lead/TCLP (Pb) 11/23/1994 6010 [1] 3015/1311 [1] mg/L		ND*	ND*	ND*					0.1
Selenium/TCLP (Se) 11/23/1994 6010 [1] 3015/1311 [1] mg/L		ND*	ND*	ND*					0.3
Silver/TCLP (Ag) 11/23/1994 6010 [1] 3015/1311 [1] mg/L		ND*	ND*	ND*					0.02
Nickel/TCLP 11/23/1994 6010 [1] 3015/1311 [1] mg/L		ND*	ND*	ND*					0.04

* See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
[1] Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

DATA CHEM LABORATORIES
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ENVIRONMENTAL WASTE REPORT (TCLP)

Date [illegible]
Agency Identification Number S94-0770-BI
Account No. 03018

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	AAC1438 EN 3753	AAC1439 EN 3754	AAC1440 EN 3755					* Limit of Detection
Thallium/TCLP 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		ND*	ND*	ND*					0.3

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
* Analyses completed on or before this date.

** Parameter not analyzed (See comments page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page).

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ENVIRONMENTAL WASTE REPORT (TCLP)

Date NOV 29 1994

Agency Identification Number S94-0770-BI

General Set Comments

This set was analyzed in conjunction with set S94-0770-CI under one analytical batch. A preparation blank, extraction blank, matrix duplicate, matrix spike, matrix spike duplicate, and a QC sample were analyzed and reported with this set. See below for the target values for the QC sample and the spikes.

QC-46656-1 (mg/L)

As = 2.0	Pb = 1.0
Ba = 2.0	Se = 2.0
Cd = 0.5	Ag = 0.5
Cr = 0.5	

MS/MSD (mg/L)

As = 2.0	Pb = 1.0
Ba = 2.0	Se = 2.0
Cd = 0.5	Ag = 0.5
Cr = 0.5	

Method Index -- **Method Reference** --

[1] SW-846 "Test Methods for Evaluating Solid Waste", 3rd Edition, November 1986.

DataChem Laboratories
LIMS - Sample Master System
Preparation Group Report

Date: 22-NOV-1994 19:22
User: DANIEL

RLIMS15-V1.1

Preparation Run Name: G94BP03F

Group ID: G94BP03F

Samples: 15

Pos	Laboratory Sample Name	Field Sample Name	Laboratory Sample ID	Laboratory Group Name	Accnt. Number
1	BL-46656-1	BL-46656-1	S94BP0HB	S94-0770-BI	03018
2	TB-46656-1	TB-46656-1	S94BP028	S94-0770-BI	03018
3	QC-46656-1	QC-46656-1	S94BP029	S94-0770-BI	03018
4	EN 3751	AAC1436	S94BL01W	S94-0770-BI	03018
5	EN 3751MD	AAC1436MD	S94BP0HC	S94-0770-BI	03018
6	EN 3751MS	AAC1436MS	S94BP02B	S94-0770-BI	03018
7	EN 3751MSD	AAC1436MSD	S94BP02C	S94-0770-BI	03018
8	EN 3752	AAC1437	S94BL01X	S94-0770-BI	03018
9	EN 3753	AAC1438	S94BL01Y	S94-0770-BI	03018
10	EN 3754	AAC1439	S94BL01Z	S94-0770-BI	03018
11	EN 3755	AAC1440	S94BL020	S94-0770-BI	03018
12	EN 3756	AAC1441	S94BL02V	S94-0770-CI	03018
13	EN 3757	AAC1442	S94BL02W	S94-0770-CI	03018
14	EN 3758	AAC1443	S94BL02X	S94-0770-CI	03018
15	EN 3759	AAC1444	S94BL02Y	S94-0770-CI	03018

----- END OF LISTING -----

DataChem Laboratories
LIMS - Sample Master System
Analysis Group Report

Date: 28-NOV-1994 23:27
User: NEILSON

RLIMS15-V1.1

Analysis Run Name: G94BW02B

Group ID: G94BW02B

Samples: 15

Pos	Laboratory Sample Name	Field Sample Name	Laboratory Sample ID	Laboratory Group Name	Accnt. Number
1	BL-46656-1	BL-46656-1	S94BP0HB	S94-0770-BI	03018
2	TB-46656-1	TB-46656-1	S94BP028	S94-0770-BI	03018
3	QC-46656-1	QC-46656-1	S94BP029	S94-0770-BI	03018
4	EN 3751	AAC1436	S94BL01W	S94-0770-BI	03018
5	EN 3751MD	AAC1436MD	S94BP0HC	S94-0770-BI	03018
6	EN 3751MS	AAC1436MS	S94BP02B	S94-0770-BI	03018
7	EN 3751MSD	AAC1436MSD	S94BP02C	S94-0770-BI	03018
8	EN 3752	AAC1437	S94BL01X	S94-0770-BI	03018
9	EN 3753	AAC1438	S94BL01Y	S94-0770-BI	03018
10	EN 3754	AAC1439	S94BL01Z	S94-0770-BI	03018
11	EN 3755	AAC1440	S94BL020	S94-0770-BI	03018
12	EN 3756	AAC1441	S94BL02V	S94-0770-CI	03018
13	EN 3757	AAC1442	S94BL02W	S94-0770-CI	03018
14	EN 3758	AAC1443	S94BL02X	S94-0770-CI	03018
15	EN 3759	AAC1444	S94BL02Y	S94-0770-CI	03018

----- END OF LISTING -----

DATA CHEM LABORATORIES
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QUALITY CONTROL REPORT

Form RLIMS66-V1.0
PDOR 11289422280082
Page 1

G94BP03F

Sample ID..: S94BP0HB
Sample Name: BL-46656-1

Method.....: 6010
Matrix.....: WATER

Report Date.....: 28-NOV-1994 22:28
Group ID.....: G94BP03F
Analyst.....: BEN
Units.....: ug/L

Blank Results

Analyte Name	QC Date	Blank Result	Lower Limit	Upper Limit	Flags	
~~Aluminum~~	~~23-NOV-1994~~	~~28.65~~	~~-200.0~~	~~200.0~~	~~MpL1~~	NOT REQUESTED JK 11/28/94
~~Antimony~~	~~23-NOV-1994~~	~~-9.750~~	~~-60.00~~	~~60.00~~	~~MpL1~~	
Arsenic	23-NOV-1994	6.520	-300.0	300.0	MpL1	
Barium	23-NOV-1994	1.950	-20.00	20.00	MpL1	
~~Beryllium~~	~~23-NOV-1994~~	~~0.9700~~	~~-5.000~~	~~5.000~~	~~MpL1~~	NOT REQUESTED JK 11/28/94
~~Boron~~	~~23-NOV-1994~~	~~4.950~~	~~-100.0~~	~~100.0~~	~~MpL1~~	
Cadmium	23-NOV-1994	-0.3900	-5.000	5.000	MpL1	
~~*Calcium~~	~~23-NOV-1994~~	~~109.0~~	~~-100.0~~	~~100.0~~	~~ApL1~~	NOT REQUESTED JK 11/28/94
Chromium	23-NOV-1994	3.950	-10.00	10.00	MpL1	
~~Cobalt~~	~~23-NOV-1994~~	~~9.810~~	~~-50.00~~	~~50.00~~	~~MpL1~~	NOT REQUESTED JK 11/28/94
Copper	23-NOV-1994	1.480	-20.00	20.00	MpL1	
~~*Iron~~	~~23-NOV-1994~~	~~56.35~~	~~-50.00~~	~~50.00~~	~~ApL1~~	
Lead	23-NOV-1994	39.39	-200.0	200.0	MpL1	
~~Lithium~~	~~23-NOV-1994~~	~~0.5300~~	~~-20.00~~	~~20.00~~	~~Mp~~	NOT REQUESTED JK 11/28/94
Magnesium	23-NOV-1994	46.38	-100.0	100.0	MpL1	
Manganese	23-NOV-1994	0.7700	-10.00	10.00	MpL1	
~~Molybdenum~~	~~23-NOV-1994~~	~~1.980~~	~~-100.0~~	~~100.0~~	~~MpL1~~	
Nickel	23-NOV-1994	1.580	-40.00	40.00	MpL1	
~~Phosphorus~~	~~23-NOV-1994~~	~~-87.24~~	~~-500.0~~	~~500.0~~	~~MpL1~~	NOT REQUESTED JK 11/28/94
~~Potassium~~	~~23-NOV-1994~~	~~-77.63~~	~~-3000.~~	~~3000.~~	~~MpL1~~	
Selenium	23-NOV-1994	-6.160	-300.0	300.0	MpL1	
~~Silicon~~	~~23-NOV-1994~~	~~22.04~~	~~-200.0~~	~~200.0~~	~~Mp~~	NOT REQUESTED JK 11/28/94
Silver	23-NOV-1994	-2.090	-10.00	10.00	MpL1	
~~*Sodium~~	~~23-NOV-1994~~	~~356.0~~	~~-200.0~~	~~200.0~~	~~ApL1~~	NOT REQUESTED JK 11/28/94
~~Strontium~~	~~23-NOV-1994~~	~~0.0000~~	~~-20.00~~	~~20.00~~	~~MpL1~~	
Thallium	23-NOV-1994	-38.08	-300.0	300.0	MpL1	
~~Tin~~	~~23-NOV-1994~~	~~-4.720~~	~~-100.0~~	~~100.0~~	~~MpL1~~	NOT REQUESTED JK 11/28/94
Titanium	23-NOV-1994	-0.6400	-20.00	20.00	Mp	
Vanadium	23-NOV-1994	0.8900	-50.00	50.00	MpL1	
~~Zinc~~	~~23-NOV-1994~~	~~4.560~~	~~-20.00~~	~~20.00~~	~~MpL1~~	

JTK 11/29/94

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QUALITY CONTROL REPORT

Form RLIMS66-V1.0
PDOR 11299402305608
Page 5

G94BW02B

Sample ID..: S94BP028
Sample Name: TB-46656-1

Method.....: 6010
Matrix.....: TCLP

Report Date.....: 29-NOV-1994 02:30
Group ID.....: G94BW02B
Analyst.....: BEN
Units.....: mg/L

Blank Results

Analyte Name	QC Date	Blank Result	Lower Limit	Upper Limit	Flags
Arsenic	23-NOV-1994	0.001400	-0.5000	0.5000	Mp
*Barium	23-NOV-1994	0.02245	-0.02000	0.02000	Ap
Cadmium	23-NOV-1994	0.00093	-0.01000	0.01000	Mp
Chromium	23-NOV-1994	0.003090	-0.02000	0.02000	Mp
Lead	23-NOV-1994	0.00097	-0.1000	0.1000	Mp
Selenium	23-NOV-1994	0.02426	-0.3000	0.3000	Mp
Silver	23-NOV-1994	-0.00262	-0.02000	0.02000	Mp

JTL
11/29/94

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QUALITY CONTROL REPORT

Form RLIMS66-V1.0
PDOR 11289423395866
Page 4

G94BW02B

Sample ID..: S94BP029
Sample Name: QC-46656-1

Method.....: 6010
Matrix.....: TCLP

Report Date.....: 28-NOV-1994 23:39
Group ID.....: G94BW02B
Analyst.....: BEN
Units.....: mg/l

LCS Results

Analyte Name	QC Date	LCS Result	Amount Spiked	Percent Recovery	Lower Limit	Upper Limit	Flags
Arsenic	23-NOV-1994	1.881	2.000	94.05	80.00	120.0	MpL1
Barium	23-NOV-1994	1.874	2.000	93.71	80.00	120.0	MpL1
Cadmium	23-NOV-1994	0.4318	0.5000	86.35	80.00	120.0	MpL1
Chromium	23-NOV-1994	0.4450	0.5000	89.00	80.00	120.0	MpL1
Lead	23-NOV-1994	0.8655	1.000	86.55	80.00	120.0	MpL1
Selenium	23-NOV-1994	1.964	2.000	98.18	80.00	120.0	MpL1
Silver	23-NOV-1994	0.4345	0.5000	86.89	80.00	120.0	MpL1

JTC 11/29/94

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QUALITY CONTROL REPORT

Form RLIMS66-V1.0
PDOR 11289423395866
Page 1

G94BW02B

Sample ID..: S94BP0HC
Sample Name: EM 3751MD

Method.....: 6010
Matrix.....: TCLP

Report Date.....: 28-NOV-1994 23:39
Group ID.....: G94BW02B
Analyst.....: BEN
Units.....: mg/L

Matrix Duplicate Results

Analyte Name	QC Date	Sample Result	MD Result	Relative % Difference	Lower Limit	Upper Limit	Flags
Arsenic	23-NOV-1994	0.0000	0.0000	0.0000	0.0000	20.00	Mp
Barium	23-NOV-1994	2.096	2.119	1.098	0.0000	20.00	Mp
Cadmium	23-NOV-1994	0.1387	0.1399	0.8758	0.0000	20.00	Mp
Chromium	23-NOV-1994	0.0000	0.0000	0.0000	0.0000	20.00	Mp
Lead	23-NOV-1994	29.79	30.07	0.9291	0.0000	20.00	Mp
Selenium	23-NOV-1994	0.0000	0.0000	0.0000	0.0000	20.00	Mp
Silver	23-NOV-1994	0.0000	0.0000	0.0000	0.0000	20.00	Mp

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QUALITY CONTROL REPORT

Form RLIMS66-V1.0
PDOR 11289423395866
Page 2

G94BW02B

Sample ID..: S94BP02B
Sample Name: EM 3751MS

Method.....: 6010
Matrix.....: TCLP

Report Date.....: 28-NOV-1994 23:39
Group ID.....: G94BW02B
Analyst.....: BEN
Units.....: mg/L

Matrix Spike Results

Analyte Name	QC Date	Sample Result	MS Result	Amount Spiked	Percent Recovery	Lower Limit	Upper Limit	Flags
Arsenic	23-NOV-1994	0.0000	1.821	2.000	91.04	75.00	125.0	L1Mp
Barium	23-NOV-1994	2.096	3.944	2.000	92.38	75.00	125.0	MpL1
Cadmium	23-NOV-1994	0.1387	0.5754	0.5000	87.34	75.00	125.0	MpL1
Chromium	23-NOV-1994	0.0000	0.4384	0.5000	87.68	75.00	125.0	L1Mp
*Lead	23-NOV-1994	29.79	30.51	1.000	71.96	75.00	125.0	apL1
Selenium	23-NOV-1994	0.0000	2.016	2.000	97.86	75.00	125.0	MpL1
*Silver	23-NOV-1994	0.0000	0.2252	0.5000	45.05	75.00	125.0	apL1

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QUALITY CONTROL REPORT

Form RLIMS66-V1.0
PDOR 1289423395866
Page 3

G94BW02B

Sample ID..: S94BP02C
Sample Name: [redacted] 3751MSD

Method.....: 6010
Matrix.....: TCLP

Report Date.....: 28-NOV-1994 23:39
Group ID.....: G94BW02B
Analyst.....: BEN
Units.....: mg/L

Matrix Spike Duplicate Results

Analyte Name	QC Date	MSD Result	Relative % Difference	Percent Recovery	Lower Limit	Upper Limit	Flags
Arsenic	23-NOV-1994	1.833	0.6776	91.66	0.0000	20.00	Mp
Barium	23-NOV-1994	3.914	1.595	90.92	0.0000	20.00	Mp
Cadmium	23-NOV-1994	0.5638	2.692	85.02	0.0000	20.00	Mp
Chromium	23-NOV-1994	0.4438	1.231	87.91	0.0000	20.00	Mp
*Lead	23-NOV-1994	30.26	43.35	46.32	0.0000	20.00	Ap
Selenium	23-NOV-1994	1.983	1.656	99.17	0.0000	20.00	Mp
*Silver	23-NOV-1994	0.1470	42.03	29.40	0.0000	20.00	Ap

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Earliest Sampling Date: 17-Nov-1994

DataChem Laboratories
CHAIN-OF-CUSTODY

Results due by: 29-Nov-1994

Project/Job/Task: COMM-ENV | Split: | Root Set ID: S94-0770 • | Reporting Group

Client: IT Corporation | Account: 03018

Comments:

Date Sampled	Field ID Number	DCL Sample Name	DCL Sample ID	QC	Matrix	Analysis AI TCLP Extraction	BI Metals/TCLP	CI Lead/TCLP	DI Mercury/TCLP	EI TCLP/PEST	FI TCLP-Herbicides	GI TCLP/SEMI-VOL	HI ZERO HEAD EX-TRACT	II TCLP/VOLATILES	# Bottles
17-Nov-1994	AAC1436	EN 3751			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1437	EN 3752			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1438	EN 3753			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1439	EN 3754			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1440	EN 3755			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1441	EN 3756			SOIL	X		X							1
17-Nov-1994	AAC1442	EN 3757			SOIL	X		X							1
17-Nov-1994	AAC1443	EN 3758			SOIL	X		X							1
17-Nov-1994	AAC1444	EN 3759			SOIL	X		X							1

Received: Date/Time/Signature 11-19-94 / 1000 / Mark Mendenhall

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
Mark Mendenhall	11-19-94 1130	WALK-IN: R23-1 MM	STORAGE R23-1
walk-in R23-1 KRI	11-21-94 1000		TCLP

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep/Analysis for: ICP | Lab Notebook No.: ISP 35

Prepared/Analyzed by: SAMPLE PREP GROUP RM 20 | Date/Time: 11-22-94 / 23:00

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
	11-22-94 1700	R-21-1 KKM	Stor/R21-1
R-21-1	11-22-94 18:00	SAMPLE PREP GROUP RM 20 BK # ISP 35	Metals Prep / none
SAMPLE PREP GROUP RM 20 BK # ISP 35	11-23-94 1100		ICP STORAGE
	11/23/94 1600		ICP analysis
	11/23/94 2400	ICP lab	Storage

Check box if there is a continuation page ☐

Form COFC: 01 SWV2.10

Printed 11/19/1994 10:54

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

S94 0770

Date 11/17/94
Control No. 11614
Technical Area 40
Send Lab Report Jeffrey Tucker / IT Corp. MS
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3751	AAC1436	11/17/94 1500	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl list
			X		~~1x250ml,P~~					(JW)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest.		SEE ATTACHED SAMPLE INFORMATION
			X		1x125ml,G			TCLP Herb.		
			X		2x40ml,G			TCLP VOA		
EN 3752	AAC1437	11/17/94 1510	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list
			X		~~1x250ml,P~~					(JW)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest.		

Relinquished by (Signature) Affiliation J. Tracy Wunder IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time 1300	Received by (Signature) Affiliation Mark Underhill	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glen VanDeposel GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Proce Facility PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11616
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp MS
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3752	AAC1437	11/17/94 1510	X		1x125ml, G	Soil	4°C	TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		
EN 3753	AAC143B	11/17/94 1520	X		1x250ml, P	Soil	4°C	TCLP Metals		See incl. list
			~~X~~		~~1x250ml, P~~					JW
			X		1x125ml, G			TCLP SVOA		
			X		1x125ml, G			TCLP Pest		
			X		1x125ml, G			TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		

Relinquished by (Signature) Affiliation	[signature] IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation	FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation	Fed Ex	Time 1300	Received by (Signature) Affiliation	[signature] DAY	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanOerpel GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11617
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp MS
Operable Unit N/A
~~Site Work Plan~~ 5570 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested Test	Analysis Requested Method	Remarks (Condition of receipt, etc.)
EN 3754	AAC1439	11/17/94 1530	X		250ml, P 1x125 gw	Soil	4°C	TCLP Metals		See ind. list
			X		~~1x250ml, P~~					(TM)
			X		1x125ml, G			TCLP SVOA		
			X		1x125ml, G			TCLP Pest		
			X		1x125ml, G			TCLP Herb		
			X		2x40ml, G			TCLP VOA		
EN 3755	AAC1440	11/17/94 1540	X		1x250ml, P	Soil	4°C	TCLP Metals		See ind. list
					~~1x250ml, P~~					(TM)
					1x125ml, G			TCLP SVOA		
					1x125ml, G			TCLP Pest.		

Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date
[signature] IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) Affiliation Fed Ex	Time 1300	Received by (Signature) Affiliation [signature]	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanDerpool GV Doreen Meadows DM

WHITE To accompany samples YELLOW Recei... ...g Facility PINK Field Team Leader

SOP 1.04, R0

017

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11618
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp MS
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3755 AAC1440	11/17/94 1540	X		125 G ~~1x250ml,P~~	Soil	4°C	TCLP Herb		
				~~1x250ml,P~~					
AAC1440	11/17/94 1540	X		2x40ml,G	Soil	4°C	TCLP VOA		
EN 3756 AAC1441	11/17/94 1610		X	1x500ml,P	Soil	4°C	TCLP Lead		
3757 AAC1442	11/17/94 1620		X	1x500ml,P	Soil	4°C	TCLP Lead		
3758 AAC1443	11/17/94 1630		X	1x500ml,P	Soil	4°C	TCLP Lead		
3759 AAC1444	11/17/94 1640		X	1x500ml,P	Soil	4°C	TCLP Lead		

Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date
IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) Affiliation	**Time**	**Received by (Signature) Affiliation**	**Time**	**Received by (Signature) Affiliation**	**Time**
Fed Ex		[signature]	1000		

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn Vandepool GV Darren Meadows

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

DATA CHEM LABORATORIES
A Sorenson Company

ENVIRONMENTAL WASTE REPORT (TCLP)

Form TCLP-A
Page 1 of 3
Part 1 of 2

Date NOV 22 1994
Agency Identification Number S94-0770-DI
Account No. 03018

IT Corporation
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544
Attention: Jeffrey Tucker

FAX (505) 662-1222
Telephone (505) 662-1200

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 17, 1994

Date Samples Received at Laboratory November 19, 1994

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	BL-46657-1 / BL-46657-1	TB-46657-1 / TB-46657-1	QC-46657-1 / QC-46657-1	QC-46657-2 / QC-46657-2	AAC1436 / EN 3751	AAC1436MS / EN 3751MS	AAC1436MSD / EN 3751MSD	AAC1437 / EN 3752
Mercury/TCLP (Hg) 11/28/1994 7470 [1] 1311 [1]	mg/L	ND*	ND*	0.0020	0.0048	ND*	0.0010	0.0011	ND*

* See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
[1] Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

Analyst: Neil A. Edwards for NE

This report is 11 total pages.

Reviewer: Kristie F. Bitner

DATA CHEM LABORATORIES
A Sorenson Company

ENVIRONMENTAL WASTE REPORT (TCLP)

Form TCLP-A
Page 2 of 3
Part 2 of 2

Date [illegible]
Agency Identification Number S94-0770-DI
Account No. 03018

IT Corporation
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544
Attention: Jeffrey Tucker

FAX (505) 662-1222
Telephone (505) 662-1200

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 17, 1994

Date Samples Received at Laboratory November 19, 1994

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	AAC1438 EN 3753	AAC1439 EN 3754	AAC1440 EN 3755	AAC1440MD EN 3755MD				* Limit of Detection
Mercury/TCLP (Hg) 11/28/1994 7470 [1] 1311 [1]	mg/L	ND*	ND*	ND*	ND*				0.0002

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
[1] Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

002

DATA CHEM LABORATORIES
A Sorenson Company

ENVIRONMENTAL WASTE REPORT (TCLP)

Date _____

Agency Identification Number S94-0770-DI

General Set Comments

TB-46657-1 is an extraction blank; QC-46657-1 is an LCS with a target of 0.002 mg/L of mercury. These samples were prepared by the TCLP extraction group.

BL-46657-1 is a reagent preparation blank; QC-46657-2 is an ICV/LCS with a target of 0.005 mg/L of mercury. These samples were prepared by the inorganic sample preparation group.

The spike target is 0.002 mg/L of mercury.

Method Index **-- Method Reference --**

[1] SW-846 "Test Methods for Evaluating Solid Waste", 3rd Edition, November 1986.

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DATA CHEM LABORATORIES
A Sorenson Company

QUALITY CONTROL REPORT

Form RLIMS65-V1.0
PDOR 11299411532133
Page 2

[redacted]

G94BX002

Method....: SW7470
Analyte...: MERCURY
Matrix....: TCLP

Report Date.....: 29-NOV-1994 11:53
Group ID.....: G94BX002
Analyst.....:
Units.....: mg/L

Blank Results

Sample ID	Sample Name	QC Date	Blank Result	Lower Limit	Upper Limit	Flags
S94BP02D	TB-46657-1	28-NOV-1994	0.0000702	-0.0002	0.000200	Mp

LCS Results

Sample ID	Sample Name	QC Date	LCS Result	Amount Spiked	Percent Recovery	Lower Limit	Upper Limit	Flags
S94BP02F	QC-46657-1	28-NOV-1994	0.00201	0.00200	101.	80.0	120.	MP

Matrix Spike Results

Sample ID	Sample Name	QC Date	Sample Result	MS Result	Amount Spiked	Percent Recovery	Lower Limit	Upper Limit	Flags
*S94BP02G	EN 3751MS	28-NOV-1994		0.000978	0.00200	48.9	75.0	125.	ap

Matrix Spike Duplicate Results

Sample ID	Sample Name	QC Date	MSD Result	Relative % Difference	Percent Recovery	Lower Limit	Upper Limit	Flags
S94BP02H	EN 3751MSD	28-NOV-1994	0.00107	8.93	53.5	0.000	20.0	Mp

Matrix Duplicate Results

Sample ID	Sample Name	QC Date	Sample Result	MD Result	Relative % Difference	Lower Limit	Upper Limit	Flags
S94BW005	EN 3755MD	28-NOV-1994		0.000	0.000	0.000	20.0	Mp

004

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
FAX (801) 268-9992

DATA CHEM LABORATORIES
A Lorenson Company

QUALITY CONTROL REPORT

Form RLIMS65-V1.0
PDOR 11299411532133
Page 1

[redacted]
G94BX002

Method....: SW7470
Analyte...: MERCURY
Matrix....: WATER

Report Date.....: 29-NOV-1994 11:53
Group ID.....: G94BX002
Analyst.....:
Units.....: ug/L

Blank Results

Sample ID	Sample Name	QC Date	Blank Result	Lower Limit	Upper Limit	Flags
S94BW003	BL-46657-1	28-NOV-1994	0.0236	-0.200	0.200	Mp

LCS Results

Sample ID	Sample Name	QC Date	LCS Result	Amount Spiked	Percent Recovery	Lower Limit	Upper Limit	Flags
S94BW004	QC-46657-2	28-NOV-1994	4.80	5.00	96.1	80.0	120.	MP

005

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
FAX (801) 268-9992

DataChem Laboratories
LIMS - Sample Master System
Preparation Group Report

Date: 28-NOV-1994 06:13
User: MANNING

RLIMS15-V1.1

Preparation Run Name: G94BW003

Group ID: G94BW003

Samples: 12

Pos	Laboratory Sample Name	Field Sample Name	Laboratory Sample ID	Laboratory Group Name	Accnt. Number
1	BL-46657-1	BL-46657-1	S94BW003	S94-0770-DI	03018
2	TB-46657-1	TB-46657-1	S94BP02D	S94-0770-DI	03018
3	QC-46657-1	QC-46657-1	S94BP02F	S94-0770-DI	03018
4	QC-46657-2	QC-46657-2	S94BW004	S94-0770-DI	03018
5	EN 3751	AAC1436	S94BL01Q	S94-0770-DI	03018
6	EN 3751MS	AAC1436MS	S94BP02G	S94-0770-DI	03018
7	EN 3751MSD	AAC1436MSD	S94BP02H	S94-0770-DI	03018
8	EN 3752	AAC1437	S94BL01R	S94-0770-DI	03018
9	EN 3753	AAC1438	S94BL01S	S94-0770-DI	03018
10	EN 3754	AAC1439	S94BL01T	S94-0770-DI	03018
11	EN 3755	AAC1440	S94BL01V	S94-0770-DI	03018
12	EN 3755MD	AAC1440MD	S94BW005	S94-0770-DI	03018

----- END OF LISTING -----

Earliest Sampling Date: 17-Nov-1994

DataChem Laboratories
CHAIN-OF-CUSTODY

Results due by: 29-Nov-1994

Project/Job/Task: COMM-ENV | Split: | Root Set ID: S94-0770 • | Reporting Group

Client: IT Corporation | Account: 03018

Comments:

Date Sampled	Field ID Number	DCL Sample Name	DCL Sample ID	QC	Matrix						AI TCLP Extraction	BI Metals/TCLP	CI Lead/TCLP	DI Mercury/TCLP	EI TCLP/PEST	FI TCLP/Herbicides	GI TCLP/SEMI-VOL	HI ZERO HEAD EXTRACT	II VOLATILES	# Bottles
17-Nov-1994	AAC1436	EN 3751			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1437	EN 3752			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1438	EN 3753			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1439	EN 3754			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1440	EN 3755			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1441	EN 3756			SOIL						X		X							1
17-Nov-1994	AAC1442	EN 3757			SOIL						X		X							1
17-Nov-1994	AAC1443	EN 3758			SOIL						X		X							1
17-Nov-1994	AAC1444	EN 3759			SOIL						X		X							1

Received: Date/Time/Signature 11-19-94 / 1000 / Mark Mendenhall

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
Mark Mendenhall	11-19-94 1130	WALK-IN: R23-1 RMM	STORAGE: R23-1
WALK-IN R23-1 KKM	11-21-94 1000	[illegible]	TCLP

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep/Analysis for: Hg | Lab Notebook No.: ISP 33

Prepared/Analyzed by: Rita Manning | Date/Time: 11-28-94 / 06:00

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
[illegible]	11-22-94 1700	R-21-1 KKM	Stor/R21-1
R-21-1 [illegible]	11-22-94 18:00	SAMPLE PREP GROUP RM 20 GK # ISP 35 [illegible]	Metals Prep / none
SAMPLE PREP GROUP RM 20 GK # ISP 35 [illegible]	11-23-94 04:00	R-21-1 [illegible]	Storage / R21-1
R-21-1 [illegible]	11-28-94 06:00	Rita Manning	Hg prep/none
Rita Manning	11-28-94 16:10	[illegible]	Hg ANALYSIS

• Check box if there is a continuation page ☐

Form: COFC1.01 SWV2.10

Printed 11/19/1994 10:54

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11618
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp MS
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3755	AAC1440	11/17/94 1540	X		125 g ~~1x250mL,P~~	Soil	4°C	TCLP Herb		
					~~1x250mL,P~~					
	AAC1440	11/17/94 1540	X		2x40mL,G	Soil	4°C	TCLP VOA		
EN 3756	AAC1441	11/17/94 1610		X	1x500mL,P	Soil	4°C	TCLP Lead		
3757	AAC1442	11/17/94 1620		X	1x500mL,P	Soil	4°C	TCLP Lead		
3758	AAC1443	11/17/94 1633		X	1x500mL,P	Soil	4°C	TCLP Lead		
3759	AAC1444	11/17/94 1640		X	1x500mL,P	Soil	4°C	TCLP Lead		

Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date
[signature] IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) Affiliation	**Time**	**Received by (Signature) Affiliation**	**Time**	**Received by (Signature) Affiliation**	**Time**
Fed Ex		[signature]	1000		

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn Vandepool GV Darren Meadows

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratc ıvironmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

S94 0770

Date 11/17/94
Control No. 11614
Technical Area 40
Send Lab Report Jeffrey Tucker / IT Corp. MS
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested Test	Analysis Requested Method	Remarks (Condition of receipt, etc.)
EN 3751	AAC1436	11/17/94 1500	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl list
			X		1x250ml,P					(TM)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest.		SEE ATTACHED SAMPLE INFORMATION
			X		1x125ml,G			TCLP Herb.		
			X		2x40ml,G			TCLP VOA		
EN 3752	AAC1437	11/17/94 1510	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list
			X		1x250ml,P					(TM)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest.		

Relinquished by (Signature) Affiliation	Date	Time	Received by (Signature) Affiliation	Date	Time
J. Frank Wunder IT Corp	11/18/94	1300	FED EX	11-19-94	1000
Fed Ex			Mark Mendenhall		

Relinquished by (Signature) Affiliation	Date	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glen VanDerpool GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

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Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11616
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp MS
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3752	AAC1437	11/17/94 1510	X		1x125ml, G	Soil	4°C	TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		
EN 3753	AAC143B	11/17/94 1520	X		1x250ml, P	Soil	4°C	TCLP Metals		See incl. list
			X		1x250ml, P					
			X		1x125ml, G			TCLP SVOA		
			X		1x125ml, G			TCLP Pest		
			X		1x125ml, G			TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		

JW

Relinquished by (Signature) Affiliation [signature] IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time 1300	Received by (Signature) Affiliation [signature]	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glen VanOerpel GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

010

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94 | Control No. 11617

Technical Area 40 | Send Lab Report Jeff Tucker / IT Corp MS

Operable Unit N/A | ~~Site Work Plan~~ 5570 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544

~~OU Contact~~ | Date Samples Shipped 11/18/94

Contact Phone No. 505-662-1200 | Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3754	AAC1439	11/17/94 1530	X		1x125 qw 250ml,P	Soil	4°C	TCLP Metals		See incl. list
			X		~~1x250ml,P~~					(TM)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest		
			X		1x125ml,G			TCLP Herb		
			X		2x40ml,G			TCLP VOA		
EN 3755	AAC1440	11/17/94 1540	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list
					~~1x250ml,P~~					(TM)
					1x125ml,G			TCLP SVOA		
					1x125ml,G			TCLP Pest.		

Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date
[signature] IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) Affiliation	**Time**	**Received by (Signature) Affiliation**	**Time**	**Received by (Signature) Affiliation**	**Time**
Fed Ex	1300	[signature]	1000		

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS *Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanDerpool GV Darren Meadows DM

WH... ...ny samples Y... ...s Processing Facility PINK Field Team Leader

SOP 1.04, R0

DATA CHEM LABORATORIES
A Sorenson Company

ENVIRONMENTAL WASTE REPORT (TCLP)

Form TCLP-A
Page 1 of 2
Part 1 of 1

NOV 29 1994

Date

Agency Identification Number S94-0770-CI

Account No. 03018

IT Corporation
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544
Attention: Jeffrey Tucker

FAX (505) 662-1222
Telephone (505) 662-1200

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 17, 1994

Date Samples Received at Laboratory November 19, 1994

Analytical Results

Parameter Name / Analysis Date / Units / Method / Prep Method	Field Number / Lab Number	AAC1441 EN 3756	AAC1442 EN 3757	AAC1443 EN 3758	AAC1444 EN 3759				* Limit of Detection
Lead/TCLP (Pb) 11/23/1994 mg/L 6010 [1] 3015/1311 [1]		9.8	ND*	ND*	4.0				0.1

* See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
[1] Analyses completed on or before this date.

** Parameter not analyzed (See comment page).
( ) Parameter between LOD and LOQ.
[ ] Method Reference (See comments page.)

Analyst: Boyd E. Neilson

Reviewer: John T. Kershisnik

This report is 12 total pages.

001

DATA CHEM LABORATORIES
A Sorenson Company

ENVIRONMENTAL WASTE REPORT (TCLP)

Date NOV 2 1 1994

Agency Identification Number S94-0770-CI

General Set Comments

This set was analyzed in conjunction with set S94-0770-BI under one analytical batch. A preparation blank, extraction blank, matrix duplicate, matrix spike, matrix spike duplicate, and a QC sample were analyzed and reported with set S94-0770-BI.

Method Index **-- Method Reference --**

[1] SW-846 "Test Methods for Evaluating Solid Waste", 3rd Edition, November 1986.

DataChem Laboratories
LIMS - Sample Master System
Preparation Group Report

Date: 22-NOV-1994 19:22
User: DANIEL

RLIMS15-V1.1

Preparation Run Name: G94BP03F

Group ID: G94BP03F

Samples: 15

Pos	Laboratory Sample Name	Field Sample Name	Laboratory Sample ID	Laboratory Group Name	Accnt. Number
1	BL-46656-1	BL-46656-1	S94BP0HB	S94-0770-BI	03018
2	TB-46656-1	TB-46656-1	S94BP028	S94-0770-BI	03018
3	QC-46656-1	QC-46656-1	S94BP029	S94-0770-BI	03018
4	EN 3751	AAC1436	S94BL01W	S94-0770-BI	03018
5	EN 3751MD	AAC1436MD	S94BP0HC	S94-0770-BI	03018
6	EN 3751MS	AAC1436MS	S94BP02B	S94-0770-BI	03018
7	EN 3751MSD	AAC1436MSD	S94BP02C	S94-0770-BI	03018
8	EN 3752	AAC1437	S94BL01X	S94-0770-BI	03018
9	EN 3753	AAC1438	S94BL01Y	S94-0770-BI	03018
10	EN 3754	AAC1439	S94BL01Z	S94-0770-BI	03018
11	EN 3755	AAC1440	S94BL020	S94-0770-BI	03018
12	EN 3756	AAC1441	S94BL02V	S94-0770-CI	03018
13	EN 3757	AAC1442	S94BL02W	S94-0770-CI	03018
14	EN 3758	AAC1443	S94BL02X	S94-0770-CI	03018
15	EN 3759	AAC1444	S94BL02Y	S94-0770-CI	03018

----- END OF LISTING -----

DataChem Laboratories
LIMS - Sample Master System
Analysis Group Report

Date: 28-NOV-1994 23:27
User: NEILSON

RLIMS15-V1.1

Analysis Run Name: G94BW02B

Group ID: G94BW02B

Samples: 15

Pos	Laboratory Sample Name	Field Sample Name	Laboratory Sample ID	Laboratory Group Name	Accnt. Number
1	BL-46656-1	BL-46656-1	S94BP0HB	S94-0770-BI	03018
2	TB-46656-1	TB-46656-1	S94BP028	S94-0770-BI	03018
3	QC-46656-1	QC-46656-1	S94BP029	S94-0770-BI	03018
4	EN 3751	AAC1436	S94BL01W	S94-0770-BI	03018
5	EN 3751MD	AAC1436MD	S94BP0HC	S94-0770-BI	03018
6	EN 3751MS	AAC1436MS	S94BP02B	S94-0770-BI	03018
7	EN 3751MSD	AAC1436MSD	S94BP02C	S94-0770-BI	03018
8	EN 3752	AAC1437	S94BL01X	S94-0770-BI	03018
9	EN 3753	AAC1438	S94BL01Y	S94-0770-BI	03018
10	EN 3754	AAC1439	S94BL01Z	S94-0770-BI	03018
11	EN 3755	AAC1440	S94BL020	S94-0770-BI	03018
12	EN 3756	AAC1441	S94BL02V	S94-0770-CI	03018
13	EN 3757	AAC1442	S94BL02W	S94-0770-CI	03018
14	EN 3758	AAC1443	S94BL02X	S94-0770-CI	03018
15	EN 3759	AAC1444	S94BL02Y	S94-0770-CI	03018

----- END OF LISTING -----

Earliest Sampling Date: 17 Nov-1994

DataChem Laboratories
CHAIN-OF-CUSTODY

Results due by: 29-Nov-1994

Project/Job/Task: COMM-ENV | Split: | Root Set ID: S94-0770 •

Client: IT Corporation | Account: 03018

Comments:

Date Sampled	Field ID Number	DCL Sample Name	DCL Sample ID	QC	Matrix	Analysis	AI TCLP Extraction	BI Metals/TCLP	CI Lead/TCLP	DI Mercury/TCLP	EI TCLP/PEST	FI TCLP-Herbicides	GI TCLP/SEMI-VOL	HI TRO HEAD. EX. TRACT	II TCLP/VOLATILES	# Bottles
17-Nov-1994	AAC1436	EN 3751			SOIL		X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1437	EN 3752			SOIL		X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1438	EN 3753			SOIL		X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1439	EN 3754			SOIL		X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1440	EN 3755			SOIL		X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1441	EN 3756			SOIL		X		X							1
17-Nov-1994	AAC1442	EN 3757			SOIL		X		X							1
17-Nov-1994	AAC1443	EN 3758			SOIL		X		X							1
17-Nov-1994	AAC1444	EN 3759			SOIL		X		X							1

Received: Date/Time/Signature 11-19-94 / 1000 / Mark Mendenhall

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
Mark Mendenhall	11-19-94 1130	WALK-IN: R23-1 MM	STORAGE: R23-1
WALK-IN R23-1 KKM	11-21-94 1000	[illegible]	TCLP

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep/Analysis for: ICP | Lab Notebook No.: ISP35

Prepared/Analyzed by: SAMPLE PREP GROUP RM 20 | Date/Time: 11-22-94 / 23:00

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
[illegible]	11-22-94 1700	R-21-1 KKM	Stor/R21-1
R-21 [illegible]	11-22-94 18:00	SAMPLE PREP GROUP RM 20 BK # ISP 35 [illegible]	metals Prep / none
SAMPLE PREP GROUP RM 20 BK # ISP 35 [illegible]	11-23-94 1100	Jenny J. Lin	ICP STORAGE
Jenny J. Lin	11/23/94 1600	[illegible]	ICP analysis
[illegible]	11/23/94 2100	ICP lab	Storage

Check box if there is a continuation page ☐

Form: COFC1.01 SWV2.10

Printed 11/19/1994 10:54

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

S94 0770

Date 11/17/94
Technical Area 40
Operable Unit N/A
~~OU Contact~~
Contact Phone No. 505-662-1200

Control No. 11614
Send Lab Report Jeffrey Tucker / IT Corp. MS
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
Date Samples Shipped 11/18/94
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested Test	Analysis Requested Method	Remarks (Condition of receipt, etc.)
EN 3751	AAC1436	11/17/94 1500	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl list
			X		~~1x250ml,P~~					(JM)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest.		SEE ATTACHED SAMPLE INFORMATION
			X		1x125ml,G			TCLP Herb.		
			X		2x40ml,G			TCLP VOA		
EN 3752	AAC1437	11/17/94 1510	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list
			X		~~1x250ml,P~~					(JM)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest.		

Relinquished by (Signature) J. Tracy Wunder Affiliation IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time 1300	Received by (Signature) Affiliation Mark Mendenhall RCL	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological Highly Toxic Flammable Skin Irritant Nonhazard X Other

SAMPLE DISPOSAL
Return to client Disposal by lab X Archive (Indicate number of months)

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glen VanDepoel GV Porren Meadows DM

WHITE To accompany samples YELLOW Records Pr ng Facility PINK Field Team Leader

SOP 1.04

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94 | Control No. 11616

Technical Area 40 | Send Lab Report Jeff Tucker / IT Corp MS

Operable Unit N/A | ~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544

~~OU Contact~~ | Date Samples Shipped

Contact Phone No. 505-662-1200 | Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3752	AAC1437	11/17/94 1510	X		1x125ml, G	Soil	4°C	TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		
EN 3753	AAC143B	11/17/94 1520	X		1x250ml, P	Soil	4°C	TCLP Metals		See incl. list
	↓	↓	X		~~1x250ml, P~~	↓	↓			JW
			X		1x125ml, G			TCLP SVOA		
			X		1x125ml, G			TCLP Pest		
			X		1x125ml, G			TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		

Relinquished by (Signature) Affiliation: Troy White / IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation: FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation: Fed Ex	Time 1300	Received by (Signature) Affiliation: Mark Mendenhall DOE	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months)

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanDerpool GV Darren Meadows DM

WHITE To accompany samples | YELLOW Records Processing Facility | PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11617
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp MS
Operable Unit N/A
~~Site Work Plan~~ 5570 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested Test	Analysis Requested Method	Remarks (Condition of receipt, etc.)
EN 3754	AAC1439	11/17/94 1530	X		1x125 ~~250ml,P~~ GW	Soil	4°C	TCLP Metals		See ind. list
			X		~~1x250ml,P~~					(TM)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest		
			X		1x125ml,G			TCLP Herb		
			X		2x40ml,G			TCLP VOA		
EN 3755	AAC1440	11/17/94 1540	X		1x250ml,P	Soil	4°C	TCLP Metals		See ind. list
					~~1x250ml,P~~					(TM)
					1x125ml,G			TCLP SVOA		
					1x125ml,G			TCLP Pest.		

Relinquished by (Signature) / Affiliation	Date / Time	Relinquished by (Signature) / Affiliation	Date / Time	Relinquished by (Signature) / Affiliation	Date / Time
Jay Wirth / IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) / Affiliation: Fed Ex	1300	Received by (Signature) / Affiliation: Mark Mendenhall	1000	Received by (Signature) / Affiliation	

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological Highly Toxic Flammable Skin Irritant Nonhazard X Other

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months)

COMMENTS *Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanDerpool GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Pr[illegible]g Facility PINK Field Team Leader

SOP 1.04

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11618
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested Test	Analysis Requested Method	Remarks (Condition of receipt, etc.)
EN 3755	AAC1440	11/17/94 1540	X		125 G ~~1x250ml,P~~	Soil	4°C	TCLP Herb		
					~~1x250ml,P~~					
	AAC1440	11/17/94 1540	X		2x40ml,G	Soil	4°C	TCLP VOA		
EN 3756	AAC1441	11/17/94 1610		X	1x500ml,P	Soil	4°C	TCLP Lead		
3757	AAC1442	11/17/94 1620		X	1x500ml,P	Soil	4°C	TCLP Lead		
3758	AAC1443	11/17/94 1630		X	1x500ml,P	Soil	4°C	TCLP Lead		
3759	AAC1444	11/17/94 1640		X	1x500ml,P	Soil	4°C	TCLP Lead		

Relinquished by (Signature) Affiliation IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time	Received by (Signature) Affiliation [signature]	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn Vandepool GV Darren Meadows

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

009

Scope of Work
for Data Chem Laboratories

The scope of work for the subcontractor for analytical services associated with the drum sampling will include the following:

- Analysis of nine samples. Five of the samples will be analyzed for the full TCLP list (D-listed constituents). The attached list shows the constituents to be analyzed for and analysis methods to be used. The remaining four samples will be analyzed only for TCLP lead using the method indicated on the attached list.

- A turnaround time for the analyses of ten calendar days is required.

- Preliminary results are to be faxed to us as the results are obtained with the complete data package mailed when available.

- All appropriate QA/QC procedures shall be followed including a laboratory control sample as well as a method blank analyzed with the samples.

- Data packages will include sample identification information, the analytical results, and the appropriate detection limits. The packages should also include the results of the QA/QC procedures, digestion standards and preparation, and chain of custody and sample log-in/receipt records.

TCLP SEMI-VOLTATILE ORGANICS

Parameter	EPA HW No. †	Extraction Procedure	EPA Method Reference	Regulatory Level (mg/L)
Acid Extractables				
o-Cresol	D023	NVE	8270	200.0
m-Cresol	D024	NVE	8270	200.0
p-Cresol	D025	NVE	8270	200.0
*Total Cresol	D026	NVE	8270	200.0
Pentachlorophenol	D037	NVE	8270	100.0
2,4,5-Trichlorophenol	D041	NVE	8270	400.0
2,4,6-Trichlorophenol	D042	NVE	8270	2.0
Base/Neutral Extractables				
1,4-Dichlorobenzene	D027	NVE	8270	7.5
2,4-Dinitrotoluene	D030	NVE	8270	0.13
Hexachlorobenzene	D032	NVE	8270	0.13
Hexachloro-1,3-butadiene	D033	NVE	8270	0.5
Hexachloroethane	D034	NVE	8270	3.0
Nitrobenzene	D036	NVE	8270	2.0
Pyridine	D038	NVE	8270	5.0

TCLP PESTICIDES

Chlordane	D020	NVE	8080	0.03
Endrin	D012	NVE	8080	0.02
Heptachlor (and its hydroxide)	D031	NVE	8080	0.008
Lindane	D013	NVE	8080	0.4
Methoxychlor	D014	NVE	8080	10.0
Toxaphene	D015	NVE	8080	0.5

TCLP HERBICIDES

2,4-D	D016	NVE	8150	10.0
2,4,5-TP(Silvex)	D017	NVE	8150	1.0

* If o-, m-, and p-Cresol cannot be differentiated, the Total Cresol (D026) concentration is used.

NVE = Non-Volatile Extraction

† = EPA Hazardous Waste Number

TCLP METALS

Parameter	EPA HW No. †	Extraction Procedure	EPA Reference	Method Regulatory Level (mg/L)
Arsenic, As	D004	NVE	7060	5.0
Barium, Ba	D005	NVE	7080	100.0
Cadmium, Cd	D006	NVE	7130	1.0
Chromium, Cr	D007	NVE	7190	5.0
Lead, Pb	D008	NVE	7421	5.0
Mercury, Hg	D009	NVE	7470	0.2
Selenium, Se	D010	NVE	7740	1.0
Silver, Ag	D011	NVE	7760	5.0
* Nickel, Ni				
* Thallium, Tl				

TCLP VOLATILE ORGANICS

Benzene	D018	ZHE	8240/8260	0.5
Carbon Tetrachloride	D019	ZHE	8240/8260	0.5
Chlorobenzene	D021	ZHE	8240/8260	100.0
Chloroform	D022	ZHE	8240/8260	6.0
1,2-Dichloroethane	D028	ZHE	8240/8260	0.5
1,1-Dichloroethylene	D029	ZHE	8240/8260	0.7
Methyl ethyl ketone	D035	ZHE	8240/8260	200.0
Tetrachloroethylene	D039	ZHE	8240/8260	0.7
Trichloroethylene	D040	ZHE	8240/8260	0.5
Vinyl Chloride	D043	ZHE	8240/8260	0.2

NVE = Non-Volatile Extraction

ZHE = Zero Headspace Extraction

† = EPA Hazardous Waste Number

012

DATA CHEM LABORATORIES

A Sorenson Company

Case Narrative
DCL Set ID #(s): S94-0770-II
Client: IT
Account #: 3018
November 29, 1994

Analysis / Method #: EPA Method 1311 for Toxicity Characteristic Leaching Procedure (TCLP) specifies that EPA SW846 method 8240 (DCL SOP: OV-SW-8240; revision #2 - herein referred to as the "method") be used for the analysis of samples of various matrices for the TCLP volatile organics by GC/MS using purge and trap techniques. The TCLP analyte list includes the following compounds: Benzene, 2-Butanone, Carbon tetrachloride, Chlorobenzene, Chloroform, 1,2-Dichloroethane, 1,1-Dichloroethene, Tetrachloroethene, Trichloroethene, and Vinyl chloride.

General Set Information: Datachem Laboratories received five soil samples for VOA analysis. All samples were analyzed within fourteen days from ZHE extraction. Recoveries of target analytes are reported on the Sample Analysis Data Sheet in units of mg/L of leachate. TIC's (unknown compounds) are not reported for TCLP analysis.

Sample Preparation: The samples were prepared for analysis utilizing Zero Headspace Extractors (ZHE) as prescribed in the Toxicity Characteristic Leaching Procedure (Method 1311; Revision 0; July,1992). Enough sample to provide 25. grams of solid phase was loaded into the ZHE. Prior determination of the percent solids of each sample enabled calculation of the weight of each sample to be used. The liquid portion of each was forced out of the ZHE with 50. psi helium and recombined with the extract when compatible. Five hundred milliliters of dilute acetic acid solution (with sodium hydroxide added to stabilize the pH at 4.93 +/- 0.05 pH units) was injected into the ZHE prior to rotation of the entire apparatus for eighteen hours. The final water leachate was transferred to 40 millilter vials for the GC/MS analysis. In all cases the ratio of extraction fluid to solid phase was maintained at a 20 to 1 ratio (by weight) as required by TCLP methodology.

The samples were analyzed as specified in section 11.4 of the method. One hundred microliters of the leachate was injected into 4.9 milliliters of Barnstead reagent water and spiked with 2.5 uL of Internal Standard/Surrogate Solution resulting in a 1 in 50 dilution. The amounts reported have been corrected by the dilution factor.

Instrument Calibration: The GC/MS was hardware tuned to meet the criteria for a 50 ng purging of 4-Bromofluorobenzene as specified in the method, section 9.1. This tune check is valid for 12 hours.

This report is 25 total pages

Initial and Continuing Calibration Verification: The five point initial calibration curve which was analyzed prior to sample analysis met the specified criteria in section 9.2 of the method. System performance check compounds (SPCC) are checked for a minimum response factor of 0.300. These compounds are chloromethane, bromoform (can be 0.250), 1,1-dichloroethane, chlorobenzene, and 1,1,2,2-tetrachloroethane. Response factors for the calibration check compounds (toluene, 1,1-dichloroethene, chloroform, 1,2-dichloropropane, ethylbenzene, and vinyl chloride) from the initial calibration curve are used to calculate percent relative standard deviations (%RSD). For the initial calibration standards, the %RSD for the calibration check compounds (CCC) must be less than 30%.

A continuing calibration standard (CCS) which is used for the quantitation of each target compound was also analyzed prior to sample analysis. The CCS met the method criteria as specified in section 9.3. The response factors of the SPCC's met the minimum criteria of 0.300, except for bromoform at 0.250. The CCC's were less than 25% difference with the average response from the initial calibration curve.

Method Blank Analysis: A method blank (BL-46662-1 and BL-466662-2) was prepared using Barnstead reagent water spiked with 2.5 uL of Internal Standard/Surrogate Solution and analyzed prior to sample analysis. The blank was free of volatile organic contaminants within the specifications of the method, section 13.5.

Reagent Blank Analysis: A reagent blank (TB-46662-1) was analyzed at a 1 in 50 dilution by injecting one hundred microliters of the ZHE extraction fluid into 4.9 milliliters of Barnstead reagent water spiked with 2.5 microliters of Internal Standard/Surrogate Solution. The reagent blank was free of volatile organic contaminants pertinent to the TCLP analyte list.

MS / MSD Analysis: A matrix spike and matrix spike duplicate analysis was performed on sample EN 3751 (AAC1436). The matrix spike and matrix spike duplicate samples were prepared by spiking 2.5 microliters of the TCLP spike solution into the 5.0 mL syringe containing the sample prior to analysis. This results in a concentration of 0.050 mg/L for the spiked compounds. The amounts reported for the matrix spike and matrix spike duplicate samples are not corrected by the dilution factor. The matrix spike compounds include all of the TCLP analytes.

Laboratory Control Sample Analysis: A laboratory control sample (QC-46662-1) was analyzed once for every analytical batch. The analytes (same as the TCLP analyte list) were spiked in at a concentration of 0.050 mg/L.

Data Qualifier Codes: Recoveries less than the reporting limit but greater than the method detection limit (MDL) are reported within parentheses. Compounds spiked in the LCS, the MS, and the MSD are reported with a "SP" qualifier in the Flag column.

Signature

DATA CHEM LABORATORIES
A Sorenson Company

COVER FORM (TYPE I)
SINGLE METHOD ANALYSES

SUMMARY INFORMATION

Form PLIMS63M-V1.0
PDOR 1129940951033
Page 1
[redacted]
S94BL00M

Report Date.....: 11/29/94 09:51
DCL Client Group..: S94-0770-II

Client Ref Number.: Not Provided
Release Number....: Not Provided

Analysis Method...: TCLP-8240

IT Corporation
Attention: Jeffrey Tucker
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544

Client Sample ID	Lab Sample ID
BL-46662-1	BL-46662-1
BL-46662-2	BL-46662-2
TB-46662-1	TB-46662-1
QC-46662-1	QC-46662-1
AAC1436	EN 3751
AAC1436MS	EN 3751MS
AAC1436MSD	EN 3751MSD
AAC1437	EN 3752
AAC1438	EN 3753
AAC1439	EN 3754
AAC1440	EN 3755

Analyst: Paul Ellingson

Reviewer: Joseph Gress for Thomas Mugoian

Laboratory Supervisor: Joseph Gress

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DATA CHEM LABORATORIES
A Sorenson Company

FORM H (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE GROUP COMMENTS

Report Date.....: 11/29/94 09:51
DCL Client Group..: S94-0770-II

Client Name.....: IT Corporation

Release Number....: Not Provided

Sample Group Comments

SP - Spiked analyte
() - Between MDL and CRDL.

General Information

The DCL QC Database maintains all numerical figures which are input from the pertinent data source. These data have not been rounded to significant figures nor have they been moisture corrected. Reports generated from the system, however, list data which have been rounded to the number of significant figures requested by the client or deemed appropriate for the method. This may create minor discrepancies between data which appear on the QC Summary Forms (Forms B-G) and those that would be calculated from rounded analytical results. Additionally, if a moisture correction is performed, differences will be observed between the QC data and the surrogate data reported on Form A (or other report forms) and corresponding data reported on QC Summary Forms. In these cases, the Form A will indicate the "Report Basis" as well as the moisture value used for making the correction.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

[redacted]
S94BW00G

Report Date.....: 11/29/94 09:51
Client Sample Name: BL-46662-1
DCL Sample Name...: BL-46662-1

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Applicable
Release Number.....: Not Provided

Matrix.....: SOIL
Date Sampled.....: Not Applicable
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

Date Received.....: Not Applicable
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 5 mL
Net Weight/Volume....: Not Required

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/23/94 08:20	.00014	ND*			.5
Carbon Tetrachloride	11/23/94 08:20	.00028	ND*			.5
Chlorobenzene	11/23/94 08:20	.00016	ND*			100
Chloroform	11/23/94 08:20	.00022	ND*			6
1,2-Dichloroethane	11/23/94 08:20	.00029	ND*			.5
1,1-Dichloroethylene	11/23/94 08:20	.00036	ND*			.7
Methyl Ethyl Ketone	11/23/94 08:20	.0133	ND*			200
Tetrachloroethylene	11/23/94 08:20	.00038	ND*			.7
Trichloroethylene	11/23/94 08:20	.00027	ND*			.5
Vinyl Chloride	11/23/94 08:20	.00039	ND*			.2
1,2-Dichloroethane-D4	11/23/94 08:20		0.046			
Toluene-D8	11/23/94 08:20		0.051			
Bromofluorobenzene	11/23/94 08:20		0.049			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0460	0.0500	91.9
bromofluorobenzene	0.0488	0.0500	97.5
toluene-d8	0.0509	0.0500	102.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

[redacted]

S94BX00L

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Applicable
Release Number.....: Not Provided

Date Received.....: Not Applicable
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 5mL
Net Weight/Volume....: Not Required

Report Date.....: 11/29/94 09:51
Client Sample Name: BL-46662-2
DCL Sample Name...: BL-46662-2

Matrix.....: SOIL
Date Sampled.....: Not Applicable
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/29/94 07:56	.00014	ND*			.5
Carbon Tetrachloride	11/29/94 07:56	.00028	ND*			.5
Chlorobenzene	11/29/94 07:56	.00016	ND*			100
Chloroform	11/29/94 07:56	.00022	ND*			6
1,2-Dichloroethane	11/29/94 07:56	.00029	ND*			.5
1,1-Dichloroethylene	11/29/94 07:56	.00036	ND*			[illegible]
Methyl Ethyl Ketone	11/29/94 07:56	.0133	ND*			200
Tetrachloroethylene	11/29/94 07:56	.00038	ND*			.7
Trichloroethylene	11/29/94 07:56	.00027	ND*			.5
Vinyl Chloride	11/29/94 07:56	.00039	ND*			.2
1,2-Dichloroethane-D4	11/29/94 07:56		0.044			
Toluene-D8	11/29/94 07:56		0.052			
Bromofluorobenzene	11/29/94 07:56		0.048			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0439	0.0500	87.8
bromofluorobenzene	0.0483	0.0500	96.6
toluene-d8	0.0520	0.0500	104.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

[redacted]

S94BP033

Report Date.....: 11/29/94 09:51
Client Sample Name: TB-46662-1
DCL Sample Name...: TB-46662-1

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Provided
Release Number.....: Not Provided

Date Received.....: 11/19/94 00:00
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 100 uL
Net Weight/Volume....: Not Required

Matrix.....: SOIL
Date Sampled.....: Not Provided
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/23/94 16:58	.00014	ND*		1:50	.5
Carbon Tetrachloride	11/23/94 16:58	.00028	ND*		1:50	.5
Chlorobenzene	11/23/94 16:58	.00016	ND*		1:50	100
Chloroform	11/23/94 16:58	.00022	ND*		1:50	6
1,2-Dichloroethane	11/23/94 16:58	.00029	ND*		1:50	.5
1,1-Dichloroethylene	11/23/94 16:58	.00036	ND*		1:50	.7
Methyl Ethyl Ketone	11/23/94 16:58	.0133	ND*		1:50	200
Tetrachloroethylene	11/23/94 16:58	.00038	ND*		1:50	.7
Trichloroethylene	11/23/94 16:58	.00027	ND*		1:50	.5
Vinyl Chloride	11/23/94 16:58	.00039	ND*		1:50	.2
1,2-Dichloroethane-D4	11/23/94 16:58		0.048			
Toluene-D8	11/23/94 16:58		0.052			
Bromofluorobenzene	11/23/94 16:58		0.051			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0483	0.0500	96.6
bromofluorobenzene	0.0506	0.0500	101.
toluene-d8	0.0515	0.0500	103.

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DATA CHEM LABORATORIES
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FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

[redacted]

S94BP034

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Applicable
Release Number.....: Not Provided

Date Received.....: Not Applicable
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 100 uL
Net Weight/Volume....: Not Required

Report Date.....: 11/29/94 09:51
Client Sample Name: QC-46662-1
DCL Sample Name...: QC-46662-1

Matrix.....: SOIL
Date Sampled.....: Not Applicable
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP [illegible]1-L
Column Type.....: DB [illegible]
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/23/94 12:29	.00014	(0.052)	SP	1:50	.5
Carbon Tetrachloride	11/23/94 12:29	.00028	(0.052)	SP	1:50	.5
Chlorobenzene	11/23/94 12:29	.00016	(0.050)	SP	1:50	100
Chloroform	11/23/94 12:29	.00022	(0.054)	SP	1:50	6
1,2-Dichloroethane	11/23/94 12:29	.00029	(0.051)	SP	1:50	.5
1,1-Dichloroethylene	11/23/94 12:29	.00036	(0.059)	SP	1:50	[illegible]
Methyl Ethyl Ketone	11/23/94 12:29	.0133	(0.025)	SP	1:50	200
Tetrachloroethylene	11/23/94 12:29	.00038	(0.053)	SP	1:50	.7
Trichloroethylene	11/23/94 12:29	.00027	(0.050)	SP	1:50	.5
Vinyl Chloride	11/23/94 12:29	.00039	(0.050)	SP	1:50	.2
1,2-Dichloroethane-D4	11/23/94 12:29		0.050			
Toluene-D8	11/23/94 12:29		0.052			
Bromofluorobenzene	11/23/94 12:29		0.048			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0498	0.0500	99.6
bromofluorobenzene	0.0482	0.0500	96.4
toluene-d8	0.0516	0.0500	103.

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FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

[redacted]
S94BL022

Report Date.....: **11/29/94 09:51**
Client Sample Name: **AAC1436**
DCL Sample Name...: **EN 3751**

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Provided
Release Number.....: Not Provided

Date Received.....: 11/19/94 00:00
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 100 uL
Net Weight/Volume....: Not Required

Matrix.....: SOIL
Date Sampled.....: 11/17/94 00:00
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/23/94 13:07	.00014	ND*		1:50	.5
Carbon Tetrachloride	11/23/94 13:07	.00028	ND*		1:50	.5
Chlorobenzene	11/23/94 13:07	.00016	ND*		1:50	100
Chloroform	11/23/94 13:07	.00022	ND*		1:50	6
1,2-Dichloroethane	11/23/94 13:07	.00029	ND*		1:50	.5
1,1-Dichloroethylene	11/23/94 13:07	.00036	ND*		1:50	.7
Methyl Ethyl Ketone	11/23/94 13:07	.0133	ND*		1:50	200
Tetrachloroethylene	11/23/94 13:07	.00038	ND*		1:50	.7
Trichloroethylene	11/23/94 13:07	.00027	ND*		1:50	.5
Vinyl Chloride	11/23/94 13:07	.00039	ND*		1:50	.2
1,2-Dichloroethane-D4	11/23/94 13:07		0.047			
Toluene-D8	11/23/94 13:07		0.052			
Bromofluorobenzene	11/23/94 13:07		0.049			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0466	0.0500	93.3
bromofluorobenzene	0.0485	0.0500	97.1
toluene-d8	0.0517	0.0500	103.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

Form RLIMS63A-
PDOR 112394
Page 8

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S94BP035

Report Date.....: **11/29/94 09:51**
Client Sample Name: **AAC1436MS**
DCL Sample Name...: **EN 3751MS**

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Provided
Release Number.....: Not Provided

Date Received.....: 11/19/94 00:00
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 100 uL
Net Weight/Volume....: Not Required

Matrix.....: SOIL
Date Sampled.....: Not Provided
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/23/94 16:20	.00014	(0.051)	SP	1:50	.5
Carbon Tetrachloride	11/23/94 16:20	.00028	(0.047)	SP	1:50	.5
Chlorobenzene	11/23/94 16:20	.00016	(0.052)	SP	1:50	100
Chloroform	11/23/94 16:20	.00022	(0.047)	SP	1:50	6
1,2-Dichloroethane	11/23/94 16:20	.00029	(0.052)	SP	1:50	.5
1,1-Dichloroethylene	11/23/94 16:20	.00036	(0.053)	SP	1:50	.7
Methyl Ethyl Ketone	11/23/94 16:20	.0133	(0.045)	SP	1:50	200
Tetrachloroethylene	11/23/94 16:20	.00038	(0.049)	SP	1:50	.7
Trichloroethylene	11/23/94 16:20	.00027	(0.045)	SP	1:50	.5
Vinyl Chloride	11/23/94 16:20	.00039	(0.048)	SP	1:50	.2
1,2-Dichloroethane-D4	11/23/94 16:20		0.051			
Toluene-D8	11/23/94 16:20		0.052			
Bromofluorobenzene	11/23/94 16:20		0.049			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0511	0.0500	102.
bromofluorobenzene	0.0492	0.0500	98.3
toluene-d8	0.0516	0.0500	103.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

[redacted]

Report Date.....: 11/29/94 09:51
Client Sample Name: **AAC1436MSD**
DCL Sample Name...: **EN 3751MSD**

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Provided
Release Number.....: Not Provided

Date Received.....: 11/19/94 00:00
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 100 uL
Net Weight/Volume....: Not Required

Matrix.....: SOIL
Date Sampled.....: Not Provided
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/29/94 08:34	.00014	(0.051)	SP	1:50	.5
Carbon Tetrachloride	11/29/94 08:34	.00028	(0.047)	SP	1:50	.5
Chlorobenzene	11/29/94 08:34	.00016	(0.052)	SP	1:50	100
Chloroform	11/29/94 08:34	.00022	(0.048)	SP	1:50	.5
1,2-Dichloroethane	11/29/94 08:34	.00029	(0.048)	SP	1:50	.5
1,1-Dichloroethylene	11/29/94 08:34	.00036	(0.056)	SP	1:50	.7
Methyl Ethyl Ketone	11/29/94 08:34	.0133	(0.041)	SP	1:50	100
Tetrachloroethylene	11/29/94 08:34	.00038	(0.051)	SP	1:50	.7
Trichloroethylene	11/29/94 08:34	.00027	(0.047)	SP	1:50	.5
Vinyl Chloride	11/29/94 08:34	.00039	(0.052)	SP	1:50	.2
1,2-Dichloroethane-D4	11/29/94 08:34		0.047			
Toluene-D8	11/29/94 08:34		0.052			
Bromofluorobenzene	11/29/94 08:34		0.048			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0469	0.0500	93.7
bromofluorobenzene	0.0478	0.0500	95.5
toluene-d8	0.0517	0.0500	103.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

[redacted]

S94BL02Q

Report Date.....: 11/29/94 09:51
Client Sample Name: AAC1437
DCL Sample Name...: EN 3752

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Provided
Release Number.....: Not Provided

Matrix.....: SOIL
Date Sampled.....: 11/17/94 00:00
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

Date Received.....: 11/19/94 00:00
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 100 uL
Net Weight/Volume....: Not Required

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/23/94 13:46	.00014	ND*		1:50	.5
Carbon Tetrachloride	11/23/94 13:46	.00028	ND*		1:50	.5
Chlorobenzene	11/23/94 13:46	.00016	ND*		1:50	100
Chloroform	11/23/94 13:46	.00022	ND*		1:50	6
1,2-Dichloroethane	11/23/94 13:46	.00029	ND*		1:50	.5
1,1-Dichloroethylene	11/23/94 13:46	.00036	ND*		1:50	.7
Methyl Ethyl Ketone	11/23/94 13:46	.0133	ND*		1:50	200
Tetrachloroethylene	11/23/94 13:46	.00038	ND*		1:50	.7
Trichloroethylene	11/23/94 13:46	.00027	ND*		1:50	.5
Vinyl Chloride	11/23/94 13:46	.00039	ND*		1:50	.2
1,2-Dichloroethane-D4	11/23/94 13:46		0.045			
Toluene-D8	11/23/94 13:46		0.052			
Bromofluorobenzene	11/23/94 13:46		0.049			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0449	0.0500	89.9
bromofluorobenzene	0.0490	0.0500	97.9
toluene-d8	0.0521	0.0500	104.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

[redacted]

S94BL02R

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Provided
Release Number.....: Not Provided

Date Received.....: 11/19/94 00:00
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 100 uL
Net Weight/Volume....: Not Required

Report Date.....: **11/29/94 09:51**
Client Sample Name: **AAC1438**
DCL Sample Name...: **EN 3753**

Matrix.....: SOIL
Date Sampled.....: 11/17/94 00:00
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/23/94 14:24	.00014	ND*		1:50	.5
Carbon Tetrachloride	11/23/94 14:24	.00028	ND*		1:50	.5
Chlorobenzene	11/23/94 14:24	.00016	ND*		1:50	100
Chloroform	11/23/94 14:24	.00022	ND*		1:50	6
1,2-Dichloroethane	11/23/94 14:24	.00029	ND*		1:50	.5
1,1-Dichloroethylene	11/23/94 14:24	.00036	ND*		1:50	[illegible]
Methyl Ethyl Ketone	11/23/94 14:24	.0133	ND*		1:50	[illegible]
Tetrachloroethylene	11/23/94 14:24	.00038	ND*		1:50	[illegible]
Trichloroethylene	11/23/94 14:24	.00027	ND*		1:50	.5
Vinyl Chloride	11/23/94 14:24	.00039	ND*		1:50	.2
1,2-Dichloroethane-D4	11/23/94 14:24		0.046			
Toluene-D8	11/23/94 14:24		0.052			
Bromofluorobenzene	11/23/94 14:24		0.050			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0456	0.0500	91.2
bromofluorobenzene	0.0497	0.0500	99.3
toluene-d8	0.0524	0.0500	105.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

[redacted]

S94BL02S

Report Date.....: **11/29/94 09:51**
Client Sample Name: **AAC1439**
DCL Sample Name...: **EN 3754**

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Provided
Release Number.....: Not Provided

Matrix.....: SOIL
Date Sampled.....: 11/17/94 00:00
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

Date Received.....: 11/19/94 00:00
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 100 uL
Net Weight/Volume....: Not Required

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/23/94 15:03	.00014	ND*		1:50	.5
Carbon Tetrachloride	11/23/94 15:03	.00028	ND*		1:50	.5
Chlorobenzene	11/23/94 15:03	.00016	ND*		1:50	100
Chloroform	11/23/94 15:03	.00022	ND*		1:50	6
1,2-Dichloroethane	11/23/94 15:03	.00029	ND*		1:50	.5
1,1-Dichloroethylene	11/23/94 15:03	.00036	ND*		1:50	.7
Methyl Ethyl Ketone	11/23/94 15:03	.0133	ND*		1:50	200
Tetrachloroethylene	11/23/94 15:03	.00038	ND*		1:50	.7
Trichloroethylene	11/23/94 15:03	.00027	ND*		1:50	.5
Vinyl Chloride	11/23/94 15:03	.00039	ND*		1:50	.2
1,2-Dichloroethane-D4	11/23/94 15:03		0.047			
Toluene-D8	11/23/94 15:03		0.052			
Bromofluorobenzene	11/23/94 15:03		0.049			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0472	0.0500	94.5
bromofluorobenzene	0.0491	0.0500	98.3
toluene-d8	0.0518	0.0500	104.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

[redacted]
S94BL02T

Client Name.....: IT Corporation
Client Ref Number....: Not Provided
Sampling Site.....: Not Provided
Release Number.....: Not Provided

Date Received.....: 11/19/94 00:00
DCL Client Group.....: S94-0770-II

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 100 uL
Net Weight/Volume....: Not Required

Report Date.....: **11/29/94 09:51**
Client Sample Name: **AAC1440**
DCL Sample Name...: **EN 3755**

Matrix.....: SOIL
Date Sampled.....: 11/17/94 00:00
Reporting Units...: mg/L
Report Basis.....: ☐ As Received ☐ Dried

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Flag	Dilution	CRDL
Benzene	11/23/94 15:41	.00014	ND*		1:50	.5
Carbon Tetrachloride	11/23/94 15:41	.00028	ND*		1:50	.5
Chlorobenzene	11/23/94 15:41	.00016	ND*		1:50	100
Chloroform	11/23/94 15:41	.00022	ND*		1:50	6
1,2-Dichloroethane	11/23/94 15:41	.00029	ND*		1:50	.5
1,1-Dichloroethylene	11/23/94 15:41	.00036	ND*		1:50	[illegible]
Methyl Ethyl Ketone	11/23/94 15:41	.0133	ND*		1:50	200
Tetrachloroethylene	11/23/94 15:41	.00038	ND*		1:50	[illegible]
Trichloroethylene	11/23/94 15:41	.00027	ND*		1:50	.5
Vinyl Chloride	11/23/94 15:41	.00039	ND*		1:50	.5
1,2-Dichloroethane-D4	11/23/94 15:41		0.048			
Toluene-D8	11/23/94 15:41		0.053			
Bromofluorobenzene	11/23/94 15:41		0.049			

Surrogate Recoveries

Analyte	Result	Spiked Amount	Percent Recovery
1,2-dichloroethane-d4	0.0476	0.0500	95.2
bromofluorobenzene	0.0492	0.0500	98.4
toluene-d8	0.0532	0.0500	106.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM C (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
BLANK SAMPLE

[redacted]
G94BW006

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....:
Report Basis.....: ☒ As Received ☐ Dried

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable

Report Date.....: 11/29/94 09:51
DCL Sample Name...: BL-46662-1

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Result	CRDL

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DATA CHEM LABORATORIES
A Sorenson Company

FORM C (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
BLANK SAMPLE

[redacted]
S94BX00L

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....:
Report Basis.....: ☒ As Received ☐ Dried

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable

Report Date.....: 11/29/94 09:51
DCL Sample Name...: BL-46662-2

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Result	CRDL

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DATA CHEM LABORATORIES
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FORM F (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
MATRIX SPIKE SAMPLE
MATRIX SPIKE DUPLICATE SAMPLE

[redacted]

S94BP035

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: ☒ As Received ☐ Dried

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable

Report Date.....: **11/29/94 13:11**
DCL Sample Name...: **EN 3751MS**

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Sample Result	Spiked Result	Spike Added	Percent Recovery	QC Limits	QC Flag
1,1-dichloroethene	11/23/94 16:20	ND	0.0528	0.0500	106.	1.00/234.	
1,2-dichloroethane	11/23/94 16:20	ND	0.0517	0.0500	103.	49.0/155.	
2-butanone	11/23/94 16:20	ND	0.0450	0.0500	90.0	1.00/200.	
benzene	11/23/94 16:20	ND	0.0510	0.0500	102.	37.0/151.	
carbon tetrachloride	11/23/94 16:20	ND	0.0472	0.0500	94.5	70.0/140.	
chlorobenzene	11/23/94 16:20	ND	0.0517	0.0500	103.	37.0/160.	
chloroform	11/23/94 16:20	ND	0.0467	0.0500	93.3	51.0/138.	
tetrachloroethene	11/23/94 16:20	ND	0.0491	0.0500	98.3	64.0/148.	
trichloroethene	11/23/94 16:20	ND	0.0450	0.0500	90.0	71.0/157.	
vinyl chloride	11/23/94 16:20	ND	0.0485	0.0500	97.0	1.00/251.	

S94BP036

DCL Sample Name...: **EN 3751MSD**

Analytical Results

Analyte	Date Analyzed	Duplicate Result	Percent Recovery	Mean	Range	RPD	QC Limits	QC Flag
1,1-dichloroethene	11/29/94 08:34	0.0556	111.	0.0542	0.00281	5.2	0.000/50.0	
1,2-dichloroethane	11/29/94 08:34	0.0480	96.1	0.0499	0.00363	7.3	0.000/50.0	
2-butanone	11/29/94 08:34	0.0408	81.5	0.0429	0.00424	9.9	0.000/50.0	
benzene	11/29/94 08:34	0.0514	103.	0.0512	0.000347	0.68	0.000/50.0	
carbon tetrachloride	11/29/94 08:34	0.0471	94.2	0.0472	0.000139	0.29	0.000/50.0	
chlorobenzene	11/29/94 08:34	0.0520	104.	0.0518	0.000258	0.50	0.000/50.0	
chloroform	11/29/94 08:34	0.0481	96.2	0.0474	0.00144	3.0	0.000/50.0	
tetrachloroethene	11/29/94 08:34	0.0514	103.	0.0503	0.00220	4.4	0.000/50.0	
trichloroethene	11/29/94 08:34	0.0475	94.9	0.0462	0.00247	5.3	0.000/50.0	
vinyl chloride	11/29/94 08:34	0.0522	104.	0.0504	0.00372	7.4	0.000/50.0	

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DATA CHEM LABORATORIES
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FORM B (TYPE I)
SINGLE METHOD ANALYSES

[redacted]

S94BP034

QUALITY CONTROL DATA SHEET
LABORATORY CONTROL SAMPLE (LCS)

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: ☒ As Received ☐ Dried
LCS Source.....:

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable

Report Date.....: 11/29/94 13:11
DCL Sample Name...: QC-46662-1

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Target	Result	Percent Recovery	QC Limits	QC Flag
1,1-dichloroethene	11/23/94 12:29	0.0500	0.0595	119.	1.00/234.	
1,2-dichloroethane	11/23/94 12:29	0.0500	0.0508	102.	49.0/155.	
2-butanone	11/23/94 12:29	0.0500	0.0248	49.5	1.00/200.	
benzene	11/23/94 12:29	0.0500	0.0521	104.	37.0/151.	
carbon tetrachloride	11/23/94 12:29	0.0500	0.0518	104.	70.0/140.	
chlorobenzene	11/23/94 12:29	0.0500	0.0500	100.	37.0/160.	
chloroform	11/23/94 12:29	0.0500	0.0541	108.	51.0/138.	
tetrachloroethene	11/23/94 12:29	0.0500	0.0534	107.	64.0/148.	
trichloroethene	11/23/94 12:29	0.0500	0.0496	99.3	71.0/157.	
vinyl chloride	11/23/94 12:29	0.0500	0.0499	99.7	1.00/251.	

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DATA CHEM LABORATORIES
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FORM C (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
BLANK SAMPLE

[redacted]

S94BP033

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....:
Report Basis.....: ☒ As Received ☐ Dried

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable

Report Date.....: **11/29/94 13:11**
DCL Sample Name...: **TB-46662-1**

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240
Instrument Type...: GC/MS
Instrument ID.....: HP 5971-L
Column Type.....: DB 624
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Result	CRDL

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DATA CHEM LABORATORIES
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FORM G (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
SURROGATE SUMMARY

[redacted]
G94BW006

Report Date.....: 11/29/94 13:11

Client Name.....: IT Corporation
Release Number.....: Not Provided

DCL Analysis Group: G94BW006
Analysis Method...: TCLP-8240

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: ☒ As Received ☐ Dried

DCL Prep Group....: Not Applicable
Preparation Method: Not Applicable

Surrogate Recoveries

Surr. ID	1,2-dichloroethane-d4				bromofluorobenzene				toluene-d8			
QC Limits	76.0/114.				86.0/115.				88.0/110.			
DCL Sample Number	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q
BL-46662-1	0.0460	0.0500	91.9		0.0488	0.0500	97.5		0.0509	0.0500	102.	
BL-46662-2	0.0439	0.0500	87.8		0.0483	0.0500	96.6		0.0520	0.0500	104.	
EN 3751	0.0466	0.0500	93.3		0.0485	0.0500	97.1		0.0517	0.0500	103.	
EN 3751MS	0.0511	0.0500	102.		0.0492	0.0500	98.3		0.0516	0.0500	103.	
EN 3751MSD	0.0469	0.0500	93.7		0.0478	0.0500	95.5		0.0517	0.0500	103.	
EN 3752	0.0449	0.0500	89.9		0.0490	0.0500	97.9		0.0521	0.0500	104.	
EN 3753	0.0456	0.0500	91.2		0.0497	0.0500	99.3		0.0524	0.0500	105.	
EN 3754	0.0472	0.0500	94.5		0.0491	0.0500	98.3		0.0518	0.0500	104.	
EN 3755	0.0476	0.0500	95.2		0.0492	0.0500	98.4		0.0532	0.0500	106.	
QC-46662-1	0.0498	0.0500	99.6		0.0482	0.0500	96.4		0.0516	0.0500	103.	
TB-46662-1	0.0483	0.0500	96.6		0.0506	0.0500	101.		0.0515	0.0500	103.	

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Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

S94 0770

Date 11/17/94
Technical Area 40
Operable Unit N/A
~~OU Contact~~
Contact Phone No. 505-662-1200

Control No. 11614
Send Lab Report Jeffrey Tucker / IT Corp. MS
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
Date Samples Shipped 11/18/94
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3751	AAC1436	11/17/94 1500	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl list
			X		1x250ml,P					(JM)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest.		
			X		1x125ml,G			TCLP Herb.		SEE ATTACHED SAMPLE INFORMATION
			X		2x40ml,G			TCLP VOA		
EN 3752	AAC1437	11/17/94 1510	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list
			X		1x250ml,P					(JM)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest.		

Relinquished by (Signature) Affiliation J. Tracy Wright IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time 1300	Received by (Signature) Affiliation Mark Mendenhall	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glen VanDeusen GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Pr ng Facility PINK Field Team Leader

SOP 1.04, 9

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11616
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp MS
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3752	AAC1437	11/17/94 1510	X		1x125ml, G	Soil	4°C	TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		
EN 3753	AAC143B	11/17/94 1520	X		1x250ml, P	Soil	4°C	TCLP Metals		See incl. list
	↓	↓	X		1x250ml, P	↓	↓			JW
			X		1x125ml, G			TCLP SVOA		
			X		1x125ml, G			TCLP Pest		
			X		1x125ml, G			TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		

Relinquished by (Signature) Affiliation	IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation	FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation	Fed Ex	Time 1300	Received by (Signature) Affiliation	Mark Mendenhall	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanOerpel GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94 | Control No. 11617

Technical Area 40 | Send Lab Report Jeff Tucker / IT Corp MS

Operable Unit N/A | ~~Site Work Plan~~ 5570 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544

~~OU Contact~~ | Date Samples Shipped 11/18/94

Contact Phone No. 505-662-1200 | Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested Test	Analysis Requested Method	Remarks (Condition of receipt, etc.)
EN 3754	AAC1439	11/17/94 1530	X		250ml,P 1x125,GW	Soil	4°C	TCLP Metals		See incl. list (TM)
			X		~~1x250ml,P~~					
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest		
			X		1x125ml,G			TCLP Herb		
			X		2x40ml,G			TCLP VOA		
EN 3755	AAC1440	11/17/94 1540	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list (TM)
					~~1x250ml,P~~					
					1x125ml,G			TCLP SVOA		
					1x125ml,G			TCLP Pest.		

Relinquished by (Signature) / Affiliation	Date	Relinquished by (Signature) / Affiliation	Date	Relinquished by (Signature) / Affiliation	Date
[signature] IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) / Affiliation	**Time**	**Received by (Signature) / Affiliation**	**Time**	**Received by (Signature) / Affiliation**	**Time**
Fed Ex	1300	[signature]	1000		

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS *Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanDerpool GV Darren Meadows DM

SOP 1.04, R0

WHITE To accompany samples | YELLOW Records Pro[illegible]g Facility | PINK Field Team Leader

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11618
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3755	AAC1440	11/17/94 1540	X		125, G ~~1x250ml,P~~	Soil	4°C	TCLP Herb		
					~~1x250ml,P~~					
	AAC1440	11/17/94 1540	X		2x40ml,G	Soil	4°C	TCLP VOA		
EN 3756	AAC1441	11/17/94 1610		X	1x500ml,P	Soil	4°C	TCLP Lead		
3757	AAC1442	11/17/94 1620		X	1x500ml,P	Soil	4°C	TCLP Lead		
3758	AAC1443	11/17/94 1630		X	1x500ml,P	Soil	4°C	TCLP Lead		
3759	AAC1444	11/17/94 1640		X	1x500ml,P	Soil	4°C	TCLP Lead		

Relinquished by (Signature) [signature] Affiliation IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time	Received by (Signature) Affiliation [signature]	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn Vandepool GV Darren Meadows

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

DATA CHEM LABORATORIES

A Sorenson Company

Case Narrative
Group #: G94BP02L
DCL Set ID #(s): S94-0770-GI
Client: I.T. Corporation
Account #: 3018
November 29, 1994

Method #: SW 8270 TCLP

General Set Information: 5 Soil Field Samples plus LCS, MS and MSD

Sample Preparation: The sample was prepared by EPA methods 3510 and 1311 within extraction holding times. No deviations from the extraction method were necessary.

Instrument Calibration: All DFTPP tunes met method requirements.

Initial and Continuing Calibration Verification: The initial and continuing calibration standards passed response factor criteria. All standards were analyzed within the 12-hour DFTPP tuning period.

Method Blank Analysis: The method blank passed QC requirements. No target analytes were detected in the blank at a level above the method detection limit.

MS / MSD Analysis: MS\MSD analyses were performed on sample EN 3751 (AAC1436). All MS spiking compounds for the LCS, MS and MSD were found to be within the appropriate recovery limits. The original analyses of the MS sample, the LCS, MS and MSD all failed internal standard criteria and had to be reanalyzed. The subsequent analyses did pass and are reported. Sample EN 3751, MS and MSD all had low acid surrogate recoveries. They were reanalyzed, but still had poor recoveries. This was probably due to a matrix effect.

Miscellaneous Comments: Samples were analyzed within required sample analysis holding times. No dilutions were necessary. No target analytes were found. The original analyses of samples EN 3752, EN 3753, EN 3754 and EN 3755 failed internal standard recovery criteria (UNE*clock). The samples were rerun on the UNF*clock. The second analyses passed criteria and are reported.

This report is 17 total pages.

Sample EN 3752 was re-extracted within the required extraction hold times. The recoveries for 2-Fluorophenol and Phenol-d5 were still lower than expected, but the recovery for Phenol-d5 was within the specified limits. The 2-Fluorophenol recovery also passes if rounded to two significant figures. The data for the re-extracted sample (EN 3752) is reported. m - Cresol and p - Cresol are grouped as one analyte in the analytical results section, because they co-elute in the initial and continuing calibration standards.

Brett J. Murphy

Brett J. Murphy

DATA CHEM LABORATORIES
A Sorenson Company

ANALYTICAL REPORT

Form ARF-AL
Page 1 of 2
Part 1 of 2

Date NOV 29 1994
Agency Identification Number S94-0770-GI
Account No. 03018

IT Corporation
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544
Attention: Jeffrey Tucker

FAX (505) 662-1222
Telephone (505) 662-1200

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 17, 1994

Date Samples Received at Laboratory November 19, 1994

Analysis

Method of Analysis TCLP-8270

Date(s) of Analysis November 25, 1994 - November 29, 1994

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	m-Cresol and p-Cresol mg/L 1311/3510	o-Cresol mg/L 1311/3510	1,4-Dichloro benzene mg/L 1311/3510	2,4-Dinitro toluene mg/L 1311/3510	Hexachloro benzene mg/L 1311/3510	Hexachloro-1,3 -butadiene mg/L 1311/3510	Hexachloro ethane mg/L 1311/3510	Nitrobenzene mg/L 1311/3510
BL-46660-1	BL-46660-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
TB-46660-1	TB-46660-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
QC-46660-1	QC-46660-1	SOIL	0.57	0.57	0.65	0.67	0.74	0.59	0.59	0.71
AAC1436	EN 3751	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
AAC1436MS	EN 3751MS	SOIL	0.14	0.26	0.84	1.0	1.1	0.77	0.76	0.96
AAC1436MSD	EN 3751MSD	SOIL	0.13	0.25	0.83	0.91	0.95	0.77	0.74	0.88
AAC1437	EN 3752	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
AAC1438	EN 3753	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
AAC1439	EN 3754	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
AAC1440	EN 3755	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*
* Limit of Detection			.019	.013	.012	.019	.011	.011	.017	.012
Limit of Quantitation			.100	.100	.100	.100	.100	.100	.100	.100

* See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

Brett J. Murphy
Analyst: Brett J. Murphy

Reviewer: Group

Laboratory Supervisor: Reed A. Hendricks

DATA CHEM LABORATORIES
A Sorenson Company

FORM C (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
BLANK SAMPLE

[redacted]
S94BP02Z

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: ☒ As Received ☐ Dried

DCL Preparation Group: G94BP02L
Date Prepared.....: 11/23/94 00:00
Preparation Method...: 1311/3510

Report Date.....: 11/29/94 10:43
DCL Sample Name...: TB-46660-1

DCL Analysis Group: G94BP02L
Analysis Method...: TCLP-8270
Instrument Type...: GC/MS
Instrument ID.....: 5972-U
Column Type.....: DB5, 30mx.32mm
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Result	CRDL
1,4-Dichlorobenzene	11/25/94 17:30	0.000	.100
2,4,5-Trichlorophenol	11/25/94 17:30	0.000	.100
2,4,6-Trichlorophenol	11/25/94 17:30	0.000	.100
2,4-Dinitrotoluene	11/25/94 17:30	0.000	.100
2-Methylphenol	11/25/94 17:30	0.000	.100
4-Methylphenol	11/25/94 17:30	0.000	.100
Hexachloro-1,3-butadiene	11/25/94 17:30	0.000	.100
Hexachlorobenzene	11/25/94 17:30	0.000	.100
Hexachlorobutadiene	11/25/94 17:30	0.000	.100
Hexachloroethane	11/25/94 17:30	0.000	.100
Nitrobenzene	11/25/94 17:30	0.000	.100
Pentachlorophenol	11/25/94 17:30	0.000	.500
Pyridine	11/25/94 17:30	0.000	.100
o-Cresol	11/25/94 17:30	0.000	.100
p-Cresol	11/25/94 17:30	0.000	.100

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DATA CHEM LABORATORIES
A Sorenson Company

FORM G (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
SURROGATE SUMMARY

[redacted]

G94BP02L

Report Date.....: 11/29/94 10:43

Client Name.....: IT Corporation
Release Number.....: Not Provided

DCL Analysis Group: G94BP02L
Analysis Method...: TCLP-8270

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: ☒ As Received ☐ Dried

DCL Prep Group....: G94BP02L
Preparation Method: 1311/3510

Surrogate Recoveries

Surr. ID	2,4,6-Tribromophenol				2-Fluorobiphenyl				2-Fluorophenol			
QC Limits	10.0/123.				43.0/116.				21.0/100.			
DCL Sample Number	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q
BL-46660-1	0.795	2.00	39.8		0.908	1.00	90.8		0.807	2.00	40.4	
EN 3751	0.551	2.00	27.5		0.871	1.00	87.1		0.0814	2.00	4.07	*
EN 3751MS	0.732	2.00	36.6		0.902	1.00	90.2		0.242	2.00	12.1	*
EN 3751MSD	0.745	2.00	37.3		0.868	1.00	86.8		0.276	2.00	13.8	*
EN 3752	0.953	2.00	47.7		0.937	1.00	93.7		0.413	2.00	20.7	*
EN 3753	0.953	2.00	47.6		0.864	1.00	86.4		0.698	2.00	34.9	
EN 3754	0.986	2.00	49.3		0.726	1.00	72.6		0.716	2.00	35.8	
EN 3755	0.976	2.00	48.8		0.861	1.00	86.1		0.720	2.00	36.0	
QC-46660-1	0.820	2.00	41.0		0.671	1.00	67.1		0.599	2.00	29.9	
TB-46660-1	0.724	2.00	36.2		0.882	1.00	88.2		0.815	2.00	40.8	

Surr. ID	Nitrobenzene-d5				Phenol-d5				Terphenyl-d14			
QC Limits	35.0/114.				10.0/94.0				33.0/141.			
DCL Sample Number	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q
BL-46660-1	0.863	1.00	86.3		0.571	2.00	28.6		0.794	1.00	79.4	
EN 3751	0.746	1.00	74.6		0.0630	2.00	3.15	*	0.565	1.00	56.5	
EN 3751MS	0.788	1.00	78.8		0.218	2.00	10.9		0.738	1.00	73.8	
EN 3751MSD	0.708	1.00	70.8		0.263	2.00	13.1		0.665	1.00	66.5	
EN 3752	0.756	1.00	75.6		0.363	2.00	18.2		0.449	1.00	44.9	
EN 3753	0.806	1.00	80.6		0.598	2.00	29.9		0.580	1.00	58.0	
EN 3754	0.662	1.00	66.2		0.605	2.00	30.3		0.532	1.00	53.2	
EN 3755	0.745	1.00	74.5		0.610	2.00	30.5		0.725	1.00	72.5	
QC-46660-1	0.562	1.00	56.2		0.490	2.00	24.5		0.542	1.00	54.2	
TB-46660-1	0.874	1.00	87.4		0.578	2.00	28.9		0.772	1.00	77.2	

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DATA CHEM LABORATORIES
A Sorenson Company

FORM F (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
MATRIX SPIKE SAMPLE
MATRIX SPIKE DUPLICATE SAMPLE

[redacted]
S94BP031

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: ☒ As Received ☐ Dried

DCL Preparation Group: G94BP02L
Date Prepared.....: 11/23/94 00:00
Preparation Method...: 1311/3510

Report Date.....: **11/29/94 10:43**
DCL Sample Name...: **EN 3751MS**

DCL Analysis Group: G94BP02L
Analysis Method...: TCLP-8270
Instrument Type...: GC/MS
Instrument ID.....: 5972-U
Column Type.....: DB5, 30mx.32mm
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Sample Result	Spiked Result	Spike Added	Percent Recovery	QC Limits	QC Flag
1,4-Dichlorobenzene	11/28/94 12:07	ND	0.840	1.00	84.0	20.0/124.	
2,4,5-Trichlorophenol	11/28/94 12:07	ND	0.648	1.00	64.8	37.0/144.	
2,4,6-Trichlorophenol	11/28/94 12:07	ND	0.650	1.00	65.0	37.0/144.	
2,4-Dinitrotoluene	11/28/94 12:07	ND	0.997	1.00	99.7	39.0/139.	
2-Methylphenol	11/28/94 12:07	ND	0.255	1.00	25.5	0.000/150.	
4-Methylphenol	11/28/94 12:07	ND	0.138	1.00	13.8	0.000/150.	
Hexachlorobenzene	11/28/94 12:07	ND	1.09	1.00	109.	24.0/116.	
Hexachlorobutadiene	11/28/94 12:07	ND	0.765	1.00	76.5	24.0/116.	
Hexachloroethane	11/28/94 12:07	ND	0.760	1.00	76.0	40.0/113.	
Nitrobenzene	11/28/94 12:07	ND	0.955	1.00	95.5	35.0/180.	
Pentachlorophenol	11/28/94 12:07	ND	0.926	1.00	92.6	14.0/176.	
Pyridine	11/28/94 12:07	ND	0.539	1.00	53.9	0.000/150.	

S94BP032

DCL Sample Name...: **EN 3751MSD**

Analytical Results

Analyte	Date Analyzed	Duplicate Result	Percent Recovery	Mean	Range	RPD	QC Limits	QC Flag
1,4-Dichlorobenzene	11/28/94 13:05	0.826	82.6	0.833	0.0146	1.8	0.000/50.0	
2,4,5-Trichlorophenol	11/28/94 13:05	0.689	68.9	0.669	0.0406	6.1	0.000/50.0	
2,4,6-Trichlorophenol	11/28/94 13:05	0.678	67.8	0.664	0.0276	4.2	0.000/50.0	
2,4-Dinitrotoluene	11/28/94 13:05	0.910	91.0	0.953	0.0872	9.1	0.000/50.0	
2-Methylphenol	11/28/94 13:05	0.250	25.0	0.253	0.00502	2.0	0.000/50.0	
4-Methylphenol	11/28/94 13:05	0.135	13.5	0.136	0.00278	2.0	0.000/50.0	
Hexachlorobenzene	11/28/94 13:05	0.951	95.1	1.02	0.137	13.	0.000/50.0	
Hexachlorobutadiene	11/28/94 13:05	0.767	76.7	0.766	0.00140	0.18	0.000/50.0	
Hexachloroethane	11/28/94 13:05	0.740	74.0	0.750	0.0202	2.7	0.000/50.0	
Nitrobenzene	11/28/94 13:05	0.882	88.2	0.919	0.0730	7.9	0.000/50.0	
Pentachlorophenol	11/28/94 13:05	0.929	92.9	0.928	0.00269	0.29	0.000/50.0	
Pyridine	11/28/94 13:05	0.428	42.8	0.484	0.111	23.	0.000/50.0	

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DATA CHEM LABORATORIES
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FORM B (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
LABORATORY CONTROL SAMPLE (LCS)

Form RLIMS63B-V1.0
PDOR 1129941043 2725
Page 5
[redacted]
S94BP030

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: ☒ As Received ☐ Dried
LCS Source.....:

DCL Preparation Group: G94BP02L
Date Prepared.....: 11/23/94 00:00
Preparation Method...: 1311/3510

Report Date.....: 11/29/94 10:43
DCL Sample Name...: QC-46660-1

DCL Analysis Group: G94BP02L
Analysis Method...: TCLP-8270
Instrument Type...: GC/MS
Instrument ID.....: 5972-U
Column Type.....: DB5, 30mx.32mm
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Target	Result	Percent Recovery	QC Limits	QC Flag
1,4-Dichlorobenzene	11/27/94 19:25	1.00	0.651	65.1	20.0/124.	
2,4,5-Trichlorophenol	11/27/94 19:25	1.00	0.683	68.3	37.0/144.	
2,4,6-Trichlorophenol	11/27/94 19:25	1.00	0.767	76.7	37.0/144.	
2,4-Dinitrotoluene	11/27/94 19:25	1.00	0.666	66.6	39.0/139.	
2-Methylphenol	11/27/94 19:25	1.00	0.569	56.9	0.000/150.	
4-Methylphenol	11/27/94 19:25	1.00	0.575	57.5	0.000/150.	
Hexachlorobenzene	11/27/94 19:25	1.00	0.742	74.2	24.0/116.	
Hexachlorobutadiene	11/27/94 19:25	1.00	0.592	59.2	24.0/116.	
Hexachloroethane	11/27/94 19:25	1.00	0.586	58.6	40.0/113.	
Nitrobenzene	11/27/94 19:25	1.00	0.715	71.5	35.0/180.	
Pentachlorophenol	11/27/94 19:25	1.00	0.644	64.4	14.0/176.	
Pyridine	11/27/94 19:25	1.00	0.356	35.6	0.000/150.	

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DATA CHEM LABORATORIES
A Sorenson Company

FORM H (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE GROUP COMMENTS

[redacted]
G94BL00K

Report Date.....: 11/29/94 10:43
DCL Client Group..: S94-0770-GI

Client Name.....: IT Corporation

Release Number....: Not Provided

General Information

The DCL QC Database maintains all numerical figures which are input from the pertinent data source. These data have not been rounded to significant figures nor have they been moisture corrected. Reports generated from the system, however, list data which have been rounded to the number of significant figures requested by the client or deemed appropriate for the method. This may create minor discrepancies between data which appear on the QC Summary Forms (Forms B-G) and those that would be calculated from rounded analytical results. Additionally, if a moisture correction is performed, differences will be observed between the QC data and the surrogate data reported on Form A (or other report forms) and corresponding data reported on QC Summary Forms. In these cases, the Form A will indicate the "Report Basis" as well as the moisture value used for making the correction.

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DATA CHEM LABORATORIES
A Stevenson Company

FORM C (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
BLANK SAMPLE

[redacted]
S94BP02Y

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....:
Report Basis.....: ☒ As Received ☐ Dried

DCL Preparation Group: G94BP02L
Date Prepared.....: 11/23/94 00:00
Preparation Method...: 1311/3510

Report Date.....: 11/29/94 10:43
DCL Sample Name...: BL-46660-1

DCL Analysis Group: G94BP02L
Analysis Method...: TCLP-8270
Instrument Type...: GC/MS
Instrument ID.....: 5972-U
Column Type.....: DB5, 30mx.32mm
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Result	CRDL
1,4-Dichlorobenzene	11/25/94 16:57	0.000	.100
2,4,5-Trichlorophenol	11/25/94 16:57	0.000	.100
2,4,6-Trichlorophenol	11/25/94 16:57	0.000	.100
2,4-Dinitrotoluene	11/25/94 16:57	0.000	.100
2-Methylphenol	11/25/94 16:57	0.000	.100
4-Methylphenol	11/25/94 16:57	0.000	.100
Hexachlorobenzene	11/25/94 16:57	0.000	.100
Hexachlorobutadiene	11/25/94 16:57	0.000	.100
Hexachloroethane	11/25/94 16:57	0.000	.100
Nitrobenzene	11/25/94 16:57	0.000	.100
Pentachlorophenol	11/25/94 16:57	0.000	.500
Pyridine	11/25/94 16:57	0.000	.100

DATA CHEM LABORATORIES
A Sorenson Company

ANALYTICAL REPORT

Form ARF-AL
Page 2 of 2
Part 2 of 2

Date _____
Agency Identification Number S94-0770-GI
Account No. 03018

IT Corporation
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544
Attention: Jeffrey Tucker

FAX (505) 662-1222
Telephone (505) 662-1200

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 17, 1994

Date Samples Received at Laboratory November 19, 1994

Analysis

Method of Analysis TCLP-8270

Date(s) of Analysis November 25, 1994 - November 29, 1994

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Pentachlorophenol mg/L 1311/3510	Pyridine mg/L 1311/3510	2,4,5-Trichlorophenol mg/L 1311/3510	2,4,6-Trichlorophenol mg/L 1311/3510				
BL-46660-1	BL-46660-1	SOIL	ND*	ND*	ND*	ND*				
TB-46660-1	TB-46660-1	SOIL	ND*	ND*	ND*	ND*				
QC-46660-1	QC-46660-1	SOIL	0.64	0.36	0.68	0.77				
AAC1436	EN 3751	SOIL	ND*	ND*	ND*	ND*				
AAC1436MS	EN 3751MS	SOIL	0.93	0.54	0.65	0.65				
AAC1436MSD	EN 3751MSD	SOIL	0.93	0.43	0.69	0.68				
AAC1437	EN 3752	SOIL	ND*	ND*	ND*	ND*				
AAC1438	EN 3753	SOIL	ND*	ND*	ND*	ND*				
AAC1439	EN 3754	SOIL	ND*	ND*	ND*	ND*				
AAC1440	EN 3755	SOIL	ND*	ND*	ND*	ND*				
* Limit of Detection			.017	.014	.026	.028				
Limit of Quantitation			.500	.100	.100	.100				

* See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

DATA CHEM LABORATORIES
A Sorenson Company

COVER FORM (TYPE I)
SINGLE METHOD ANALYSES

SUMMARY INFORMATION

Form RLIMS63M-V1.0
PDOR 11299410432725
Page 1

[redacted]
G94BL00K

Report Date.....: 11/29/94 10:43
DCL Client Group..: S94-0770-GI

Client Ref Number.: Not Provided
Release Number....: Not Provided

Analysis Method...: TCLP-8270

IT Corporation
Attention: Jeffrey Tucker
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544

Client Sample ID	Lab Sample ID
BL-46660-1	BL-46660-1
TB-46660-1	TB-46660-1
QC-46660-1	QC-46660-1
AAC1436	EN 3751
AAC1436MS	EN 3751MS
AAC1436MSD	EN 3751MSD
AAC1437	EN 3752
AAC1438	EN 3753
AAC1439	EN 3754
AAC1440	EN 3755

Brett J. Murphy
Analyst: Brett J. Murphy

Reviewer: Group

Laboratory Supervisor: Reed A. Hendricks

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
FAX (801) 268-9992

DataChem Laboratories
LIMS - Sample Master System
Preparation Group Report

Date: 22-NOV-1994 15:59
User: BLACK

RLIMS15-V1.1

Preparation Run Name: G94BP02L

Group ID: G94BP02L

Samples: 10

Pos	Laboratory Sample Name	Field Sample Name	Laboratory Sample ID	Laboratory Group Name	Accnt. Number
1	BL-46660-1	BL-46660-1	S94BP02Y	S94-0770-GI	03018
2	TB-46660-1	TB-46660-1	S94BP02Z	S94-0770-GI	03018
3	QC-46660-1	QC-46660-1	S94BP030	S94-0770-GI	03018
4	EN 3751	AAC1436	S94BL02C	S94-0770-GI	03018
5	EN 3751MS	AAC1436MS	S94BP031	S94-0770-GI	03018
6	EN 3751MSD	AAC1436MSD	S94BP032	S94-0770-GI	03018
7	EN 3752	AAC1437	S94BL02D	S94-0770-GI	03018
8	EN 3753	AAC1438	S94BL02F	S94-0770-GI	03018
9	EN 3754	AAC1439	S94BL02G	S94-0770-GI	03018
10	EN 3755	AAC1440	S94BL02H	S94-0770-GI	03018

----- END OF LISTING -----

8270

01

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

S94 0770

Date 11/17/94
Control No. 11614
Technical Area 40
Send Lab Report Jeffrey Tucker / IT Corp. MS
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3751 AAC1436	11/17/94 1500	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl list
		X		~~1x250ml,P~~					(JM)
		X		1x125ml,G			TCLP SVOA		
		X		1x125ml,G			TCLP Pest.		SEE ATTACHED SAMPLE INFORMATION
		X		1x125ml,G			TCLP Herb.		
		X		2x40ml,G			TCLP VOA		
EN 3752 AAC1437	11/17/94 1510	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list
		X		~~1x250ml,P~~					(JM)
		X		1x125ml,G			TCLP SVOA		
		X		1x125ml,G			TCLP Pest.		

Relinquished by (Signature) J. Troy Winter Affiliation IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time 1300	Received by (Signature) Affiliation Mark Underhill	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glen VanDeposel GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Proce Facility PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94 | Control No. 11616

Technical Area 40 | Send Lab Report Jeff Tucker / IT Corp MS

Operable Unit N/A | ~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544

~~OU Contact~~ | Date Samples Shipped

Contact Phone No. 505-662-1200 | Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3752	AAC1437	11/17/94 1510	X		1x125ml, G	Soil	4°C	TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		
EN 3753	AAC143B	11/17/94 1520	X		1x250ml, P	Soil	4°C	TCLP Metals		See incl. list
			~~X~~		~~1x250ml, P~~					JW
			X		1x125ml, G			TCLP SVOA		
			X		1x125ml, G			TCLP Pest		
			X		1x125ml, G			TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		

Relinquished by (Signature) Affiliation [signature] IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time 1300	Received by (Signature) Affiliation [signature]	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanDerpool GV Darren Meadows DM

WHITE To accompany samples | YELLOW Records Processing Facility | PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11617
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp MS
Operable Unit N/A
~~Site Work Plan~~ 5570 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested Test	Analysis Requested Method	Remarks (Condition of receipt, etc.)
EN 3754	AAC1439	11/17/94 1530	X		250ml, P 1x125 TW	Soil	4°C	TCLP Metals		See incl. list
			X		~~1x250ml, P~~					(TM)
			X		1x125ml, G			TCLP SVOA		
			X		1x125ml, G			TCLP Pest		
			X		1x125ml, G			TCLP Herb		
			X		2x40ml, G			TCLP VOA		
EN 3755	AAC1440	11/17/94 1540	X		1x250ml, P	Soil	4°C	TCLP Metals		See incl. list
					~~1x250ml, P~~					(TM)
					1x125ml, G			TCLP SVOA		
					1x125ml, G			TCLP Pest.		

Relinquished by (Signature) Affiliation IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time 1300	Received by (Signature) Affiliation Mark Hendenhall	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS *Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanDerpool GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Proce Facility PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Technical Area 40
Operable Unit N/A
~~OU Contact~~
Contact Phone No. 505-662-1200

Control No. 11618
Send Lab Report Jeff Tucker/IT Corp MS
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
Date Samples Shipped 11/18/94
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested Test	Analysis Requested Method	Remarks (Condition of receipt, etc.)
EN 3755	AAC1440	11/17/94 1540	X		125, G ~~1x250ml,P~~	Soil	4°C	TCLP Herb		
					~~1x250ml,P~~					
	AAC1440	11/17/94 1540	X		2x40ml,G	Soil	4°C	TCLP VOA		
EN 3756	AAC1441	11/17/94 1610		X	1x500ml,P	Soil	4°C	TCLP Lead		
3757	AAC1442	11/17/94 1620		X	1x500ml,P	Soil	4°C	TCLP Lead		
3758	AAC1443	11/17/94 1630		X	1x500ml,P	Soil	4°C	TCLP Lead		
3759	AAC1444	11/17/94 1640		X	1x500ml,P	Soil	4°C	TCLP Lead		

Relinquished by (Signature) Affiliation IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time	Received by (Signature) Affiliation Mark Henderhallow	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn Vandepool GV Darren Meadows

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

Earliest Sampling Date: 17-Nov-1994

DataChem Laboratories
CHAIN- -CUSTODY

Results due by: 29-Nov-1994

Project/Job/Task: COMM-ENV | Split: | Root Set ID: S94-0770 • | Reporting Group

Client: IT Corporation | Account: 03018

Comments:

Date Sampled	Field ID Number	DCL Sample Name	DCL Sample ID	QC	Matrix						AI TCLP Extraction	BI Metals/TCLP	CI Lead/TCLP	DI Mercury/TCLP	EI TCLP/PEST	FI TCLP-Herbicides	GI TCLP/SEMI-VOL	HI ZERO HEAD EX-TRACT	II TCLP/VOLATILES	# Bottles
17-Nov-1994	AAC1436	EN 3751			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1437	EN 3752			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1438	EN 3753			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1439	EN 3754			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1440	EN 3755			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1441	EN 3756			SOIL						X		X							1
17-Nov-1994	AAC1442	EN 3757			SOIL						X		X							1
17-Nov-1994	AAC1443	EN 3758			SOIL						X		X							1
17-Nov-1994	AAC1444	EN 3759			SOIL						X		X							1

Received: Date/Time/Signature 11-19-94 / 1000 / Mark Mendenhall

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
Mark Mendenhall	11-19-94 1130	WALK-IN: R23-1 MM	STORAGE: R23-1
WALK-IN R23-1 RR	11-21-94 1000		TCLP

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep/Analysis for: SV | Lab Notebook No.: 168

Prepared/Analyzed by: Amanda Frost | Date/Time: 11-23-94 0600

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
[illegible]	11/23/94/1200	[illegible]	Extract. 8270/None
[illegible]	11-23-94 0600	Amanda Frost	EXT/R16
Amanda Frost	11-23-94 0800	R-16 A'F	STOR R-16
R-16 A'F	11-23-94 0830	Amanda Frost	Finish EXT/R-16
Amanda Frost	11-23-94 10:00	Maria P. Rosetti	Concentrated
Maria P. Rosetti	11-23-94 13:00	Storage R-16.3 SGR	SGR R-16.3 Storage
R-16 3 DD	11-23-94 1630	[illegible]	GC/MS/SV analysis 12/19/05

Check box if there is a continuation page ☐

Form: COFC1.01 SWV2.10

Printed 11/19/1994 10:54

DATA CHEM LABORATORIES
A Sorenson Company

ANALYTICAL REPORT

Form ARF-AL
Page 1 of 3
Part 1 of 2

Date NOV 2 ^ 1994
Agency Identification Number S94-0770-EI
Account No. 03018

IT Corporation
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544
Attention: Jeffrey Tucker

FAX (505) 662-1222
Telephone (505) 662-1200

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 17, 1994

Date Samples Received at Laboratory November 19, 1994

Analysis

Method of Analysis TCLP-8080

Date(s) of Analysis November 25, 1994

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Endrin mg/L 1311	Lindane mg/L 1311	Methoxychlor mg/L 1311	Toxaphene mg/L 1311	Alpha Chlordane mg/L 1311	Gamma Chlordane mg/L 1311	Heptachlor mg/L 1311	Heptachlor epoxide mg/L 1311	
BL-46658-1	BL-46658-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*	†
TB-46658-1	TB-46658-1	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*	†
QC-46658-1	QC-46658-1	SOIL	0.0087	0.0059	0.088	ND*	0.0071	0.0072	0.0076	0.0079	†
AAC1436	EN 3751	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*	
AAC1436MS	EN 3751MS	SOIL	0.010	0.0080	0.11	ND*	0.0085	0.0087	0.0093	0.0092	
AAC1436MSD	EN 3751MSD	SOIL	0.0080	0.0055	0.072	ND*	0.0070	0.0068	0.0077	0.0073	
AAC1437	EN 3752	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*	
AAC1438	EN 3753	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*	
AAC1439	EN 3754	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*	
AAC1440	EN 3755	SOIL	ND*	ND*	ND*	ND*	ND*	ND*	ND*	ND*	
* Limit of Detection											
Limit of Quantitation			0.0005	0.0005	0.005	0.01	0.001	0.001	0.0005	0.0005	

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

This report is 15 total pages.

Analyst: Guangyue Liu

Reviewer: Vicki Hoe-Lin Tsai

Laboratory Supervisor: John R. Gumpper

001

DATA CHEM LABORATORIES
A Sorenson Company

ANALYTICAL REPORT

Form ARF-AL
Page 2 of 3
Part 2 of 2

Date [illegible]
Agency Identification Number S94-0770-EI
Account No. 03018

IT Corporation
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544
Attention: Jeffrey Tucker

FAX (505) 662-1222
Telephone (505) 662-1200

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 17, 1994

Date Samples Received at Laboratory November 19, 1994

Analysis

Method of Analysis TCLP-8080

Date(s) of Analysis November 25, 1994

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	Tetrachloro-meta-xylene mg/L 1311	Dibutyl chlorendate mg/L 1311							
BL-46658-1	BL-46658-1	SOIL	0.0038	0.0036							†
TB-46658-1	TB-46658-1	SOIL	0.0063	0.0052							†
QC-46658-1	QC-46658-1	SOIL	0.0064	0.0061							†
AAC1436	EN 3751	SOIL	0.0062	0.0057							
AAC1436MS	EN 3751MS	SOIL	0.0071	0.0067							
AAC1436MSD	EN 3751MSD	SOIL	0.0061	0.0051							
AAC1437	EN 3752	SOIL	0.0078	0.0071							
AAC1438	EN 3753	SOIL	0.0068	0.0061							
AAC1439	EN 3754	SOIL	0.0083	0.0053							
AAC1440	EN 3755	SOIL	0.0067	0.0053							
* Limit of Detection											
Limit of Quantitation			SUR.	SUR.							

† See comment on last page.
ND Parameter not detected.
NR Parameter not requested.
** See comment on last page.
( ) Parameter between LOD and LOQ.

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DATA CHEM LABORATORIES
A Sorenson Company

FORM G (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
SURROGATE SUMMARY

Form RLIMS63G-V1.0
PDOR 11289420452398
Page 6

[redacted]
G94BP02H

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: ☒ As Received ☐ Dried

Report Date.....: 11/28/94 20:45

DCL Analysis Group: G94BP02H
Analysis Method...: TCLP-8080

DCL Prep Group....: G94BP02H
Preparation Method: 1311

Surrogate Recoveries

Surr. ID	Dibutylchlorendate				Tetrachloro-meta-xylene							
QC Limits	40.0/160.				40.0/160.							
DCL Sample Number	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q
BL-46658-1	0.00359	0.0100	35.9	*	0.00385	0.0100	38.5	*				
EN 3751	0.00571	0.0100	57.1		0.00616	0.0100	61.6					
EN 3751MS	0.00669	0.0100	66.9		0.00710	0.0100	71.0					
EN 3751MSD	0.00514	0.0100	51.4		0.00605	0.0100	60.5					
EN 3752	0.00712	0.0100	71.2		0.00784	0.0100	78.4					
EN 3753	0.00605	0.0100	60.5		0.00681	0.0100	68.1					
EN 3754	0.00535	0.0100	53.5		0.00829	0.0100	82.9					
EN 3755	0.00534	0.0100	53.4		0.00675	0.0100	67.5					
QC-46658-1	0.00607	0.0100	60.7		0.00640	0.0100	64.0					
TB-46658-1	0.00522	0.0100	52.2		0.00632	0.0100	63.2					

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
FAX (801) 268-9992

DataChem Laboratories
LIMS - Sample Master System
Preparation Group Report

Date: 22-NOV-1994 15:59
User: BLACK

RLIMS15-V1.1

Preparation Run Name: G94BP02H

Group ID: G94BP02

Samples: 10

Pos	Laboratory Sample Name	Field Sample Name	Laboratory Sample ID	Laboratory Group Name	Accnt. Number
1	BL-46658-1	BL-46658-1	S94BP02J	S94-0770-EI	03018
2	TB-46658-1	TB-46658-1	S94BP02K	S94-0770-EI	03018
3	QC-46658-1	QC-46658-1	S94BP02L	S94-0770-EI	03018
4	EN 3751	AAC1436	S94BL021	S94-0770-EI	03018
5	EN 3751MS	AAC1436MS	S94BP02M	S94-0770-EI	03018
6	EN 3751MSD	AAC1436MSD	S94BP02N	S94-0770-EI	03018
7	EN 3752	AAC1437	S94BL022	S94-0770-EI	03018
8	EN 3753	AAC1438	S94BL023	S94-0770-EI	03018
9	EN 3754	AAC1439	S94BL024	S94-0770-EI	03018
10	EN 3755	AAC1440	S94BL025	S94-0770-EI	03018

----- END OF LISTING -----

DATA CHEM LABORATORIES
A Sorenson Company

FORM F (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
MATRIX SPIKE SAMPLE
MATRIX SPIKE DUPLICATE SAMPLE

[redacted]

S94BP02M

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: MG/L
Report Basis.....: ☒ As Received ☐ Dried

DCL Preparation Group: G94BP02H
Date Prepared.....: 11/22/94 00:00
Preparation Method...: 1311

Report Date.....: 11/28/94 20:45
DCL Sample Name...: [redacted] 3751MS

DCL Analysis Group: G94BP02H
Analysis Method...: TCLP-8080
Instrument Type...: GC
Instrument ID.....: EC-8
Column Type.....: DB-17
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Sample Result	Spiked Result	Spike Added	Percent Recovery	QC Limits	QC Flag
Alpha Chlordane	11/25/94 08:39	0.000	0.00854	0.0100	85.4	40.0/160.	
Endrin	11/25/94 08:39	0.000	0.0104	0.0100	104.	40.0/160.	
Gamma Chlordane	11/25/94 08:39	0.000	0.00872	0.0100	87.2	40.0/160.	
Heptachlor	11/25/94 08:39	0.000	0.00925	0.0100	92.5	40.0/160.	
Heptachlor epoxide	11/25/94 08:39	0.000	0.00920	0.0100	92.0	40.0/160.	
Lindane	11/25/94 08:39	0.000	0.00800	0.0100	80.0	40.0/160.	
Methoxychlor	11/25/94 08:39	0.000	0.110	0.100	110.	40.0/160.	

S94BP02N

DCL Sample Name...: [redacted] 3751MSD

Analytical Results

Analyte	Date Analyzed	Duplicate Result	Percent Recovery	Mean	Range	RPD	QC Limits	QC Flag
Alpha Chlordane	11/25/94 09:22	0.00695	69.5	0.00775	0.00159	20.	40.0/160.	
Endrin	11/25/94 09:22	0.00801	80.1	0.00922	0.00242	26.	40.0/160.	
Gamma Chlordane	11/25/94 09:22	0.00681	68.1	0.00777	0.00190	25.	40.0/160.	
Heptachlor	11/25/94 09:22	0.00768	76.8	0.00847	0.00157	19.	40.0/160.	
Heptachlor epoxide	11/25/94 09:22	0.00734	73.4	0.00827	0.00186	23.	40.0/160.	
Lindane	11/25/94 09:22	0.00554	55.4	0.00677	0.00246	36.	40.0/160.	
Methoxychlor	11/25/94 09:22	0.0719	71.9	0.0908	0.0378	42.	40.0/160.	

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
FAX (801) 268-9992

DATA CHEM LABORATORIES
A Sorenson Company

FORM B (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
LABORATORY CONTROL SAMPLE (LCS)

[redacted]
S94BP02L

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: MG/L
Report Basis.....: [X] As Received [ ] Dried
LCS Source.....:

DCL Preparation Group: G94BP02H
Date Prepared.....: 11/22/94 00:00
Preparation Method...: 1311

Report Date.....: 11/28/94 20:45
DCL Sample Name...: QC-46658-1

DCL Analysis Group: G94BP02H
Analysis Method...: TCLP-8080
Instrument Type...: GC
Instrument ID.....: EC-8
Column Type.....: DB-17
[X] Primary
[ ] Confirmation

Analytical Results

Analyte	Date Analyzed	Target	Result	Percent Recovery	QC Limits	QC Flag
Alpha Chlordane	11/25/94 07:12	0.0100	0.00714	71.4	40.0/160.	
Endrin	11/25/94 07:12	0.0100	0.00865	86.5	40.0/160.	
Gamma Chlordane	11/25/94 07:12	0.0100	0.00719	71.9	40.0/160.	
Heptachlor	11/25/94 07:12	0.0100	0.00759	75.9	40.0/160.	
Heptachlor epoxide	11/25/94 07:12	0.0100	0.00786	78.6	40.0/160.	
Lindane	11/25/94 07:12	0.0100	0.00594	59.4	40.0/160.	
Methoxychlor	11/25/94 07:12	0.100	0.0884	88.4	40.0/160.	

Sample Comments

aboratory control sample

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FAX (801) 268-9992

DATA CHEM LABORATORIES
A Sorenson Company

FORM H (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE GROUP COMMENTS

[redacted]
G94BL00H

Report Date.....: 11/28/94 20:45
DCL Client Group..: 894-0770-EI

Client Name.....: IT Corporation

Release Number....: Not Provided

Sample Group Comments

The samples were spiked with the surrogates dibutylchlorendate (DBC) and 2,4,5,6-tetrachloro-m-xylene (TCMX) at 0.01 mg/L.

The matrix spike, matrix spike duplicate, and Laboratory Control Samples were spiked with lindane, heptachlor, heptachlor epoxide, alpha chlordane, gamma chlordane, and endrin at 0.01 mg/L and with methoxychlor at 0.1 mg/L.

General Information

The DCL QC Database maintains all numerical figures which are input from the pertinent data source. These data have not been rounded to significant figures nor have they been moisture corrected. Reports generated from the system, however, list data which have been rounded to the number of significant figures requested by the client or deemed appropriate for the method. This may create minor discrepancies between data which appear on the QC Summary Forms (Forms B-G) and those that would be calculated from rounded analytical results. Additionally, if a moisture correction is performed, differences will be observed between the QC data and the surrogate data reported on Form A (or other report forms) and corresponding data reported on QC Summary Forms. In these cases, the Form A will indicate the "Report Basis" as well as the moisture value used for making the correction.

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FAX (801) 268-9992

DATA CHEM LABORATORIES
A Sorenson Company

FORM C (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
BLANK SAMPLE

Form RLIMS63C-V1.0
PDOR 11289420452398
Page 3
[redacted]
S94BP02J

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: MG/L
Report Basis.....: [X] As Received [ ] Dried

DCL Preparation Group: G94BP02H
Date Prepared.....: 11/22/94 00:00
Preparation Method...: 1311

Report Date.....: 11/28/94 20:45
DCL Sample Name...: BL-46658-1

DCL Analysis Group: G94BP02H
Analysis Method...: TCLP-8080
Instrument Type...: GC
Instrument ID.....: EC-8
Column Type.....: DB-17
[X] Primary
[ ] Confirmation

Analytical Results

Analyte	Date Analyzed	Result	CRDL
Alpha Chlordane	11/25/94 05:45	0.000	0.001
Endrin	11/25/94 05:45	0.000	0.0005
Gamma Chlordane	11/25/94 05:45	0.000	0.001
Heptachlor	11/25/94 05:45	0.000	0.0005
Heptachlor epoxide	11/25/94 05:45	0.000	0.0005
Lindane	11/25/94 05:45	0.000	0.0005
Methoxychlor	11/25/94 05:45	0.000	0.005

Sample Comments

Extraction blank

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FAX (801) 268-9992

DATA CHEM LABORATORIES
A Sorenson Company

ANALYTICAL REPORT

Date _____

Agency Identification Number S94-0770-EI

General Set Comments

The samples were spiked with the surrogates dibutylchlorendate (DBC) and 2,4,5,6-tetrachloro-m-xylene (TCMX) at 0.01 mg/L.

The matrix spike, matrix spike duplicate, and Laboratory Control Samples were spiked with lindane, heptachlor, heptachlor epoxide, alpha chlordane, gamma chlordane, and endrin at 0.01 mg/L and with methoxychlor at 0.1 mg/L.

Surrogate recoveries were below limits for the method blank. Since the TCLP blank passed, the data was considered acceptable. No target analytes were detected in the samples.

Sample Comments

Laboratory Number	-- Comment --
BL-46658-1	Extraction blank
TB-46658-1	TCLP blank
QC-46658-1	Laboratory control sample

DATA CHEM LABORATORIES
A Sorenson Company

COVER FORM (TYPE I)
SINGLE METHOD ANALYSES

SUMMARY INFORMATION

Form RLIMS63M-V1.0
PDOR 1128942045[illegible]8
Page 1
[redacted]
G94BL00H

Report Date.....: 11/28/94 20:45
DCL Client Group..: S94-0770-EI

Client Ref Number.: Not Provided
Release Number....: Not Provided

Analysis Method...: TCLP-8080

IT Corporation
Attention: Jeffrey Tucker
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544

Client Sample ID	Lab Sample ID
BL-46658-1	BL-46658-1
TB-46658-1	TB-46658-1
QC-46658-1	QC-46658-1
AAC1436	EN 3751
AAC1436MS	EN 3751MS
AAC1436MSD	EN 3751MSD
AAC1437	EN 3752
AAC1438	EN 3753
AAC1439	EN 3754
AAC1440	EN 3755

Analyst: Guangyue Liu

Reviewer: Vicki Hee-Lin Tsai

Laboratory Supervisor: John R. Gumpper

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FAX (801) 268-9992

Earliest Sampling Date: 17 Nov-1994

DataChem Laboratories
CHAIN-OF-CUSTODY

Results due by: 29 Nov-1994

Project/Job/Task: COMM-ENV | Split: | Root Set ID: S94-0770 • | Reporting Group

Client: IT Corporation | Account: 03018

Comments:

Date Sampled	Field ID Number	DCL Sample Name	DCL Sample ID	QC	Matrix						Analysis: AI TCLP Extraction	BI Metals/TCLP	CI Lead/TCLP	DI Mercury/TCLP	EI TCLP/PEST	FI TCLP-Herbicides	GI TCLP/SEMI-VOL	HI ZERO HEAD. EX-TRACT	II TCLP/VOLATILES	# Bottles
17-Nov-1994	AAC1436	EN 3751			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1437	EN 3752			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1438	EN 3753			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1439	EN 3754			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1440	EN 3755			SOIL						X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1441	EN 3756			SOIL						X		X							1
17-Nov-1994	AAC1442	EN 3757			SOIL						X		X							1
17-Nov-1994	AAC1443	EN 3758			SOIL						X		X							1
17-Nov-1994	AAC1444	EN 3759			SOIL						X		X							1
															X					

Received: Date/Time/Signature 11-19-94 / 1000 / Mark Mendenhall

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
Mark Mendenhall	11-19-94 1130	WALK-IN: R23-1 MM	STORAGE: R23-1
walk-in R23-1 RR	11-21-94 1000	[illegible]	TCLP

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep/Analysis for: TCLP/8080 Lab Notebook No.: 108/40

Prepared/Analyzed by: [illegible] Date/Time: 11-21-94/1000

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
[illegible]	1700 11-22-94	[illegible]	Extraction/None
[illegible]	2200 11/22/94	R-16 [illegible]	Stor/R-16
R-16 AV	11-23-94 0600	Anand Patel	Start ext/R-16
Anand Patel	11-23-94 9:00	Maria P. Rosetti	To Concentrate
Maria P. Rosetti	11-23-94 11:00	Storage R.16.3 KR	R.16.3 Storage KR
Storage	11-23-94 1700	[illegible]	TCLP Anal./R-72-1

Check box if there is a continuation page ☐

Form: COFC-01 SWV2.10

Printed 11/19/1994 10:54

012

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

S94 0770

Date 11/17/94
Control No. 11614
Technical Area 40
Send Lab Report Jeffrey Tucker / IT Corp. MS
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3751	AAC1436	11/17/94 1500	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl list
			X		~~1x250ml,P~~					(TW)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest.		SEE ATTACHED SAMPLE INFORMATION
			X		1x125ml,G			TCLP Herb.		
			X		2x40ml,G			TCLP VOA		
EN 3752	AAC1437	11/17/94 1510	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list
			X		~~1x250ml,P~~					(TW)
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest.		

Relinquished by (Signature) J. Tracy Winter	Date 11/18/94	Relinquished by (Signature)	Date 11-19-94	Relinquished by (Signature)	Date
Affiliation IT Corp		Affiliation FED EX		Affiliation	
Received by (Signature) Fed Ex	Time 1300	Received by (Signature) Mark Henderhall	Time 1000	Received by (Signature)	Time
Affiliation		Affiliation		Affiliation	

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glen VanDeepel GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94 | Control No. 11616

Technical Area 40 | Send Lab Report Jeff Tucker / IT Corp MS

Operable Unit N/A | ~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544

~~OU Contact~~ | Date Samples Shipped

Contact Phone No. 505-662-1200 | Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3752	AAC1437	11/17/94 1510	X		1x125ml,G	Soil	4°C	TCLP Herb		
	↓	↓	X		2x40ml,G	↓	↓	TCLP VOA		
EN 3753	AAC143B	11/17/94 1520	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list
	↓	↓	X		1x250ml,P	↓	↓			
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest		
			X		1x125ml,G			TCLP Herb		
	↓	↓	X		2x40ml,G	↓	↓	TCLP VOA		

JW

Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date
[signature] IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) Affiliation: Fed Ex	Time 1300	Received by (Signature) Affiliation: [signature] DOE	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results as soon as available (505-662-1225)

SAMPLING TEAM (Print names and initial) Glenn VanOerpel GV Darren Meadows DM

WHITE To accompany samples | YELLOW Records Processing Facility | PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94 | Control No. 11617

Technical Area 40 | Send Lab Report Jeff Tucker / IT Corp MS

Operable Unit N/A | ~~Site Work Plan~~ 5570 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544

~~OU Contact~~ | Date Samples Shipped 11/18/94

Contact Phone No. 505-662-1200 | Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3754	AAC1439	11/17/94 1530	X		1x125 g, P	Soil	4°C	TCLP Metals		See incl. list
			X		~~1x250 ml, P~~					(TM)
			X		1x125 ml, G			TCLP SVOA		
			X		1x125 ml, G			TCLP Pest		
			X		1x125 ml, G			TCLP Herb		
			X		2x40 ml, G			TCLP VOA		
EN 3755	AAC1440	11/17/94 1540	X		1x250 ml, P	Soil	4°C	TCLP Metals		See incl. list
					~~1x250 ml, P~~					(TM)
					1x125 ml, G			TCLP SVOA		
					1x125 ml, G			TCLP Pest.		

Relinquished by (Signature) Affiliation IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time 1300	Received by (Signature) Affiliation Mark Henderson	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanDerpool GV Darren Meadows DM

WHITE To accompany samples | YELLOW Records Processing Facility | PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11618
Technical Area 40
Send Lab Report Jeff Tucker / IT CORP
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3755	AAC1440	11/17/94 1540	X		125 G ~~1x250mL P~~	Soil	4°C	TCLP Herb		
					~~1x250mL P~~					
	AAC1440	11/17/94 1540	X		2x40mL G	Soil	4°C	TCLP VOA		
EN 3756	AAC1441	11/17/94 1610		X	1x500mL P	Soil	4°C	TCLP Lead		
3757	AAC1442	11/17/94 1620		X	1x500mL P	Soil	4°C	TCLP Lead		
3758	AAC1443	11/17/94 1630		X	1x500mL P	Soil	4°C	TCLP Lead		
3759	AAC1444	11/17/94 1640		X	1x500mL P	Soil	4°C	TCLP Lead		

Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date
[signature] IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) Affiliation	**Time**	**Received by (Signature) Affiliation**	**Time**	**Received by (Signature) Affiliation**	**Time**
Fed Ex		[signature]	1000		

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn Vandepool GV Darren Meadows

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

DATA CHEM LABORATORIES
A Sorenson Company

ANALYTICAL REPORT

Form ARF-AL
Page 1 of 2
Part 1 of 1

Date NOV 20 1994
Agency Identification Number S94-0770-FI
Account No. 03018

IT Corporation
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544
Attention: Jeffrey Tucker

FAX (505) 662-1222
Telephone (505) 662-1200

Sampling Collection and Shipment

Sampling Site _____ Date of Collection November 17, 1994

Date Samples Received at Laboratory November 19, 1994

Analysis

Method of Analysis TCLP-8150

Date(s) of Analysis November 24, 1994

Analytical Results

Field Sample Number	Laboratory Number	Sample Type	2,4-D mg/L 1311	2,4,5-TP (Silvex) mg/L 1311	DCAA mg/L 1311					
BL-46659-1	BL-46659-1	SOIL	ND*	ND*	0.031					
TB-46659-1	TB-46659-1	SOIL	ND*	ND*	0.029					
QC-46659-1	QC-46659-1	SOIL	0.045	0.023	0.027					
AAC1436	EN 3751	SOIL	ND*	ND*	0.026					
AAC1436MS	EN 3751MS	SOIL	0.043	0.022	0.026					
AAC1436MSD	EN 3751MSD	SOIL	0.044	0.022	0.027					
AAC1437	EN 3752	SOIL	ND*	ND*	0.024					
AAC1438	EN 3753	SOIL	ND*	ND*	0.027					
AAC1439	EN 3754	SOIL	ND*	ND*	0.028					
AAC1440	EN 3755	SOIL	ND*	ND*	0.025					
* Limit of Detection										
Limit of Quantitation			0.02	0.002	SURR					

* See comment on last page.
ND Parameter not detected.
NR Parameter not requested.

** See comment on last page.
( ) Parameter between LOD and LOQ.

Joann Zhang 11/28/94
Analyst: Joann Zhang

Vicki Hoe-Lin Tsai
Reviewer: Vicki Hoe-Lin Tsai

11-28-94
Laboratory Supervisor: Greg L. Hess

This report is 14 total pages.

DATA CHEM LABORATORIES
A Sorenson Company

ANALYTICAL REPORT

Date NOV 2 [illegible]

Agency Identification Number S94-0770-FI

General Set Comments

The samples were spiked with the surrogate, 2,4-dichlorophenylacetic acid (DCAA), at 0.025 mg/L.

The matrix spike, matrix spike duplicate, and Laboratory Control Samples were spiked with 2,4-D at 0.05 mg/L, and 2,4,5-TP at 0.025 mg/L.

The recoveries of spiked analytes were within quality control limits for laboratory control (LCS), matrix spike (MS) and matrix spike duplicate (MSD) samples.

The recoveries of surrogate were within quality control limits for all samples.

BL-46659-1 was the extraction blank and TB-46659-1 was the TCLP blank.

DATA CHEM LABORATORIES
A Sorenson Company

COVER FORM (TYPE I)
SINGLE METHOD ANALYSES

SUMMARY INFORMATION

Form RLIMS63M-V1.0
PDOR 11289415283072
Page 1

G94BL00J

Report Date.....: 11/28/94 15:28
DCL Client Group..: S94-0770-FI

Client Ref Number.: Not Provided
Release Number....: Not Provided

Analysis Method...: TCLP-8150

IT Corporation
Attention: Jeffrey Tucker
557 Oppenheimer Drive
Suite 200
Los Alamos, NM 87544

Client Sample ID	Lab Sample ID
BL-46659-1	BL-46659-1
TB-46659-1	TB-46659-1
QC-46659-1	QC-46659-1
AAC1436	EN 3751
AAC1436MS	EN 3751MS
AAC1436MSD	EN 3751MSD
AAC1437	EN 3752
AAC1438	EN 3753
AAC1439	EN 3754
AAC1440	EN 3755

Joann Zhang 11/28/94
Analyst: Joann Zhang

Vicki Hoe Lin Tsai
Reviewer: Vicki Hoe-Lin Tsai

11-28-94
Laboratory Supervisor: Greg L. Hess

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
FAX (801) 268-9992

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DATA CHEM LABORATORIES
A Sorenson Company

FORM H (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE GROUP COMMENTS

[redacted]
G94BL00J

Report Date.....: 11/28/94 15:28
DCL Client Group..: 894-0770-FI

Client Name.....: IT Corporation

Release Number....: Not Provided

Sample Group Comments

The samples were spiked with the surrogate, 2,4-dichlorophenylacetic acid (DCAA), at 0.025 mg/L.

The matrix spike, matrix spike duplicate, and Laboratory Control Samples were spiked with 2,4-D at 0.05 mg/L, and 2,4,5-TP at 0.025 mg/L.

The recoveries of spiked analytes were within quality control limits for laboratory control (LCS), matrix spike (MS) and matrix spike duplicate (MSD) samples.

The recoveries of surrogate were within quality control limits for all samples.

BL-46659-1 was the extraction blank and TB-46659-1 was the TCLP blank.

General Information

The DCL QC Database maintains all numerical figures which are input from the pertinent data source. These data have not been rounded to significant figures nor have they been moisture corrected. Reports generated from the system, however, list data which have been rounded to the number of significant figures requested by the client or deemed appropriate for the method. This may create minor discrepancies between data which appear on the QC Summary Forms (Forms B-G) and those that would be calculated from rounded analytical results. Additionally, if a moisture correction is performed, differences will be observed between the QC data and the surrogate data reported on Form A (or other report forms) and corresponding data reported on QC Summary Forms. In these cases, the Form A will indicate the "Report Basis" as well as the moisture value used for making the correction.

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FAX (801) 268-9992

DATA CHEM LABORATORIES
A Sorenson Company

FORM C (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
BLANK SAMPLE

Form RLIMS63C-V1.0
PDOR 11289415283072
Page 3
[redacted]
S94BP02S

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: ☒ As Received ☐ Dried

DCL Preparation Group: G94BP02J
Date Prepared.....: 11/22/94 00:00
Preparation Method...: 1311

Report Date.....: 11/28/94 15:28
DCL Sample Name...: BL-46659-1

DCL Analysis Group: G94BP02J
Analysis Method...: TCLP-8150
Instrument Type...: GC
Instrument ID.....: EC-6
Column Type.....: DB-608
☒ Primary
☐ Confirmation

Analytical Results

Analyte	Date Analyzed	Result	CRDL
245TP	11/24/94 01:55	0.000508	0.00200
24D	11/24/94 01:55	0.000	0.0200

all less than LOQ

Joan [illegible] 11/28/94

005

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
FAX (801) 268-9992

DATA CHEM LABORATORIES
A Sorenson Company

FORM F (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
MATRIX SPIKE SAMPLE
MATRIX SPIKE DUPLICATE SAMPLE

Form RLIMS63F-V1.0
PDOR 11289415283072
Page 4

[redacted]
S94BP02W

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: [X] As Received [ ] Dried

DCL Preparation Group: G94BP02J
Date Prepared.....: 11/22/94 00:00
Preparation Method...: 1311

Report Date.....: 11/28/94 15:28
DCL Sample Name...: [redacted] 3751MS

DCL Analysis Group: G94BP02J
Analysis Method...: TCLP-8150
Instrument Type...: GC
Instrument ID.....: EC-6
Column Type.....: DB-608
[X] Primary
[ ] Confirmation

Analytical Results

Analyte	Date Analyzed	Sample Result	Spiked Result	Spike Added	Percent Recovery	QC Limits	QC Flag
245TP	11/24/94 04:18	0.000	0.0222	0.0250	88.8	52.0/141.	
24D	11/24/94 04:18	0.000	0.0430	0.0500	85.9	47.0/155.	

all less than LOQ

S94BP02X

Joan Shank 11/28/94

DCL Sample Name...: [redacted] 3751MSD

Analytical Results

Analyte	Date Analyzed	Duplicate Result	Percent Recovery	Mean	Range	RPD	QC Limits	QC Flag
245TP	11/24/94 04:54	0.0223	89.3	0.0223	0.000114	0.51	52.0/141.	
24D	11/24/94 04:54	0.0437	87.4	0.0433	0.000716	1.7	47.0/155.	

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547 / (801) 266-7700
FAX (801) 268-9992

DATA CHEM LABORATORIES
A Sorenson Company

FORM B (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
LABORATORY CONTROL SAMPLE (LCS)

[redacted]
S94BP02V

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: [X] As Received [ ] Dried
LCS Source.....:

DCL Preparation Group: G94BP02J
Date Prepared.....: 11/22/94 00:00
Preparation Method...: 1311

Report Date.....: 11/28/94 15:28
DCL Sample Name...: QC-46659-1

DCL Analysis Group: G94BP02J
Analysis Method...: TCLP-8150
Instrument Type...: GC
Instrument ID.....: EC-6
Column Type.....: DB-608
[X] Primary
[ ] Confirmation

Analytical Results

Analyte	Date Analyzed	Target	Result	Percent Recovery	QC Limits	QC Flag
245TP	11/24/94 03:07	0.0250	0.0229	91.7	52.0/141.	
24D	11/24/94 03:07	0.0500	0.0448	89.6	47.0/155.	

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FAX (801) 268-9992

DATA CHEM LABORATORIES
A Sorenson Company

FORM G (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
SURROGATE SUMMARY

Form RLIMS63G-V1.0
PDOR 11289415283072
Page 6
[redacted]
G94BP02J

Client Name.....: IT Corporation
Release Number.....: Not Provided

Matrix.....: SOIL
Reporting Units.....: mg/L
Report Basis.....: ☒ As Received ☐ Dried

Report Date.....: 11/28/94 15:28

DCL Analysis Group: G94BP02J
Analysis Method...: TCLP-8150

DCL Prep Group....: G94BP02J
Preparation Method: 1311

Surrogate Recoveries

Surr. ID	DCAA											
QC Limits	46.0/146.											
DCL Sample Number	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q	Analyte Result	Spiked Amount	% Rec.	Q
BL-46659-1	0.0306	0.0250	122.									
EN 3751	0.0262	0.0250	105.									
EN 3751MS	0.0260	0.0250	104.									
EN 3751MSD	0.0271	0.0250	108.									
EN 3752	0.0238	0.0250	95.2									
EN 3753	0.0266	0.0250	106.									
EN 3754	0.0278	0.0250	111.									
EN 3755	0.0252	0.0250	101.									
QC-46659-1	0.0272	0.0250	109.									
TB-46659-1	0.0292	0.0250	117.									

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FAX (801) 268-9992

DataChem Laboratories
LIMS - Sample Master System
Preparation Group Report

Date: 2-NOV-1994 15:59
User: BLACK

RLIMS15-V1.1

Preparation Run Name: G94BP02J

Group ID: G94BP02J

Samples: 10

Pos	Laboratory Sample Name	Field Sample Name	Laboratory Sample ID	Laboratory Group Name	Accnt. Number
1	BL-46659-1	BL-46659-1	S94BP02S	S94-0770-FI	03018
2	TB-46659-1	TB-46659-1	S94BP02T	S94-0770-FI	03018
3	QC-46659-1	QC-46659-1	S94BP02V	S94-0770-FI	03018
4	EN 3751	AAC1436	S94BL026	S94-0770-FI	03018
5	EN 3751MS	AAC1436MS	S94BP02W	S94-0770-FI	03018
6	EN 3751MSD	AAC1436MSD	S94BP02X	S94-0770-FI	03018
7	EN 3752	AAC1437	S94BL027	S94-0770-FI	03018
8	EN 3753	AAC1438	S94BL028	S94-0770-FI	03018
9	EN 3754	AAC1439	S94BL029	S94-0770-FI	03018
10	EN 3755	AAC1440	S94BL02B	S94-0770-FI	03018

----- END OF LISTING -----

Earliest Sam. g Date: 17-Nov-1994

DataChen aboratories
CHAIN-OF-CUSTODY

Results due by: 29-Nov-1994

Project/Job/Task: COMM-ENV | Split: | Root Set ID: S94-0770 * | Reporting Group

Client: IT Corporation | Account: 03018

Comments:

Date Sampled	Field ID Number	DCL Sample Name	DCL Sample ID	QC	Matrix	AI TCLP Extraction	BI Metals/TCLP	CI Lead/TCLP	DI Mercury/TCLP	EI TCLP/PEST	FI TCLP-Herbicides	GI TCLP/SEMI-VOL	HI ZERO HEAD. EXTRACT	II TCLP/VOLATILES	# Bottles
17-Nov-1994	AAC1436	EN 3751			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1437	EN 3752			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1438	EN 3753			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1439	EN 3754			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1440	EN 3755			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1441	EN 3756			SOIL	X	X		X	X	X	X	X	X	6
17-Nov-1994	AAC1442	EN 3757			SOIL	X		X							1
17-Nov-1994	AAC1443	EN 3758			SOIL	X		X							1
17-Nov-1994	AAC1444	EN 3759			SOIL	X		X							1
						X		X							1
											X				

Received: Date/Time/Signature 11-19-94 / 1000 / Mark Mendenhall

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
Mark Mendenhall	11-19-94 1130	WALK-IN: R23-1 MM	STORAGE: R23-1
walk-in R23-1 RFA	11-21-94 1000	[illegible]	TCLP

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep/Analysis for: HG6 Lab Notebook No.: 108

Prepared/Analyzed by: [illegible] Date/Time: 11-22-94 2000

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Reason for Transfer/ Storage Location
[illegible]	11-22-94 2000	[illegible]	HG6 EXT / R-16
[illegible]	11-22-94 2200	R-16 AIF	SP/R-16
R-16 [illegible]	11/23/94 0200	[illegible]	Del[illegible]/N[illegible]
[illegible]	11-23-94 0900	[illegible]	Back Extract
[illegible]	11-23-94 1630	R-306-1 RFA	Stor / R-306-1
storage / R-306-1	11-23-94 17:00	[illegible]	also Analysis R-72-1

Check box if there is a continuation page ☐

Form COC-1 of SWV210

Printed 11/19/1994 10:54

Los Alamos National Laborato[illegible] [illegible]vironme[illegible]al Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

S94 0770

Date 11/17/94 | Control No. 11614

Technical Area 40 | Send Lab Report Jeffrey Tucker / IT Corp. MS

Operable Unit N/A | ~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544

~~OU Contact~~ | Date Samples Shipped 11/18/94

Contact Phone No. 505-662-1200 | Date Lab Report Required

Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3751 AAC1436	11/17/94 1500	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl list
		X		~~1x250ml,P~~					(JW)
		X		1x125ml,G			TCLP SVOA		
		X		1x125ml,G			TCLP Pest.		SEE ATTACHED SAMPLE INFORMATION
		X		1x125ml,G			TCLP Herb.		
		X		2x40ml,G			TCLP VOA		
EN 3752 AAC1437	11/17/94 1518	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list
		X		~~1x250ml,P~~					(JW)
		X		1x125ml,G			TCLP SVOA		
		X		1x125ml,G			TCLP Pest.		

Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date
J. Dan Winter IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) Affiliation	**Time**	**Received by (Signature) Affiliation**	**Time**	**Received by (Signature) Affiliation**	**Time**
Fed Ex	1300	Mark Mendenhall	1000		

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results as soon as available (505-662-1222)

SAMPLING TEAM (Print names and initial) Glen VanDeusen GV Darren Meadows DM

WHITE To accompany samples | YELLOW Records Processing Facility | PINK Field Team Leader

SOP 1.04, R0

012

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11616
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp MS
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544

~~OU Contact~~
Date Samples Shipped
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3752	AAC1437	11/17/94 1510	X		1x125ml, G	Soil	4°C	TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		
EN 3753	AAC143B	11/17/94 1520	X		1x250ml, P	Soil	4°C	TCLP Metals		See ind. list
	↓	↓	X		~~1x250ml, P~~	↓	↓			
			X		1x125ml, G			TCLP SVOA		
			X		1x125ml, G			TCLP Pest		
			X		1x125ml, G			TCLP Herb		
	↓	↓	X		2x40ml, G	↓	↓	TCLP VOA		

JW

Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date
[signature] IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) Affiliation: Fed Ex	Time 1300	Received by (Signature) Affiliation: [signature]	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results as soon as available (505-662-1225)

SAMPLING TEAM (Print names and initial) Glen VanDerpool GV Darren Meadows DM

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laborat. Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11617
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp MS
Operable Unit N/A
~~Site Work Plan~~ 5570 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested Test	Analysis Requested Method	Remarks (Condition of receipt, etc.)
EN 3754	AAC1439	11/17/94 1530	X		1x125 ~~250ml,P~~	Soil	4°C	TCLP Metals		See incl. list
			X		~~1x250ml,P~~					
			X		1x125ml,G			TCLP SVOA		
			X		1x125ml,G			TCLP Pest		
			X		1x125ml,G			TCLP Herb		
			X		2x40ml,G			TCLP VOA		
EN 3755	AAC1440	11/17/94 1540	X		1x250ml,P	Soil	4°C	TCLP Metals		See incl. list
					~~1x250ml,P~~					
					1x125ml,G			TCLP SVOA		
					1x125ml,G			TCLP Pest.		

Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date	Relinquished by (Signature) Affiliation	Date
[signature] IT Corp	11/18/94	FED EX	11-19-94		
Received by (Signature) Affiliation Fed Ex	Time 1300	Received by (Signature) Affiliation [signature]	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ___ Highly Toxic ___ Flammable ___ Skin Irritant ___ Nonhazard X Other ___

SAMPLE DISPOSAL
Return to client ___ Disposal by lab X Archive ___ (Indicate number of months) ___

COMMENTS * Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanDerpool GV Donna Meadows DM

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

Los Alamos National Laboratory Environmental Restoration
CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

Date 11/17/94
Control No. 11618
Technical Area 40
Send Lab Report Jeff Tucker / IT Corp
Operable Unit N/A
~~Site Work Plan~~ 557 Oppenheimer Dr. Ste 200, Los Alamos, NM 87544
~~OU Contact~~
Date Samples Shipped 11/18/94
Contact Phone No. 505-662-1200
Date Lab Report Required

	Field Unique Sample #/ID (Write in sample ID number in space below)	Date and Time Collected	GRAB	COMP	Sample Container Volume/Material	Matrix (Liquid, Soil, Core, Sludge, Etc.)	Preservative	Analysis Requested: Test	Analysis Requested: Method	Remarks (Condition of receipt, etc.)
EN 3755	AAC1440	11/17/94 1540	X		125 G ~~1x250mL,P~~	Soil	4°C	TCLP Herb		
					~~1x250mL,P~~					
	AAC1440	11/17/94 1540	X		2x40mL,G	Soil	4°C	TCLP VOA		
EN 3756	AAC1441	11/17/94 1610		X	1x500mL,P	Soil	4°C	TCLP Lead		
3757	AAC1442	11/17/94 1620		X	1x500mL,P	Soil	4°C	TCLP Lead		
3758	AAC1443	11/17/94 1630		X	1x500mL,P	Soil	4°C	TCLP Lead		
3759	AAC1444	11/17/94 1640		X	1x500mL,P	Soil	4°C	TCLP Lead		

Relinquished by (Signature) [signature] Affiliation IT Corp	Date 11/18/94	Relinquished by (Signature) Affiliation FED EX	Date 11-19-94	Relinquished by (Signature) Affiliation	Date
Received by (Signature) Affiliation Fed Ex	Time	Received by (Signature) Affiliation [signature]	Time 1000	Received by (Signature) Affiliation	Time

POSSIBLE HAZARD IDENTIFICATION
(Please indicate if sample(s) are hazardous materials and/or are suspected to contain high levels of hazardous substances.)
Radiological ____ Highly Toxic ____ Flammable ____ Skin Irritant ____ Nonhazard X Other ____

SAMPLE DISPOSAL
Return to client ____ Disposal by lab X Archive ____ (Indicate number of months) ____

COMMENTS * Please fax results ASAP (505-662-1222)

SAMPLING TEAM (Print names and initial) Glenn VanDenpool GV Darren Meadows

WHITE To accompany samples YELLOW Records Processing Facility PINK Field Team Leader

SOP 1.04, R0

ATTACHMENT 3

DOCUMENTATION FOR THE DISPOSITION OF THE WASTES

GENERATOR
NAME: EDWARD H ESSINGTON **GROUP: EES15** **MS: J495**
WASTE MANAGEMENT COORDINATOR
NAME: EDWARD ESSINGTON **GROUP: EES15** **MS: J495**

CHEMICAL WASTE DISPOSAL REQUEST

CST-17 HAS RECEIVED YOUR CHEMICAL WASTE DISPOSAL REQUEST. IF CLARIFICATION ON ANY DOCUMENTATION IS NEEDED, CST-17 WILL CONTACT YOU OR YOUR WASTE MANAGEMENT COORDINATOR.

THE FOLLOWING CWDR REFERENCE NUMBER HAS BEEN ASSIGNED TO YOUR WASTE DISPOSAL REQUEST. ANY QUESTIONS TO CST-17 REGARDING THIS REQUEST SHOULD REFERENCE THIS NUMBER. INQUIRIES CAN BE MADE AT 665-4000.

CWDR REFRENCE NUMBER: *** 1007637 *******

TA: 40 **BUILDING: SCRAP** **ROOM:**
CWDR LOGGED IN: 14-DEC-94

NUMBER OF CONTAINERS	VOLUME PER CONTAINER	GROSS WEIGHT PER CONTAINER	DESCRIPTION	WTRF NUMBER
1	55 G	660 P	SOIL FROM RCRA CLOSURE ACTIVITIES	10200
1	55 G	660 P	SOIL FROM RCRA CLOSURE ACTIVITIES	10200
1	55 G	660 P	SOIL FROM RCRA CLOSURE ACTIVITIES	10200
1	55 G	660 P	SOIL FROM RCRA CLOSURE ACTIVITIES	10200
1	55 G	660 P	SOIL FROM RCRA CLOSURE ACTIVITIES	10200
1	55 G	660 P	SOIL FROM RCRA CLOSURE ACTIVITIES	10200
1	55 G	660 P	SOIL FROM RCRA CLOSURE ACTIVITIES	10200
1	55 G	100 P	SOILED PPE	10198
1	55 G	100 P	SOILED PPE	10198
1	55 G	390 P	DECON WATER	10199
1	55 G	390 P	DECON WATER	10199
1	55 G	50 P	OFFICE TRASH	10201
1	55 G	50 P	OFFICE TRASH	10201

DATE: 12/13/94

TO: Ed Essington MS J495

FROM: Geri Rodriguez, ESH-19, MS K498, 7-6259

SUBJECT: **WASTE PROFILE FORM (WPF)**

The ESH-19 (Hazardous and Solid Waste Group) has reviewed and logged the information you provided on the attached WPF(s). Based on the information you provided, your waste(s) is:

A. Non-RCRA waste

- ☐ PCB
- ☐ non-PCB TSCA waste
- ☐ Asbestos

B. RCRA-Regulated solid waste (non-hazardous)

- ☐ Municipal refuse
- ☐ Non-hazardous chemical waste
- ☐ Administratively controlled waste
- ☐ Sanitary/industrial sludges

C. RCRA-Regulated Hazardous or Mixed Waste

- ☒ Hazardous waste
- ☐ Mixed low-level
- ☐ Mixed transuranic waste

D. Radioactive Waste

- ☐ Low-level waste
- ☐ Transuranic waste

You are required to keep a copy of the WPF(s) in your files for at least 3 years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, submit a new WPF to ESH-19 and attach a copy of the WPF which is being replaced.

Attachment(s)

• See Reverse Side for Handling Instruction

LOS ALAMOS
NATIONAL LABORATORY

WASTE PROFILE FORM

EM-8 USE ONLY
Reference Number
1020C

Complete both sides of this form using a black or blue pen. Incomplete forms will be rejected. Send form to ATTN: WPF MS K490.

Division/Group	Telephone	Mail Stop	Technical Area	Building	Room
EES-15	7-3057	J-495	40	Scrap Detonation Site	N/A

Method of Characterization
- [ ] Knowledge of Process (KOP)
- [ ] MSDS attached (optional)
- - OR -
- [x] Chemical/Physical Analysis (specify below)
- [ ] Request for analysis
- [x] Analysis attached

Waste Categories *(Choose one or more of the categories below that most accurately describes your waste.)*

[ ] Flammable	[ ] Pesticide	[ ] Photographic	[ ] Spent coolant	[ ] Plastics
[ ] Combustible	[ ] Beryllium	[ ] Sanitary	[ ] Aerosol cans	[ ] Filter media
[ ] High explosive	[ ] Asbestos	[ ] Radiochemistry	[ ] Motor oil	[ ] Vacuum filter media
[ ] DOT oxidizer	[ ] Solvent	[ ] Paint waste	[ ] Pump oil	[ ] Cement paste
[ ] Pyrophoric	[ ] Waste rags	[ ] Laboratory trash	[ ] Capacitor oil	[ ] Nonsalvageable
[ ] Cyanide	[ ] Glass	[ ] Metallurgic	[ ] UST remediation	[ ] Nonrecyclable
[x] Heavy metal	[ ] Plating solution	[ ] Scrap metal	[x] Contaminated soils	[ ] Building debris
[ ] Corrosive	[ ] Etchant	[ ] Medical/Biological	[x] Environmental/SWMU	[x] Firing site debris

General Description *(Provide a general description of the waste and/or waste-generating process below.)*

Soil from the RCRA closure activities at the TA40 Scrap Detonation Site East Burn Area.

Waste Description *(Check only one box in each column.)*

Form	Ignitability (F)	Corrosivity (pH)	Reactivity	PCBs
[x] Solid	[ ] < 100°	[ ] ≤ 2.0	[ ] Unstable	[ ] < 50 ppm
[ ] Semisolid/sludge	[ ] 100° to 139°	[ ] 2.1 to 12.4	[ ] Water reactive	[ ] 50 to 500 ppm
[ ] Absorbed liquid	[ ] 140° to 200°	[ ] ≥ 12.5	[ ] Cyanides	[ ] > 500 ppm
[ ] Liquid	[ ] > 200°	[x] Not aqueous	[ ] Sulfides	[x] None
[ ] Gas cylinder or vessel	[x] Not ignitable		[ ] Shock sensitive	
[ ] Multilayered			[ ] Class A or B explosive	
[ ] Suspended solids			[x] Nonreactive	
[ ] Powder or ash				

Waste Origination

A. Is this waste generated in a radiation controlled area? [ ] Yes [x] No

B. If yes, is the waste generated or accumulated in a properly defined, registered radioactive materials management area (RMMA)? (RMMA # _____) [ ] Yes [x] No

C. If the answer to question A is yes and you have determined that your waste is nonradioactive, provide justification in the additional comments section on the reverse side of this form.

Radioactivity [x] Nonradioactive

[ ] Suspect [ ] Radioactive

Activity Measure	Radiation Type	
[ ] ≤2.0 nCi/g	[ ] alpha	[ ] gamma
[ ] >2.0 nCi/g	[ ] $t^{1/2}$ < 20 yr	[ ] tritium
[ ] >10.0 nCi/g	[ ] $t^{1/2}$ ≥ 20 yr	
[ ] >100.0 nCi/g	[ ] beta	

WASTE GENERATOR CERTIFICATION: *Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.*

Waste Generator's Name (last, first, middle)	Z Number	Signature	Date
EDWARD H. ESSINGTON	080701	E. H. Essington	12/6/94

If your waste management coordinator is the custodian of your waste management documentation, provide the name and mail stop of this person (optional). -->	Name (last, first, middle)	Mail Stop
	EDWARD H. ESSINGTON	J-495

Form 1346 (9/92)

Field Sample Number	Drum Number(s)	TCLP Analytical Method	Results (mg/L) Benzene	Carbon Tetrachloride	Chloro benzene	Chloroform	1,2 Dichloro ethane	1,1 Dichloro ethylene	Methyl Ethyl Ketone	Tetrachloro ethylene	Trichloro ethylene	Vinyl Chloride
AAC1439	BCAD 13	8240	<0.00014	<0.00028	<0.00016	<0.00022	<0.00029	<0.00036	<0.0133	<0.00038	<0.00027	<0.00039
AAC1440	BCAD 13 (dup)	8240	<0.00014	<0.00028	<0.00016	<0.00022	<0.00029	<0.00036	<0.0133	<0.00038	<0.00027	<0.00039
AAC1438	BCAD 15	8240	<0.00014	<0.00028	<0.00016	<0.00022	<0.00029	<0.00036	<0.0133	<0.00038	<0.00027	<0.00039
AAC1436	EBAD 08	8240	<0.00014	<0.00028	<0.00016	<0.00022	<0.00029	<0.00036	<0.0133	<0.00038	<0.00027	<0.00039
AAC1437	EBAD 09	8240	<0.00014	<0.00028	<0.00016	<0.00022	<0.00029	<0.00036	<0.0133	<0.00038	<0.00027	<0.00039
		Regulatory Level	0.5	0.5	100.0	6.0	0.5	0.7	200.0	0.7	0.5	0.2

Field Sample Number	Drum Number(s)	TCLP Analytical Method	Results (mg/L) Mercury
AAC1439	BCAD 13	7470	<0.0002
AAC1440	BCAD 13 (dup)	7470	<0.0002
AAC1438	BCAD 15	7470	<0.0002
AAC1436	EBAD 08	7470	<0.0002
AAC1437	EBAD 09	7470	<0.0002
		Regulatory Level	0.2

Field Sample Number	Drum Number(s)	TCLP Analytical Method	Results (mg/L) Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Nickel	Thallium
AAC1442	BCAD 01, 18, 14, 25	6010					<0.1				
AAC1439	BCAD 13	6010	<0.5	0.39	<0.01	<0.02	<0.1	<0.3	<0.02	<0.04	<0.3
AAC1440	BCAD 13 (dup)	6010	<0.5	0.34	<0.01	<0.02	<0.1	<0.3	<0.02	<0.04	<0.3
AAC1438	BCAD 15	6010	<0.5	0.42	<0.01	<0.02	<0.1	<0.3	<0.02	<0.04	<0.3
AAC1443	BCAD 16, 11, 10, 06	6010					<0.1				
AAC1444	EBAD 01, 03, 04, 09	6010					4.0				
AAC1436	EBAD 08	6010	<0.5	2.1	0.14	<0.02	30	<0.3	<0.02	0.31	<0.3
AAC1441	EBAD 08, 06, 07	6010					9.8				
AAC1437	EBAD 09	6010	<0.5	2.3	0.10	<0.02	9.7	<0.3	<0.02	0.37	<0.3
		Regulatory Level	5.0	100.0	1.0	5.0	5.0	1.0	5.0	134.0*	130.0*

*Note: No regulatory level has been established for nickel or thallium; values from LANL's Waste Profile Form

A-40 SDS Drum Sampling Analytical Results
amples collected on 11/17/94

BCA = Burn Cage Area

EBA = East Burn Area

ld Sample umber	Drum Number(s)	TCLP Analytical Method	Results (mg/L) 2,4-D	2,4,5-TP
AC1439	BCAD-13	8150	<0.02	<0.002
AC1440	BCAD-13 (dup)	8150	<0.02	<0.002
AC1438	BCAD-15	8150	<0.02	<0.002
AC1436	EBAD-08	8150	<0.02	<0.002
AC1437	EBAD-09	8150	<0.02	<0.002
		Regulatory Level	10.0	1.0

ld Sample mber	Drum Number(s)	TCLP Analytical Method	Results (mg/L) Endrin	Lindane	Methoxychlor	Toxaphene	Alpha Chlordane	Gamma Chlordane	Heptachlor	Heptachlor epoxide
C1439	BCAD-13	8080	<0.0005	<0.0005	<0.005	<0.01	<0.001	<0.001	<0.0005	<0.0005
C1440	BCAD-13 (dup)	8080	<0.0005	<0.0005	<0.005	<0.01	<0.001	<0.001	<0.0005	<0.0005
C1438	BCAD-15	8080	<0.0005	<0.0005	<0.005	<0.01	<0.001	<0.001	<0.0005	<0.0005
C1436	EBAD-08	8080	<0.0005	<0.0005	<0.005	<0.01	<0.001	<0.001	<0.0005	<0.0005
C1437	EBAD-09	8080	<0.0005	<0.0005	<0.005	<0.01	<0.001	<0.001	<0.0005	<0.0005
		Regulatory Level	0.02	0.4	10.0	0.5	0.03	0.03	0.008	0.008

d Sample mber	Drum Number(s)	TCLP Analytical Method	Results (mg/L) m-Cresol, p Cresol	o-Cresol	1,4-Dichloro benzene	2,4-Dinitro toluene	Hexachloro benzene	Hexachloro-1,3-butadiene	Hexachloro ethane	Nitrobenzene	Pentachloro phenol	Pyridine	2,4,5 Tri chlorophenol	2,4,6 Tri chlorophenol
C1439	BCAD-13	8270	<0.019	<0.013	<0.012	<0.019	<0.011	<0.011	<0.017	<0.012	<0.017	<0.014	<0.026	<0.028
C1440	BCAD-13 (dup)	8270	<0.019	<0.013	<0.012	<0.019	<0.011	<0.011	<0.017	<0.012	<0.017	<0.014	<0.026	<0.028
C1438	BCAD-15	8270	<0.019	<0.013	<0.012	<0.019	<0.011	<0.011	<0.017	<0.012	<0.017	<0.014	<0.026	<0.028
C1436	EBAD-08	8270	<0.019	<0.013	<0.012	<0.019	<0.011	<0.011	<0.017	<0.012	<0.017	<0.014	<0.026	<0.028
C1437	EBAD-09	8270	<0.019	<0.013	<0.012	<0.019	<0.011	<0.011	<0.017	<0.012	<0.017	<0.014	<0.026	<0.028
		Regulatory Level	200.0	200.0	7.5	0.13	0.13	0.5	3.0	2.0	100.0	5.0	400.0	2.0

CST-9 Radiochemistry Screening Data

TA-40 MRAL 1

Date: 11/22/94 **Comments:** Gross Alpha/Beta/Gamma

Analyst: DD

Gross Gamma Screening Data (MDA 2.52)

Sample #	Result	Uncertainty	Units
AAC1436	-2.13	2.52	pCi/g
AAC1437	-2.73	2.52	pCi/g
AAC1438	-1.63	2.52	pCi/g
AAC1439	-1.57	2.52	pCi/g
AAC1440	-1.31	2.52	pCi/g

Gross Alpha/Beta Screening Data
(Alpha MDA 101.39 Beta MDA 58.69)

Sample #	Alpha	Uncertainty	Beta	Uncertainty	Units
AAC1436	-27.55	129.74	18.36	58.69	pCi/g
AAC1437	-41.33	158.9	-6.12	58.69	pCi/g
AAC1438	-41.33	158.9	14.28	58.69	pCi/g
AAC1439	-41.33	158.9	-14.28	58.69	pCi/g
AAC1440	-55.1	183.49	-16.32	58.69	pCi/g

Sample #	Tritium	Uncertainty	Units
AAC1436	0.41	0.3	pCi/g
AAC1437	0.87	0.3	pCi/g
AAC1438	0.52	0.3	pCi/g
AAC1439	0.42	0.3	pCi/g
AAC1440	0.6	0.3	pCi/g

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LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

A copy of this form must be attached to each Waste Profile Form and to each Uniform Hazardous Waste Manifest required to transport waste within LANL pursuant to 40 CFR 268.7(a)(1).

Waste Profile Form No.	Chemical Waste/ Waste Disposal Record No.	Uniform Hazardous Waste Manifest No.	Date of Waste Pickup
10200			

Check only one.

- ☒ Non-wastewater
- ☐ Wastewater [as defined in 40 CFR 268.2(f)]

NOTIFICATION OF CALIFORNIA LIST APPLICABILITY

Check all that apply.

- ☐ Liquid hazardous waste containing PCBs at a concentration of ≥50 ppm.
- ☐ A D001 – D017 liquid waste containing ≥134 mg/L of nickel and/or ≥130 mg/L of thallium.
- ☐ A D001 – D011 waste containing Halogenated Organic Compounds (HOCs) listed in 40 CFR 268, Appendix III, at ≥1000 ppm.

NOTIFICATION OF "D" CHARACTERISTIC EPA WASTE CODES

Check all that apply.

EPA Waste Code	Waste Description and/or Subcategory (as needed)
☐ D001*	Ignitable characteristic wastes [except for the Section 261.21(a)(1) High TOC Subcategory] that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems.
☐ D001	High TOC Ignitable Characteristic Liquids Subcategory based on 40 CFR 261.21(a)(1) - Greater than 10% total organic carbon.
☐ D002*	Corrosive Characteristic Wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems.
☐ D003	Reactive Sulfides Subcategory
☐ D003	Reactive Cyanides Subcategory
☐ D003	Water Reactive Subcategory
☐ D003	Other Reactives Subcategory [based on 261.23(a)(1)]
☐ D004	
☐ D005	
☐ D006	Wastes that exhibit the TC for cadmium
☐ D006	Cadmium Containing Batteries Subcategory
☐ D007	
☒ D008	Wastes that exhibit TC for lead
☐ D008	Lead Acid Batteries Subcategory
☐ D008	Radioactive Lead Solids Subcategory
☐ D009	High Mercury-Organic Subcategory (≥260 mg/kg Hg with organics and not incinerator residues)
☐ D009	High Mercury-Inorganic Subcategory (≥260 mg/kg Hg [with inorganics])
☐ D009	Low Mercury Subcategory (<260 mg/kg Hg)
☐ D009	All D009 wastewaters
☐ D009	Elemental mercury contaminated with radioactive materials.
☐ D009	Hydraulic oil contaminated with Mercury Radioactive Materials Subcategory
☐ D010	
☐ D011	

☐ D012*	☐ D020*	☐ D028*	☐ D036*
☐ D013*	☐ D021*	☐ D029*	☐ D037*
☐ D014*	☐ D022*	☐ D030*	☐ D038*
☐ D015*	☐ D023*	☐ D031*	☐ D039*
☐ D016*	☐ D024*	☐ D032*	☐ D040*
☐ D017*	☐ D025*	☐ D033*	☐ D041*
☐ D018*	☐ D026*	☐ D034*	☐ D042*
☐ D019*	☐ D027*	☐ D035*	☐ D043*

*All applicable Underlying Hazardous Constituents in these characteristic wastes must be checked in Table UTS.

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LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

NOTIFICATION FOR "P" AND "U" LISTED WASTE CODES

- ☐ P001
- ☐ P002
- ☐ P003
- ☐ P004
- ☐ P005
- ☐ P006
- ☐ P007
- ☐ P008
- ☐ P009
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- ☐ U328
- ☐ U353
- ☐ U359

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LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

TABLE UTS—Universal Treatment Standards
(Check the applicable underlying hazardous constituents for D001, D002, and D012 –D043 characteristic wastes only.)

Regulated constituent—common name

- ☐ 4,6-Dinitro-o-cresol
- ☐ 2,4-Dinitrophenol
- ☐ 2,4-Dinitrotoluene
- ☐ 2,6-Dinitrotoluene
- ☐ Di-n-octyl phthalate
- ☐ p-Dimethylaminoazobenzene
- ☐ Di-n-propylnitrosamine
- ☐ 1,4-Dioxane
- ☐ Diphenylamine (difficult to distinguish from diphenylnitrosamine)
- ☐ Diphenylnitrosamine (difficult to distinguish from diphenylamine)
- ☐ 1,2-Diphenylhydrazine
- ☐ Disulfoton
- ☐ Endosulfan I
- ☐ Endosulfan II
- ☐ Endosulfan sulfate
- ☐ Endrin
- ☐ Endrin aldehyde
- ☐ Ethyl acetate
- ☐ Ethyl cyanide (Propanenitrile)
- ☐ Ethyl benzene
- ☐ Ethyl ether
- ☐ bis(2-Ethylhexyl) phthalate
- ☐ Ethyl methacrylate
- ☐ Ethylene oxide
- ☐ Famphur
- ☐ Fluoranthene
- ☐ Fluorene
- ☐ Heptachlor
- ☐ Heptachlor epoxide
- ☐ Hexachlorobenzene
- ☐ Hexachlorobutadiene
- ☐ Hexachlorocyclopentadiene
- ☐ HxCDDs (All Hexachlorodibenzo-p-dioxins)
- ☐ HxCDFs (All Hexachlorodibenzofurans)
- ☐ Hexachloroethane
- ☐ Hexachloropropylene
- ☐ Indeno (1,2,3-c,d) pyrene
- ☐ Iodomethane
- ☐ Isobutyl alcohol
- ☐ Isodrin
- ☐ Isosafrole
- ☐ Kepone
- ☐ Methacrylonitrile
- ☐ Methanol
- ☐ Methapyrilene
- ☐ Methoxychlor
- ☐ 3-Methylcholanthrene
- ☐ 4,4-Methylene bis(2-chloroaniline)
- ☐ Methylene chloride
- ☐ Methyl ethyl ketone
- ☐ Methyl isobutyl ketone
- ☐ Methyl methacrylate
- ☐ Methyl methansulfonate
- ☐ Methyl parathion
- ☐ Naphthalene
- ☐ 2-Naphthylamine
- ☐ o-Nitroaniline
- ☐ p-Nitroaniline
- ☐ Nitrobenzene
- ☐ 5-Nitro-o-toluidine
- ☐ o-Nitrophenol
- ☐ p-Nitrophenol
- ☐ N-Nitrosodiethylamine
- ☐ N-Nitrosodimethylamine
- ☐ N-Nitroso-di-n-butylamine
- ☐ N-Nitrosomethylethylamine
- ☐ N-Nitrosomorpholine
- ☐ N-Nitrosopiperidine
- ☐ N-Nitrosopyrrolidine
- ☐ Parathion
- ☐ Total PCBs (sum of all PCB isomers, or all Aroclors)
- ☐ Pentachlorobenzene
- ☐ PeCDDs (All Pentachlorodibenzo-p-dioxins)
- ☐ PeCDFs (All Pentachlorodibenzofurans)
- ☐ Pentachloroethane
- ☐ Pentachloronitrobenzene
- ☐ Pentachlorophenol
- ☐ Phenacetin
- ☐ Phenanthrene
- ☐ Phenol
- ☐ Phorate
- ☐ Phthalic acid
- ☐ Phthalic anhydride
- ☐ Pronamide
- ☐ Pyrene
- ☐ Pyridine
- ☐ Safrole
- ☐ Silvex (2,4,5-TP)

LOS ALAMOS NATIONAL LABORATORY

WASTE PROFILE FORM

EM-4 USE
Reference Number
1A198

Complete both sides of this form using a black or blue pen. Incomplete forms will be rejected. Send form to ATTN: WPF MS K490

Division/Group	Telephone	Mail Stop	Technical Area	Building	Room
EES-15	7-3057	J495	40	Scrap Detonation Site	N/A

Method of Characterization

- [x] *Knowledge of Process* (KOP)
- [ ] MSDS attached (optional)

• OR •

- [x] *Chemical/Physical Analysis* (specify below)
- [ ] Request for analysis
- [ ] Analysis attached

Waste Categories *(Choose one or more of the categories below that most accurately describes your waste.)*

[ ] Flammable	[ ] Pesticide	[ ] Photographic	[ ] Spent coolant	[ ] Plastics
[ ] Combustible	[ ] Beryllium	[ ] Sanitary	[ ] Aerosol cans	[ ] Filter media
[ ] High explosive	[ ] Asbestos	[ ] Radiochemistry	[ ] Motor oil	[ ] Vacuum filter media
[ ] DOT oxidizer	[ ] Solvent	[ ] Paint waste	[ ] Pump oil	[ ] Cement paste
[ ] Pyrophoric	[ ] Waste rags	[ ] Laboratory trash	[ ] Capacitor oil	[ ] Nonsalvageable
[ ] Cyanide	[ ] Glass	[ ] Metallurgic	[ ] UST remediation	[ ] Nonrecyclable
[x] Heavy metal	[ ] Plating solution	[ ] Scrap metal	[x] Contaminated soils	[ ] Building debris
[ ] Corrosive	[ ] Etchant	[ ] Medical/Biological	[x] Environmental/SWMU	[ ] Firing site debris

General Description *(Provide a general description of the waste and/or waste-generating process below.)*

Soiled Personnel Protective Equipment (PPE) from the TA40 Scrap Detonation Site RCRA closure.

Waste Description *(Check only one box in each column.)*

Form	Ignitability (F)	Corrosivity (pH)	Reactivity	PCBs
[x] Solid	[ ] < 100°	[ ] ≤ 2.0	[ ] Unstable	[ ] < 50 ppm
[ ] Semisolid/sludge	[ ] 100° to 139°	[ ] 2.1 to 12.4	[ ] Water reactive	[ ] 50 to 500 ppm
[ ] Absorbed liquid	[ ] 140° to 200°	[ ] ≥ 12.5	[ ] Cyanides	[ ] > 500 ppm
[ ] Liquid	[ ] > 200°	[x] Not aqueous	[ ] Sulfides	[x] None
[ ] Gas cylinder or vessel	[x] Not ignitable		[ ] Shock sensitive	
[ ] Multilayered			[ ] Class A or B explosive	
[ ] Suspended solids			[x] Nonreactive	
[ ] Powder or ash				

Waste Originates

A. Is this waste generated in a radiation controlled area? [ ] Yes [x] No

B. If yes, is the waste generated or accumulated in a properly defined, registered radioactive materials management area (RMMA)? (RMMA # _____) [ ] Yes [x] No

C. If the answer to question A is yes and you have determined that your waste is nonradioactive, provide justification in the additional comments section on the reverse side of this form.

Radioactivity [x] Nonradioactive

[ ] Suspect [ ] Radioactive

Activity Measure	Radiation Type	
[ ] ≤2.0 nCi/g	[ ] alpha	[ ] gamma
[ ] >2.0 nCi/g	[ ] $t^{1/2}$ < 20 yr	[ ] tritium
[ ] >10.0 nCi/g	[ ] $t^{1/2}$ ≥ 20 yr	
[ ] >100.0 nCi/g	[ ] beta	

WASTE GENERATOR CERTIFICATION: *Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.*

Waste Generator's Name (last, first, middle)	Z Number	Signature	Date
ESSINGTON, EDWARD H.	080701	E. H. Essington	12/1/94

If your waste management coordinator is the custodian of your waste management documentation, provide the name and mail stop of this person (optional). -->	Name (last, first, middle)	Mail Stop
	ESSINGTON, EDWARD H.	J-495

Los Alamos
National Laboratory

LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

A copy of this form must be attached to each Waste Profile Form and to each Uniform Hazardous Waste Manifest required to transport waste within LANL pursuant to 40 CFR 268.7(a)(1).

Waste Profile Form No.	Chemical Waste/ Waste Disposal Record No.	Uniform Hazardous Waste Manifest No.	Date of Waste Pickup
10198			

Check only one.

- ☒ Non-wastewater
- ☐ Wastewater [as defined in 40 CFR 268.2(f)]

NOTIFICATION OF CALIFORNIA LIST APPLICABILITY

Check all that apply.

- ☐ Liquid hazardous waste containing PCBs at a concentration of ≥50 ppm.
- ☐ A D001 – D017 liquid waste containing ≥134 mg/L of nickel and/or ≥130 mg/L of thallium.
- ☐ A D001 – D011 waste containing Halogenated Organic Compounds (HOCs) listed in 40 CFR 268, Appendix III, at ≥1000 ppm.

NOTIFICATION OF "D" CHARACTERISTIC EPA WASTE CODES

Check all that apply.

EPA Waste Code	Waste Description and/or Subcategory (as needed)
☐ D001*	Ignitable characteristic wastes [except for the Section 261.21(a)(1) High TOC Subcategory] that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems.
☐ D001	High TOC Ignitable Characteristic Liquids Subcategory based on 40 CFR 261.21(a)(1) - Greater than 10% total organic carbon.
☐ D002*	Corrosive Characteristic Wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems.
☐ D003	Reactive Sulfides Subcategory
☐ D003	Reactive Cyanides Subcategory
☐ D003	Water Reactive Subcategory
☐ D003	Other Reactives Subcategory [based on 261.23(a)(1)]
☐ D004	
☐ D005	
☐ D006	Wastes that exhibit the TC for cadmium
☐ D006	Cadmium Containing Batteries Subcategory
☐ D007	
☒ D008	Wastes that exhibit TC for lead
☐ D008	Lead Acid Batteries Subcategory
☐ D008	Radioactive Lead Solids Subcategory
☐ D009	High Mercury-Organic Subcategory (≥260 mg/kg Hg with organics and not incinerator residues)
☐ D009	High Mercury-Inorganic Subcategory (≥260 mg/kg Hg [with inorganics])
☐ D009	Low Mercury Subcategory (<260 mg/kg Hg)
☐ D009	All D009 wastewaters
☐ D009	Elemental mercury contaminated with radioactive materials.
☐ D009	Hydraulic oil contaminated with Mercury Radioactive Materials Subcategory
☐ D010	
☐ D011	

☐ D012*	☐ D020*	☐ D028*	☐ D036*
☐ D013*	☐ D021*	☐ D029*	☐ D037*
☐ D014*	☐ D022*	☐ D030*	☐ D038*
☐ D015*	☐ D023*	☐ D031*	☐ D039*
☐ D016*	☐ D024*	☐ D032*	☐ D040*
☐ D017*	☐ D025*	☐ D033*	☐ D041*
☐ D018*	☐ D026*	☐ D034*	☐ D042*
☐ D019*	☐ D027*	☐ D035*	☐ D043*

Specific parts in these characteristic wastes must be checked in Table UTS

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LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

NOTIFICATION FOR "P" AND "U" LISTED WASTE CODES

- ☐ P001
- ☐ P002
- ☐ P003
- ☐ P004
- ☐ P005
- ☐ P006
- ☐ P007
- ☐ P008
- ☐ P009
- ☐ P010
- ☐ P011
- ☐ P012
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- ☐ U001
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- ☐ U24[illegible]
- ☐ U249
- ☐ U328
- ☐ U353
- ☐ U359

Los Alamos
National Laboratory

LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

TABLE UTS—Universal Treatment Standards
(Check the applicable underlying hazardous constituents for D001, D002, and D012 –D043 characteristic wastes only.)

Regulated constituent—common name

- ☐ 4,6-Dinitro-o-cresol
- ☐ 2,4-Dinitrophenol
- ☐ 2,4-Dinitrotoluene
- ☐ 2,6-Dinitrotoluene
- ☐ Di-n-octyl phthalate
- ☐ p-Dimethylaminoazobenzene
- ☐ Di-n-propylnitrosamine
- ☐ 1,4-Dioxane
- ☐ Diphenylamine (difficult to distinguish from diphenylnitrosamine)
- ☐ Diphenylnitrosamine (difficult to distinguish from diphenylamine)
- ☐ 1,2-Diphenylhydrazine
- ☐ Disulfoton
- ☐ Endosulfan I
- ☐ Endosulfan II
- ☐ Endosulfan sulfate
- ☐ Endrin
- ☐ Endrin aldehyde
- ☐ Ethyl acetate
- ☐ Ethyl cyanide (Propanenitrile)
- ☐ Ethyl benzene
- ☐ Ethyl ether
- ☐ bis(2-Ethylhexyl) phthalate
- ☐ Ethyl methacrylate
- ☐ Ethylene oxide
- ☐ Famphur
- ☐ Fluoranthene
- ☐ Fluorene
- ☐ Heptachlor
- ☐ Heptachlor epoxide
- ☐ Hexachlorobenzene
- ☐ Hexachlorobutadiene
- ☐ Hexachlorocyclopentadiene
- ☐ HxCDDs (All Hexachlorodibenzo-p-dioxins)
- ☐ HxCDFs (All Hexachlorodibenzofurans)
- ☐ Hexachloroethane
- ☐ Hexachloropropylene
- ☐ Indene (1,2,3-c,d) pyrene
- ☐ Iodomethane
- ☐ Isobutyl alcohol
- ☐ Isodrin
- ☐ Isosafrole
- ☐ Kepone
- ☐ Methacrylonitrile
- ☐ Methanol
- ☐ Methapyrilene
- ☐ Methoxychlor
- ☐ 3-Methylcholanthrene
- ☐ 4,4-Methylene bis(2-chloroaniline)
- ☐ Methylene chloride
- ☐ Methyl ethyl ketone
- ☐ Methyl isobutyl ketone
- ☐ Methyl methacrylate
- ☐ Methyl methansulfonate
- ☐ Methyl parathion
- ☐ Naphthalene
- ☐ 2-Naphthylamine
- ☐ o-Nitroaniline
- ☐ p-Nitroaniline
- ☐ Nitrobenzene
- ☐ 5-Nitro-o-toluidine
- ☐ o-Nitrophenol
- ☐ p-Nitrophenol
- ☐ N-Nitrosodiethylamine
- ☐ N-Nitrosodimethylamine
- ☐ N-Nitroso-di-n-butylamine
- ☐ N-Nitrosomethylethylamine
- ☐ N-Nitrosomorpholine
- ☐ N-Nitrosopiperidine
- ☐ N-Nitrosopyrrolidine
- ☐ Parathion
- ☐ Total PCBs (sum of all PCB isomers, or all Aroclors)
- ☐ Pentachlorobenzene
- ☐ PeCDDs (All Pentachlorodibenzo-p-dioxins)
- ☐ PeCDFs (All Pentachlorodibenzofurans)
- ☐ Pentachloroethane
- ☐ Pentachloronitrobenzene
- ☐ Pentachlorophenol
- ☐ Phenacetin
- ☐ Phenanthrene
- ☐ Phenol
- ☐ Phorate
- ☐ Phthalic acid
- ☐ Phthalic anhydride
- ☐ Pronamide
- ☐ Pyrene
- ☐ Pyridine
- ☐ Safrole
- ☐ Silvex (2,4,5-TP)

LOS ALAMOS NATIONAL LABORATORY

WASTE PROFILE FORM

EM-8 USE
Reference Number 10199

Complete both sides of this form using a black or blue pen. Incomplete forms will be rejected. Send form to ATTN: WPF MS K490.

Division/Group	Telephone	Mail Stop	Technical Area	Building	Room
EES-15	7-3057	J 495	40	Scrap Detonation Site	N/A

Method of Characterization
- [x] *Knowledge of Process* (KOP)
- [ ] MSDS attached (optional)

- OR -

- [x] *Chemical/Physical Analysis* (specify below)
- [ ] Request for analysis
- [ ] Analysis attached

Waste Categories *(Choose one or more of the categories below that most accurately describes your waste.)*

[ ] Flammable	[ ] Pesticide	[ ] Photographic	[ ] Spent coolant	[ ] Plastics
[ ] Combustible	[ ] Beryllium	[ ] Sanitary	[ ] Aerosol cans	[ ] Filter media
[ ] High explosive	[ ] Asbestos	[ ] Radiochemistry	[ ] Motor oil	[ ] Vacuum filter media
[ ] DOT oxidizer	[ ] Solvent	[ ] Paint waste	[ ] Pump oil	[ ] Cement paste
[ ] Pyrophoric	[ ] Waste rags	[ ] Laboratory trash	[ ] Capacitor oil	[ ] Nonsalvageable
[ ] Cyanide	[ ] Glass	[ ] Metallurgic	[ ] UST remediation	[ ] Nonrecyclable
[x] Heavy metal	[ ] Plating solution	[ ] Scrap metal	[ ] Contaminated soils	[ ] Building debris
[ ] Corrosive	[ ] Etchant	[ ] Medical/Biological	[x] Environmental/SWMU	[ ] Firing site debris

General Description *(Provide a general description of the waste and/or waste-generating process below.)*

Decontamination Water From PPE decon at the TA40 Scrap Detonation Site

Waste Description *(Check only one box in each column.)*

Form	Ignitability (F)	Corrosivity (pH)	Reactivity	PCBs
[ ] Solid	[ ] < 100°	[ ] ≤ 2.0	[ ] Unstable	[ ] < 50 ppm
[ ] Semisolid/sludge	[ ] 100° to 139°	[x] 2.1 to 12.4	[ ] Water reactive	[ ] 50 to 500 ppm
[ ] Absorbed liquid	[ ] 140° to 200°	[ ] ≥ 12.5	[ ] Cyanides	[ ] > 500 ppm
[x] Liquid	[ ] > 200°	[ ] Not aqueous	[ ] Sulfides	[x] None
[ ] Gas cylinder or vessel	[x] Not ignitable		[ ] Shock sensitive	
[ ] Multilayered			[ ] Class A or B explosive	
[ ] Suspended solids			[x] Nonreactive	
[ ] Powder or ash				

Waste Origination

A. Is this waste generated in a radiation controlled area? [ ] Yes [x] No

B. If yes, is the waste generated or accumulated in a properly defined, registered radioactive materials management area (RMMA)? (RMMA # _____) [ ] Yes [x] No

C. If the answer to question A is yes and you have determined that your waste is nonradioactive, provide justification in the additional comments section on the reverse side of this form.

Radioactivity [x] Nonradioactive

[ ] Suspect [ ] Radioactive

Activity Measure	Radiation Type	
[ ] ≤2.0 nCi/g	[ ] alpha	[ ] gamma
[ ] >2.0 nCi/g	[ ] $t^{1/2}$ < 20 yr	[ ] tritium
[ ] >10.0 nCi/g	[ ] $t^{1/2}$ ≥ 20 yr	
[ ] >100.0 nCi/g	[ ] beta	

WASTE GENERATOR CERTIFICATION: *Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.*

Waste Generator's Name (last, first, middle)	Z Number	Signature	Date
ESSINGTON, EDWARD H	080701	E. H. Essington	12/7/94

If your waste management coordinator is the custodian of your waste management documentation, provide the name and mail stop of this person (optional). —>	Name (last, first, middle)	Mail Stop
	ESSINGTON, EDWARD H.	J-495

Los Alamos
National Laboratory

LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

A copy of this form must be attached to each Waste Profile Form and to each Uniform Hazardous Waste Manifest required to transport waste within LANL pursuant to 40 CFR 268.7(a)(1).

Waste Profile Form No.	Chemical Waste/ Waste Disposal Record No.	Uniform Hazardous Waste Manifest No.	Date of Waste Pickup
10199			

Check only one.

- ☒ Non-wastewater
- ☐ Wastewater [as defined in 40 CFR 268.2(f)]

NOTIFICATION OF CALIFORNIA LIST APPLICABILITY

Check all that apply.

- ☐ Liquid hazardous waste containing PCBs at a concentration of ≥50 ppm.
- ☐ A D001 – D017 liquid waste containing ≥134 mg/L of nickel and/or ≥130 mg/L of thallium.
- ☐ A D001 – D011 waste containing Halogenated Organic Compounds (HOCs) listed in 40 CFR 268, Appendix III, at ≥1000 ppm.

NOTIFICATION OF "D" CHARACTERISTIC EPA WASTE CODES

Check all that apply.

EPA Waste Code	Waste Description and/or Subcategory (as needed)
☐ D001*	Ignitable characteristic wastes [except for the Section 261.21(a)(1) High TOC Subcategory] that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems.
☐ D001	High TOC Ignitable Characteristic Liquids Subcategory based on 40 CFR 261.21(a)(1) - Greater than 10% total organic carbon.
☐ D002*	Corrosive Characteristic Wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems.
☐ D003	Reactive Sulfides Subcategory
☐ D003	Reactive Cyanides Subcategory
☐ D003	Water Reactive Subcategory
☐ D003	Other Reactives Subcategory [based on 261.23(a)(1)]
☐ D004	
☐ D005	
☐ D006	Wastes that exhibit the TC for cadmium
☐ D006	Cadmium Containing Batteries Subcategory
☐ D007	
☒ D008	Wastes that exhibit TC for lead
☐ D008	Lead Acid Batteries Subcategory
☐ D008	Radioactive Lead Solids Subcategory
☐ D009	High Mercury-Organic Subcategory (≥260 mg/kg Hg with organics and not incinerator residues)
☐ D009	High Mercury-Inorganic Subcategory (≥260 mg/kg Hg [with inorganics])
☐ D009	Low Mercury Subcategory (<260 mg/kg Hg)
☐ D009	All D009 wastewaters
☐ D009	Elemental mercury contaminated with radioactive materials.
☐ D009	Hydraulic oil contaminated with Mercury Radioactive Materials Subcategory
☐ D010	
☐ D011	

☐ D012*	☐ D020*	☐ D028*	☐ D036*
☐ D013*	☐ D021*	☐ D029*	☐ D037*
☐ D014*	☐ D022*	☐ D030*	☐ D038*
☐ D015*	☐ D023*	☐ D031*	☐ D039*
☐ D016*	☐ D024*	☐ D032*	☐ D040*
☐ D017*	☐ D025*	☐ D033*	☐ D041*
☐ D018*	☐ D026*	☐ D034*	☐ D042*
☐ D019*	☐ D027*	☐ D035*	☐ D043*

Los Alamos
National Laboratory

LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

NOTIFICATION FOR "P" AND "U" LISTED WASTE CODES

☐ P001	☐ P057	☐ P115	☐ U041	☐ U092	☐ U144	☐ U194
☐ P002	☐ P058	☐ P116	☐ U042	☐ U093	☐ U145	☐ U196
☐ P003	☐ P059	☐ P118	☐ U043	☐ U094	☐ U146	☐ U197
☐ P004	☐ P060	☐ P119	☐ U044	☐ U095	☐ U147	☐ U200
☐ P005	☐ P062	☐ P120	☐ U045	☐ U096	☐ U148	☐ U201
☐ P006	☐ P063	☐ P121	☐ U046	☐ U097	☐ U149	☐ U202
☐ P007	☐ P064	☐ P122	☐ U047	☐ U098	☐ U150	☐ U203
☐ P008	☐ P065	☐ P123	☐ U048	☐ U099	☐ U151	☐ U204
☐ P009	☐ P066		☐ U049	☐ U101	☐ U152	☐ U205
☐ P010	☐ P067		☐ U050	☐ U102	☐ U153	☐ U206
☐ P011	☐ P068		☐ U051	☐ U103	☐ U154	☐ U207
☐ P012	☐ P069	☐ U001	☐ U052	☐ U105	☐ U155	☐ U208
☐ P013	☐ P070	☐ U002	☐ U053	☐ U106	☐ U156	☐ U209
☐ P014	☐ P071	☐ U003	☐ U055	☐ U107	☐ U157	☐ U210
☐ P015	☐ P072	☐ U004	☐ U056	☐ U108	☐ U158	☐ U211
☐ P016	☐ P073	☐ U005	☐ U057	☐ U109	☐ U159	☐ U21[illegible]
☐ P017	☐ P074	☐ U006	☐ U058	☐ U110	☐ U160	☐ U214
☐ P018	☐ P075	☐ U007	☐ U059	☐ U111	☐ U161	☐ U215
☐ P020	☐ P076	☐ U008	☐ U060	☐ U112	☐ U162	☐ U216
☐ P021	☐ P077	☐ U009	☐ U061	☐ U113	☐ U163	☐ U217
☐ P022	☐ P078	☐ U010	☐ U062	☐ U114	☐ U164	☐ U218
☐ P023	☐ P081	☐ U011	☐ U063	☐ U115	☐ U165	☐ U219
☐ P024	☐ P082	☐ U012	☐ U064	☐ U116	☐ U166	☐ U220
☐ P026	☐ P084	☐ U014	☐ U066	☐ U117	☐ U167	☐ U221
☐ P027	☐ P085	☐ U015	☐ U067	☐ U118	☐ U168	☐ U222
☐ P028	☐ P087	☐ U016	☐ U068	☐ U119	☐ U169	☐ U223
☐ P029	☐ P089	☐ U017	☐ U069	☐ U120	☐ U170	☐ U225
☐ P030	☐ P088	☐ U018	☐ U070	☐ U121	☐ U171	☐ U226
☐ P031	☐ P092	☐ U019	☐ U071	☐ U122	☐ U172	☐ U227
☐ P033	☐ P093	☐ U020	☐ U072	☐ U123	☐ U173	☐ U228
☐ P034	☐ P094	☐ U021	☐ U073	☐ U124	☐ U174	☐ U234
☐ P036	☐ P095	☐ U022	☐ U074	☐ U125	☐ U176	☐ U235
☐ P037	☐ P096	☐ U023	☐ U075	☐ U126	☐ U177	☐ U236
☐ P038	☐ P097	☐ U024	☐ U076	☐ U127	☐ U178	☐ U237
☐ P039	☐ P098	☐ U025	☐ U077	☐ U128	☐ U179	☐ U238
☐ P040	☐ P099	☐ U026	☐ U078	☐ U129	☐ U180	☐ U239
☐ P041	☐ P101	☐ U027	☐ U079	☐ U130	☐ U181	☐ U240
☐ P042	☐ P102	☐ U028	☐ U080	☐ U131	☐ U182	☐ U243
☐ P043	☐ P103	☐ U029	☐ U081	☐ U132	☐ U183	☐ U244
☐ P044	☐ P104	☐ U030	☐ U082	☐ U133	☐ U184	☐ U24[illegible]
☐ P045	☐ P105	☐ U031	☐ U083	☐ U134	☐ U185	☐ U247
☐ P046	☐ P106	☐ U032	☐ U084	☐ U135	☐ U186	☐ U248
☐ P047	☐ P108	☐ U033	☐ U085	☐ U136	☐ U187	☐ U249
☐ P048	☐ P109	☐ U034	☐ U086	☐ U137	☐ U188	☐ U328
☐ P049	☐ P110	☐ U035	☐ U087	☐ U138	☐ U189	☐ U353
☐ P050	☐ P111	☐ U036	☐ U088	☐ U140	☐ U190	☐ U359

Los Alamos
National Laboratory

LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

TABLE UTS—Universal Treatment Standards

(Check the applicable underlying hazardous constituents for D001, D002, and D012 –D043 characteristic wastes only.)

Regulated constituent—common name

- ☐ 4,6-Dinitro-o-cresol
- ☐ 2,4-Dinitrophenol
- ☐ 2,4-Dinitrotoluene
- ☐ 2,6-Dinitrotoluene
- ☐ Di-n-octyl phthalate
- ☐ p-Dimethylaminoazobenzene
- ☐ Di-n-propylnitrosamine
- ☐ 1,4-Dioxane
- ☐ Diphenylamine (difficult to distinguish from diphenylnitrosamine)
- ☐ Diphenylnitrosamine (difficult to distinguish from diphenylamine)
- ☐ 1,2-Diphenylhydrazine
- ☐ Disulfoton
- ☐ Endosulfan I
- ☐ Endosulfan II
- ☐ Endosulfan sulfate
- ☐ Endrin
- ☐ Endrin aldehyde
- ☐ Ethyl acetate
- ☐ Ethyl cyanide (Propanenitrile)
- ☐ Ethyl benzene
- ☐ Ethyl ether
- ☐ bis(2-Ethylhexyl) phthalate
- ☐ Ethyl methacrylate
- ☐ Ethylene oxide
- ☐ Famphur
- ☐ Fluoranthene
- ☐ Fluorene
- ☐ Heptachlor
- ☐ Heptachlor epoxide
- ☐ Hexachlorobenzene
- ☐ Hexachlorobutadiene
- ☐ Hexachlorocyclopentadiene
- ☐ HxCDDs (All Hexachlorodibenzo-p-dioxins)
- ☐ HxCDFs (All Hexachlorodibenzofurans)
- ☐ Hexachloroethane
- ☐ Hexachloropropylene
- ☐ Indeno (1,2,3-c,d) pyrene
- ☐ Iodomethane
- ☐ Isobutyl alcohol
- ☐ Isodrin
- ☐ Isosafrole
- ☐ Kepone
- ☐ Methacrylonitrile
- ☐ Methanol
- ☐ Methapyrilene
- ☐ Methoxychlor
- ☐ 3-Methylcholanthrene
- ☐ 4,4-Methylene bis(2-chloroaniline)
- ☐ Methylene chloride
- ☐ Methyl ethyl ketone
- ☐ Methyl isobutyl ketone
- ☐ Methyl methacrylate
- ☐ Methyl methansulfonate
- ☐ Methyl parathion
- ☐ Naphthalene
- ☐ 2-Naphthylamine
- ☐ o-Nitroaniline
- ☐ p-Nitroaniline
- ☐ Nitrobenzene
- ☐ 5-Nitro-o-toluidine
- ☐ o-Nitrophenol
- ☐ p-Nitrophenol
- ☐ N-Nitrosodiethylamine
- ☐ N-Nitrosodimethylamine
- ☐ N-Nitroso-di-n-butylamine
- ☐ N-Nitrosomethylethylamine
- ☐ N-Nitrosomorpholine
- ☐ N-Nitrosopiperidine
- ☐ N-Nitrosopyrrolidine
- ☐ Parathion
- ☐ Total PCBs (sum of all PCB isomers, or all Aroclors)
- ☐ Pentachlorobenzene
- ☐ PeCDDs (All Pentachlorodibenzo-p-dioxins)
- ☐ PeCDFs (All Pentachlorodibenzofurans)
- ☐ Pentachloroethane
- ☐ Pentachloronitrobenzene
- ☐ Pentachlorophenol
- ☐ Phenacetin
- ☐ Phenanthrene
- ☐ Phenol
- ☐ Phorate
- ☐ Phthalic acid
- ☐ Phthalic anhydride
- ☐ Pronamide
- ☐ Pyrene
- ☐ Pyridine
- ☐ Safrole
- ☐ Silvex (2,4,5-TP)

DATE: 12/13/94

TO: Ed Essington MS J495

FROM: Geri Rodriguez, ESH-19, MS K498, 7-6259

SUBJECT: **WASTE PROFILE FORM (WPF)**

The ESH-19 (Hazardous and Solid Waste Group) has reviewed and logged the information you provided on the attached WPF(s). Based on the information you provided, your waste(s) is:

A. Non-RCRA waste

- ☐ PCB
- ☐ non-PCB TSCA waste
- ☐ Asbestos

B. RCRA-Regulated solid waste (non-hazardous)

- ☐ Municipal refuse
- ☒ Non-hazardous chemical waste
- ☐ Administratively controlled waste
- ☐ Sanitary/industrial sludges

C. RCRA-Regulated Hazardous or Mixed Waste

- ☐ Hazardous waste
- ☐ Mixed low-level
- ☐ Mixed transuranic waste

D. Radioactive Waste

- ☐ Low-level waste
- ☐ Transuranic waste

You are required to keep a copy of the WPF(s) in your files for at least 3 years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, submit a new WPF to ESH-19 and attach a copy of the WPF which is being replaced.

Attachment(s)

* See Reverse Side for Handling Instruction

LOS ALAMOS NATIONAL LABORATORY

WASTE PROFILE FORM

EM-8 USE ONLY
Reference Number
10201

Complete both sides of this form using a black or blue pen. Incomplete forms will be rejected. Send form to ATTN: WPF MS K490.

Division/Group	Telephone	Mail Stop	Technical Area	Building	Room
EES-15	7-3057	J495	40	Site office trailer Scrap Detonation Site	N/A

Method of Characterization
- [x] Knowledge of Process (KOP)
- [ ] MSDS attached (optional)

- OR -

- [ ] Chemical/Physical Analysis (specify below)
- [ ] Request for analysis
- [ ] Analysis attached

Waste Categories *(Choose one or more of the categories below that most accurately describes your waste.)*

[ ] Flammable	[ ] Pesticide	[ ] Photographic	[ ] Spent coolant	[ ] Plastics
[ ] Combustible	[ ] Beryllium	[ ] Sanitary	[ ] Aerosol cans	[ ] Filter media
[ ] High explosive	[ ] Asbestos	[ ] Radiochemistry	[ ] Motor oil	[ ] Vacuum filter media
[ ] DOT oxidizer	[ ] Solvent	[ ] Paint waste	[ ] Pump oil	[ ] Cement paste
[ ] Pyrophoric	[ ] Waste rags	[ ] Laboratory trash	[ ] Capacitor oil	[ ] Nonsalvageable
[ ] Cyanide	[ ] Glass	[ ] Metallurgic	[ ] UST remediation	[x] Nonrecyclable
[ ] Heavy metal	[ ] Plating solution	[ ] Scrap metal	[ ] Contaminated soils	[ ] Building debris
[ ] Corrosive	[ ] Etchant	[ ] Medical/Biological	[ ] Environmental/SWMU	[ ] Firing site debris

General Description *(Provide a general description of the waste and/or waste-generating process below.)*

Office trash from the TA40 Scrap Detonation Site RCRA closure office trailer

Waste Description *(Check only one box in each column.)*

Form	Ignitability (F)	Corrosivity (pH)	Reactivity	PCBs
[x] Solid	[ ] < 100°	[ ] ≤ 2.0	[ ] Unstable	[ ] < 50 ppm
[ ] Semisolid/sludge	[ ] 100° to 139°	[ ] 2.1 to 12.4	[ ] Water reactive	[ ] 50 to 500 ppm
[ ] Absorbed liquid	[ ] 140° to 200°	[ ] ≥ 12.5	[ ] Cyanides	[ ] > 500 ppm
[ ] Liquid	[ ] > 200°	[x] Not aqueous	[ ] Sulfides	[x] None
[ ] Gas cylinder or vessel	[x] Not ignitable		[ ] Shock sensitive	
[ ] Multilayered			[ ] Class A or B explosive	
[ ] Suspended solids			[x] Nonreactive	
[ ] Powder or ash				

Waste Origination

A. Is this waste generated in a radiation controlled area? [ ] Yes [x] No

B. If yes, is the waste generated or accumulated in a property defined, registered radioactive materials management area (RMMA)? (RMMA # _____) [ ] Yes [x] No

C. If the answer to question A is yes and you have determined that your waste is nonradioactive, provide justification in the additional comments section on the reverse side of this form.

Radioactivity [x] Nonradioactive

[ ] Suspect [ ] Radioactive

Activity Measure	Radiation Type	
[ ] ≤2.0 nCi/g	[ ] alpha	[ ] gamma
[ ] >2.0 nCi/g	[ ] $t^{1/2}$ < 20 yr	[ ] tritium
[ ] >10.0 nCi/g	[ ] $t^{1/2}$ ≥ 20 yr	
[ ] >100.0 nCi/g	[ ] beta	

WASTE GENERATOR CERTIFICATION: *Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.*

Waste Generator's Name (last, first, middle)	Z Number	Signature	Date
ESSINGTON, EDWARD H	080701	E.H. Essington	12/2/94

If your waste management coordinator is the custodian of your waste management documentation, provide the name and mail stop of this person (optional). -->	Name (last, first, middle)	Mail Stop
	ESSINGTON, EDWARD H.	J-495

Form 1346 (9/92) Complete Reverse Side. <

RECEIVED DEC 3 1994

LOS ALAMOS
NATIONAL LABORATORY

CHEMICAL WASTE DISPOSAL REQUEST (CWDR)

EM-7 USE ONLY
CWDR Identification Number 1007637

MAIL TO: CWDR, MAIL STOP J593

THE CHEMICAL AND MIXED WASTE OPERATIONS OF EM-7 WILL NOT PROCESS THIS FORM UNLESS ALL APPLICABLE BOXES HAVE BEEN COMPLETED, APPROPRIATE DOCUMENTS ATTACHED, AND CERTIFICATION STATEMENTS HAVE BEEN SIGNED. ITEM-BY-ITEM INSTRUCTIONS ARE ON THE LAST PAGE OF THIS FORM. CALL 665-4000 FOR ADDITIONAL ASSISTANCE IN COMPLETING THIS FORM.

1. Division/Group	Program Code
EES-15 EM/ER	M948

	Technical Area	Building	Room
2. Waste Generated At:	40	Scrap Detonation Site	N/A
3. Waste Accumulated At:	40	Scrap Detonation Site	N/A

4. Area Designation:

Is the waste accumulated at: ☐ Satellite ☒ Less Than 90 Days (*Start Date* 9/25/94) ☐ Other _____

Was the waste generated or accumulated in a Radioactive Materials Management Area *(RMMA)*?	☐ Yes	☒ No
Is waste stored in a security area?	☒ Yes	☐ No
Is waste classified or a property numbered item?	☐ Yes	☒ No
Is waste generated from an environmental restoration project?	☒ Yes	☐ No
If materials are new or unused, has material recycle been tried?	☐ Yes	☒ No N/A
Have waste minimization procedures from Waste Minimization Plan been followed?	☒ Yes	☐ No

List volume of waste reduced to date (*for calendar year*) N/A

WASTE GENERATOR CERTIFICATION: To the best of my knowledge, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that there are significant penalties for submitting false information including the possibility of fines and imprisonment for knowing violations.

5. Generator Name *(Print)*		Signature	
EDWARD H. ESSINGTON		Edward H. Essington	
Z Number 080701	Telephone 667-3057	Mail Stop J-495	Date 12/14/94

WASTE MANAGEMENT COORDINATOR CERTIFICATION STATEMENT: My signature certifies that all information on this form has been reviewed and is correct to the best of my knowledge.

6. Waste Coordinator Name *(Print)*		Signature	
EDWARD H. ESSINGTON		Edward H. Essington	
Z Number 080701	Telephone 667-3057	Mail Stop J-495	Date 12/14/94

7 List all "**Spent** or "**Process**" waste(s) requested for pickup below. Attach a WPF for each different waste listed. If you need additional space use the "Spent or Process Waste Continuation Sheet."

ITEM	NUMBER OF CONTAINERS	VOLUME PER CONTAINER	UNIT [1]	GROSS WEIGHT PER CONTAINER	UNIT [2]	TYPE OF CONTAINER [3]	DESCRIPTION OF WASTES AS DESCRIBED IN WPF	WPF NUMBER
A	7	55	G	660	P	DM	Soil from RCRA Closure Activities	10200
B	2	55	G	100	P	DM	Soiled PPE	10198
C	2	55	G	390	P	DM	Decon Water	10199
D	2	55	G	50	P	DM	Office trash	10201
E								
F								
G								
H								

REFER TO PAGE 4 FOR DETAILED INSTRUCTIONS

8. List all "**New**" or "**Unused**" Chemical(s) requested for pickup below.
Itemize below by trade-name product or chemical name. If you need additional space use the "New or Unused Waste Continuation Sheet." If material is listed as a trade-name product, attach Material Safety Data Sheet.

ITEM	NUMBER OF CONTAINERS	VOLUME PER CONTAINER	UNIT [1]	GROSS WEIGHT PER CONTAINER	UNIT [2]	COMPOUND OR PRODUCT NAME	WASTE FORM [4]					
							S	L	G	FS	A	P
01	N/A											
02												
03												
04												
05												
06												
07												
08												
09												
10												
11												
12												
13												
14												
15												
16												
17												

[1] Units for Volume:
G = Gallons
L = Liters
F = Cubic Feet
M = Cubic Meters
ML = Milliliters
FL = Fluid Ounce
P = Pint

[2] Units for Weight:
P = Pounds
K = Kilograms
GR = Grams
OZ = Ounce

[3] Type of Container:
DM = Metal Drum
TP = Portable Tank
CY = Cylinder
CF = Fiber or Plastic Box
BG = Glass Bottle or Container
O = Other Specify _____
DF = Fiber or Plastic Drum
DT = Dump Truck
CW = Wooden Box
BP = Plastic Bottle or Container
PB = Plastic Bag

[4] Waste Form:
S = Solid
L = Liquid
G = Gas
FS = Factory Sealed
A = Aerosol
P = Powder or Ash

9. If any items in block 7 or 8 are suspect radioactive or radioactive:
Provide radioactive data for each item with the corresponding item letter or number.
Refer to page 4 for detailed instructions.

ITEM	RADIONUCLIDE	AMOUNT			UNITS (S)*	UNCERTAINTY (%)	METHOD+	DOSE RATE**
Example 1	H 3	.	E	+/-		%		. E +/-
Example 2	U 2 3 8	1 . 6 2	E	+/- 0 4	C	10 %	C	5 . 0 0 E +/- 0 1
N/A		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
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		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-
		.	E	+/-		%		. E +/-

*Units: C = Curies M = Grams NOTE: nCi/g is not an acceptable unit	+ Methods: A = Analysis M = Measurement C = Calculated E = Estimated	** Dose Rate: Contact dose rate in mR/hr

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20062

To: ESSINGTON, EDWARD H. MS:J495

From: WILLIAMS, LIZ MS:J579

Please review the waste profile information and the characterization information on the following pages. If there are any questions, please call me at 5-4000. If the information is correct, please sign and date this form in the spaces provided below, make a copy for your files and return the original to MS J579.

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations

Generator Signature: Edward H. Essington Date: 2/2/95

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20062

Status:REVCOM

Account Info- CC:6E20 PC:MB12 CA:3860 WP: VI:

Generator:ESSINGTON, EDWARD H. Z#:080701

WMC:ESSINGTON, EDWARD H. Z#:080701

Group:EES15 Phone:73057 MS:J495 TA:40 BLDG:0000 ROOM:N/A

Waste Accumulation: LESS THAN 90 DAY ACCUMULATION AREA
Site ID #1204

Waste Type: PROCESS WASTE/SPENT CHEMICAL

Waste Classes: ONE TIME GENERATION

Associated Documentation
Other SOP #:WM PLAN

Waste Category: NOT APPLICABLE

Waste Sources: REMEDIATION

Waste Matrix: SOLID

Matrix Type: HETEROGENEOUS

Waste/Process Description:
USED PPE FROM THE REMEDIATION/CLOSURE OF THE TA-40 SCRAP DETONATION SITE, TYVEX SUITS, LATEX & NITRILE GLOVES. PER THE APPROVED WASTE MGMT. PLAN THIS MATERIAL WILL BE DISPOSED OF BASED UPON THE ANALYTICAL FROM THE SOIL.

Ignitability: NOT IGNITABLE

Corrosivity: NOT AQUEOUS

Reactivity: NON REACTIVE

Boiling Point: NOT APPLICABLE

Toxicity Characteristic Metals and Organic Compounds

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20062

Contaminant	LTR	Min	Max	Unit	Method
LEAD		32	32	PPM	

WASTE CHARACTERIZATION INFORMATION

Waste Classification: HAZARDOUS WASTE

EPA Hazardous Waste Codes: D008

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20069

To: ESSINGTON, EDWARD H. MS:J495

From: WILLIAMS, LIZ MS:J579

Please review the waste profile information and the characterization information on the following pages. If there are any questions, please call me at 5-4000. If the information is correct, please sign and date this form in the spaces provided below, make a copy for your files and return the original to MS J579.

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations

Generator Signature: E. H. Essington Date: 3/2/05

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20069

Status:REVCOM

Account Info- CC:6E20 PC:MB12 CA:3860 WP: VI:

Generator:ESSINGTON, EDWARD H. Z#:080701

WMC:ESSINGTON, EDWARD H. Z#:080701

Group:EES15 Phone:73057 MS:J495 TA:40 BLDG:0000 ROOM:N/A

Waste Type: PROCESS WASTE/SPENT CHEMICAL

Waste Classes: ONE TIME GENERATION

Associated Documentation
Other SOP #:WMP SDS

Waste Category: NOT APPLICABLE

Waste Sources: REMEDIATION

te Matrix: SOLID

Matrix Type: HOMOGENEOUS

Waste/Process Description:
SOIL FROM THE RCRA CLOSURE OF THE TA-40 SCRAP DETONATION SITE. BURN CAGE AREA.

Ignitability: NOT IGNITABLE

Corrosivity: NOT AQUEOUS

Reactivity: NON REACTIVE

Boiling Point: NOT APPLICABLE

WASTE CHARACTERIZATION INFORMATION

Waste Classification:MUNICIPAL REFUSE

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20070

To: ESSINGTON, EDWARD H. MS:J495

From: WILLIAMS, LIZ MS:J579

Please review the waste profile information and the characterization information on the following pages. If there are any questions, please call me at 5-4000. If the information is correct, please sign and date this form in the spaces provided below, make a copy for your files and return the 'ginal to MS J579.

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations

Generator Signature: E H Essington Date: 2/2/15

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20070

Status:REVCOM

Account Info- CC:6E20 PC:MB12 CA:3860 WP: VI:

Generator:ESSINGTON, EDWARD H. Z#:080701

WMC:ESSINGTON, EDWARD H. Z#:080701

Group:EES15 Phone:73057 MS:J495 TA:40 BLDG:0000 ROOM:N/A

Waste Accumulation: LESS THAN 90 DAY ACCUMULATION AREA
Site ID #1204

Waste Type: PROCESS WASTE/SPENT CHEMICAL

Waste Classes: ONE TIME GENERATION

Associated Documentation
Other SOP #:WM PLAN

Waste Category: NOT APPLICABLE

te Sources: REMEDIATION

Waste Matrix: AQUEOUS LIQUID

Matrix Type: HOMOGENEOUS

Waste/Process Description:
DECON. WATER FROM THE DECON. OF PPE (BOOTS, GLVOES, ETC.). GENERATED DURING THE REMEDIATION/CLOSURE OF THE TA-40 SCRAP DETONATION SITE. PER THE APPROVED WASTE MANAGEMENT PLAN THIS MATERIAL WILL BE DISPOSED OF BASED UPON THE ANALYTICAL RESULTS OF SOIL

Ignitability: NOT IGNITABLE

Corrosivity: 6.1 - 9.0

Reactivity: NON REACTIVE

Boiling Point: GREATER THAN 95 DEGREES F.

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20070

Toxicity Characteristic Metals and Organic Compounds

Contaminant	LTR	Min	Max	Unit	Method
LEAD		32	32	PPM	

WASTE CHARACTERIZATION INFORMATION

Waste Classification: HAZARDOUS WASTE

EPA Hazardous Waste Codes: D008

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20071

To: ESSINGTON, EDWARD H. MS:J495

From: WILLIAMS, LIZ MS:J579

Please review the waste profile information and the characterization information on the following pages. If there are any questions, please call me at 5-4000. If the information is correct, please sign and date this form in the spaces provided below, make a copy for your files and return the original to MS J579.

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations

Generator Signature: E.H. Essington Date: [illegible]

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20071

Status:REVCOM

Account Info- CC:6E20 PC:MB12 CA:3860 WP: VI:

Generator:ESSINGTON, EDWARD H. Z#:080701

WMC:ESSINGTON, EDWARD H. Z#:080701

Group:EES15 Phone:73057 MS:J495 TA:40 BLDG:0000 ROOM:N/A

Waste Type: PROCESS WASTE/SPENT CHEMICAL

Waste Classes: ONE TIME GENERATION

Waste Category: NOT APPLICABLE

Waste Matrix: SOLID

Matrix Type: HETEROGENEOUS

Waste/Process Description:
OFFICE TRASH FROM THE OFFICE TRAILER, TA-40 SCRAP DETONATION SITE RCRA CLOSURE (PAPER, EMPTY SODA CANS, ETC.)

Ignitability: NOT IGNITABLE

Corrosivity: NOT AQUEOUS

Reactivity: NON REACTIVE

Boiling Point: NOT APPLICABLE

WASTE CHARACTERIZATION INFORMATION

Waste Classification:MUNICIPAL REFUSE

DATE: 2-1-95

FROM: Liz Williams X, Al Stadelmaier___, Julie Minton-Hughes___, Monica Noll___
Kellie Art___, Mandy Fuehrer___, CST-17, MS J579, 5-WAST.

SUBJECT: **WASTE PROFILE FORM (WPF)**

The CST-17 (Hazardous and Solid Waste Group) has reviewed and logged the information you provided on the attached WPF(s). Based on the information you provided, your waste(s) is:

A. Non-RCRA waste

- ☐ PCB
- ☐ non-PCB TSCA waste
- ☐ Asbestos

B. RCRA-Regulated solid waste (non-hazardous)

- ☐ Municipal refuse
- ☐ Non-hazardous chemical waste
- ☐ Administratively controlled waste
- ☐ Sanitary/industrial sludges

C. RCRA-Regulated Hazardous or Mixed Waste

- ☐ Hazardous waste
- ☐ Mixed low-level
- ☐ Mixed transuranic waste

D. Radioactive Waste

- ☐ Low-level waste
- ☐ Transuranic waste

You are required to keep a copy of the WPF(s) in your files for at least 3 years. This WPF(s) is valid for one year or as long as the composition of the waste you have characterized remains the same and the generator remains the same. Should your waste or generator change, submit a new WPF to CST-17, and attach a copy of the WPF which is being replaced.

Attachment(s)

* See Reverse Side for Handling Instruction

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20072

To: ESSINGTON, EDWARD H. MS:J495

From: WILLIAMS, LIZ MS:J579

Please review the waste profile information and the characterization information on the following pages. If there are any questions, please call me at 5-4000. If the information is correct, please sign and date this form in the spaces provided below, make a copy for your files and return the 'ginal to MS J579.

Waste Generator Certification: Based on my knowledge of the waste and/or chemical/physical analysis, I certify that the information on this form is correct. I understand that this information will be made available to regulatory agencies and that significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations

Generator Signature: Edward H. Essington Date: 2/2/95

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20072

Status:REVCOM

Account Info- CC:6E20 PC:MB12 CA:3860 WP: VI:

Generator:ESSINGTON, EDWARD H. Z#:080701

WMC:ESSINGTON, EDWARD H. Z#:080701

Group:EES15 Phone:73057 MS:J495 TA:40 BLDG:0000 ROOM:N/A

Waste Accumulation: LESS THAN 90 DAY ACCUMULATION AREA
Site ID #1204

Waste Type: PROCESS WASTE/SPENT CHEMICAL

Waste Classes: ONE TIME GENERATION

Associated Documentation
Other SOP #:WM PLAN

Waste Category: NOT APPLICABLE

ste Sources: REMEDIATION

Waste Matrix: SOLID

Matrix Type: HETEROGENEOUS

Waste/Process Description:
SOIL FROM THE RCRA CLOSURE ACTIVITIES AT THE TA-40 SCRAP DETONATION SITE. SOIL IS MIXED WITH MISC. SCRAP & DEBRIS (PLASTICS, GLASS, ETC.).

Ignitability: NOT IGNITABLE

Corrosivity: NOT AQUEOUS

Reactivity: NON REACTIVE

Boiling Point: NOT APPLICABLE

Toxicity Characteristic Metals and Organic Compounds

LOS ALAMOS NATIONAL LABORATORY
WASTE PROFILE SYSTEM

WPF #: 20072

Contaminant	LTR	Min	Max	Unit	Method
LEAD		32	32	PPM	

WASTE CHARACTERIZATION INFORMATION

Waste Classification: HAZARDOUS WASTE

EPA Hazardous Waste Codes: D008

LOS A[illegible]MOS National L[illegible]oratory

Waste Disp[illegible]al Request

Mail completed form to Waste Services Group at **MS J579**

[illegible]e Services Use Only

Name (Print)	Telephone	Z Number	Date
EDWARD H. ESSINGTON EES-15 EM/ER MS J495	667-6 73057	080701	2/13/95

Item Id	Waste Profile Number	Process ID	Shipping Container Information					Waste Information				Description
			Type	Volume	Unit	Tare Weight	Unit	Volume	Unit	Weight	Unit	
2012900	20071		02	55	G	20	P	55	G	30	P	OFFICE TRASH
2012901	20062		02	55	G	20	P	55	G	30	P	USED PPE
2012902	20070		02	55	G	20	P	50	G	~400	P	DECON. WATER
2012903	20070		02	55	G	20	P	50	G	~400	P	DECON. WATER.
2012904	20072		13	20	CU. YARD	3	T	10	CU. YARD	10	T	CWM Rolloff # 52314 *
2012905	20072		13	20	CU. YARD	3	T	10	CU YARD	10	T	CWM Rolloff # 5219 *
2012906	20072		13	20	CU. YARD	3	T	10	CU. YARD	10	T	CWM Roll.off # 129007 *
2012907	20072		13	20	CU. YARD	3	T	10	CU YARD	10	T	CWM Roll.off # 52215 *
2012908	20072		13	20	CU YARD	3	T	10	CU YARD	10	T	Rollins Rolloff # 2342 *
2012909	20072		13	20	CU. YARD	3	T	10	CU YARD	10	T	CWM Rolloff # 52197 *

* ALL ROLLOFFS CONTAIN WASTE FROM THE SAME WASTE STREAM. LEAD CONTAMINATED SOIL FROM THE RCRA CLOSURE OF THE TA40 SCRAP DETONATION SITE (SDS)

Container Types
01 - Bulk (unpackaged)
02 - Metal Drum
03 - Fiber or Plastic Drum
04 - Plastic Bottle or Container
05 - Glass Bottle or Container
06 - Plastic Bag
07 - Fiber or Plastic Box
08 - Wooden Box
09 - Metal Box
10 - Portable Tank
11 - Cylinder
12 - Shield Cask
13 - Other (Specify in Description)

Units for Volume
G - Gallons
L - Liters
F - Cubic Feet
M - Cubic Meters
O - Fluid Ounce
P - Pint
Q - Quart

Units for Weight
P - Pound
K - Kilograms
G - Grams
O - Ounce
T - Tons

Waste Accumulation *(Check all that apply)*
- [x] < 90 Day Storage Area (Start Date: 12/ /94)
- [ ] Satellite Storage Area (Approximate Volume: _____)
- [ ] Rad Dumpster No: _____
- [x] Security Area

TA 40
~~Building~~ SDS
~~Room~~ OUTSIDE

Form 1541 (11/94)

February 13, 1995
TA-40 Scrap Detonation Site
Waste Info.

BAR CODE.	WASTE DESCRIPTION	WPF#
2012900	Office trash	20071
2012901	Used PPE	20062
2012902	Decon. water	20070
2012903	Decon. water	20070
2012904	CWM Rolloff #52314	20072
2012905	CWM Rolloff #5219	20072
2012906	CWM Rolloff #129007	20072
2012907	CWM Rolloff #52215	20072
2012908	Rollins Rolloff #2342	20072
2012909	CWM Rolloff #52197	20072

Los Alamos National Laboratory

Waste Disposal Request

Mail completed form to Waste Services Group at MS J579

Waste Services Use Only

Account Information	Name (Print) Contractor: Glenn VanDerpool IT Corp Waste Mgmt Coordinator: Ed Essington EES-15 ER/EM	Telephone 6621200 6673057	Z Number 109152 080701	Date 2/17/95

Item Id	Waste Profile Number	Process ID	Shipping Container Information					Waste Information				Description
			Type	Volume	Unit	Tare Weight	Unit	Volume	Unit	Weight	Unit	
2012929	20069		02	55	G	20	P	50	G	660	P	Soil from the RCRA Closure of the TA40 Scrap Detention Site
2012930												
2012931												
2012932												
2012933												
2012934												
2012935												
2012936												
2012937												
2012938								N/A				Empty drum, damaged Forklift hole

Container Types

01 Bulk (unpackaged)
02 Metal Drum
03 Fiber or Plastic Drum
04 Plastic Bottle or Container
05 Glass Bottle or Container
06 Plastic Bag
07 Fiber or Plastic Box
08 Wooden Box
09 Metal Box
10 Portable Tank
11 Cylinder
12 Shield Cask
13 Other (Specify in Description)

Units for Volume

G Gallons
L Liters
F Cubic Feet
M Cubic Meters
O Fluid Ounce
P Pint
Q Quart

Units for Weight

P Pound
K Kilograms
G Grams
O Ounce
T Tons

Waste Accumulation *(Check all that apply)*

- ☐ < 90 Day Storage Area (Start Date: _____)
- ☐ Satellite Storage Area (Approximate Volume: _____)
- ☐ Rad Dumpster No: _____
- ☒ Security Area

TA 40

Building Scrap Detention Site

Room Outside

Los Alamos National Laboratory

Waste Disposal Request

Mail completed form to Waste Services Group at **MS J579**

Waste Services U Only

Account Information	Name (Print)	Telephone	Z Number	Date
6E20-MB12-3860	Contact: Glenn VanDerpool IT Corp. Waste Mgmt. Coordinator Ed. Essington EES-15 Ee/en	6621200 6673057	109152 080701	2/17/95

Item Id	Waste Profile Number	Process ID	Shipping Container Information: Type	Volume	Unit	Tare Weight	Unit	Waste Information: Volume	Unit	Weight	Unit	Description
2012910	20069		02	55	G	20	P	50	G	660	P	Soil From the RCRA closure of the TA40 Scrap Detonation Site.
2012911												
2012912												
2012913												
2012914												
2012915												
2012916												
2012917												
2012918												
2012919												
2012920												
2012921												
2012922												
2012923												
2012924												
2012925												
2012926												
2012927												
2012928												

Container Types

01 Bulk (unpackaged)
02 Metal Drum
03 Fiber or Plastic Drum
04 Plastic Bottle or Container
05 Glass Bottle or Container
06 Plastic Bag
07 Fiber or Plastic B
08 Wooden Box
09 Metal Box
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Units for Volume

G Gallons
L Liters
F Cubic Feet
M Cubic Meters
O Fluid Ounce
P Pint
Q Quart

Units for Weight

P Pound
K Kilograms
G Grams
O Ounce
T Tons

Waste Accumulation *(Check all that apply)*

- ☐ < 90 Day Storage Area (Start Date _____)
- ☐ Satellite Storage Area (Approximate Volume _____)
- ☐ Rad Dumpster No. _____
- ☐ Security Area

TA 40

Building Scrap Detonation Site

Room

Outside

Los Alamos
National Laboratory

WASTE PROFILE FORM

Account Information: 6E20 - MB12 - 3860

For rapid processing, complete all sections in black or blue ink and mail this form to Waste Services Group at MS J579

Reference Number:

Waste Generator's Name (Print)	Znumber	Waste Management Coordinator's Name (Print)	Znumber
EDWARD H. ESSINGTON	080701	EDWARD H. ESSINGTON (EM/ER)	080701

Generator's Group	Generator's Telephone	Generator's Mail Stop	Waste Stream Technical Area	Building	Room
EES-15	7-3057	J495	40	Scrap Detonation Site	N/A

Waste Accumulation
Check as many as apply.

- ☐ Satellite accumulation area -> site no.: _____
- ☒ Less than 90 day accumulation area -> site no.: 1204
- ☐ Radioactive Materials Management Area (RMMA) -> site no.: _____
- ☐ None of the above

Method of Characterization
Check as many as apply.

- ☐ Knowledge of Process (KOP)
- ☒ Analysis attached -> sample/request no. _____
- ☐ MSDS attached
- ☐ Request for analysis

Section 1- Chemical and Physical Characteristics

For help in completing this section of the form, call 5-WAST or 5-4000.

Waste Type
Check only one.

- ☐ Unused/unspent chemical — Check Waste Classes and Associated Documentation Only
- ☒ Process waste/spent chemical — Complete all of Section 1.

Waste Classes
Check as many as apply.

- ☐ On-going generation
- ☒ One-time generation
- ☐ Radioactive (complete Sec. 2)
- ☐ Non-radioactive
- ☐ Wastewater (complete Sec. 3)
- ☐ Classified/Sensitive

Associated Documentation
Check as many as apply.

- ☐ Process SOP -> no.: _____
- ☐ RMMA OP -> no.: _____
- ☐ WM SOP -> no.: _____
- ☒ Other -> Waste Mgmt. Plan
- ☐ None -> describe below

Waste Category
Check as many as apply.

- ☐ Solvent
- ☐ Degreaser
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated hazardous waste residue
- ☐ Explosive process waste
- ☐ Infectious/biological waste
- ☐ Beryllium
- ☐ Asbestos-friable
- ☐ Asbestos-nonfriable
- ☐ Empty containers
- ☐ PCB (<50 ppm)
  - ☐ PCB (50 - 500 ppm)
  - ☐ PCB (> 500 ppm)
  - id. no.: _____
- ☒ Not applicable -> describe below

Waste Sources
Check as many as apply.

- ☐ Research and development
- ☐ Maintenance
- ☐ Construction
- ☐ Material processing
- ☐ Decon/decom
- ☐ Investigation derived
- ☒ Remediation
- ☐ UST - petroleum
- ☐ UST - non-petroleum
- ☐ Generator treatment
- ☐ Interim/permitted treatment
- ☐ Industrial sludge
- ☐ Sanitary sludge
- ☐ Abatement

Waste Matrix
Check only one.

Gas
- ☐ ≤ 1.5 Atmospheres
- ☐ > 1.5 Atmospheres

Liquid
- ☒ Aqueous
- ☐ Organic
- ☐ Inorganic

Solid
- ☐ Powder/ash
- ☐ Solid
- ☐ Absorbed liquid

Matrix Type
Check only one.

- ☒ Homogeneous
- ☐ Heterogeneous -> describe below

Waste/Process Description

Decon. Water from the Decon. of PPE (Boots, Gloves, etc) Generated During the remediation / closure of the TA40 Scrap Detonation Site.

PER THE APPROVED WASTE MANAGEMENT PLAN THIS MATERIAL WILL BE DISPOSED OF BASED UPON THE ANALYTICAL RESULTS OF THE SOIL.

Section 1- Chemical and Physical Characteristics (continued)

Ignitability (degrees F.)
Check only one.

- ☐ < 73
- ☐ 73-99
- ☐ 100-139
- ☐ 140-200
- ☐ > 200
- ☐ Ignitable solid
- ☐ DOT oxidizer
- ☒ Not ignitable

Corrosivity (pH)
Check only one.

- ☐ ≤ 2.0
- ☐ 2.1-4.0
- ☐ 4.1-6.0
- ☒ 6.1-9.0
- ☐ 9.1-12.4
- ☐ ≥ 12.5
- ☐ Liquid corrosive to steel
- ☐ Not aqueous

Reactivity
Check as many as apply.

- ☐ Unstable
- ☐ Water reactive
- ☐ Pyrophoric
- ☐ Cyanide bearing
- ☐ Sulfide bearing
- ☐ Shock sensitive
- ☐ Explosive - class _____
- ☒ Non-reactive

Boiling Point (degrees F.)
Check only one.

- ☐ ≤ 95
- ☒ > 95
- ☐ Not applicable

Identify presence of contaminants.

			Minimum	Maximum	Unit (ppm or % only)	Analytical method
Toxicity Characteristic Metals						
Arsenic	☐ None	☒ < 5.0 ppm				☒ TCLP ☐ Total
Barium	☐ None	☒ < 100.0 ppm				☒ TCLP ☐ Total
Cadmium	☐ None	☒ < 1.0 ppm				☒ TCLP ☐ Total
Chromium	☐ None	☒ < 5.0 ppm				☒ TCLP ☐ Total
Lead	☐ None	☐ < 5.0 ppm				☒ TCLP ☐ Total
Mercury	☐ None	☒ < 0.2 ppm				☒ TCLP ☐ Total
Selenium	☐ None	☒ < 1.0 ppm				☒ TCLP ☐ Total
Silver	☐ None	☒ < 5.0 ppm				☒ TCLP ☐ Total
Toxicity Characteristic Organic Compounds						
Benzene	☐ None	☒ < 0.5 ppm				☒ TCLP ☐ Total
Carbon tetrachloride	☐ None	☒ < 0.5 ppm				☒ TCLP ☐ Total
Chlorobenzene	☐ None	☒ < 100.0 ppm				☒ TCLP ☐ Total
Chloroform	☐ None	☒ < 6.0 ppm				☒ TCLP ☐ Total
Cresol	☐ None	☒ < 200.0 ppm				☒ TCLP ☐ Total
1,4-dichlorobenzene	☐ None	☒ < 7.5 ppm				☒ TCLP ☐ Total
1,2-Dichloroethane	☐ None	☒ < 0.5 ppm				☒ TCLP ☐ Total
1,1-Dichloroethylene	☐ None	☒ < 0.7 ppm				☒ TCLP ☐ Total
2,4-Dinitrotoluene	☐ None	☒ < 0.13 ppm				☒ TCLP ☐ Total
Hexachlorobenzene	☐ None	☒ < 0.13 ppm				☒ TCLP ☐ Total
Hexachlorobutadiene	☐ None	☒ < 0.5 ppm				☒ TCLP ☐ Total
Hexachloroethane	☐ None	☒ < 3.0 ppm				☒ TCLP ☐ Total
Methyl ethyl ketone	☐ None	☒ < 200.0 ppm				☒ TCLP ☐ Total
Nitrobenzene	☐ None	☒ < 2.0 ppm				☒ TCLP ☐ Total
Pentachlorophenol	☐ None	☒ < 100.0 ppm				☒ TCLP ☐ Total
Pyridine	☐ None	☒ < 5.0 ppm				☒ TCLP ☐ Total
Perchloroethylene or tetrachloroethylene	☐ None	☒ < 0.7 ppm				☒ TCLP ☐ Total
Trichloroethylene	☐ None	☒ < 0.5 ppm				☒ TCLP ☐ Total
2,4,5-Trichlorophenol	☐ None	☒ < 400.0 ppm				☒ TCLP ☐ Total
2,4,6-Trichlorophenol	☐ None	☒ < 2.0 ppm				☒ TCLP ☐ Total
Vinyl chloride	☐ None	☒ < 0.2 ppm				☒ TCLP ☐ Total

Additional Chemical Constituents and Contaminants (for hazardous constituents, see AR 10-3, Appendix A)
List all other constituents (including inerts) not identified above and attach any applicable analyses.

Name of constituent	Cas no.(optional)	Minimum	Maximum	Unit (ppm or % only)

Section 2- Radiological Characteristics

For help in completing this section of the form, call 5-WAST or 5-4000.

	Range minimum		maximum	Unit (Ci/g or Ci/l)
General				
☐ Alpha		to		
☐ Beta		to		
☐ Gamma		to		
TRU radionuclides				
☒ None present				
☐ Am-241		to		
☐ Am-243		to		
☐ Cf-249		to		
☐ Cf-251		to		
☐ Cm-243		to		
☐ Cm-245		to		
☐ Cm-247		to		
☐ Pu-238		to		
☐ Pu-239		to		
☐ Pu-240		to		
☐ Pu-242		to		
Fission products				
☒ None present				
☐ Ba-140		to		
☐ Ce-144		to		
☐ Cs-134		to		
☐ Cs-137		to		
☐ I-129		to		
☐ I-133		to		
☐ Kr-85		to		
☐ Nb-95		to		
☐ Ru-106		to		
☐ Sb-125		to		
☐ Sr-90		to		
☐ Tc-99		to		
☐ Zr-93		to		
☐ Zr-95		to		
Activation products				
☒ None present				
☐ As -74		to		
☐ Be-7		to		
☐ C-14		to		
☐ Co-56		to		
☐ Co-57		to		
☐ Co-58		to		
☐ Co-60		to		
☐ Cr-51		to		
☐ Eu-152		to		
☐ Mn-52		to		
☐ Mn-54		to		
☐ Nb-94		to		
☐ Ni-59		to		
☐ Ni-63		to		
☐ Rb-83		to		
☐ Rb-84		to		
☐ Se-75		to		
☐ Sr-82		to		
☐ Sr-85		to		
☐ V-48		to		
☐ Y-88		to		
☐ Zn-65		to		
☐ Zr-88		to		

	Range minimum		maximum	Unit (Ci/g or Ci/l)
Other				
☒ None present				
☐ Am-242		to		
☐ Bi-207		to		
☐ Bi-210		to		
☐ Cf-250		to		
☐ Cf-252		to		
☐ Cm-244		to		
☐ H-3		to		
☐ Pa-231		to		
☐ Pb-210		to		
☐ Po-210		to		
☐ Pu-236		to		
☐ Pu-241		to		
☐ Ra-226		to		
☐ Ra-228		to		
☐ Th-230		to		
☐ Th-232		to		
☐ U-232		to		
☐ U-233		to		
☐ U-234		to		
☐ U-235		to		
☐ U-236		to		
☐ U-238		to		
Add'l radionuclides				
☒ No additional radionuclides present				
		to		
		to		
		to		
		to		
		to		
		to		
		to		
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		to		
		to		
		to		

Contamination Type: *Check as many as apply.*

☐ Volume Contamination

☐ Surface Contamination

Section 3 - Wastewater Characteristics

For help in completing this section of the form, call 7-4301.

Identify presence of contaminants			Minimum	Maximum	Unit (ppm or % only)	Analytical met
Aluminum	☐ None	☐ < 5.0 ppm	_____	to _____	_____	☐ TCLP ☐ Total
Boron	☐ None	☐ < 5.0 ppm	_____	to _____	_____	☐ TCLP ☐ Total
Cobalt	☐ None	☐ < 1.0 ppm	_____	to _____	_____	☐ TCLP ☐ Total
Copper	☐ None	☐ < 1.0 ppm	_____	to _____	_____	☐ TCLP ☐ Total
Vanadium	☐ None	☐ < 0.10 ppm	_____	to _____	_____	☐ TCLP ☐ Total
Zinc	☐ None	☐ < 95.4 ppm	_____	to _____	_____	☐ TCLP ☐ Total

Maximum daily flow when discharge occurs: _____ ☐ Gallons ☐ Liters

Average daily flow when discharge occurs: _____ ☐ Gallons ☐ Liters

Estimated number of days per year that discharge will occur: _____

Estimated total volume per year discharged to the Radioactive Liquid Waste Collection System at TA-50-1: _____ ☐ Gallons ☐ Liters

For TA-55 use only. Wastewater will be discharged through one of the following:

☐ Acid line ☐ Caustic line ☐ Industrial waste line

Section 4 - Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

Order # 95-01-028
01/23/95 15:05

ENRECO LABORATORIES

ENRECO
LABORATORIES GROUP

Sample: 03A AAG1455

Collected: 01/13/95 14:30

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	6.3			01/17/95	CS
FINAL pH	5.0			01/18/95	CS
TCLP METAL ANALYSIS					
ARSENIC	<0.2	0.2	mg/l	01/18/95	WDP
BARIUM	2.0	0.1	mg/l	01/18/95	WDP
CADMIUM	<0.05	0.05	mg/l	01/18/95	WDP
CHROMIUM	<0.05	0.05	mg/l	01/18/95	WDP
LEAD	32.0	0.05	mg/l	01/18/95	WDP
MERCURY	<0.002	0.002	mg/l	01/18/95	WDP
SELENIUM	<0.2	0.2	mg/l	01/18/95	WDP
SILVER	<0.05	0.05	mg/l	01/18/95	WDP
NICKEL	0.12	0.05	mg/l	01/18/95	WDP
THALLIUM	<0.10	0.10	mg/l	01/18/95	WDP
TCLP ORGANICS					
BENZENE	<0.005	0.005	mg/l	01/19/95	LMW
CARBON TETRACHLORIDE	<0.005	0.005	mg/l	01/19/95	LMW
CHLORDANE	<0.03	0.03	mg/l	01/19/95	LMW
CHLOROBENZENE	0.105	0.005	mg/l	01/19/95	LMW
CHLOROFORM	<0.005	0.005	mg/l	01/19/95	LMW
CRESOL(O,M,P)	<0.01	0.01	mg/l	01/19/95	LMW
2,4-D	<0.1	0.1	mg/l	01/19/95	LMW
1,4-DICHLOROBENZENE	<0.005	0.005	mg/l	01/19/95	LMW
1,2-DICHLOROETHANE	<0.005	0.005	mg/l	01/19/95	LMW
1,1-DICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4-DINITROTOLUENE	<0.01	0.01	mg/l	01/19/95	LMW
ENDRIN	<0.01	0.01	mg/l	01/19/95	LMW
HEPTACHLOR	<0.008	0.008	mg/l	01/19/95	LMW
HEPTACHLOR EPOXIDE	<0.008	0.008	mg/l	01/19/95	LMW
HEXACHLOROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROBUTADIENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROETHANE	<0.01	0.01	mg/l	01/19/95	LMW
LINDANE	<0.01	0.01	mg/l	01/19/95	LMW
METHOXYCLOR	<0.1	0.1	mg/l	01/19/95	LMW
METHYL ETHYL KETONE	<0.02	0.02	mg/l	01/19/95	LMW
NITROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
PENTACHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
PYRIDINE	<0.05	0.05	mg/l	01/19/95	LMW
TETRACHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
TOXAPHENE	<0.1	0.1	mg/l	01/19/95	LMW
TRICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4,5-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,6-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,5-TP(SILVEX)	<0.1	0.1	mg/l	01/19/95	LMW
VINYL CHLORIDE	<0.01	0.01	mg/l	01/19/95	LMW

[illegible] Canyon Drive
[illegible], Texas 7[illegible]
Telephone (800) 353-[illegible]
Telefax (800) 353-[illegible]
Toll Free 1-800 4[illegible]

****DATA IN LIMIT COLUMN IS INSTRUMENTAL DETECTION LIMIT---NOT REGULATORY COMPLIANCE LIMITS****

CST-9 Radiochemistry Screening Data

TA-40 MRAL2

Date: 1/18/95
Analyst: [illegible]
Comments: Gross Alpha/Beta/Gamma

Gross Gamma Screening Data (MDA 2.16)

Sample #	Result	Uncertainty	Units
AAC1453	-1.64	2.16	pCi/g
AAC1454	-1.01	2.16	pCi/g
AAC1455	-2.02	2.16	pCi/g
AAC1456	-3.59	2.16	pCi/g

Gross Alpha/Beta Screening Data (Alpha MDA 83.28 Beta MDA 90.73)

Sample #	Alpha	Uncertainty	Beta	Uncertainty	Units
AAC1453	-11.07	83.28	8.54	90.73	pCi/g
AAC1454	11.07	83.28	42.7	90.73	pCi/g
AAC1455	3.69	83.28	0	90.73	pCi/g
AAC1456	-11.07	83.28	46.97	90.73	pCi/g

Tritium and Moisture Screening Data

Sample #	Tritium	Uncertainty	Units	Moisture	Uncertainty	Units
AAC1453	0.91	0.27	pCi/g	11.05	1	percent
AAC1454	0.32	0.26	pCi/g	14.66	1	percent
AAC1455	1.17	0.3	pCi/g	14.27	1	percent
AAC1456	0.35	0.26	pCi/g	13.84	1	percent

Los Alamos
National Laboratory

WASTE PROFILE FORM

Account Information

For rapid processing, complete all sections in black or blue ink and mail this form to Waste Services Group at MS J579

Reference Number

Waste Generator's Name (Print)	Znumber	Waste Management Coordinator's Name (Print)	Znumber
EDWARD H. ESSINGTON	080701	EDWARD H. ESSINGTON (EM/ER)	080701

Generator's Group	Generator's Telephone	Generator's Mail Stop	Waste Stream Technical Area	Building	Room
EES-15	7-3057	J-495	40	Scrap Detonation Site	N/A

Waste Accumulation
Check as many as apply.

- ☐ Satellite accumulation area -> site no.: _____
- ☒ Less than 90 day accumulation area -> site no.: 1204
- ☐ Radioactive Materials Management Area (RMMA) -> site no.: _____
- ☐ None of the above

Method of Characterization
Check as many as apply.

- ☐ Knowledge of Process (KOP)
- ☒ Analysis attached -> sample/request no. _____
- ☐ MSDS attached
- ☐ Request for analysis

Section 1- Chemical and Physical Characteristics

For help in completing this section of the form, call 5-WAST or 5-4000.

Waste Type
Check only one.

- ☐ Unused/unspent chemical
  Check Waste Classes and Associated Documentation Only
- ☒ Process waste/spent chemical
  Complete all of Section 1.

Waste Classes
Check as many as apply.

- ☐ On-going generation
- ☒ One-time generation
- ☐ Radioactive (complete Sec. 2)
- ☐ Non-radioactive
- ☐ Wastewater (complete Sec. 3)
- ☐ Classified/Sensitive

Associated Documentation
Check as many as apply.

- ☐ Process SOP -> no.: _____
- ☐ RMMA OP -> no.: _____
- ☐ WM SOP -> no.: _____
- ☒ Other -> Waste Mgmt. Plan
- ☐ None -> describe below

Waste Category
Check as many as apply.

- ☐ Solvent
- ☐ Degreaser
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated hazardous waste residue
- ☐ Explosive process waste
- ☐ Infectious/biological waste
- ☐ Beryllium
- ☐ Asbestos-friable
- ☐ Asbestos-nonfriable
- ☐ Empty containers
- ☐ PCB (<50 ppm)
  - ☐ PCB (50 - 500 ppm)
  - ☐ PCB (> 500 ppm)
  - -> id. no.: _____
- ☒ Not applicable -> describe below

Waste Sources
Check as many as apply.

- ☐ Research and development
- ☐ Maintenance
- ☐ Construction
- ☐ Material processing
- ☐ Decon/decom
- ☐ Investigation derived
- ☒ Remediation
- ☐ UST - petroleum
- ☐ UST - non-petroleum
- ☐ Generator treatment
- ☐ Interim/permitted treatment
- ☐ Industrial sludge
- ☐ Sanitary sludge
- ☐ Abatement

Waste Matrix
Check only one.

Gas
- ☐ ≤ 1.5 Atmospheres
- ☐ > 1.5 Atmospheres

Liquid
- ☐ Aqueous
- ☐ Organic
- ☐ Inorganic

Solid
- ☐ Powder/ash
- ☒ Solid
- ☐ Absorbed liquid

Matrix Type
Check only one.

- ☐ Homogeneous
- ☒ Heterogeneous -> describe below

Waste/Process Description

Soil from the RCRA closure activities at the TA40 Scrap Detonation Site.
Soil is mixed with misc. scrap + debris (plastics, glass etc.)

Section 1- Chemical and Physical Characteristics (continued)

Ignitability (degrees F.)
Check only one.

- ☐ < 73
- ☐ 73-99
- ☐ 100-139
- ☐ 140-200
- ☐ > 200
- ☐ Ignitable solid
- ☐ DOT oxidizer
- ☒ Not ignitable

Corrosivity (pH)
Check only one.

- ☐ ≤ 2.0
- ☐ 2.1-4.0
- ☐ 4.1-6.0
- ☐ 6.1-9.0
- ☐ 9.1-12.4
- ☐ ≥ 12.5
- ☐ Liquid corrosive to steel
- ☒ Not aqueous

Reactivity
Check as many as apply.

- ☐ Unstable
- ☐ Water reactive
- ☐ Pyrophoric
- ☐ Cyanide bearing
- ☐ Sulfide bearing
- ☐ Shock sensitive
- ☐ Explosive - class _____
- ☒ Non-reactive

Boiling Point (degrees F.)
Check only one.

- ☐ ≤ 95
- ☐ > 95
- ☒ Not applicable

Identify presence of contaminants.			Minimum	Maximum	Unit (ppm or % only)	Analytical method
Toxicity Characteristic Metals						
Arsenic	☐ None	☐ < 5.0 ppm				☒ TCLP ☐ Total
Barium	☐ None	☐ < 100.0 ppm				☒ TCLP ☐ Total
Cadmium	☐ None	☐ < 1.0 ppm				☒ TCLP ☐ Total
Chromium	☐ None	☐ < 5.0 ppm				☒ TCLP ☐ Total
Lead	☐ None	☐ < 5.0 ppm			32	☒ TCLP ☐ Total
Mercury	☐ None	☐ < 0.2 ppm				☒ TCLP ☐ Total
Selenium	☐ None	☐ < 1.0 ppm				☒ TCLP ☐ Total
Silver	☐ None	☐ < 5.0 ppm				☒ TCLP ☐ Total
Toxicity Characteristic Organic Compounds						
Benzene	☐ None	☐ < 0.5 ppm				☐ TCLP ☐ Total
Carbon tetrachloride	☐ None	☐ < 0.5 ppm				☐ TCLP ☐ Total
Chlorobenzene	☐ None	☐ < 100.0 ppm				☐ TCLP ☐ Total
Chloroform	☐ None	☐ < 6.0 ppm				☐ TCLP ☐ Total
Cresol	☐ None	☐ < 200.0 ppm				☐ TCLP ☐ T
1,4-dichlorobenzene	☐ None	☐ < 7.5 ppm				☐ TCLP ☐
1,2-Dichloroethane	☐ None	☐ < 0.5 ppm				☐ TCLP ☐ Total
1,1-Dichloroethylene	☐ None	☐ < 0.7 ppm				☐ TCLP ☐ Total
2,4-Dinitrotoluene	☐ None	☐ < 0.13 ppm				☐ TCLP ☐ Total
Hexachlorobenzene	☐ None	☐ < 0.13 ppm				☐ TCLP ☐ Total
Hexachlorobutadiene	☐ None	☐ < 0.5 ppm				☐ TCLP ☐ Total
Hexachloroethane	☐ None	☐ < 3.0 ppm				☐ TCLP ☐ Total
Methyl ethyl ketone	☐ None	☐ < 200.0 ppm				☐ TCLP ☐ Total
Nitrobenzene	☐ None	☐ < 2.0 ppm				☐ TCLP ☐ Total
Pentachlorophenol	☐ None	☐ < 100.0 ppm				☐ TCLP ☐ Total
Pyridine	☐ None	☐ < 5.0 ppm				☐ TCLP ☐ Total
Perchloroethylene or tetrachloroethylene	☐ None	☐ < 0.7 ppm				☐ TCLP ☐ Total
Trichloroethylene	☐ None	☐ < 0.5 ppm				☐ TCLP ☐ Total
2,4,5-Trichlorophenol	☐ None	☐ < 400.0 ppm				☐ TCLP ☐ Total
2,4,6-Trichlorophenol	☐ None	☐ < 2.0 ppm				☐ TCLP ☐ Total
Vinyl chloride	☐ None	☐ < 0.2 ppm				☐ TCLP ☐ Total

Additional Chemical Constituents and Contaminants (for hazardous constituents, see AR 10-3, Appendix A)
List all other constituents (including inerts) not identified above and attach any applicable analyses.

Name of constituent	Cas no.(optional)	Minimum	Maximum	Unit (ppm or % only)

Section 2- Radiological Characteristics

For help in completing this section of the form, call 5-WAST or 5-4000.

	Range minimum		Range maximum	Unit (Ci/g or Ci/l)
General				
☐ Alpha		to		
☐ Beta		to		
☐ Gamma		to		
TRU radionuclides				
☒ None present				
☐ Am-241		to		
☐ Am-243		to		
☐ Cf-249		to		
☐ Cf-251		to		
☐ Cm-243		to		
☐ Cm-245		to		
☐ Cm-247		to		
☐ Pu-238		to		
☐ Pu-239		to		
☐ Pu-240		to		
☐ Pu-242		to		
Fission products				
☒ None present				
☐ Ba-140		to		
☐ Ce-144		to		
☐ Cs-134		to		
☐ Cs-137		to		
☐ I-129		to		
☐ I-133		to		
☐ Kr-85		to		
☐ Nb-95		to		
☐ Ru-106		to		
☐ Sb-125		to		
☐ Sr-90		to		
☐ Tc-99		to		
☐ Zr-93		to		
☐ Zr-95		to		
Activation products				
☒ None present				
☐ As -74		to		
☐ Be-7		to		
☐ C-14		to		
☐ Co-56		to		
☐ Co-57		to		
☐ Co-58		to		
☐ Co-60		to		
☐ Cr-51		to		
☐ Eu-152		to		
☐ Mn-52		to		
☐ Mn-54		to		
☐ Nb-94		to		
☐ Ni-59		to		
☐ Ni-63		to		
☐ Rb-83		to		
☐ Rb-84		to		
☐ Se-75		to		
☐ Sr-82		to		
☐ Sr-85		to		
☐ V-48		to		
☐ Y-88		to		
☐ Zn-65		to		
☐ Zr-88		to		

	Range minimum		Range maximum	Unit (Ci/g or Ci/l)
Other				
☒ None present				
☐ Am-242		to		
☐ Bi-207		to		
☐ Bi-210		to		
☐ Cf-250		to		
☐ Cf-252		to		
☐ Cm-244		to		
☐ H-3		to		
☐ Pa-231		to		
☐ Pb-210		to		
☐ Po-210		to		
☐ Pu-238		to		
☐ Pu-241		to		
☐ Ra-226		to		
☐ Ra-228		to		
☐ Th-230		to		
☐ Th-232		to		
☐ U-232		to		
☐ U-233		to		
☐ U-234		to		
☐ U-235		to		
☐ U-236		to		
☐ U-238		to		
Add'l radionuclides				
☒ No additional radionuclides present				
		to		
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		to		

Contamination Type: *Check as many as apply.*

☐ Volume Contamination

☐ Surface Contamination

Section 3 - Wastewater Characteristics

For help in completing this section of the form, call 7-4301.

Identify presence of contaminants			Minimum	Maximum	Unit (ppm or % only)	Analytical meth
Aluminum	☐ None	☐ < 5.0 ppm	_____	to _____	_____	☐ TCLP ☐ Total
Boron	☐ None	☐ < 5.0 ppm	_____	to _____	_____	☐ TCLP ☐ Total
Cobalt	☐ None	☐ < 1.0 ppm	_____	to _____	_____	☐ TCLP ☐ Total
Copper	☐ None	☐ < 1.0 ppm	_____	to _____	_____	☐ TCLP ☐ Total
Vanadium	☐ None	☐ < 0.10 ppm	_____	to _____	_____	☐ TCLP ☐ Total
Zinc	☐ None	☐ < 95.4 ppm	_____	to _____	_____	☐ TCLP ☐ Total

Maximum daily flow when discharge occurs: _____ ☐ Gallons ☐ Liters

Average daily flow when discharge occurs: _____ ☐ Gallons ☐ Liters

Estimated number of days per year that discharge will occur: _____

Estimated total volume per year discharged to the Radioactive Liquid Waste Collection System at TA-50-1: _____ ☐ Gallons ☐ Liters

For TA-55 use only. Wastewater will be discharged through one of the following:

☐ Acid line ☐ Caustic line ☐ Industrial waste line

Section 4 - Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

Order # 95-01-028
01/23/95 15:05

ENRECO LABORATORIES

ENRECO

Sample: 03A AAC1455

Collected: 01/13/95 14:30

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	8.3			01/17/95	CS
FINAL pH	5.0			01/18/95	CS
TCLP METAL ANALYSIS					
ARSENIC	<0.2	0.2	mg/l	01/18/95	WDP
BARIUM	2.0	0.1	mg/l	01/18/95	WDP
CADMIUM	<0.05	0.05	mg/l	01/18/95	WDP
CHROMIUM	<0.05	0.05	mg/l	01/18/95	WDP
LEAD	32.0	0.05	mg/l	01/18/95	WDP
MERCURY	<0.002	0.002	mg/l	01/18/95	WDP
SELENIUM	<0.2	0.2	mg/l	01/18/95	WDP
SILVER	<0.05	0.05	mg/l	01/18/95	WDP
NICKEL	0.12	0.05	mg/l	01/18/95	WDP
THALLIUM	<0.10	0.10	mg/l	01/18/95	WDP
TCLP ORGANICS					
BENZENE	<0.005	0.005	mg/l	01/19/95	LMW
CARBON TETRACHLORIDE	<0.005	0.005	mg/l	01/19/95	LMW
CHLORDANE	<0.03	0.03	mg/l	01/19/95	LMW
CHLOROBENZENE	0.105	0.005	mg/l	01/19/95	LMW
CHLOROFORM	<0.005	0.005	mg/l	01/19/95	LMW
CRESOL(O,M,P)	<0.01	0.01	mg/l	01/19/95	LMW
2,4-D	<0.1	0.1	mg/l	01/19/95	LMW
1,4-DICHLOROBENZENE	<0.005	0.005	mg/l	01/19/95	LMW
1,2-DICHLOROETHANE	<0.005	0.005	mg/l	01/19/95	LMW
1,1-DICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4-DINITROTOLUENE	<0.01	0.01	mg/l	01/19/95	LMW
ENDRIN	<0.01	0.01	mg/l	01/19/95	LMW
HEPTACHLOR	<0.008	0.008	mg/l	01/19/95	LMW
HEPTACHLOR EPOXIDE	<0.008	0.008	mg/l	01/19/95	LMW
HEXACHLOROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROBUTADIENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROETHANE	<0.01	0.01	mg/l	01/19/95	LMW
LINDANE	<0.01	0.01	mg/l	01/19/95	LMW
METHOXYCLOR	<0.1	0.1	mg/l	01/19/95	LMW
METHYL ETHYL KETONE	<0.02	0.02	mg/l	01/19/95	LMW
NITROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
PENTACHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
PYRIDINE	<0.05	0.05	mg/l	01/19/95	LMW
TETRACHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
TOXAPHENE	<0.1	0.1	mg/l	01/19/95	LMW
TRICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4,5-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,6-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,5-TP(SILVEX)	<0.1	0.1	mg/l	01/19/95	LMW
VINYL CHLORIDE	<0.01	0.01	mg/l	01/19/95	LMW

****DATA IN LIMIT COLUMN IS INSTRUMENTAL DETECTION LIMIT---NOT REGULATORY COMPLIANCE LIMITS****

CST-9 Radiochemistry Screening Data

TA-40 MRAL2

Date: 1/18/95
Analyst: [illegible]
Comments: Gross Alpha/Beta/Gamma

Gross Gamma Screening Data (MDA 2.16)

Sample #	Result	Uncertainty	Units
AAC1453	-1.64	2.16	pCi/g
AAC1454	-1.01	2.16	pCi/g
AAC1455	-2.02	2.16	pCi/g
AAC1456	-3.59	2.16	pCi/g

Gross Alpha/Beta Screening Data (Alpha MDA 83.28 Beta MDA 90.73)

Sample #	Alpha	Uncertainty	Beta	Uncertainty	Units
AAC1453	-11.07	83.28	8.54	90.73	pCi/g
AAC1454	11.07	83.28	42.7	90.73	pCi/g
AAC1455	3.69	83.28	0	90.73	pCi/g
AAC1456	-11.07	83.28	46.97	90.73	pCi/g

Tritium and Moisture Screening Data

Sample #	Tritium	Uncertainty	Units	Moisture	Uncertainty	Units
AAC1453	0.91	0.27	pCi/g	11.05	1	percent
AAC1454	0.32	0.26	pCi/g	14.66	1	percent
AAC1455	1.17	0.3	pCi/g	14.27	1	percent
AAC1456	0.35	0.26	pCi/g	13.84	1	percent

Los Alamos National Laboratory

WASTE PROFILE FORM

Account Information

For rapid processing, complete all sections in black or blue ink and mail this form to Waste Services Group at MS J579

Reference Number

Waste Generator's Name (Print)	Znumber	Waste Management Coordinator's Name (Print)	Znumber
EDWARD H. ESSINGTON	080701	EDWARD H. ESSINGTON (EM/ER)	080701

Generator's Group	Generator's Telephone	Generator's Mail Stop	Waste Stream Technical Area	Building	Room
EES-15	7-3057	J495	40	Scrap Detonation Site	N/A

Waste Accumulation
Check as many as apply.

- ☐ Satellite accumulation area --> site no.: _____
- ☒ Less than 90 day accumulation area --> site no.: 1204
- ☐ Radioactive Materials Management Area (RMMA) --> site no.: _____
- ☐ None of the above

Method of Characterization
Check as many as apply.

- ☐ Knowledge of Process (KOP)
- ☒ Analysis attached --> sample/request no. _____
- ☐ MSDS attached
- ☐ Request for analysis

Section 1- Chemical and Physical Characteristics

For help in completing this section of the form, call 5-WAST or 5-4000.

Waste Type
Check only one.

- ☐ Unused/unspent chemical
  Check Waste Classes and Associated Documentation Only
- ☒ Process waste/spent chemical
  Complete all of Section 1.

Waste Classes
Check as many as apply.

- ☐ On-going generation
- ☒ One-time generation
- ☐ Radioactive (complete Sec. 2)
- ☐ Non-radioactive
- ☐ Wastewater (complete Sec. 3)
- ☐ Classified/Sensitive

Associated Documentation
Check as many as apply.

- ☐ Process SOP --> no.: _____
- ☐ RMMA OP --> no.: _____
- ☐ WM SOP --> no.: _____
- ☒ Other --> Waste Mgmt. Plan
- ☐ None --> describe below

Waste Category
Check as many as apply.

- ☐ Solvent
- ☐ Degreaser
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated hazardous waste residue
- ☐ Explosive process waste
- ☐ Infectious/biological waste
- ☐ Beryllium
- ☐ Asbestos-friable
- ☐ Asbestos-nonfriable
- ☐ Empty containers
- ☐ PCB (<50 ppm)
  - ☐ PCB (50 - 500 ppm)
  - ☐ PCB (> 500 ppm)
  - → id. no.: _____
- ☒ Not applicable --> describe below

Waste Sources
Check as many as apply.

- ☐ Research and development
- ☐ Maintenance
- ☐ Construction
- ☐ Material processing
- ☐ Decon/decom
- ☐ Investigation derived
- ☒ Remediation
- ☐ UST - petroleum
- ☐ UST - non-petroleum
- ☐ Generator treatment
- ☐ Interim/permitted treatment
- ☐ Industrial sludge
- ☐ Sanitary sludge
- ☐ Abatement

Waste Matrix
Check only one.

Gas
- ☐ ≤ 1.5 Atmospheres
- ☐ > 1.5 Atmospheres

Liquid
- ☐ Aqueous
- ☐ Organic
- ☐ Inorganic

Solid
- ☐ Powder/ash
- ☒ Solid
- ☐ Absorbed liquid

Matrix Type
Check only one.

- ☐ Homogeneous
- ☒ Heterogeneous --> describe below

Waste/Process Description

USED PPE FROM THE REMEDIATION/CLOSURE OF THE TA40 SCRAP DETONATION SITE
TYVEK SUITS LATEX + NITRILE GLOVES

PER THE APPROVED WASTE MGMT. PLAN THIS MATERIAL WILL BE DISPOSED OF
BASED UPON THE ANALYTICAL RESULTS FROM THE SOIL.

Section 1- Chemical and Physical Characteristics (continued)

Ignitability (degrees F.)
Check only one.

- ☐ < 73
- ☐ 73-99
- ☐ 100-139
- ☐ 140-200
- ☐ > 200
- ☐ Ignitable solid
- ☐ DOT oxidizer
- ☒ Not ignitable

Corrosivity (pH)
Check only one.

- ☐ ≤ 2.0
- ☐ 2.1-4.0
- ☐ 4.1-6.0
- ☐ 6.1-9.0
- ☐ 9.1-12.4
- ☐ ≥ 12.5
- ☐ Liquid corrosive to steel
- ☒ Not aqueous

Reactivity
Check as many as apply.

- ☐ Unstable
- ☐ Water reactive
- ☐ Pyrophoric
- ☐ Cyanide bearing
- ☐ Sulfide bearing
- ☐ Shock sensitive
- ☐ Explosive - class _____
- ☒ Non-reactive

Boiling Point (degrees F.)
Check only one.

- ☐ ≤ 95
- ☐ > 95
- ☒ Not applicable

Identify presence of contaminants.

			Minimum	Maximum	Unit (ppm or % only)	Analytical method
Toxicity Characteristic Metals						
Arsenic	☐ None	☐ < 5.0 ppm		to		☐ TCLP ☐ Total
Barium	☐ None	☐ < 100.0 ppm		to		☐ TCLP ☐ Total
Cadmium	☐ None	☐ < 1.0 ppm		to		☐ TCLP ☐ Total
Chromium	☐ None	☐ < 5.0 ppm		to		☐ TCLP ☐ Total
Lead	☐ None	☐ < 5.0 ppm		to	32	☐ TCLP ☐ Total
Mercury	☐ None	☐ < 0.2 ppm		to		☐ TCLP ☐ Total
Selenium	☐ None	☐ < 1.0 ppm		to		☐ TCLP ☐ Total
Silver	☐ None	☐ < 5.0 ppm		to		☐ TCLP ☐ Total
Toxicity Characteristic Organic Compounds						
Benzene	☐ None	☐ < 0.5 ppm		to		☐ TCLP ☐ Total
Carbon tetrachloride	☐ None	☐ < 0.5 ppm		to		☐ TCLP ☐ Total
Chlorobenzene	☐ None	☐ < 100.0 ppm		to		☐ TCLP ☐ Total
Chloroform	☐ None	☐ < 6.0 ppm		to		☐ TCLP ☐ Total
Cresol	☐ None	☐ < 200.0 ppm		to		☐ TCLP ☐ T
1,4-dichlorobenzene	☐ None	☐ < 7.5 ppm		to		☐ TCLP ☐
1,2-Dichloroethane	☐ None	☐ < 0.5 ppm		to		☐ TCLP ☐ Tot
1,1-Dichloroethylene	☐ None	☐ < 0.7 ppm		to		☐ TCLP ☐ Total
2,4-Dinitrotoluene	☐ None	☐ < 0.13 ppm		to		☐ TCLP ☐ Total
Hexachlorobenzene	☐ None	☐ < 0.13 ppm		to		☐ TCLP ☐ Total
Hexachlorobutadiene	☐ None	☐ < 0.5 ppm		to		☐ TCLP ☐ Total
Hexachloroethane	☐ None	☐ < 3.0 ppm		to		☐ TCLP ☐ Total
Methyl ethyl ketone	☐ None	☐ < 200.0 ppm		to		☐ TCLP ☐ Total
Nitrobenzene	☐ None	☐ < 2.0 ppm		to		☐ TCLP ☐ Total
Pentachlorophenol	☐ None	☐ < 100.0 ppm		to		☐ TCLP ☐ Total
Pyridine	☐ None	☐ < 5.0 ppm		to		☐ TCLP ☐ Total
Perchloroethylene or tetrachloroethylene	☐ None	☐ < 0.7 ppm		to		☐ TCLP ☐ Total
Trichloroethylene	☐ None	☐ < 0.5 ppm		to		☐ TCLP ☐ Total
2,4,5-Trichlorophenol	☐ None	☐ < 400.0 ppm		to		☐ TCLP ☐ Total
2,4,6-Trichlorophenol	☐ None	☐ < 2.0 ppm		to		☐ TCLP ☐ Total
Vinyl chloride	☐ None	☐ < 0.2 ppm		to		☐ TCLP ☐ Total

Additional Chemical Constituents and Contaminants (for hazardous constituents, see AR 10-3, Appendix A)
List all other constituents (including inerts) not identified above and attach any applicable analyses.

Name of constituent	Cas no.(optional)	Minimum	Maximum	Unit (ppm or % only)
			to	
			to	
			to	
			to	
			to	
			to	
			to	
			to	
			to	

Section 2- Radiological Characteristics

For help in completing this section of the form, call 5-WAST or 5-4000.

	Range minimum		Range maximum	Unit (C/g or C/l)
General				
☐ Alpha	_____	to	_____	_____
☐ Beta	_____	to	_____	_____
☐ Gamma	_____	to	_____	_____
TRU radionuclides				
☒ None present				
☐ Am-241	_____	to	_____	_____
☐ Am-243	_____	to	_____	_____
☐ Cf-249	_____	to	_____	_____
☐ Cf-251	_____	to	_____	_____
☐ Cm-243	_____	to	_____	_____
☐ Cm-245	_____	to	_____	_____
☐ Cm-247	_____	to	_____	_____
☐ Pu-238	_____	to	_____	_____
☐ Pu-239	_____	to	_____	_____
☐ Pu-240	_____	to	_____	_____
☐ Pu-242	_____	to	_____	_____
Fission products				
☒ None present				
☐ Ba-140	_____	to	_____	_____
☐ Ce-144	_____	to	_____	_____
☐ Cs-134	_____	to	_____	_____
☐ Cs-137	_____	to	_____	_____
☐ I-129	_____	to	_____	_____
☐ I-133	_____	to	_____	_____
☐ Kr-85	_____	to	_____	_____
☐ Nb-95	_____	to	_____	_____
☐ Ru-106	_____	to	_____	_____
☐ Sb-125	_____	to	_____	_____
☐ Sr-90	_____	to	_____	_____
☐ Tc-99	_____	to	_____	_____
☐ Zr-93	_____	to	_____	_____
☐ Zr-95	_____	to	_____	_____
Activation products				
☒ None present				
☐ As -74	_____	to	_____	_____
☐ Be-7	_____	to	_____	_____
☐ C-14	_____	to	_____	_____
☐ Co-56	_____	to	_____	_____
☐ Co-57	_____	to	_____	_____
☐ Co-58	_____	to	_____	_____
☐ Co-60	_____	to	_____	_____
☐ Cr-51	_____	to	_____	_____
☐ Eu-152	_____	to	_____	_____
☐ Mn-52	_____	to	_____	_____
☐ Mn-54	_____	to	_____	_____
☐ Nb-94	_____	to	_____	_____
☐ Ni-59	_____	to	_____	_____
☐ Ni-63	_____	to	_____	_____
☐ Rb-83	_____	to	_____	_____
☐ Rb-84	_____	to	_____	_____
☐ Se-75	_____	to	_____	_____
☐ Sr-82	_____	to	_____	_____
☐ Sr-85	_____	to	_____	_____
☐ Y-48	_____	to	_____	_____
☐ Y-88	_____	to	_____	_____
☐ Zn-65	_____	to	_____	_____
☐ Zr-88	_____	to	_____	_____

	Range minimum		Range maximum	Unit (C/g or C/l)
Other				
☒ None present				
☐ Am-242	_____	to	_____	_____
☐ Bi-207	_____	to	_____	_____
☐ Bi-210	_____	to	_____	_____
☐ Cf-250	_____	to	_____	_____
☐ Cf-252	_____	to	_____	_____
☐ Cm-244	_____	to	_____	_____
☐ H-3	_____	to	_____	_____
☐ Pa-231	_____	to	_____	_____
☐ Pb-210	_____	to	_____	_____
☐ Po-210	_____	to	_____	_____
☐ Pu-236	_____	to	_____	_____
☐ Pu-241	_____	to	_____	_____
☐ Ra-226	_____	to	_____	_____
☐ Ra-228	_____	to	_____	_____
☐ Th-230	_____	to	_____	_____
☐ Th-232	_____	to	_____	_____
☐ U-232	_____	to	_____	_____
☐ U-233	_____	to	_____	_____
☐ U-234	_____	to	_____	_____
☐ U-235	_____	to	_____	_____
☐ U-236	_____	to	_____	_____
☐ U-238	_____	to	_____	_____
Add'l radionuclides				
☒ No additional radionuclides present				
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____
_____	_____	to	_____	_____

Contamination Type: *Check as many as apply.*

☐ Volume Contamination

☐ Surface Contamination

Section 3 - Wastewater Characteristics

For help in completing this section of the form, call 7-4301.

Identify presence of contaminants			Minimum	Maximum	Unit (ppm or % only)	Analytical me	
Aluminum	☐ None	☐ < 5.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Boron	☐ None	☐ < 5.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Cobalt	☐ None	☐ < 1.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Copper	☐ None	☐ < 1.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Vanadium	☐ None	☐ < 0.10 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Zinc	☐ None	☐ < 95.4 ppm	_____	to _____	_____	☐ TCLP	☐ Total

Maximum daily flow when discharge occurs: _____ ☐ Gallons ☐ Liters

Average daily flow when discharge occurs: _____ ☐ Gallons ☐ Liters

Estimated number of days per year that discharge will occur: _____

Estimated total volume per year discharged to the Radioactive Liquid Waste Collection System at TA-50-1: _____ ☐ Gallons ☐ Liters

For TA-55 use only. Wastewater will be discharged through one of the following:

☐ Acid line ☐ Caustic line ☐ Industrial waste line

Section 4 - Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

Order # 95-01-028
01/23/95 15:05

ENRECO LABORATORIES

ENRECO

Sample: 03A AAC1455

Collected: 01/13/95 14:30

Test Description	Result	Limit	Units	Analyzed	By
TCLP EXTRACTION (TYPE 1 FLUID)					
INITIAL pH	8.3			01/17/95	CS
FINAL pH	5.0			01/18/95	CS
TCLP METAL ANALYSIS					
ARSENIC	<0.2	0.2	mg/l	01/18/95	WDP
BARIUM	2.0	0.1	mg/l	01/18/95	WDP
CADMIUM	<0.05	0.05	mg/l	01/18/95	WDP
CHROMIUM	<0.05	0.05	mg/l	01/18/95	WDP
LEAD	32.0	0.05	mg/l	01/18/95	WDP
MERCURY	<0.002	0.002	mg/l	01/18/95	WDP
SELENIUM	<0.2	0.2	mg/l	01/18/95	WDP
SILVER	<0.05	0.05	mg/l	01/18/95	WDP
NICKEL	0.12	0.05	mg/l	01/18/95	WDP
THALLIUM	<0.10	0.10	mg/l	01/18/95	WDP
TCLP ORGANICS					
BENZENE	<0.005	0.005	mg/l	01/19/95	LMW
CARBON TETRACHLORIDE	<0.005	0.005	mg/l	01/19/95	LMW
CHLORDANE	<0.03	0.03	mg/l	01/19/95	LMW
CHLOROBENZENE	0.105	0.005	mg/l	01/19/95	LMW
CHLOROFORM	<0.005	0.005	mg/l	01/19/95	LMW
CRESOL(O,M,P)	<0.01	0.01	mg/l	01/19/95	LMW
2,4-D	<0.1	0.1	mg/l	01/19/95	LMW
1,4-DICHLOROBENZENE	<0.005	0.005	mg/l	01/19/95	LMW
1,2-DICHLOROETHANE	<0.005	0.005	mg/l	01/19/95	LMW
1,1-DICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4-DINITROTOLUENE	<0.01	0.01	mg/l	01/19/95	LMW
ENDRIN	<0.01	0.01	mg/l	01/19/95	LMW
HEPTACHLOR	<0.008	0.008	mg/l	01/19/95	LMW
HEPTACHLOR EPOXIDE	<0.008	0.008	mg/l	01/19/95	LMW
HEXACHLOROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROBUTADIENE	<0.01	0.01	mg/l	01/19/95	LMW
HEXACHLOROETHANE	<0.01	0.01	mg/l	01/19/95	LMW
LINDANE	<0.01	0.01	mg/l	01/19/95	LMW
METHOXYCLOR	<0.1	0.1	mg/l	01/19/95	LMW
METHYL ETHYL KETONE	<0.02	0.02	mg/l	01/19/95	LMW
NITROBENZENE	<0.01	0.01	mg/l	01/19/95	LMW
PENTACHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
PYRIDINE	<0.05	0.05	mg/l	01/19/95	LMW
TETRACHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
TOXAPHENE	<0.1	0.1	mg/l	01/19/95	LMW
TRICHLOROETHYLENE	<0.005	0.005	mg/l	01/19/95	LMW
2,4,5-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,6-TRICHLOROPHENOL	<0.01	0.01	mg/l	01/19/95	LMW
2,4,5-TP(SILVEX)	<0.1	0.1	mg/l	01/19/95	LMW
VINYL CHLORIDE	<0.01	0.01	mg/l	01/19/95	LMW

ENRECO Corpus Christi
Corpus Christi, Texas 78411
Telephone (512) 853-4122
Telefax (512) 852-4444
Toll Free 1-800-477-1843

****DATA IN LIMIT COLUMN IS INSTRUMENTAL DETECTION LIMIT---NOT REGULATORY COMPLIANCE LIMITS****

CST-9 Radiochemistry Screening Data

TA-40 MRAL2

Date: 1/18/95
Analyst: CN
Comments: Gross Alpha/Beta/Gamma

Gross Gamma Screening Data (MDA 2.16)

Sample #	Result	Uncertainty	Units
AAC1453	-1.64	2.16	pCi/g
AAC1454	-1.01	2.16	pCi/g
AAC1455	-2.02	2.16	pCi/g
AAC1456	-3.59	2.16	pCi/g

Gross Alpha/Beta Screening Data
(Alpha MDA 83.28 Beta MDA 90.73)

Sample #	Alpha	Uncertainty	Beta	Uncertainty	Units
AAC1453	-11.07	83.28	8.54	90.73	pCi/g
AAC1454	11.07	83.28	42.7	90.73	pCi/g
AAC1455	3.69	83.28	0	90.73	pCi/g
AAC1456	-11.07	83.28	46.97	90.73	pCi/g

Tritium and Moisture Screening Data

Sample #	Tritium	Uncertainty	Units	Moisture	Uncertainty	Units
AAC1453	0.91	0.27	pCi/g	11.05	1	percent
AAC1454	0.32	0.26	pCi/g	14.66	1	percent
AAC1455	1.17	0.3	pCi/g	14.27	1	percent
AAC1456	0.35	0.26	pCi/g	13.84	1	percent

Los Alamos National Laboratory

WASTE PROFILE FORM

Account Information

For rapid processing, complete all sections in black or blue ink and mail this form to Waste Services Group at MS J579

Reference Number

Waste Generator's Name (Print)	Znumber	Waste Management Coordinator's Name (Print)	Znumber
Edward H. Essington	080701	Edward H. Essington (EM-ER)	080701

Generator's Group	Generator's Telephone	Generator's Mail Stop	Waste Stream Technical Area	Building	Room
EES-15	7-3057	J-495	40	Scrap Detonation Site	N/A

Waste Accumulation
Check as many as apply.

- ☐ Satellite accumulation area --> site no.: _____
- ☐ Less than 90 day accumulation area --> site no.: _____
- ☐ Radioactive Materials Management Area (RMMA) --> site no.: _____
- ☒ None of the above

Method of Characterization
Check as many as apply.

- ☐ Knowledge of Process (KOP)
- ☒ Analysis attached --> sample/request no. _____
- ☐ MSDS attached
- ☐ Request for analysis

Section 1- Chemical and Physical Characteristics

For help in completing this section of the form, call 5-WAST or 5-4000.

Waste Type
Check only one.

- ☐ Unused/unspent chemical
  Check Waste Classes and Associated Documentation Only
- ☒ Process waste/spent chemical
  Complete all of Section 1.

Waste Classes
Check as many as apply.

- ☐ On-going generation
- ☒ One-time generation
- ☐ Radioactive (complete Sec. 2)
- ☐ Non-radioactive
- ☐ Wastewater (complete Sec. 3)
- ☐ Classified/Sensitive

Associated Documentation
Check as many as apply.

- ☐ Process SOP --> no.: ____
- ☐ RMMA OP --> no.: ____
- ☐ WM SOP --> no.: ____
- ☒ Other --> TA40 SDS WMP
- ☐ None --> describe below

Waste Category
Check as many as apply.

- ☐ Solvent
- ☐ Degreaser
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated hazardous waste residue
- ☐ Explosive process waste
- ☐ Infectious/biological waste
- ☐ Beryllium
- ☐ Asbestos-friable
- ☐ Asbestos-nonfriable
- ☐ Empty containers
- ☐ PCB (<50 ppm)
  - ☐ PCB (50 - 500 ppm)
  - ☐ PCB (> 500 ppm)
  - --> id. no.: _____
- ☒ Not applicable --> describe below

Waste Sources
Check as many as apply.

- ☐ Research and development
- ☐ Maintenance
- ☐ Construction
- ☐ Material processing
- ☐ Decon/decom
- ☐ Investigation derived
- ☒ Remediation
- ☐ UST - petroleum
- ☐ UST - non-petroleum
- ☐ Generator treatment
- ☐ Interim/permitted treatment
- ☐ Industrial sludge
- ☐ Sanitary sludge
- ☐ Abatement

Waste Matrix
Check only one.

Gas
- ☐ ≤ 1.5 Atmospheres
- ☐ > 1.5 Atmospheres

Liquid
- ☐ Aqueous
- ☐ Organic
- ☐ Inorganic

Solid
- ☐ Powder/ash
- ☒ Solid
- ☐ Absorbed liquid

Matrix Type
Check only one.

- ☒ Homogeneous
- ☐ Heterogeneous --> describe below

Waste/Process Description

Soil From the RCRA closure of the TA40 Scrap Detonation Site.
Burn Cage Area

Section 1- Chemical and Physical Characteristics (continued)

Ignitability (degrees F.)
Check only one.

- ☐ < 73
- ☐ 73-99
- ☐ 100-139
- ☐ 140-200
- ☐ > 200
- ☐ Ignitable solid
- ☐ DOT oxidizer
- ☒ Not ignitable

Corrosivity (pH)
Check only one.

- ☐ ≤ 2.0
- ☐ 2.1-4.0
- ☐ 4.1-6.0
- ☐ 6.1-9.0
- ☐ 9.1-12.4
- ☐ ≥ 12.5
- ☐ Liquid corrosive to steel
- ☒ Not aqueous

Reactivity
Check as many as apply.

- ☐ Unstable
- ☐ Water reactive
- ☐ Pyrophoric
- ☐ Cyanide bearing
- ☐ Sulfide bearing
- ☐ Shock sensitive
- ☐ Explosive - class _____
- ☒ Non-reactive

Boiling Point (degrees F.)
Check only one.

- ☐ ≤ 95
- ☐ > 95
- ☒ Not applicable

Identify presence of contaminants.

			Minimum	Maximum	Unit (ppm or % only)	Analytical method
Toxicity Characteristic Metals						
Arsenic	☐ None	☒ < 5.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Barium	☐ None	☒ < 100.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Cadmium	☐ None	☒ < 1.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Chromium	☐ None	☒ < 5.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Lead	☐ None	☒ < 5.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Mercury	☐ None	☒ < 0.2 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Selenium	☐ None	☒ < 1.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Silver	☐ None	☒ < 5.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Toxicity Characteristic Organic Compounds						
Benzene	☐ None	☒ < 0.5 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Carbon tetrachloride	☐ None	☒ < 0.5 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Chlorobenzene	☐ None	☒ < 100.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Chloroform	☐ None	☒ < 6.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Cresol	☐ None	☒ < 200.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
1,4-dichlorobenzene	☐ None	☒ < 7.5 ppm	_____	to _____	_____	☒ TCLP ☐ Total
1,2-Dichloroethane	☐ None	☒ < 0.5 ppm	_____	to _____	_____	☒ TCLP ☐ Total
1,1-Dichloroethylene	☐ None	☒ < 0.7 ppm	_____	to _____	_____	☒ TCLP ☐ Total
2,4-Dinitrotoluene	☐ None	☒ < 0.13 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Hexachlorobenzene	☐ None	☒ < 0.13 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Hexachlorobutadiene	☐ None	☒ < 0.5 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Hexachloroethane	☐ None	☒ < 3.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Methyl ethyl ketone	☐ None	☒ < 200.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Nitrobenzene	☐ None	☒ < 2.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Pentachlorophenol	☐ None	☒ < 100.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Pyridine	☐ None	☒ < 5.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Perchloroethylene or tetrachloroethylene	☐ None	☒ < 0.7 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Trichloroethylene	☐ None	☒ < 0.5 ppm	_____	to _____	_____	☒ TCLP ☐ Total
2,4,5-Trichlorophenol	☐ None	☒ < 400.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
2,4,6-Trichlorophenol	☐ None	☒ < 2.0 ppm	_____	to _____	_____	☒ TCLP ☐ Total
Vinyl chloride	☐ None	☒ < 0.2 ppm	_____	to _____	_____	☒ TCLP ☐ Total

Additional Chemical Constituents and Contaminants (for hazardous constituents, see AR 10-3, Appendix A)
List all other constituents (including inerts) not identified above and attach any applicable analyses.

Name of constituent	Cas no.(optional)	Minimum	Maximum	Unit (ppm or % only)
_____	_____	_____	to _____	_____
_____	_____	_____	to _____	_____
_____	_____	_____	to _____	_____
_____	_____	_____	to _____	_____
_____	_____	_____	to _____	_____
_____	_____	_____	to _____	_____
_____	_____	_____	to _____	_____
_____	_____	_____	to _____	_____
_____	_____	_____	to _____	_____

Section 2- Radiological Characteristics

For help in completing this section of the form, call 5-WAST or 5-4000.

	Range minimum		Range maximum	Unit (Ci/g or Ci/l)
General				
☐ Alpha		to		
☐ Beta		to		
☐ Gamma		to		
TRU radionuclides				
☒ None present				
☐ Am-241		to		
☐ Am-243		to		
☐ Cf-249		to		
☐ Cf-251		to		
☐ Cm-243		to		
☐ Cm-245		to		
☐ Cm-247		to		
☐ Pu-238		to		
☐ Pu-239		to		
☐ Pu-240		to		
☐ Pu-242		to		
Fission products				
☒ None present				
☐ Ba-140		to		
☐ Ce-144		to		
☐ Cs-134		to		
☐ Cs-137		to		
☐ I-129		to		
☐ I-133		to		
☐ Kr-85		to		
☐ Nb-95		to		
☐ Ru-106		to		
☐ Sb-125		to		
☐ Sr-90		to		
☐ Tc-99		to		
☐ Zr-93		to		
☐ Zr-95		to		
Activation products				
☒ None present				
☐ As -74		to		
☐ Be-7		to		
☐ C-14		to		
☐ Co-56		to		
☐ Co-57		to		
☐ Co-58		to		
☐ Co-60		to		
☐ Cr-51		to		
☐ Eu-152		to		
☐ Mn-52		to		
☐ Mn-54		to		
☐ Nb-94		to		
☐ Ni-59		to		
☐ Ni-63		to		
☐ Rb-83		to		
☐ Rb-84		to		
☐ Se-75		to		
☐ Sr-82		to		
☐ Sr-85		to		
☐ V-48		to		
☐ Y-88		to		
☐ Zn-65		to		
☐ Zr-88		to		

	Range minimum		Range maximum	Unit (Ci/g or Ci/l)
Other				
☒ None present				
☐ Am-242		to		
☐ Bi-207		to		
☐ Bi-210		to		
☐ Cf-250		to		
☐ Cf-252		to		
☐ Cm-244		to		
☐ H-3		to		
☐ Pa-231		to		
☐ Pb-210		to		
☐ Po-210		to		
☐ Pu-238		to		
☐ Pu-241		to		
☐ Ra-226		to		
☐ Ra-228		to		
☐ Th-230		to		
☐ Th-232		to		
☐ U-232		to		
☐ U-233		to		
☐ U-234		to		
☐ U-235		to		
☐ U-236		to		
☐ U-238		to		
Add'l radionuclides				
☒ No additional radionuclides present				
		to		
		to		
		to		
		to		
		to		
		to		
		to		
		to		
		to		
		to		
		to		
		to		
		to		
		to		
		to		
		to		

Contamination Type: *Check as many as apply.*

☐ Volume Contamination

☐ Surface Contamination

Section 3 - Wastewater Characteristics

For help in completing this section of the form, call 7-4301.

Identify presence of contaminants			Minimum	Maximum	Unit (ppm or % only)	Analytical me	
Aluminum	☐ None	☐ < 5.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Boron	☐ None	☐ < 5.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Cobalt	☐ None	☐ < 1.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Copper	☐ None	☐ < 1.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Vanadium	☐ None	☐ < 0.10 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Zinc	☐ None	☐ < 95.4 ppm	_____	to _____	_____	☐ TCLP	☐ Total

Maximum daily flow when discharge occurs: _____ ☐ Gallons ☐ Liters

Average daily flow when discharge occurs: _____ ☐ Gallons ☐ Liters

Estimated number of days per year that discharge will occur: _____

Estimated total volume per year discharged to the Radioactive Liquid Waste Collection System at TA-50-1: _____ ☐ Gallons ☐ Liters

For TA-55 use only. Wastewater will be discharged through one of the following:

☐ Acid line ☐ Caustic line ☐ Industrial waste line

Section 4 - Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

Waste Characterization Sample Results from the TA-40 Scrap Detonation Site

TCLP Semivolatile Organic Analytes

(All results reported in mg/L)[a]

		Analytical Method	8270	8270	8270	8270	8270	8270	8270	8270
Sample Date	Sample ID #	Drum Number(s)	m-cresol, p-cresol	o-cresol	1,4-Dichloro-benzene	2,4-Dinitrotoluene	Hexachloro-benzene	Hexachloro-1,3 butadiene	Hexachloro-ethane	Nitrobenzene
11/17/94	AAC1436	EBAD-08	<0.019	<0.013	<0.012	<0.019	<0.011	<0.011	<0.017	<0.012
11/17/94	AAC1437	EBAD-09	<0.019	<0.013	<0.012	<0.019	<0.011	<0.011	<0.017	<0.012
11/17/94	AAC1438	BCAD-15	<0.019	<0.013	<0.012	<0.019	<0.011	<0.011	<0.017	<0.012
11/17/94	AAC1439	BCAD-13	<0.019	<0.013	<0.012	<0.019	<0.011	<0.011	<0.017	<0.012
11/17/94	AAC1440	BCAD-13 (dup)	<0.019	<0.013	<0.012	<0.019	<0.011	<0.011	<0.017	<0.012

		Analytical Method	8270	8270	8270	8270
Sample Date	Sample ID #	Drum Number(s)	Pentachloro-phenol	Pyridine	2,4,5-Trichloro-phenol	2,4,6-Trichloro-phenol
11/17/94	AAC1436	EBAD-08	<0.017	<0.014	<0.026	<0.028
11/17/94	AAC1437	EBAD-09	<0.017	<0.014	<0.026	<0.028
11/17/94	AAC1438	BCAD-15	<0.017	<0.014	<0.026	<0.028
11/17/94	AAC1439	BCAD-13	<0.017	<0.014	<0.026	<0.028
11/17/94	AAC1440	BCAD-13 (dup)	<0.017	<0.014	<0.026	<0.028

[a] All reported results are given as limits of detection

Waste Characterization Sample Results from the TA-40 Scrap Detonation Site

TCLP Volatile Organic Analytes

(All values reported in mg/L)[a]

		Analytical Method	8240	8240	8240	8240	8240	8240	8240	8240	8240	8240
Sample Date	Sample ID #	Drum Number (s)	Benzene	Carbon Tetrachloride	Chlorobenzene	Chloroform	1,2-Dichloro-ethane	1,1-Dichloro-ethylene	Methyl Ethyl Ketone	Tetrachloro-ethylene	Trichloro-ethylene	Vinyl Chloride
11/17/94	AAC1436	EBAD-08	<0.00014	<0.00028	<0.00016	<0.00022	<0.00029	<0.00036	<0.0133	<0.00038	<0.00027	<0.00039
11/17/94	AAC1437	EBAD-09	<0.00014	<0.00028	<0.00016	<0.00022	<0.00029	<0.00036	<0.0133	<0.00038	<0.00027	<0.00039
11/17/94	AAC1438	BCAD-15	<0.00014	<0.00028	<0.00016	<0.00022	<0.00029	<0.00036	<0.0133	<0.00038	<0.00027	<0.00039
11/17/94	AAC1439	BCAD-13	<0.00014	<0.00028	<0.00016	<0.00022	<0.00029	<0.00036	<0.0133	<0.00038	<0.00027	<0.00039
11/17/94	AAC1440	BCAD-13 (dup)	<0.00014	<0.00028	<0.00016	<0.00022	<0.00029	<0.00036	<0.0133	<0.00038	<0.00027	<0.00039

[a] All reported results are given as limits of detection

TCLP Pesticides

(All results reported in mg/L)[b]

		Analytical Method	8080	8080	8080	8080	8080	8080	8080	8080
Sample Date	Sample ID #	Drum Number (s)	Endrin	Lindane	Methoxychlor	Toxaphene	Alpha Chlordane	Gamma Chlordane	Heptachlor	Heptachlor-epoxide
11/17/94	AAC1436	EBAD-08	<0.0005	<0.0005	<0.005	<0.01	<0.001	<0.001	<0.0005	<0.0005
11/17/94	AAC1437	EBAD-09	<0.0005	<0.0005	<0.005	<0.01	<0.001	<0.001	<0.0005	<0.0005
11/17/94	AAC1438	BCAD-15	<0.0005	<0.0005	<0.005	<0.01	<0.001	<0.001	<0.0005	<0.0005
11/17/94	AAC1439	BCAD-13	<0.0005	<0.0005	<0.005	<0.01	<0.001	<0.001	<0.0005	<0.0005
11/17/94	AAC1440	BCAD-13 (dup)	<0.0005	<0.0005	<0.005	<0.01	<0.001	<0.001	<0.0005	<0.0005

[b] All reported results are given as limits of quantitation

Waste Characterization Sample Results from the TA-40 Scrap Detonation Site

TCLP Metals

(All results reported in mg/L)[a]

		Analytical Methods	6010	6010	6010	6010	6010	7470	6010	6010	6010	6010
Sample Date	Sample ID #	Drum Number (s)	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Nickel	Selenium	Silver	Thallium
11/17/94	AAC1436	EBAD-08	<0.5	2.1	0.14	<0.02	30	<0.0002	0.31	<0.3	<0.02	<0.3
11/17/94	AAC1437	EBAD-09	<0.5	2.3	0.10	<0.02	9.7	<0.0002	0.37	<0.3	<0.02	<0.3
11/17/94	AAC1438	BCAD-15	<0.5	0.42	<0.01	<0.02	<0.1	<0.0002	<0.04	<0.3	<0.02	<0.3
11/17/94	AAC1439	BCAD-13	<0.5	0.39	<0.01	<0.02	<0.1	<0.0002	<0.04	<0.3	<0.02	<0.3
11/17/94	AAC1440	BCAD-13 (dup)	<0.5	0.34	<0.01	<0.02	<0.1	<0.0002	<0.04	<0.3	<0.02	<0.3
11/17/94	AAC1441	EBAD-06,07,08	NR[b]	NR	NR	NR	9.8	NR	NR	NR	NR	NR
11/17/94	AAC1442	BCAD-01,14,18,25	NR	NR	NR	NR	<0.1	NR	NR	NR	NR	NR
11/17/94	AAC1443	BCAD-06,10,11,16	NR	NR	NR	NR	<0.1	NR	NR	NR	NR	NR
11/17/94	AAC1444	EBAD-01,03,04,09	NR	NR	NR	NR	4.0	NR	NR	NR	NR	NR

[a] All reported results are given as limits of detection

[b] NR - Analysis Not Requested

TCLP Herbicides

(All results reported in mg/L)[c]

		Analytical Method	8150	8150
Sample Date	Sample ID #	Drum Number (s)	2,4-D	2,4,5-TP (silvex)
11/17/94	AAC1436	EBAD-08	<0.02	<0.002
11/17/94	AAC1437	EBAD-09	<0.02	<0.002
11/17/94	AAC1438	BCAD-15	<0.02	<0.002
11/17/94	AAC1439	BCAD-13	<0.02	<0.002
11/17/94	AAC1440	BCAD-13 (dup)	<0.02	<0.002

[c] All reported results are given as limits of quantitation

Waste Characterization Sample Results from the TA-40 Scrap Detonation Site

Radiological Analytes

(All values reported in pCi/g)

Sample Date	Sample ID #	Drum Number(s)	Gross Gamma		Gross Alpha		Gross Beta		Tritium	
			Result	Uncertainty	Result	Uncertainty	Result	Uncertainty	Result	Uncertainty
11/17/94	AAC1436	EBAD-08	-2.13	2.52	-27.55	129.74	18.36	58.69	0.41	0.3
11/17/94	AAC1437	EBAD-09	-2.73	2.52	-41.33	158.9	-6.12	58.69	0.87	0.3
11/17/94	AAC1438	BCAD-15	-1.63	2.52	-41.33	158.9	14.28	58.69	0.52	0.3
11/17/94	AAC1439	BCAD-13	-1.57	2.52	-41.33	158.9	-14.28	58.69	0.42	0.3
11/17/94	AAC1440	BCAD-13 (dup)	-1.31	2.52	-55.1	183.49	-16.32	58.69	0.6	0.3

Los Alamos National Laboratory

WASTE PROFILE FORM

Account Information

For rapid processing, complete all sections in black or blue ink and mail this form to Waste Services Group at MS J579

Reference Number

Waste Generator's Name (Print)	Znumber	Waste Management Coordinator's Name (Print)	Znumber
EDWARD H. ESSINGTON	080701	EDWARD H. ESSINGTON (EM/ER)	080701

Generator's Group	Generator's Telephone	Generator's Mail Stop	Waste Stream Technical Area	Building	Room
EES-15	7-3057	J495	40	Scrap Detonation Site	N/A

Waste Accumulation
Check as many as apply.

- ☐ Satellite accumulation area --> site no.: _____
- ☐ Less than 90 day accumulation area --> site no.: _____
- ☐ Radioactive Materials Management Area (RMMA) --> site no.: _____
- ☒ None of the above

Method of Characterization
Check as many as apply.

- ☒ Knowledge of Process (KOP)
- ☐ Analysis attached --> sample/request no. _____
- ☐ MSDS attached
- ☐ Request for analysis

Section 1- Chemical and Physical Characteristics

For help in completing this section of the form, call 5-WAST or 5-4000.

Waste Type
Check only one.

- ☐ Unused/unspent chemical
  Check Waste Classes and Associated Documentation Only
- ☒ Process waste/spent chemical
  Complete all of Section 1.

Waste Classes
Check as many as apply.

- ☐ On-going generation
- ☒ One-time generation
- ☐ Radioactive (complete Sec. 2)
- ☐ Non-radioactive
- ☐ Wastewater (complete Sec. 3)
- ☐ Classified/Sensitive

Associated Documentation
Check as many as apply.

- ☐ Process SOP --> no.: _____
- ☐ RMMA OP --> no.: _____
- ☐ WM SOP --> no.: _____
- ☐ Other --> _____
- ☒ None --> describe below

Waste Category
Check as many as apply.

- ☐ Solvent
- ☐ Degreaser
- ☐ Dioxin
- ☐ Electroplating
- ☐ Treated hazardous waste residue
- ☐ Explosive process waste
- ☐ Infectious/biological waste
- ☐ Beryllium
- ☐ Asbestos-friable
- ☐ Asbestos-nonfriable
- ☐ Empty containers
- ☐ PCB (<50 ppm)
  - ☐ PCB (50 - 500 ppm)
  - ☐ PCB (> 500 ppm)
  - → id. no.: _____
- ☒ Not applicable --> describe below

Waste Sources
Check as many as apply.

- ☐ Research and development
- ☐ Maintenance
- ☐ Construction
- ☐ Material processing
- ☐ Decon/decom
- ☐ Investigation derived
- ☐ Remediation
- ☐ UST - petroleum
- ☐ UST - non-petroleum
- ☐ Generator treatment
- ☐ Interim/permitted treatment
- ☐ Industrial sludge
- ☐ Sanitary sludge
- ☐ Abatement

Waste Matrix
Check only one.

Gas
- ☐ ≤ 1.5 Atmospheres
- ☐ > 1.5 Atmospheres

Liquid
- ☐ Aqueous
- ☐ Organic
- ☐ Inorganic

Solid
- ☐ Powder/ash
- ☒ Solid
- ☐ Absorbed liquid

Matrix Type
Check only one.

- ☐ Homogeneous
- ☒ Heterogeneous --> describe below

Waste/Process Description

OFFICE TRASH FROM THE OFFICE TRAILER, TA40 SCRAP DETONATION SITE (RCRA CLOSURE)
PAPER, EMPTY SODA CANS, ETC.

Section 1- Chemical and Physical Characteristics (continued)

Ignitability (degrees F.)
Check only one.

- ☐ < 73
- ☐ 73-99
- ☐ 100-139
- ☐ 140-200
- ☐ > 200
- ☐ Ignitable solid
- ☐ DOT oxidizer
- ☒ Not ignitable

Corrosivity (pH)
Check only one.

- ☐ ≤ 2.0
- ☐ 2.1-4.0
- ☐ 4.1-6.0
- ☐ 6.1-9.0
- ☐ 9.1-12.4
- ☐ ≥ 12.5
- ☐ Liquid corrosive to steel
- ☒ Not aqueous

Reactivity
Check as many as apply.

- ☐ Unstable
- ☐ Water reactive
- ☐ Pyrophoric
- ☐ Cyanide bearing
- ☐ Sulfide bearing
- ☐ Shock sensitive
- ☐ Explosive - class _____
- ☒ Non-reactive

Boiling Point (degrees F.)
Check only one.

- ☐ ≤ 95
- ☐ > 95
- ☒ Not applicable

Identify presence of contaminants.

			Minimum	Maximum	Unit (ppm or % only)	Analytical method
Toxicity Characteristic Metals						
Arsenic	☒ None	☐ < 5.0 ppm		to		☐ TCLP ☐ Total
Barium	☒ None	☐ < 100.0 ppm		to		☐ TCLP ☐ Total
Cadmium	☒ None	☐ < 1.0 ppm		to		☐ TCLP ☐ Total
Chromium	☒ None	☐ < 5.0 ppm		to		☐ TCLP ☐ Total
Lead	☒ None	☐ < 5.0 ppm		to		☐ TCLP ☐ Total
Mercury	☒ None	☐ < 0.2 ppm		to		☐ TCLP ☐ Total
Selenium	☒ None	☐ < 1.0 ppm		to		☐ TCLP ☐ Total
Silver	☒ None	☐ < 5.0 ppm		to		☐ TCLP ☐ Total
Toxicity Characteristic Organic Compounds						
Benzene	☒ None	☐ < 0.5 ppm		to		☐ TCLP ☐ Total
Carbon tetrachloride	☒ None	☐ < 0.5 ppm		to		☐ TCLP ☐ Total
Chlorobenzene	☒ None	☐ < 100.0 ppm		to		☐ TCLP ☐ Total
Chloroform	☒ None	☐ < 6.0 ppm		to		☐ TCLP ☐ Total
Cresol	☒ None	☐ < 200.0 ppm		to		☐ TCLP ☐
1,4-dichlorobenzene	☒ None	☐ < 7.5 ppm		to		☐ TCLP ☐
1,2-Dichloroethane	☒ None	☐ < 0.5 ppm		to		☐ TCLP ☐ Tc
1,1-Dichloroethylene	☒ None	☐ < 0.7 ppm		to		☐ TCLP ☐ Total
2,4-Dinitrotoluene	☒ None	☐ < 0.13 ppm		to		☐ TCLP ☐ Total
Hexachlorobenzene	☒ None	☐ < 0.13 ppm		to		☐ TCLP ☐ Total
Hexachlorobutadiene	☒ None	☐ < 0.5 ppm		to		☐ TCLP ☐ Total
Hexachloroethane	☒ None	☐ < 3.0 ppm		to		☐ TCLP ☐ Total
Methyl ethyl ketone	☒ None	☐ < 200.0 ppm		to		☐ TCLP ☐ Total
Nitrobenzene	☒ None	☐ < 2.0 ppm		to		☐ TCLP ☐ Total
Pentachlorophenol	☒ None	☐ < 100.0 ppm		to		☐ TCLP ☐ Total
Pyridine	☒ None	☐ < 5.0 ppm		to		☐ TCLP ☐ Total
Perchloroethylene or tetrachloroethylene	☒ None	☐ < 0.7 ppm		to		☐ TCLP ☐ Total
Trichloroethylene	☒ None	☐ < 0.5 ppm		to		☐ TCLP ☐ Total
2,4,5-Trichlorophenol	☒ None	☐ < 400.0 ppm		to		☐ TCLP ☐ Total
2,4,6-Trichlorophenol	☒ None	☐ < 2.0 ppm		to		☐ TCLP ☐ Total
Vinyl chloride	☒ None	☐ < 0.2 ppm		to		☐ TCLP ☐ Total

Additional Chemical Constituents and Contaminants (for hazardous constituents, see AR 10-3, Appendix A)
List all other constituents (including inerts) not identified above and attach any applicable analyses.

Name of constituent	Cas no.(optional)	Minimum	Maximum	Unit (ppm or % only)
			to	
			to	
			to	
			to	
			to	
			to	
			to	
			to	
			to	

Section 2- Radiological Characteristics

For help in completing this section of the form, call 5-WAST or 5-4000.

	Range minimum		Range maximum	Unit (Ci/g or Ci/l)
General				
☐ Alpha		to		
☐ Beta		to		
☐ Gamma		to		
TRU radionuclides				
☒ None present				
☐ Am-241		to		
☐ Am-243		to		
☐ Cf-249		to		
☐ Cf-251		to		
☐ Cm-243		to		
☐ Cm-245		to		
☐ Cm-247		to		
☐ Pu-238		to		
☐ Pu-239		to		
☐ Pu-240		to		
☐ Pu-242		to		
Fission products				
☒ None present				
☐ Ba-140		to		
☐ Ce-144		to		
☐ Cs-134		to		
☐ Cs-137		to		
☐ I-129		to		
☐ I-133		to		
☐ Kr-85		to		
☐ Nb-95		to		
☐ Ru-106		to		
☐ Sb-125		to		
☐ Sr-90		to		
☐ Tc-99		to		
☐ Zr-93		to		
☐ Zr-95		to		
Activation products				
☒ None present				
☐ As -74		to		
☐ Be-7		to		
☐ C-14		to		
☐ Co-56		to		
☐ Co-57		to		
☐ Co-58		to		
☐ Co-60		to		
☐ Cr-51		to		
☐ Eu-152		to		
☐ Mn-52		to		
☐ Mn-54		to		
☐ Nb-94		to		
☐ Ni-59		to		
☐ Ni-63		to		
☐ Rb-83		to		
☐ Rb-84		to		
☐ Se-75		to		
☐ Sr-82		to		
☐ Sr-85		to		
☐ Y-88		to		
☐ Zn-65		to		
☐ Zr-88		to		

	Range minimum		Range maximum	Unit (Ci/g or Ci/l)
Other				
☒ None present				
☐ Am-242		to		
☐ Bi-207		to		
☐ Bi-210		to		
☐ Cf-250		to		
☐ Cf-252		to		
☐ Cm-244		to		
☐ H-3		to		
☐ Pa-231		to		
☐ Pb-210		to		
☐ Po-210		to		
☐ Pu-236		to		
☐ Pu-241		to		
☐ Ra-226		to		
☐ Ra-228		to		
☐ Th-230		to		
☐ Th-232		to		
☐ U-232		to		
☐ U-233		to		
☐ U-234		to		
☐ U-235		to		
☐ U-236		to		
☐ U-238		to		
Add'l radionuclides				
☒ No additional radionuclides present				
		to		
		to		
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		to		
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		to		
		to		
		to		

Contamination Type: *Check as many as apply.*

☐ Volume Contamination

☐ Surface Contamination

Section 3 - Wastewater Characteristics

For help in completing this section of the form, call 7-4301.

Identify presence of contaminants			Minimum	Maximum	Unit (ppm or % only)	Analytical me	
Aluminum	☐ None	☐ < 5.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Boron	☐ None	☐ < 5.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Cobalt	☐ None	☐ < 1.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Copper	☐ None	☐ < 1.0 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Vanadium	☐ None	☐ < 0.10 ppm	_____	to _____	_____	☐ TCLP	☐ Total
Zinc	☐ None	☐ < 95.4 ppm	_____	to _____	_____	☐ TCLP	☐ Total

Maximum daily flow when discharge occurs: _____ ☐ Gallons ☐ Liters

Average daily flow when discharge occurs: _____ ☐ Gallons ☐ Liters

Estimated number of days per year that discharge will occur: _____

Estimated total volume per year discharged to the Radioactive Liquid Waste Collection System at TA-50-1: _____ ☐ Gallons ☐ Liters

For TA-55 use only. Wastewater will be discharged through one of the following:

☐ Acid line ☐ Caustic line ☐ Industrial waste line

Section 4 - Additional Information

If additional information is available on the chemical, physical, or radiological character of the waste not covered on this form, provide it below:

APPENDIX F

SITE-SPECIFIC HEALTH AND SAFETY PLAN (SSHASP)

SITE-SPECIFIC HEALTH AND SAFETY PLAN
FOR
FIELD ACTIVITIES AT THE TA-40 SCRAP DETONATION SITE

Prepared for:

Environmental Restoration Program
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Prepared by:

IT Corporation
557 Oppenheimer Road, Suite 200
Los Alamos, New Mexico 87544

November 29, 1994

Plan Number: 50

Site Health and Safety Plan Acknowledgement

I have read, understand and agree to abide by the provisions as detailed in this Site-Specific Health and Safety Plan for the TA-40 Scrap Detonation Site prepared by IT Corporation. Failure to comply with these provisions may lead to disciplinary action and/or my dismissal from the work site.

Printed Name	Signature	Employee Number	Date

Reviews and Approvals

Project Name: TA-40 Scrap Detonation Site Closure
Technical Area: TA-40

Plan Preparer: IT Corporation
Plan Number: 50
Project Start Date: November 1994
Project Completion Date: December 1994

Site Safety Officer
IT Corporation

12-1-94
Date

Project Manager
IT Corporation

12/1/94
Date

Fred McLaban CHH
HS Representative
IT Corporation

12-1-94
Date

Fred McLaban CHH
Region/Division HS Manager
IT Corporation

12-1-94
Date

Los Alamos National Laboratory Reviews and Approvals

Project Name: TA-40 Scrap Detonation Site Closure
Technical Area: TA-40

Plan Preparer: IT Corporation
Plan Number: 50
Project Start Date: November 1994
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List of Abbreviations/Acronyms

AIDS	acquired immune deficiency syndrome
ANSI	American National Standards Institute
AR	administrative requirement
CET	Certified Environmental Trainer
CFR	Code of Federal Regulations
CPR	cardiopulmonary resuscitation
CRZ	Contamination Reduction Zone
dBA	decibels
DOL	U.S. Department of Labor
dpm	disintegrations per minute
EDXRF	Energy Dispersive X-Ray Fluorescence
EKG	electrocardiogram
EPA	U.S. Environmental Protection Agency
ER	environmental restoration
ES&H	Environment, Safety and Health
EZ	exclusion zone
FADL	Field Activity Daily Log
FID	flame ionization detector
FR	Federal Register
FTL	Field Team Leader
GET	LANL's General Employee Training
HBV	hepatitis B virus
HIV	human immunodeficiency virus
HS	Health and Safety
IH	industrial hygiene
IT	IT Corporation
LANL	Los Alamos National Laboratory
LAMC	Los Alamos Medical Center
NIOSH	National Institute of Occupational Safety and Health
NMED	New Mexico Environment Department
NRR	Noise Reduction Rating

List of Abbreviations/Acronyms (continued)

OSHA	Occupational Safety and Health Administration
OVA	organic vapor analyzer
P.E.	Professional Engineer
PEL	Permissible Exposure Limit
PID	photoionization detector
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
SCBA	self-contained breathing apparatus
SDS	Scrap Detonation Site
SSHASP	Site-Specific Health and Safety Plan
SSO	Site Safety Officer
TA	Technical Area
TSD	Treatment, Storage, or Disposal Facility
VOC	volatile organic constituent

1.0 Introduction

1.1 Purpose and Applicability

This site-specific health and safety plan (SSHASP) establishes procedures, minimum safety and health requirements, and emergency actions for all personnel involved in the Resource Conservation and Recovery Act (RCRA) closure of the Burn Cage Area and the East Burn Area of Los Alamos National Laboratory's (LANL) Technical Area (TA)-40 Scrap Detonation Site (SDS). All field team personnel, subcontractors, regulatory personnel, and visitors must sign the Site Health and Safety Plan Acknowledgement Form stating that they have read, understood and agree to abide by, the requirements of this SSHASP. This SSHASP meets the requirements of the Occupational Safety and Health Administration (OSHA), Title 29 of the Code of Federal Regulations (29 CFR) § 1910.120 "Hazardous Waste Operations, and Emergency Response," LANL's Radiological Control Manual, and the LANL Environmental Restoration (ER) Program.

1.2 Review and Approval

This SSHASP has been prepared specifically for site activities at the TA-40 SDS. Any changes to this SSHASP must be approved by the ER/Health and Safety (HS) Team, the IT Corporation (IT) HS Representative, and the Site Safety Officer (SSO). Before any work begins, a representative from each of the various groups working at the TA-40 site will read and provide signature approval that they will adhere to the minimum requirements of this SSHASP.

1.3 Change Order Control During Field Operations

This SSHASP is subject to approved revision based on new or additional site data, contaminant monitoring, visual information, or changes in site conditions or work practices. Revisions to the approved plan are documented using the "Site-Specific Health and Safety Plan Change Order Control Form," and must be approved by the SSO and ER/HS Team. All changes to this plan must be communicated to all field personnel via tailgate safety meetings before implementing the change at the site.

1.4 Plan Numbering and Updates

This SSHASP has been assigned a unique document control number (Plan Number 50) by the ER/HS Team and appears on the title page and as a footer on each page of the document. This SSHASP is considered a draft until it has reached final approval by all required parties. Once

the SSHASP is approved, revisions to the Plan will be tracked using Change Order Control Forms. Each additional Change Order Control will be consecutively numbered using the SSHASP number (50), followed by a decimal point and a numeric suffix (i.e., 50.1, 50.2, 50.3...etc.).

1.5 Facility and Location Description

The TA-40 SDS was used to treat explosive scrap material by open burning and detonation from approximately 1961 until April 12, 1985. The TA-40 SDS includes a burn area, a detonation area, and the surrounding area. It is located on a south-facing mesa-rim shelf. The shelf has cliffs both to the north, below the mesa top, and to the south overlooking Pajarito Canyon.

The burn area consists of four elements: a former trench, whose exact dimensions and location are unknown; a wire cage approximately 4 feet (ft) by 4 ft by 5 ft high, with a steel plate floor, used to contain the materials being burned; and two small (approximately 6- by 6-ft) burn areas. The field activities addressed by this SSHASP are confined to remediation of the East Burn Area.

Phase I through IV closure activities at the TA-40 SDS were conducted in January and May 1992 pursuant to a New Mexico Environmental Department (NMED)-approved closure plan. The Phase I through IV investigations provided the data necessary to perform remaining closure activities at the site.

1.6 Scope of Work

Planned field activities for the TA-40 SDS are grouped into the following general tasks.

1.6.1 Task 1: Remedial Action Plan Preparation

Details of the planned field activities will be presented in a Remedial Action Plan, which will include discussion of preliminary screening activities, the excavation approach, confirmation screening, and verification sampling.

1.6.2 Task 2: Field Screening/Soil Removal

Although no radionuclides or volatile organic compounds (VOC) are suspected at the site, preliminary field screening will be conducted to assure that no radioactivity above background, or VOCs above action levels are present at the site.

Visually contaminated soil in the approximately 15- by 15- by 4-ft area of suspected contamination will be excavated using a backhoe, and placed in rolloff bins. During excavation, a number of samples will be collected and screened in the field using energy dispersive x-ray fluorescence (EDXRF) to characterize the soil. Once the visually contaminated soil is removed, field screening using EDXRF will be performed on samples collected from the bottom of the excavation to assure that all contaminated soil has been removed. Any additional contaminated soil identified by the field screening will be removed and placed in the rolloff bins.

1.6.3 Task 3: Verification Sampling

When field screening demonstrates that the site is clean, verification samples will be collected and sent to an offsite laboratory for analysis. The number of verification samples will be determined based on EPA and LANL ER guidance using results of the field confirmation screening.

1.7 Objectives

The overall field objectives at the TA-40 SDS include the following:

- Excavate and remove stained soil; once all stained soil is removed, use field instrumentation to assure that no contaminated soil remains
- Manage and arrange for transport of contaminated soil and debris to LANL's Waste Management Group
- Perform verification sampling of the bottom of the excavation
- Restore the site according to the approved site closure plan.

1.8 Policy Statement

It is the policy of IT to provide a safe and healthful work environment for all its employees. IT considers no phase of operations or administration to be of greater importance than injury and illness prevention. Safety takes precedence over expediency or shortcuts. At IT we believe every accident and every injury is preventable. We will take every reasonable step to reduce the possibility of injury, illness, or accident.

This SSHASP prescribes the procedures that must be followed during the activities at the TA-40 SDS. Operational changes which could affect the health or safety of personnel, the community, or the environment will not be made without the prior approval of ER/HS Team, the IT Project Manager, and the IT HS Representative. All changes to the plan will be documented as described in Section 1.3.

The provisions of this plan are mandatory for all IT personnel and subcontractors assigned to the project. IT requires all visitors to the work site to abide by the requirements of the plan.

1.9 References

This SSHASP complies with applicable OSHA and EPA regulations. This plan follows the guidelines established in the following:

- Standard Operating Safety Guidelines (EPA, November 1984)
- Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (National Institute of Occupational Safety and Health [NIOSH] 86-116)
- 29 CFR § 1910.120, U.S. Department of Labor (U.S. DOL)/OSHA.
- Environment, Safety and Health Manual (LANL, latest edition)

The contents of this plan are consistent with the following IT HS policies and procedures:

- HS001 Safety Policy
- HS002 Safety Policy: International Operations
- HS010 Employee Safety and Health Works Rules
- HS011 Contractor Safety and Health Rules
- HS012 Chemical Hygiene Plan and Safety Manual
- HS013 Health and Safety Procedure Variances
- HS018 Safety Councils

- HS019 Injury and Illness Prevention Program
- HS020 Accident Prevention Program: Reporting, Investigation, and Review
- HS021 Accident Prevention Program: Management Safety Audits and Inspections
- HS022 Accident Prevention Program: Review of New Proposals, Projects, Operations, and Construction
- HS040 Stop Work Authority
- HS041 Embryo-Fetus Protection Program
- HS050 Training Requirements
- HS051 Tailgate Safety Meetings
- HS052 Health and Safety Plans
- HS060 Hazard Communication Program
- HS080 Insurance Claims
- HS090 OSHA Regulatory Inspections
- HS091 Serious Injury and Fatality Reporting Requirements
- HS092 Occupational Injury and Illness Recordkeeping
- HS100 Medical Policies and Procedures
- HS101 Drug and Alcohol Testing
- HS102 Access to Employee Exposure and Medical Records
- HS103 Maintenance of Employee Exposure and Medical Records
- HS104 Employee Notification of Industrial Hygiene Monitoring Results
- HS105 Occupational Injuries/Illnesses Procedures

- HS106 First Aid Kits
- HS300 Confined Spaces, Industrial
- HS302 Confined Spaces, Leaded Product
- HS303 Hydroblasting
- HS304 Compressed Gas
- HS306 Handling Known Compressed Gas Cylinders
- HS307 Excavation and Trenching
- HS310 Hazardous Waste Operations at Uncontrolled Waste Sites
- HS311 Emergency Response Operations
- HS312 Hazardous Waste Operations at TSD Facilities
- HS313 TSD Facilities - Minimum Staffing Requirements
- HS314 Hot Work in Hazardous Locations
- HS315 Control of Hazardous Energy Sources (Lockout/Tagout)
- HS400 Working in Hot Environments
- HS401 Cold Stress
- HS402 Hearing Conservation Program
- HS505 Handling of Inorganic Lead, Inorganic Lead Compounds, and Organic Lead Soaps
- HS506 Handling of Inorganic Arsenic
- HS508 Handling of Beryllium and Beryllium Contaminated Materials
- HS600 Personal Protective Equipment
- HS601 Respiratory Protective Program

- HS602 Eye Protection - Prescription Safety Glasses
- HS603 Maintenance of Survey Equipment
- HS604 Use and Maintenance of Portable Electrical Equipment
- HS606 Soil Density Gauges
- HS800 Motor Vehicle Operation: General Requirements
- HS810 Commercial Motor Vehicle Operation and Maintenance
- HS820 Forklift Operation
- HS821 Breathing Air Cylinder Trailer
- HS822 Mobile Crane Inspection.

2.0 Organizational Structure and Responsibilities

The organizational structure and communication lines are presented in Figure 2-1. The figure identifies the individuals with key responsibilities for implementing, using, and maintaining the SSHASP during this project. Personnel responsibilities are detailed below.

2.1 All Personnel

Each person is responsible for the health and safety of themselves and their coworkers, for completing tasks in a safe manner, and reporting any unsafe acts or conditions to their Supervisor and/or the Field Team Leader (FTL). All personnel are responsible for continuous adherence to these HS procedures during the performance of their work. No person may work in a manner that conflicts with the letter or the intent of, or the safety and environmental precautions expressed in these procedures. After due warnings, IT will dismiss from the site any person who violates safety procedures. IT's employees are subject to progressive discipline and may be terminated for blatant or continued violations. All on-site personnel will be trained in accordance with 29 CFR § 1910.120 and this document.

2.2 IT Project Manager

The Project Manager is ultimately responsible for ensuring that all project activities are completed in accordance with requirements set forth in this plan. The Project Manager must perform at least one on-site safety review during the project. The Project Manager is responsible for ensuring that all accidents and incidents on the project are reported and thoroughly investigated. The Project Manager must approve in writing any addenda or modifications of the SSHASP.

2.3 Field Team Leader

The FTL, in conjunction with the SSO, will be responsible for field implementation of the SSHASP. This will include communicating site requirements to all on-site project personnel (both IT and subcontractor personnel) and consultation with the SSO. As required by IT Policy and Procedure HS022, the FTL will be responsible for informing the SSO and the Project Manager of any changes in the work plan, so that those changes may be properly addressed. Other responsibilities include:

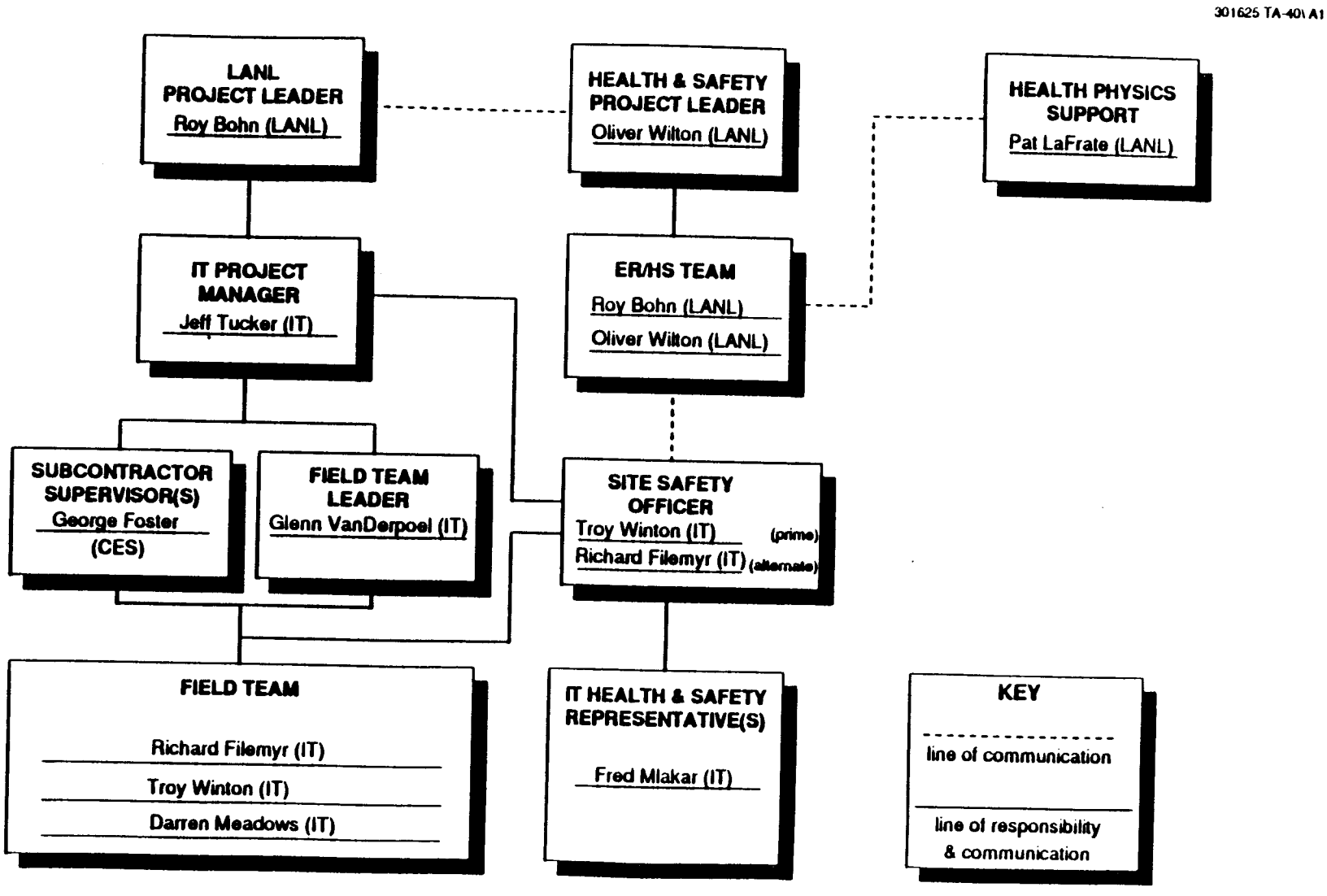

Figure 2-1
Organizational Structure and Communication Lines
for Personnel Working at the TA-40 Scrap Detonation Site

- Stopping work, as required, to ensure personal safety and protection of property, or where life or property-threatening noncompliance with safety requirements is found.

- Determining and posting routes to capable medical facilities and emergency telephone numbers and arranging emergency transportation to medical facilities.

- Notifying local public emergency officers of the nature of the site operations, and posting their telephone numbers in an appropriate location.

- Observing on-site project personnel for signs of chemical or physical trauma.

- In conjunction with the SSO, ensuring that all site personnel have been given the proper medical clearance, ensuring that all site personnel have met appropriate training requirements and have the appropriate training documentation on site, and monitoring all team members to ensure compliance with the SSHASP.

2.4 Site Safety Officer

The SSO is responsible for the preparation and modification of this SSHASP. Any changes to the SSHASP must be approved by the SSO, in consultation with the IT HS Representative. The SSO will advise the FTL on HS issues, establish and oversee the project air monitoring program, and perform at least one comprehensive HS audit during the project. Additionally, the SSO will conduct daily HS briefings for field team members and perform field screening of the site for potential chemical, radiological, and noise hazards.

2.5 Health Physics Support Personnel

Site health physics support personnel may consist of radiological screening personnel (RSP), health physics technicians (HPT), and radiological control technicians (RCT). These personnel provide the primary source of information and guidance on radiation protection. They will ensure compliance with the radiological requirements of this SSHASP and will conduct monitoring as established in both the SSHASP and the radiological authorization agreement (RAA) issued by ESH-1. If non ESH-1 personnel perform the following roles, preapproval of personnel and issuance of the RAA are required before work is performed.

2.5.1 Radiological Screening Personnel

RSPs are responsible for providing health physics monitoring support. Specific responsibilities include:

- Performing and documenting radiological surveys in accordance with ESH-1 procedures,
- Performing conditional equipment release surveys in accordance with the ESH-1 procedure "Radiological Control Requirements for the Environmental Restoration Program",
- Performing daily instrument response checks in accordance with ESH-1 procedures and the radiological surveillance authorization agreement (RSAA),
- Ensuring that all radiation monitoring equipment used on site is in good working order,
- Ensuring that radiological postings established by ESH-1 personnel are maintained,
- Immediately notifying ESH-1 personnel when personnel contamination is detected,
- Providing ESH-1 ER program oversight personnel with a daily verbal summary of site radiological conditions and copies of all radiological survey documentation, and
- Notifying the appropriate ESH-1 personnel when action levels defined in Table 8-1 have been reached.

2.5.2 Health Physics Technician and Radiological Control Technician

In addition to the responsibilities detailed above, HPT/RCT responsibilities include:

- Preparing, ensuring compliance with, and closing out radiological work permits (RWP) in accordance with ESH-1 procedures,
- Stopping work and revising the site RWP when the radiological controls required do not provide adequate worker protection or contamination control,
- Providing guidance on radiological decontamination of equipment and personnel, and
- Performing equipment "free release" surveys.

2.6 Health Physics Oversight by ESH-1

ESH-1 personnel have been assigned to the ER/HS Team to provide radiological control support to the ER program. These personnel will visit field sites on a periodic basis. The frequency of site visits will depend on radiological conditions at the site (as detailed in Table 8-1). Specific responsibilities include:

- Taking the actions indicated in Table 8-1 upon notification that Table 8-1 action levels have been reached,
- Ensuring that site radiological controls are implemented in accordance with the SSHASP, RWP, ESH-1 procedures, and the LANL Radiological Control Manual,
- Reviewing site RWPs,
- Providing appropriate radiological postings,
- Ensuring that all site radiological surveys are performed and documented in accordance with established ESH-1 procedures,
- Providing guidance for radiological decontamination of equipment and personnel,
- Ensuring that survey methods and equipment are appropriate for the type of radiological contamination expected and for current site conditions,
- Maintaining notification and reporting requirements as specified in DOE Order 5000.3B,
- Performing site radiological surveys prior to the start and at the completion of field activities, and
- Providing direct support to field health physics personnel when requested.

2.7 LANL ER/HS Personnel

LANL ER/HS personnel will be responsible for implementing the oversight program on behalf of the University of California and the DOE. LANL ER/HS personnel will conduct field surveillance and perform audits to ensure compliance with LANL, DOE, and OSHA requirements.

2.8 Subcontractors

On-site subcontractors and their personnel are responsible for understanding and complying with all site requirements. Subcontractors are required to follow the guidelines established in IT's Safety Rules for Contractors, provided when qualified, and this SSHASP. Refer to Appendix A.

2.9 On-Site Personnel and Visitors

All IT and subcontractor personnel are required to read and acknowledge their understanding of this SSHASP. All site project personnel are expected to abide by the requirements of the plan and cooperate with site supervision in ensuring a safe and healthful work site. Site personnel are required to immediately report any of the following to the FTL:

- Accidents and injuries, no matter how minor
- Unexpected or uncontrolled release of chemical substances
- Any symptoms of chemical exposure
- Any unsafe or malfunctioning equipment
- Any changes in site conditions which may affect the health and safety of project personnel.

2.10 Stop Work Activity and Stop Work Orders

2.10.1 Stop Activity

If it is determined that conditions or practices exist in which there is imminent danger to the personnel working at the TA-40 work site, all work shall cease and all personnel will leave the area of danger. Potentially dangerous conditions which do not impact the entire site may be rectified without stopping the entire project. Any Stop Activities which are instituted at the TA-40 SDS will be communicated to ER/HS personnel by the SSO or FTL. Work will not resume until the ER/HS personnel have reviewed the situation and granted such permission.

2.10.2 Stop Work Order

Personnel working at the TA-40 work site have the authority to initiate a stop-work action upon observing operations or actions that pose a clear and imminent danger to themselves or other site personnel, the environment, or the public. A formal Stop Work Order, however, may only be issued by the Contract Administrator. Procedures for issuing formal, written Stop Work Orders are explained in LANL Procedure 116, "Stop Work and Restart."

3.0 Hazard Assessment

3.1 Scope of Work

IT Corporation, and any subcontractor(s), will perform excavation and removal of visually contaminated soil in the approximately 15- by 15- by 4-ft area at the East Burn Area. Once all visually contaminated soil is excavated, IT will perform field screening using the EDXRF to assure that all contaminated soil has been removed. IT will then collect verification samples in accordance with the provisions in the Remedial Action Plan. IT will consult with the responsible LANL ER representative on the verification data before performing final site restoration activities as directed in the approved closure plan.

3.2 Job Hazard Assessment

3.2.1 Physical Hazards

Anticipated physical hazards of concern:

- Heat (hot surfaces)
- Cold
- Noise
- Fall, trip, slip
- Falling objects
- Muscle strains/pulls
- Pinched/crushed appendages
- Excavation hazards
- High-pressure sprayer hazards.

The primary safety hazards for this project are associated with excavation equipment and the collection of samples from a potentially hazardous area. The operation of excavation equipment, such as a backhoe/trackhoe, in a relatively confined area will present additional physical hazards including being struck or crushed by the boom/bucket, being hit or run over by the vehicle, and being pinned between two pieces of equipment. The excavation equipment may also present a noise hazard for personnel working in the immediate vicinity. Additional safety hazards for this project are associated with the use of sampling equipment and the collection of samples.

Other physical hazards such as slipping, tripping, and falling will be present. Muscle strains/pulls and/or pinched or crushed appendages can result from handling heavy or awkward objects such as full drums and drum-moving equipment.

3.2.2 Heat Stress

Wearing personal protective equipment (PPE) puts site personnel at considerable risk of heat stress. Heat stress effects range from transient heat fatigue to serious illness and death. Heat stress is caused by a number of interacting factors, including environmental conditions, clothing, workload, and the individual characteristics of the worker. Because heat stress is one of the most common and potentially serious illnesses during field operations, preventive measures and alertness to the symptoms are vital.

Heat stress monitoring should commence when personnel are wearing PPE, including Tyvek coveralls, and the ambient temperature exceeds 70 degrees Fahrenheit (°F). If impermeable garments are not worn, heat stress monitoring should commence at 85°F. The symptoms of heat stress are discussed in Chapter 4.0.

3.2.3 Cold Stress

Cold and/or wet environmental conditions can place workers at risk of a cold-related illness. Hypothermia can occur whenever temperatures are below 45°F, and is most common during wet, windy conditions, with temperatures between 40 to 30°F. The principal cause of hypothermia in these conditions is loss of insulating properties of clothing due to moisture, coupled with heat loss due to wind and evaporation of moisture on the skin.

Frostbite, the other illness associated with cold exposure, is the freezing of body tissue, which ranges from superficial freezing of surface skin layers to deep freezing of underlying tissue. Frostbite will only occur when ambient temperatures are below 32°F. The risk of frostbite increases as the temperature drops and wind speed increases.

IT Pro HS401 mandates specific clothing and procedural requirements which are required in cold stress situations. This policy is incorporated by reference into this plan.

3.3 Chemical Hazards

The potential chemical hazards associated with field activities at the TA-40 SDS (Table 3-1) are related to inhalation or ingestion of soil contaminated with particles of heavy metals. An evaluation of earlier soil sampling data obtained at the East Burn Area showed that lead was the only contaminant present in significant concentrations (up to 4,420 mg/kg). Arsenic was detected at concentrations above the screening action level of 0.40 mg/kg, however, the concentrations are consistent with background concentrations for the site (analytical results ranged from non-detect to 4.3 mg/kg; background concentrations range from approximately 3 to 7 mg/kg). The arsenic does not pose an occupational risk at the detected concentrations. Semivolatile and volatile organic concentrations were too low to present a hazard to site workers.

3.4 Noise Hazards

Sustained noise exposure at or above the OSHA action level (85 decibels[dBA]) is possible when working around portable generators and other loud equipment or machinery. IT's hearing conservation program is described in Section 4.4.

3.5 Radiological Hazards

Existing information suggests there are no radiological hazards at the TA-40 SDS. However, as a conservative measure, field instruments will be used to screen for gross alpha and beta/gamma radiation as detailed in Section 8.

3.6 Biological Hazards

Biological hazards such as poisonous or nuisance plants or animals may be encountered at the TA-40 site. Examples include bees, wasps, ants, spiders, snakes, poison ivy, and stinging nettles. Workers at the TA-40 site will be aware of such hazards and take precautions as necessary.

Table 3-1

Chemical Exposure Information for Contaminants at the TA-40 Scrap Detonation Site

Substance [CAS]	IP[a] (eV)	Odor Threshold (ppm)	Route[b]	Symptoms of Exposure	Treatment	PEL[c]	STEL[d]	Source[e]	IDLH[e] (NIOSH)
Antimony and compounds (as Sb) [7440-36-0]	NA	NA	Inh Con	Irritated nose, throat, and mouth; cough; dizziness and headache; nausea and vomiting; diarrhea and stomach cramps; insomnia; anorexia; irritated skin; unable to smell properly.	Skin: Water flush immediately Breath: Respiratory support Swallow: Immediate medical attention	0.5 mg/m^3 0.5 mg/m^3 0.5 mg/m^3		PEL TLV REL	90 mg
Lead inorganic dusts & fumes (as Pb) [7439-92-1]	NA	NA	Inh Ing Con	Weakness, lassitude, insomnia; facial pallor; eye pallor, anorexia, low body weight, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremors; wrist and ankle paralysis; brain damage; kidney damage; irritated eyes; hypotension.	Eye: Irrigate immediately Skin: Soap flush promptly Breath: Respiratory support Swallow: Immediate medical attention	0.05 mg/m^3 0.15 mg/m^3 <0.1 mg/m^3 See 29 CFR 1910.1025 Blood lead <0.060 mg/100 g whole blood		PEL TLV REL	700 mg/m^3

Table 3-1 (Continued)

Chemical Exposure Information for Contaminants at the TA-40 Scrap Detonation Site

Substance [CAS]	IP[a] (eV)	Odor Threshold (ppm)	Route[b]	Symptoms of Exposure	Treatment	PEL[c]	STEL[d]	Source[e]	IDLH[e] (NIOSH)
Silver (metal) [7440-22-4]	NA	NA	Inh Ing Con	Blue-gray eyes, nasal septum, throat, and skin; irritated skin, ulceration; gastrointestinal disturbance.	Eye: Irrigate immediately Skin: Water flush Breath: Respiratory support Swallow: Immediate medical attention	0.01 mg/m³ 0.1 mg/m³ 0.01 mg/m³		PEL TLV REL	NE
Thallium (as Th)	NA	NA	Inh Ing Abs	Nausea, vomiting, diarrhea, abdominal pain, weakness, numbness, chest tightness	Eye: Irrigate immediately Skin: Water flush Breath: Remove from exposure Swallow: Immediate medical support	0.1 mg/m³	NA	PEL	NE

[a]IP = Ionization potential (electron volts).
[b]Route = Inh, Inhalation; Abs, Skin absorption; Ing, Ingestion; Con, Skin and/or eye contact.
[c]PEL = Occupational Safety and Health Administration (OSHA) permissible exposure limit (29 CFR 1910.1000, Table Z). This is a time-weighted average concentration for a normal work day (usually 8 or 10 hours) and a 40-hour work week, to which nearly all workers may be repeatedly exposed, day after day without adverse effect.
[d]STEL = Short-term exposure limit. A 15-minute TWA exposure that should not be exceeded at any time during a workday, even if the TWA is not exceeded.
TLV = American Conference of Governmental Industrial Hygiene (ACGIH) threshold limit value—TWA.
REL = National Institute for Occupational Safety and Health (NIOSH) recommended exposure limit.

Table 3-1 (Continued)

Chemical Exposure Information for Contaminants at the TA-40 Scrap Detonation Site

*IDLH (NIOSH) = Immediately dangerous to life or health (NIOSH). Represents the maximum concentration from which, in the event of respirator failure, one could escape within 30 minutes without a respirator and without experiencing any escape-impairing or irreversible health effects.
NE = No evidence could be found for the existence of an IDLH (NIOSH Pocket Guide to Chemical Hazards, Pub. No. 90-117,1990).
C = Ceiling limit value which should not be exceeded at any time.
Ca = Carcinogen.
NA = Not applicable.
? = Unknown.
LEL = Lower explosive limits.
LC_{50} = Lethal concentration for 50 percent population tested.
LD_{50} = Lethal dose for 50 percent of population tested.
NIC = Notice of intended change (ACGIH).

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3.7 Job Hazard Analysis by Task

Mobilization

The mobilization phase of the TA-40 project includes the movement and subsequent set up of the equipment and vehicles needed to complete the project. All of the physical hazards identified in Section 3.2.1, with the exception of excavation and high-pressure sprayer hazards, can be expected to be present during mobilization activities. Depending on the ambient temperatures encountered during site mobilization and set up, cold stress may be a potential hazard. The movement of large vehicles in a relatively confined space will also present a physical hazard. In addition, the placement/movement of large equipment or vehicles could generate large amounts of respirable nuisance dust. Other chemical hazards which are anticipated during mobilization include handling gasoline/oil for the generator. Biological, radiological, and cold hazards may be present during the mobilization phase.

Excavation

During the excavation phase of the project, a backhoe or trackhoe will be used to remove visually contaminated soils. Since these types of machinery generally have obstructed views and can be difficult to precisely maneuver, the operation of this equipment will pose a potentially significant hazard to workers in the area. Potential physical hazards associated with excavation activities include being struck or crushed by the bucket or other part of the equipment, falling into the excavation, and the hazards associated with the movement of large machinery in a small area. Cold stress could potentially be a physical hazard if air temperatures fall below 45°F. It is likely that a considerable amount of dust and particulates will be generated during soil excavation. Radiological, biological, cold, and noise hazards may also be present during this phase of the project.

Field Screening/Verification Sampling

Field screening and soil sampling activities will consist of EDXRF screening and verification sampling of the bottom of the excavation following the removal of visually contaminated soil. Since the excavation phase will be complete, the physical hazards associated with heavy equipment should not be present in the immediate area of the sampling activities. The hazards associated with open excavations will be present, however, and personnel will remain aware of cave-ins and of the potential for falling into the excavation. Although not expected, if personnel

are required to enter an excavation that is more than 5 ft deep, then the excavation safety provisions given in Section 4.2.1 will be followed. Cold stress could potentially be a physical hazard if air temperatures fall below 45°F. All of the physical hazards listed in Section 3.2.1 will be present except high-pressure spraying hazards. Chemical hazards present during field screening/verification sampling will be dusts and particulates. Biological, radiological, cold, and noise hazards may also be present.

Site Restoration

Restoration of the TA-40 work site will commence once all excavation and sampling activities have been completed and will primarily entail filling the excavated area with clean fill, removing and decontaminating equipment and vehicles located in the exclusion zone, and general site cleanup activities. All of the physical hazards identified in Section 3.2.1 will be present during site restoration activities. Cold stress could potentially be a physical hazard if air temperatures fall below 45°F. Since this phase will require the use of the backhoe/trackhoe and other large equipment, the additional physical hazards associated with the operation of this equipment will also be present. The chemical hazards during this phase should be limited to nuisance dusts/particulates and the potential handling of gasoline/oil. Biological and noise hazards will be expected and radiological hazards may be present during site restoration activities.

Demobilization

Demobilization will be the final phase of work at the TA-40 work site. This task involves packing and/or transporting off-site all of the equipment, supplies, and vehicles that were mobilized to the site. All of the physical hazards previously identified, with the exception of excavation hazards, will be present during demobilization activities. Cold stress may be a factor if ambient temperatures are below 45°F. Chemical hazards present during this phase should be limited to nuisance dusts/particulates and possibly the handling of gasoline/oil necessary for the vehicles and other equipment. Biological, radiological, and noise hazards may be present during demobilization operations.

3.8 Confined Spaces

No work in confined spaces is expected or authorized in this SSHASP.

4.0 Safety Program and Procedures

The following work practices will be observed during all site activities.

4.1 General Practices

- At least one copy of this plan shall be available at the project site, in a location readily available to all personnel, including visitors.
- As practical, personnel should practice contamination avoidance. All solid and liquid samples should be collected in such a manner as to minimize contact with the material.
- Contaminated protective equipment, such as respirators, hoses, boots, etc., shall not be removed from the area of potential contamination until it has been cleaned or properly packaged and labeled.
- Legible and understandable precautionary labels which comply with the hazard communication standard shall be affixed prominently to all containers of contaminated scrap, waste, debris, and clothing.
- Removal of contaminated solids from protective clothing or equipment by blowing, shaking, or any other means that disperse contaminants into the air is prohibited.
- No food or beverages shall be present or consumed in the regulated area.
- No tobacco products shall be present or used in the regulated area.
- Cosmetics shall not be applied within the regulated area.
- Contaminated materials shall be stored in tightly closed containers, in well-ventilated areas.
- Emergency equipment shall be located in readily accessible locations within the support zone.
- No personnel, equipment, etc., shall leave or be removed from the regulated area until they have been decontaminated.
- Ensure that no one is required to lift more than 60 pounds.

- All crew personnel on site shall use the buddy system (working in pairs or ıms). If protective equipment or noise levels impair communications, then pre nged hand signals shall be used for communication. Visual contact shall be ma ained between crew members at all times, and crew members must observe each other for signs of toxic exposure. Indication of adverse effects include, but are not limited to:

  - Changes in complexion and skin coloration
  - Changes in coordination
  - Changes in demeanor
  - Excessive salivation and pupillary response
  - Changes in speech pattern.

- Employees shall inform their partners or fellow team members of nonvisible effects of overexposure to toxic materials. The symptoms of such overexposure may include:

  - Headaches
  - Dizziness
  - Nausea
  - Blurred vision
  - Cramps
  - Irritation of eyes, skin, or respiratory tract.

- Visitors to the site shall abide by the following:

  - Visitors to the TA-40 SDS must obtain prior approval by the IT FTL for access to site activities. Additionally, visitors must possess an active "Q" clearance or be escorted by a "Q"-cleared individual before entering the TA-40 work site

  - All visitors shall be instructed to stay outside the contaminated zone (exclusion and decontamination zones) and remain within the clean zone during the extent of their stay. Visitors shall be cautioned to avoid skin contact with contaminated or potentially contaminated surfaces.

  - Visitors requesting to observe work conducted in the exclusion zone (EZ) must don all appropriate PPE prior to entry into that zone. If respiratory protective devices are necessary, visitors who wish to enter the contaminated zone must produce evidence that they have had a complete physical examination, respirator training, and have been fit tested for the respirator to be used within the past 12 months.

4.2 Operating Procedures

4.2.1 Excavation Safety

When it is necessary to do excavation, IT Procedure HS307 for excavation and trenching must be followed. Any excavation greater than 5 ft deep into which persons will enter to collect samples must be shored, sloped, or otherwise made safe for entry. The shoring or sloping system must be designed by a registered Professional Engineer (P.E.) licensed in the state in which the excavation will take place. The design must be present at the site, and the system must be installed as designed.

All excavation shall be performed from a stable ground position. Daily inspections of the excavation shall be made by a competent person who has received training in excavation safety. The inspector shall determine the likelihood of a cave-in, and remedial action such as sloping or shoring shall be taken if the walls appear to be unstable.

All spoil will be containerized (e.g., drummed or loaded into rolloff bins) as it is removed from the excavation. The excavation shall be guarded on all sides by barricades or caution tape at least 2 ft from the edge.

All project personnel shall participate in the daily tailgate safety meetings and be instructed on the following requirements:

- Before excavating, the existence and location of underground pipe, electrical equipment, and gas lines will be determined. This will be done, if possible, by contacting client representatives to mark the location of the lines. If the client's knowledge of the area is incomplete, an appropriate device, such as a cable avoiding tool, will be used to locate the service line.

- If excavating equipment is located in the vicinity of overhead power lines, a distance of 15 ft must be maintained between the lines and any point on the equipment. If the lines have appreciable sag, or if windy conditions exist, this distance shall be 20 ft.

4.3 Heat and Cold Stress Prevention

4.3.1 Heat Stress

One or more of the following control measures can be used to help control heat stress and are mandatory if any site worker has a heart rate (measure immediately prior to rest period) in excess of 110 beats per minute:

- Site workers will be encouraged to drink plenty of water throughout the day. They will be advised to slightly increase their salt intake by lightly salting their food.
- On-site drinking water will be kept cool (50 to 60°F) to encourage personnel to drink frequently.
- A work regimen that will provide adequate rest periods for cooling down will be established, as required.
- All personnel will be advised of the dangers and symptoms of heat stroke, heat exhaustion, and heat cramps.
- Cooling devices such as vortex tubes or cooling vests should be used when personnel must wear impermeable clothing in conditions of extreme heat.
- Employees should be instructed to monitor themselves and coworkers for signs of heat stress and to take additional breaks as necessary.
- A shaded rest area must be provided. All breaks should take place in the shaded rest area.
- Employees shall not be assigned to other tasks during breaks.
- Employees shall remove impermeable garments during rest periods. This includes white Tyvek-type garments.
- All employees shall be informed of the importance of adequate rest, acclimation, and proper diet in the prevention of heat stress disorders.

The signs of heat stress disorders are given below.

Heat Cramps. Heat cramps are caused by heavy sweating and inadequate electrolyte replacement. Signs and symptoms include muscle spasms and pain in the hands, feet, and abdomen.

Heat Exhaustion. Heat exhaustion occurs from increased stress on various body organs. Signs and symptoms include:

- Pale, cool, moist skin
- Heavy sweating
- Dizziness, nausea
- Fainting.

Heat Stroke. Heat stroke is the most serious form of heat stress and should always be treated as a medical emergency. The body's temperature regulation system fails, and the body temperature rapidly rises to critical levels. Immediate action must be taken to cool the body before serious death or injury occurs. Signs and symptoms of heat stroke include:

- Red, hot, unusually dry skin
- Lack of, or reduced perspiration
- Nausea
- Dizziness and confusion
- Strong, rapid pulse and confusion
- Coma.

4.3.2 Cold Stress

Most cold-related worker fatalities have resulted from failure to escape low environmental air temperatures, or from immersion in low temperature water. The single most important aspect of life-threatening hypothermia is a fall in the deep core temperature of the body.

Site workers should be protected from exposure to cold so that the deep core temperature does not fall below 96.8°F. Lower body temperatures will very likely result in reduced mental alertness, reduction in rational decision making, or loss of consciousness with the threat of fatal consequences. To prevent such occurrence, the following measures should be implemented:

- Site workers should be provided with warm clothing, such as mittens, heavy so[illegible], etc., when the air temperature is below 45°F. Protective clothing, such as Tyvek or other disposable coveralls, may be used to shield employees from the wind.

- When the air temperature is below 45°F, clothing for warmth, in addition to chemical protective clothing, will be provided to employees. This should include:

  - Insulated suits, such as whole body thermal underwear
  - Wool socks or polypropylene socks to keep moisture off the feet
  - Insulated gloves
  - Insulated boots
  - Insulated head cover such as hard hat, winter liner, or knit cap
  - Insulated jacket, with wind and water resistant outer layer.

- At air temperatures below 45°F, the following work practices must be implemented:

  - If the clothing of a site worker might become wet on the job site, the outer layer of clothing must be water impermeable.

  - If a site worker's underclothing becomes wet in any way, the worker must change into dry clothing immediately. If the clothing becomes wet from sweating (and the employee is not uncomfortable), the employee may finish the task at hand prior to changing into dry clothing.

  - Site workers must be provided with a warm (65°F or above) break area.

  - Hot liquids such as soups or warm, sweet drinks shall be provided in the break area. The intake of coffee and tea should be limited, due to their circulatory and diuretic effects.

  - The buddy system shall be practiced at all times on site. Any site worker observed with severe shivering shall leave the work area immediately.

  - Site workers should dress in layers, with thinner lighter clothing worn next to the body.

  - Site workers should avoid overdressing when going into warm areas or when performing strenuous activities.

  - Employees handling liquids with a high vapor pressure, such as gasoline, methanol, or hexane, shall take special precautions to avoid soaking of gloves and clothing with those materials.

4.4 Hearing Conservation

All on-site IT and subcontractor personnel shall wear hearing protection, with a Noise Reduction Rating (NRR) of at least 20, when noise levels exceed 85 dBA. All site personnel who may be exposed to noise shall also receive baseline and annual audiograms and training as to the causes and prevention of hearing loss. Noise monitoring is discussed in Chapter 8.0.

Whenever possible, equipment that does not generate excessive noise levels will be selected for this project. If the use of noisy equipment is unavoidable, wherever possible, barriers, or increased distance will be used to minimize worker exposure to noise.

4.5 Sanitation

4.5.1 Potable Water

The following rules apply for all project field operations:

- An adequate supply of potable water will be provided at each work site.
- Portable containers used to dispense drinking water shall be capable of being tightly closed, and shall be equipped with a tap dispenser. Water shall not be drunk directly from the container.
- Containers used for drinking water shall be clearly marked and not used for any other purpose
- Disposable cups will be supplied; both a sanitary container for unused cups and a receptacle for disposing of used cups shall be provided.

4.5.2 Non-potable Water

Outlets for non-potable water shall be identified to clearly indicate that the water is unsafe and is not to be used for drinking, washing, or cooking purposes. There shall be no cross connection (open or potential) between potable and nonpotable water systems. Non-potable and potable water systems shall be separated so as to minimize confusion and possible cross contamination.

4.5.3 Toilet Facilities

If permanent toilet facilities are not available (at sites more than 500 ft from a building with an accessible toilet), then a portable chemical toilet(s) will be provided as follows:

Number of Employees	Minimum Number of Facilities
20 or fewer	One
More than 20, fewer than 200	One toilet seat and one urinal
More than 200	One toilet seat and one urinal per 40 employees

4.5.4 Trash Collection

Trash collected from the contamination reduction zone (CRZ) will be separated as routine hazardous waste. Trash collected in the support and break areas will be disposed of as nonhazardous waste. Labeled trash receptacles will be set up in the CRZ and in the support zone.

4.6 Dust Control

During excavation, the soil will be wetted with water and handled in a manner that minimizes airborne dust concentrations.

5.0 Personal Protective Equipment

Based upon the job hazard analysis, it is expected that project personnel will utilize Level D PPE for sampling and other activities. Dusty conditions, in which metals and/or particulates are introduced into the breathing zone, may necessitate that the Level D attire be augmented by the use of full-face, air purifying respirators equipped with organic vapor/HEPA cartridges. Level C or Level B protective clothing may be required depending upon the levels of measured contaminants. If conditions warrant higher levels of protection, site work will be suspended until such conditions can be rectified.

5.1 Levels of Protection

5.1.1 Level D

The minimum level of protective equipment to be worn on site during this project is:

- Hard hat, American National Standards Institute (ANSI) approved
- Safety glasses, ANSI approved
- Steel-toed boots or shoes, ANSI approved
- Long pants and long-sleeved shirt.

Within the decontamination area and contaminated zones, the following additional protective equipment may be required:

- Steel-toed neoprene boots, ANSI approved
- Nitrile gloves
- Tyvek coveralls.
- Full faceshield (during high-pressure sprayer operations)

If noise levels exceed 85 dBA, then hearing protection with an EPA Noise Reduction Reading (NRR) of at least 20 dBA shall be used.

5.1.2 Level C

Level C protection may only be used when introduction of contaminants can be evaluated or controlled, oxygen is at least 20 percent, and lower explosive limit is less than 10 percent. Level C protection for this project will consist of the following:

- Hard hat, ANSI approved
- NIOSH-approved, full-face air purifying respirator with NIOSH-approved cartridges as appropriate.
- Steel-toed neoprene boots or overbooties
- Latex gloves under work gloves
- Tyvek coveralls
- Full tape of ankles, wrists, and hood.

5.1.3 Level B

Level B protection will be used for all work where atmospheres contain contaminants in excess of 10 times the permissible exposure limit (PEL). Level B protection for this project will consist of the following:

- Hard hat, ANSI approved
- NIOSH-approved positive pressure air supply respirator system such as air line or self-contained breathing apparatus (SCBA)
- Steel-toed neoprene boots (ANSI approved) or overbooties
- Nitrile gloves
- Double polyethylene coated Tyvek hooded coveralls
- Full tape of ankles, wrists, and hood.

5.2 Respiratory Protection Program

IT personnel who will work at the TA-40 SDS will be fit tested and cleared for respirator usage in accordance with LANL requirements. IT personnel will also use respiratory equipment issued by LANL. Once on-site, however, IT personnel will operate under the provisions of the IT respiratory program. The IT respiratory protection program will apply to all activities requiring the use of respirators at the site. Basic requirements are as follows:

- All site personnel will have an assigned respirator.
- All site personnel will have been medically qualified, fit tested, and qualified in the use of the appropriate respirator within the past 12 months. Fit test and respirator qualification cards must be provided to the IT FTL prior to commencing site work.
- Only properly cleaned, maintained, NIOSH-approved respirators are to be used on this site.
- If air-purifying respirators are used, the respirator cartridge is to be disposed of at the end of each work shift, or when load-up or breakthrough occurs.
- Contact lenses are not to be worn when a respirator is required.
- All site personnel will be clean shaven in facial areas which touch the sealing surface of the respirator.
- Respirators will be inspected; a positive and negative pressure test will be performed prior to each use.
- After each use, the respirator will be wiped with a disinfectant, cleansing wipe. When used, the respirator will be thoroughly cleaned at the end of the work shift. The respirator will be stored in a clean plastic bag.

5.3 Using Personal Protective Equipment

Depending upon the level of protection selected for this project, specific donning and doffing procedures may or may not be required. The following procedures are mandatory if Level C or higher PPE is selected.

All persons entering the EZ shall put on the required PPE in accordance with the requirements of this plan. When leaving the EZ, PPE will be removed in accordance with the procedures listed, in order to minimize the spread of contamination.

5.3.1 Donning Procedures

These procedures are mandatory, only if Level C or higher PPE is required for the project:

- Remove bulky outerwear. Remove street clothes and store in clean location.
- Put on disposable or IT issue (and laundered) work clothes or coveralls.
- Put on the required chemical protective coveralls or rain gear.
- Put on chemical protective boots or boot covers.
- Tape the legs of the coveralls to the boots with duct tape.
- Put on chemical protective gloves as required by the SSHASP.
- Tape the wrists of the protective coveralls to the gloves.
- Don respirator if required, and perform appropriate fit check.
- Put hood or head covering over head and respirator straps. Tape the hood to the face of the respirator.
- Don remaining PPE, such as safety glasses or goggles and hard hat.

If these procedures are instituted, one person shall remain outside the work area to ensure that each person entering has the proper protective equipment. No persons shall be allowed to enter an EZ if they are not wearing the required PPE.

5.3.2 Doffing Procedures

The following procedures are only mandatory if Level C or higher PPE is required for this project. Whenever a person leaves a Level C or higher work site, the following decontamination sequence will be followed:

- Upon entering the CRZ, rinse contaminated materials from the boots or remove contaminated boot covers.
- Clean reusable protective equipment.
- Remove protective garments, equipment, and respirator. All disposable clothing should be placed in plastic bags, which are labeled with contaminated waste labels.
- Wash face and neck.
- Proceed to clean area and dress in clean clothing.
- Clean and disinfect respirator for next use.
- Proceed to the sign-out point.

All disposable equipment, garments, and PPE shall be bagged in two 6 mil plastic bags, properly labeled for disposal.

5.4 Selection of Personal Protective Equipment

The level of personal protection selected will be based upon real-time air monitoring of the work environment and an assessment by the FTL and SSO of the potential for skin contact with contaminated materials. The PPE selection matrix is given in Table 5-1.

Table 5-1
PPE Selection Matrix

	FID or PID Reading	Identified Air Contaminant	Task Specific
Level D	<1 ppm	<1/2 PEL	Routine materials handling
Level C	<5 ppm	<10 PEL	Sampling containers of unknown materials of low volatility
Level B	<500 ppm	<1/2 IDLH	Sampling containers of unknown materials of high volatility
Level A	≥500 ppm	<1000 PEL <1/2 IDLH	<20% oxygen

6.0 Site Control

Access to TA-40 will require individuals to possess an active "Q" clearance or receive escort by an individual who has such clearance. Individuals wishing to access the actual work site must obtain prior approval from the IT FTL.

The TA-40 work site will be divided into the following three zones: the exclusion zone (EZ), the contamination reduction zone (CRZ), and the support zone. The exclusion (or "hot") zone will be the area of the work site where the actual soil excavation and sampling activities will take place. Entry into the EZ will be controlled through the use of a caution tape barrier and by the inherent topography of the site. Since the EZ will contain the areas of known contamination, personnel entering the EZ will be required to don the appropriate PPE prior to entry into the EZ.

The CRZ will be delineated as a narrow corridor between the EZ and the support zone in which PPE and equipment will be disposed of or decontaminated as appropriate. Equipment wash and equipment rinse stations will be located in the CRZ for decontamination of reusable equipment leaving the EZ so that contamination is not introduced into the support zone. The support (or "clean") zone will be located outside of the EZ and CRZ in an area of the site known to be uncontaminated. All support personnel and equipment will be located in the support zone during site remediation activities. The various site work zones for the TA-40 work site are shown in Figure 6-1.

Only personnel who have completed 40 hours of hazardous waste operations training as defined under OSHA Regulation 29 CFR § 1910.120, have completed their 40-hour training or refresher training within the past 12 months, and have been certified as fit for hazardous waste operations by a physician within the past 12 months shall be allowed within the EZ or CRZ. Personnel without such training may enter the designated support zone. The FTL will maintain a list of authorized persons. That list will be provided to each IT site representative. Only personnel on the authorized persons list will be allowed within the EZ or CRZ.

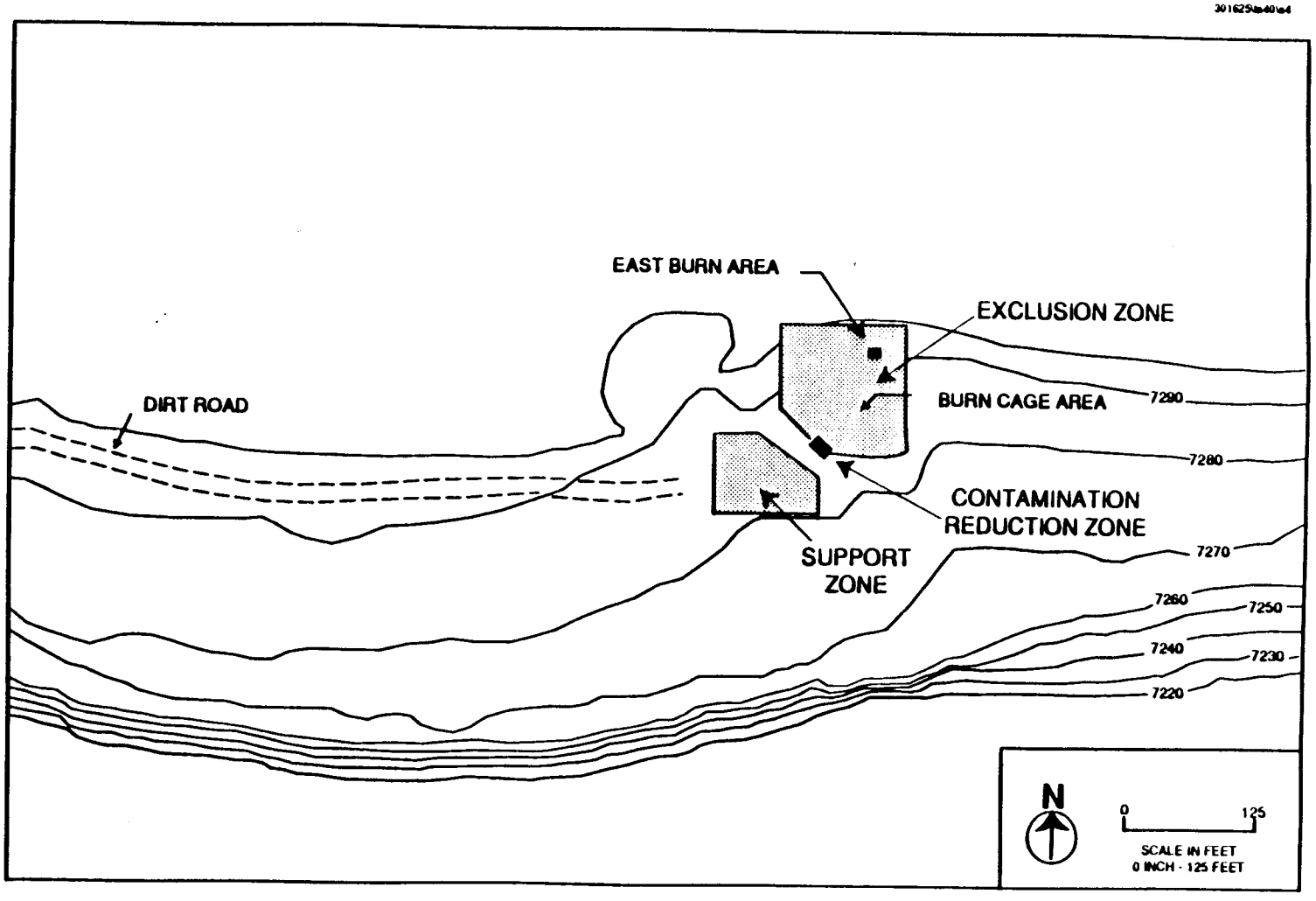


FIGURE 6-1
Approximate Location of the Work Zones at the
TA 40 Scrap Detonation Site

6.1 Hazard Briefing

No person will be allowed on any IT field sites during site operations without first being given a site hazard briefing. In general, the briefing will consist of a review of the tailgate safety meeting. All persons on the site, including visitors, must sign the site-specific tailgate safety meeting form.

6.2 Documentation of Certification

A training and medical file will be established for the project and kept on site during all site operations. The 40-hour training, update, and specialty training (first-aid/cardiopulmonary resuscitation [CPR]) certificates, as well as the current annual medical clearance for all project field personnel, will be maintained within that file. All IT and subcontractor personnel must provide their training and medical documentation to the FTL prior to the start of field work.

6.3 Entry Log

Personnel entering the TA-40 site will be required to sign-in. Additionally, the IT FTL will maintain a record of all visitors to the work site.

6.4 Entry Requirements

In addition to the entry requirements listed above, no personnel will be allowed on any IT field site unless they are wearing the minimum PPE as described in Chapter 5.0. Personnel entering the EZ or CRZ must wear the required PPE for those locations.

7.0 Decontamination

Decontamination of personnel, hand-held equipment, and large machinery that have been in the EZ will be performed to prevent the possible spread of contamination to areas outside the EZ. Decontamination of personnel and small equipment and tools will be accomplished in the CRZ by washing contaminated items with a Liquinox® and water solution followed by a rinse with water. A separate decontamination area will be established to decontaminate heavy equipment/machinery.

7.1 Personnel Decontamination

All personnel working in the contaminated zone must undergo personnel decontamination prior to entering the support zone. The personnel decontamination area shall consist of the following stations.

Station 1. Personnel leaving the contaminated zone will remove the gross contamination from their outer clothing and boots.

Station 2. Plastic-lined waste receptacle. Chair. Clean damp clothes or paper towels. Plastic bags. At Station 2, personnel will remove their Tyvek coveralls and gloves and deposit them in the lined waste receptacles. Personnel will wipe their respirators (if used), hard hats, and boots with clean, damp cloths and then remove those items. Those items are then hand carried to the next station.

Station 3. Wash basin with soap and water; respirator sanitation station. At this station, personnel will thoroughly wash their hands and face before leaving the decontamination zone. Respirators will be sanitized and then placed in a clean plastic ziplock bag.

7.2 Equipment Decontamination

Equipment used during excavation activities such as shovels, augers, picks, hand tools etc. will be decontaminated in the CRZ using a Liquinox® and water solution prior to removal from the EZ. The collected rinsates will be transferred to the decontamination rinsate drum at the end of each day.

7.3 Heavy Equipment Decontamination

Prior to removal from the EZ, all heavy equipment/machinery will be decontaminated. For vehicles/equipment that were known to have limited contact with soils in the EZ (e.g., tractors and rolloff boxes) decontamination will consist of rinsing the tires with water. Heavy equipment which had direct contact with contaminated soils, such as the excavation machinery, will be moved to an area located near the support zone (but still within the EZ) which will be bermed and lined with visqueen for containment purposes. The machinery will then be decontaminated using a high-pressure, water sprayer. Rinsates will be transferred to the decontamination rinsate drum using a sump pump before moving the equipment into the support zone.

7.4 Personal Protective Equipment Decontamination

Whenever possible, single use, external protective clothing shall be used for work within the EZ or CRZ. This protective clothing shall be disposed of in marked containers. Depending upon subsequent analysis, that protective clothing may require disposal as hazardous waste.

Reusable protective clothing will be washed at the site with Liquinox® and water solution. The rinsate will be collected for possible disposal as hazardous waste.

Respiratory protective equipment will be wiped with a damp cloth while in the CRZ and bagged. Once the respirator has been removed from the CRZ, it will be thoroughly cleaned with soap and water. The respirator face piece will be cleaned at the end of each work shift.

8.0 Site Monitoring

8.1 Air Monitoring

Based on earlier sampling and remediation efforts at the TA-40 work site, airborne particulates and nuisance dusts are likely to pose the greatest potential health threat to workers at the TA-40 SDS. Therefore, air monitoring will be conducted to determine the levels of respirable particulates and dusts. Air monitoring for VOCs will also be performed as a conservative measure.

If the measured level of respirable dust or particulates reaches 2.5 milligrams per cubic meter (mg/m^3), then engineering controls (e.g., water spray) will be used to suppress the dust. If the engineering controls do not reduce respirable dust below 2.5 mg/m^3, work will stop and the level of PPE upgraded to level C (see Appendix D for the calculation of the action level for respirable dusts and particulates). If airborne dust/particulates reach a level that interferes with the workers' ability to adequately see operations, then work will cease until such conditions abate.

If VOCs are detected at or above 1 ppm for a duration of 10 seconds then personnel will move out of the area and allow the VOC vapor to dissipate. The area will be rechecked, and, if it is determined that the VOC concentration has fallen below 1 ppm, an attempt will be made to determine and control the source of the VOCs. If it is not possible to reduce VOCs in the breathing zone below 1 ppm, the level of PPE will be upgraded to Level C, if not already implemented. If VOCs are detected above 100 ppm for 10 seconds then work will cease. At that time, the FTL and SSO, in consultation with the IT HS Representative, will assess the situation and make the changes necessary to adequately protect site workers before resuming field activities.

8.1.1 Locations to be Monitored

All direct reading instrumentation readings taken for the purpose of determining appropriate HS precautions shall be collected/taken in the approximate "breathing zone" of the IT or subcontractor employees. The SSO will be responsible for selecting appropriate individuals anticipated to be at highest risk for potential inhalation of airborne contaminants (i.e., readings should be taken at the approximate head-height of the IT or subcontractor employee closest to the sample location or other suspected source of contamination).

All air monitoring samples shall be taken from a fixed position at the approximate "breathing zone" height. The SSO shall be responsible for the specific location of these sampling devices, based on prevailing environmental and site conditions and site activities.

8.1.2 Frequency

Continuous or intermittent area monitoring may be chosen for this project based on an assessment of site conditions by the FTL and SSO. The monitoring equipment will be positioned at approximately "breathing zone" height to estimate personnel exposure.

8.1.3 Air Monitoring Equipment

An HNU Model PI-101 photoionization detector (PID) or a Foxboro Organic Vapor Analyzer (OVA), Model 128 flame ionization detector (FID) will be used to monitor potential chemical contaminants at the TA-40 SDS. The HNU Model PI-101 is capable of detecting a variety of compounds with ionization potentials equal to or less than 11.7 electron volts. The Foxboro OVA will detect chemicals with ionization potentials at or below approximately 15 electron volts. The HNU or OVA shall be maintained in such condition to adequately monitor and assess all site operations.

Airborne particulates and nuisance dust will be monitored using the MIE PDM-3 Miniram, a portable, direct-reading, real-time monitor for dusts, aerosols, fumes, and mists. The instrument will be used with the optional cyclone attachment which will allow for measurement of respirable particulates in concentrations of 0.01 to 100 mg/m^3.

8.1.4 Monitoring Equipment Maintenance and Calibration

All air monitoring and field screening equipment will be calibrated and maintained in accordance with the manufacturer's recommendations.

All direct reading instrumentation calibrations should be conducted under the approximate environmental conditions the instrument will be used. All air monitoring equipment calibrations and maintenance activities shall be documented on the IT Field Activity Daily Log (FADL), or equivalent. All completed HS documentation/forms shall be reviewed by the SSO and maintained by the FTL.

If an instrument is found to be inoperative or suspected of giving erroneous readings, the SSO shall be responsible for immediately removing the instrument from service and obtaining a replacement unit. The specific IT or subcontractor operation for which this equipment is essential shall cease until an appropriate replacement unit is obtained. The SSO will be responsible for ensuring a replacement unit is obtained and/or repairs are initiated on the defective equipment.

8.2 Noise Monitoring

Noise generated by loud equipment and machinery will be monitored using the Quest Model 215 SLM sound level meter. Readings will be taken at approximately the head/shoulder level of personnel working in the immediate vicinity of the source. If noise levels exceed 85 dBA, the use hearing protection and/or engineering controls will be implemented to minimize worker exposure.

8.3 Radiological Monitoring

Radiological monitoring for alpha, beta, and gamma radiation at the TA-40 SDS will be performed using Ludlum Measurements Incorporated, Model 3 survey meters. Soils will be screened periodically as they are excavated. Action levels and response actions are presented in Table 8-1.

8.4 Heat and Cold Stress

Heat stress monitoring shall be initiated whenever ambient temperatures on site exceed 85°F. Cold stress monitoring shall be initiated whenever ambient temperatures drop below 45°F. At the discretion of the SSO, environmental and/or physiologic monitoring will be carried out. For heat stress, monitoring and interpretation of monitoring results will be in accordance with IT Procedure HS400, "Working in Hot Environments," and Section 4 of this plan. Procedures related to cold stress are described in Section 4.3.2.

8.5 Safety Review

At least once during the project, both the FTL and SSO will carry out a safety review of the project. The FTL will conduct site safety inspections at a frequency appropriate for the complexity and duration of site activities. Management safety reviews will be recorded on Safety Inspection Report Forms and will be forwarded to the responsible business unit management for review. The FTL will record the inspection results on the Safety Inspection Report.

Table 8-1

Radiation Action Levels and Response Actions

Hazardous Substance/Condition	Instrument	Location(s) and Frequency of Monitoring	Action Level(s)	Action Level Rational	Response Action(s)
Radiation Gross α and gross β/γ contamination	α Ludlum 139 with air proportional probe or equivalent β/γ Eberline ESP-1 with HP-260 probe or equivalent	During drilling/augering - As sample barrel comes out of borehole, after sample barrel opened and prior to soil sampling During excavation - Monitoring excavated soil.	≤bkgd	Standard levels set by ESH-1	Field team member trained in ESH-1 procedures performing surveys (soil, core, personnel, etc.) Intermittent ESH-1 coverage Large area swipes for α (2000 cm^2) counted using field alpha screening instrument. Direct frisk for β/γ
		In addition to above: Frisk personnel prior to exiting EZ (and CRZ if working under RWP). Equipment - prior to decon and for release.	>bkgd and <500 cpm/probe area α <5000 cpm/probe area β/γ	Standard levels set by ESH-1	Notify ESH-1 and the IT HS Representative of elevated readings Dedicated field team member trained in ESH-1 procedures performing surveys (soil, core, personnel, etc.) Increased intermittent ESH-1 coverage α swipes counted using Ludlum 2000 alpha tray counter, or equivalent. Direct frisk for β/γ
			>500 cpm/probe area α >5000 cpm/probe area β/γ	Standard levels set by ESH-1	Stop work. Work may only proceed according to approved RWP and with full-time ESH-1 technician (or equivalent) on site. The IT HS Representative will review the RWP

8.6 Monitoring Records

The FTL shall ensure that site monitoring records are complete and incorporated into the project file. Any personnel or area air monitoring results will be incorporated into the host office HS files. The host office SSO will be responsible for establishing, maintaining, and forwarding to other IT offices (as necessary) all required monitoring information as described below for placement in individual employee files:

- Employee name, social security number, payroll number
- The date, time, pertinent task information, exposure information
- Description of the analytical methods, equipment used, and calibration data
- Type of PPE worn
- Engineering controls used to reduce exposure.

8.7 Notification

Within five working days after receipt of monitoring results, the project HS staff and the host office HS staff will ensure that each employee is informed in writing of the results which represent that employee's exposure. Monitoring results representative of an employee's exposure shall be reported to the affected employee on the IT Employee Notification of Industrial Hygiene (IH) Monitoring Results Form.

Whenever the results indicate that the representative employee exposure exceeds the PEL, the Employee Notification of Industrial Hygiene Monitoring Results Form shall state that the PEL was exceeded, and shall provide a description of the corrective action taken to reduce exposure to a level below the PEL.

IT will provide industrial hygiene monitoring results to subcontractor companies, if the exposure of subcontractor employees to airborne contaminants is elevated. Notification of subcontractor personnel of IH monitoring results is the responsibility of the subcontractor.

9.0 Employee Training

9.1 General

All on-site project personnel shall have completed at least 40 hours of hazardous waste operations-related training, as required by OSHA Regulation 29 CFR § 1910.120. All field employees receive a minimum of three days of actual field experience under the direct supervision of a trained, experienced supervisor. Those personnel who completed the 40-hour training more than 12 months prior to the start of the project shall have completed an 8-hour refresher course within the past 12 months. The FTL shall have completed an additional 8 hours of relevant HS training and shall have a current first-aid/CPR certificate. Subcontractor personnel must meet the above training requirements and sign the Subcontractor Certification Form given in Appendix A.

IT provides each employee who completes the required 40 hours of classroom training and three days of field experience with a certificate signed by the instructor. A copy of the certificate is maintained in the employee's home business unit training files. Subcontractors must provide certificates of training for the project file for all employees assigned to the project.

9.1.1 Tailgate Safety Meetings

Prior to the start of the project, all personnel will participate in a tailgate safety meeting. During the tailgate safety meeting, the SSHASP will be discussed. The FTL will ensure that the anticipated site hazards are summarized and explained to all personnel, and that those personnel are aware of the precautions they must take to minimize their exposure to those hazards. Tailgate safety meetings will be held at the start of each work shift. All new employees must attend the meeting and be familiar with this SSHASP. Attendance records and meeting notes will be maintained with the project files.

9.1.2 Site-Specific Health and Safety Plan

The IT safety department prepares a site-specific SSHASP for each project falling within the scope and application of 29 CFR § 1910.120 and IT Procedure HS052. Injury and illness prevention programs are written for all other projects. The FTL presents the SSHASP and discusses it with all personnel assigned to the project. All workers and visitors must read and

sign the SSHASP acknowledging acceptance of site rules and understanding of site hazards before the start of the site work.

9.2 Site Workers' Basic Course

The following is a list of the topics covered in IT's 40-hour training course:

- General site safety
- Physical hazards (fall protection, noise, heat stress, cold stress)
- Names and titles of key HS personnel
- Safety, health, and other hazards typically present at hazardous waste sites
- Use of PPE
- Work practices by which employees can minimize risks from hazards
- Safe use of engineering controls and equipment on site
- Medical surveillance requirements including recognition of symptoms and signs which might indicate overexposure to hazards
- Worker right-to-know (Hazard Communication OSHA 1910.1200)
- Routes of exposure to contaminants
- Engineering controls and safe work practices
- Components of the HS program
- Decontamination practices for personnel and equipment
- Confined-space entry procedures
- Emergency response plan.

9.3 Supervisors' Course Content

Management and supervisors must receive an additional eight hours of training presented by the IT Training Department that includes:

- General site safety and health programs
- PPE programs
- Air monitoring techniques.

9.4 Site-Specific Training

Site-specific training will be accomplished through a review of this SSHASP and the daily tailgate safety meetings. In addition, IT employees who will be working at the TA-40 SDS will receive additional LANL-sponsored training. General Employee Training (GET), which includes a training module on hazard communication, is required for all new LANL employees and for subcontractors who will be working on LANL property for more than ten days. Field personnel will also have completed Radiological Worker Training I or II prior to working at the site.

9.5 First Aid and Cardiopulmonary Resuscitation

At least one employee current in first aid/CPR will be assigned to the work crew and will be on the site whenever operations are ongoing. First-aid and CPR training courses are offered to all IT employees. Annual refresher training in first aid and CPR is required to maintain the currency of the certificate.

9.6 Instructors

The IT Training Department, headquartered in Irvine, California, teaches the 40-hour hazardous waste operations classes using Certified Environmental Trainers (CET). When training needs exceed the capacity of the training division, IT uses outside institutions. IT is recognized by the EPA and listed in the Federal Register (53 FR 3982). Only similarly recognized outside training institutions may be used with prior approval of the IT Training Department.

10.0 Medical Surveillance Program

10.1 Physical Examinations

All on-site project personnel shall within the past 12 months have completed a comprehensive medical examination that meets the requirements of OSHA's Regulation 29 CFR § 1910.120. The annual medical includes the following elements:

- Medical and occupational history questionnaire
- Physical examination
- Complete blood count, with differential
- Liver enzyme profile
- Chest X-ray, once every three years, for non-asbestos workers
- Pulmonary function test
- Audiogram
- Electrocardiogram (EKG) for persons older than 35 years of age, or if indicated during the physical examination
- Drug screening
- Visual acuity
- Follow-up examinations, at the discretion of the examining physician or the corporate medical director.

All employee medical records are maintained by the HS group within the worker's home profit center, or for subcontractors, at the subcontractor's office. The examining physician provides the employee with a letter summarizing his findings and recommendations. Each employee also has the right to inspect and copy medical records.

The examining physician provides the employer with a letter confirming the worker's fitness for work and ability to wear a respirator. A copy of this letter for all project workers will be kept on site during all project site work.

Subcontractors will certify that all their employees have successfully completed a physical examination by a qualified physician on the Certification Form. The physical examinations shall meet the requirements of 29 CFR § 1910.120, 29 CFR § 1910.134, HS100 and HS101. Subcontractors will supply copies of the medical examination certificate for each on-site employee.

10.1.1 Preplacement Examination

All employees will receive a preplacement medical examination prior to assignment to field operations.

10.1.2 Annual Examination

Each year subsequent to the placement examination, all employees and subcontractors must undergo an annual examination similar in scope to the placement examination. IT employees hired prior to 1985 are not required to submit to drug screening. Chest X-rays are taken every third year. The medical and occupational history is updated with each examination.

10.1.3 Exit Examination

IT employees receive an exit examination upon leaving the company if they have not been examined within the previous six months. The exit examination consists of the annual examination without drug screen. The employee's immediate supervisor is to notify the home office HS Assistant within a reasonable time before the termination to allow for the necessary arrangements.

10.2 First-Aid and Medical Treatment

All persons on site must report any near-miss incident, accident, injury, or illness to the Project Manager or FTL. If first-aid treatment is required, first-aid kits are kept at the CRZ and in all IT vehicles. On-site first aid will be limited to the treatment of minor injuries (e.g., small cuts, sprains, blisters, etc.) and will be provided by on-site personnel trained in first aid. If treatment beyond first aid is required, the injured will be transported to the Los Alamos Medical Center

(LAMC). The TA-40 work site and hospital locations, as well as the route to the hospital, are shown in Appendix B. If the injured is not ambulatory or shows any sign of not being in a comfortable and stable condition for transport, then an ambulance/paramedics should be summoned. If there is any doubt as to the injured worker's condition, it is best to let the local paramedic or ambulance service examine and transport the worker.

Injuries and illnesses requiring medical treatment will be documented and reported as directed in LANL's Environment, Safety and Health (ES&H) Manual, Administrative Requirement (AR) 1-1 "Accident and Occurrence Reporting." The FTL and/or SSO will also notify the ER/HS Representative whenever there is an accident, injury, chemical or radiological exposure, or illness.

To meet IT requirements for accident/injury reporting, the FTL will also complete an "Authorization for Treatment" Form and the "Supervisor's Employee Injury Report" and conduct an accident investigation as soon as emergency conditions no longer exist and first-aid and/or medical treatment has been rendered. The investigation should follow the Accident/Injury Investigation Report. These two reports must be completed and submitted to the IT HS Manager within 24 hours after the incident.

10.3 Medical Restriction

When a medical care provider identifies a need to restrict work activity, the employee's home office HS Assistant will communicate the restriction to the employee, their supervisor, and the office HS professional. The terms of the restriction will be discussed with the employee and his supervisor. Every attempt will be made to keep the employee working, while not violating the terms of the medical restriction.

10.4 Medical Records

Medical and personal exposure monitoring records will be maintained according to the requirements of 29 CFR § 1910.20 and HS103, and shall be kept for 30 years post employment. Employee confidentiality shall be maintained. Employees and their authorized representatives have access to these records through the HS Assistant.

11.0 Emergency Procedures

This SSHASP has been developed to allow the operation to be conducted without adverse impact to the health and safety of project personnel, other personnel, and the environment. Supplementary procedures are included in this section to address extraordinary conditions that might occur at the site.

11.1 General

The FTL will establish evacuation routes and assembly areas for each site. All personnel entering the site will be informed of these routes and assembly areas. If the site is large and the evacuation routes not clear, a site plan will be made marking the evacuation routes and will be posted at conspicuous locations.

Each site will be evaluated for the potential for fire, explosion, chemical release, or other catastrophic events. Unusual events, activities, chemicals, and conditions will be reported to the FTL.

11.2 Emergency Procedures

If an incident occurs, the following procedures will be used:

- The FTL will evaluate the incident and assess the need for assistance
- The FTL will call for outside assistance as needed
- The FTL will act as liaison between outside agencies and on-site personnel
- The FTL will ensure the Project Manager and HS Manager at the nearest IT office are notified promptly of the incident
- The FTL will take appropriate measures to stabilize the incident scene.

11.3 Safety Signals

Vehicle or portable air horns will be used for safety signals as follows:

- One long blast: Emergency evacuation of the site

- Two short blasts: Clear working area around powered or moving equipment.

11.4 Medical Emergency

All employee injuries must be promptly reported to the FTL. The FTL will:

- Ensure that the injured employee receives prompt first aid and medical attention
- Ensure that the Project Manager and General Manager are promptly notified of the incident
- Initiate an investigation of the incident.

11.4.1 Chemical Inhalation

Any employee complaining of symptoms of chemical exposure as described in Table 1 will be removed from the work area and transported to the LAMC for examination and treatment. It is unlikely that the chemicals expected as being on site, in the concentrations anticipated, would cause situations immediately dangerous to life and health.

11.4.2 Eye Contact

Project personnel who have had contaminants splashed in their eyes or who have experienced eye irritation while in the contaminated zone, shall immediately proceed to the eyewash station, set up in the support zone. Do not decontaminate prior to using the eyewash. Remove whatever protective clothing is necessary to use the eyewash. Flush the eye with clean running water for at least 15 minutes. Arrange prompt transport to the LAMC.

11.4.3 Skin Contact

Project personnel who have had skin contact with contaminants will, unless the contact is severe, proceed through the decontamination zone, to the wash-up area. Personnel will remove any contaminated clothing, and then wash the affected area with water for at least 15 minutes. The worker should be transported to the LAMC if they show any sign of skin reddening, irritation, or if they request a medical examination.

11.4.4 Personal Injury Accident

In the event of a personal injury accident, the FTL will assess the nature and seriousness of the injury. In the case of serious or life-threatening injuries, normal decontamination procedures may be ignored. Less serious injuries such as strains, sprains, minor cuts, and contusions may only be treated after the employee has been decontaminated.

Following decontamination, an IT project team member qualified in first aid and CPR will administer suitable first aid. The First Aid/CPR provider will be subject to the provisions of the "Exposure Control Plan for Voluntary First Aid/CPR Providers" found in Appendix C. The FTL will then, if necessary, arrange transport to the LAMC.

11.5 Fire

In the case of a fire on the site, the FTL will assess the situation and direct fire-fighting activities. The FTL will ensure that the appropriate LANL representative is immediately notified of any fires. IT personnel will attempt to extinguish the fire with available extinguishers, if safe to do so. IT will call the local fire department in the event of a fire that IT is unable to safely and immediately extinguish.

11.6 Emergency Information

11.6.1 Public Agencies

Los Alamos Fire Department	667-4055
Ambulance	662-8224
Los Alamos Police	662-8224
Los Alamos Medical Center	662-4201

11.6.2 Key Project and IT Personnel

Project Manager	Jeff Tucker	662-1200
Field Team Leader	Glenn VanDerpoel	662-1200
Site Safety Officer	Troy Winton	662-1200
Nearest IT Office General Manager	Scott Den-Baars	662-1200
LANL Site Representative	Roy Bohn	665-5138
ESH-1, Health Physics Operations	Pat La Frate	667-7137

ESH-5, ER Health and Safety	Oliver Wilton	667-1624

11.6.3 Additional Emergency Contacts and Phone Numbers

LANL Occupational Medicine Clinic	667-7848
Emergency Management Response Group	667-6211
Security OS/Protective Force	667-6534

Occupational Physician:

David Barnes, M.D.
Environmental Medicine Resources, Inc.
4360 Chamblee Dunwoody Road
Suite 202
Atlanta, GA 30341
(404) 455-0818

APPENDIX A

SUBCONTRACTOR CERTIFICATION

SUBCONTRACTOR CERTIFICATION

I, _____ as an agent of _____,
do hereby certify that the following employees have successfully completed a 40-hour training course which complies with the provisions of 29 CFR § 1910.120, and respiratory protection training which complies with 29 CFR § 1910.134. Each employee has successfully completed a medical examination which complies with the above regulations.

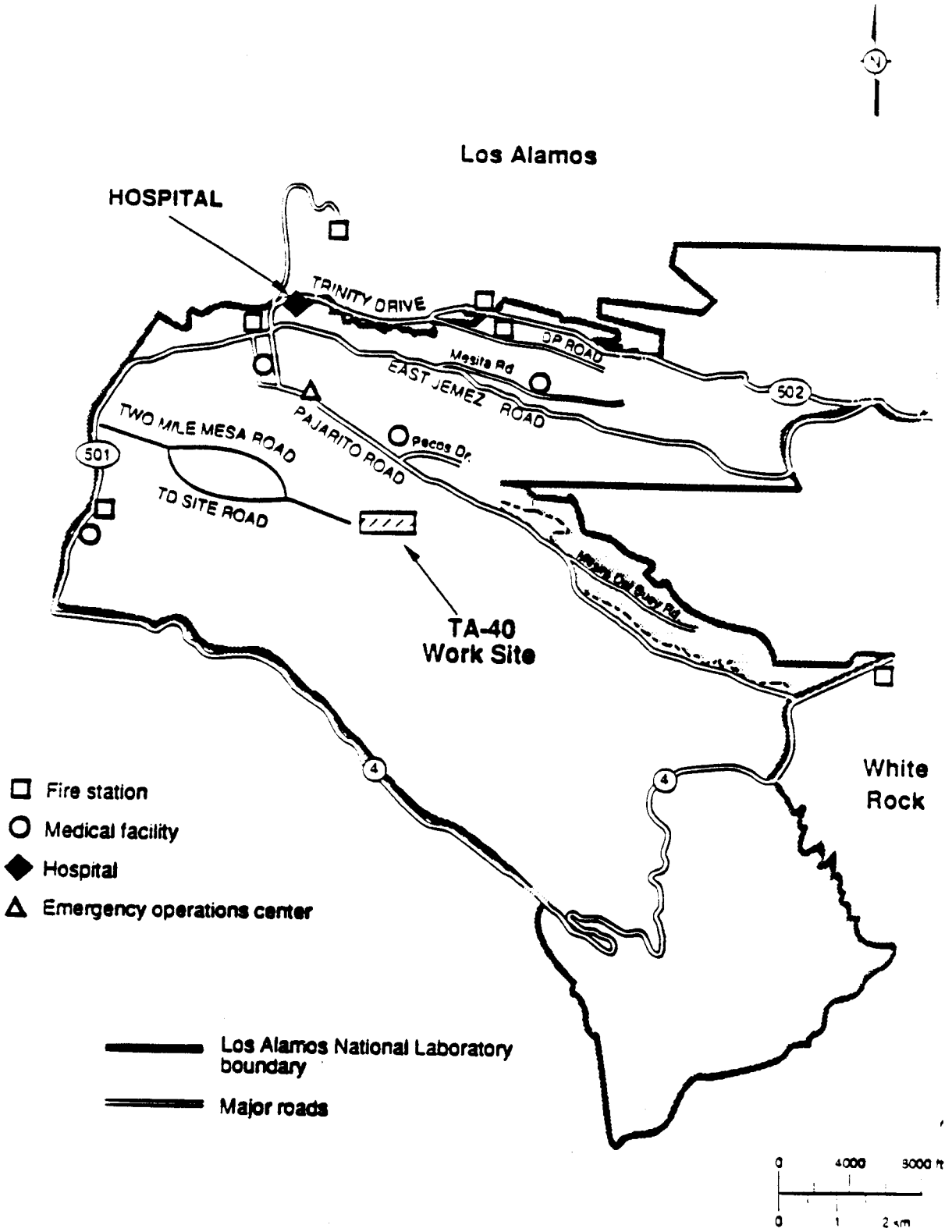
Individual copies of certification of successful completion of the required training and medical examinations are attached for each employee.

_____ _____

Signature Date

APPENDIX B

SITE AND HOSPITAL LOCATION MAP



Hospital Location Map and Emergency facilities for field work at TA-40

APPENDIX C

EXPOSURE CONTROL PLAN

EXPOSURE CONTROL PLAN

(Voluntary First Aid/CPR Providers)

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Attachments

ATTACHMENTS

Exposure Control Plan Acknowledgment Form

1.0 Introduction

This Exposure Control Plan presents health and safety guidelines for voluntary first aid and cardiopulmonary resuscitation (CPR) care providers. In order to meet the requirements of Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) § 1910.151, during day shift operations, at least one person on site will be adequately trained in first aid and CPR, in the requirements of the Bloodborne Pathogens Standard as listed in 29 CFR § 1910.1030, IT Procedure HS512, and in the contents of this plan.

1.1 Definition

Bloodborne pathogens are those agents (i.e., bacteria, virus, fungi) found in blood, blood components, certain body fluids, and other materials, objects, or surfaces that have had contact with blood that are capable of causing human disease or death to unprotected people who came into contact with blood or blood-affected items. Diseases caused by bloodborne pathogens include, but are not limited to, hepatitis B virus (HBV), human immunodeficiency virus (HIV), hepatitis C, malaria, and syphilis. The most significant and of greatest concern are HBV and HIV.

1.1.1 Hepatitis B Virus

HBV is the major bloodborne pathogen hazard that first aid/CPR care providers are more likely to encounter. The HBV can remain infectious for up to 10 days even in dried blood. The virus adversely affects 8,000 to 10,000 workers annually resulting in approximately 200 deaths each year.

1.1.1.1 Hepatitis Exposure Symptoms

Hepatitis means "inflammation of the liver" causing severe liver damage or cirrhosis. Exposure symptoms include fever, fatigue, nausea, vomiting, muscle aches, loss of appetite, and jaundice (yellowing of the eyes or skin). Hepatitis diagnosis is difficult because some symptoms are similar to the flu and may remain mild for an extended period of time.

Presently, no cure exists for hepatitis, but it can be prevented with a vaccination.

1.1.2 Human Immunodeficiency Virus

HIV attacks and deteriorates the body's immune system and eventually weakens it to the point that infection sets in causing the disease Acquired Immune Deficiency Syndrome (AIDS). HIV

is primarily transmitted through sexual contact, but may also be transmitted through contact with blood and body fluids. HIV is not transmitted by touching or working with people who are HIV-positive.

1.1.2.1 Human Immunodeficiency Virus Exposure Symptoms

HIV leads to AIDS-related illnesses which eventually cause neurological problems, cancer, pneumonia, and death. People carry the virus for many years of their lives without experiencing any symptoms. Upon development, symptoms may include weight loss, skin lesions, dry cough, fever, fatigue, diarrhea, or swelling of the lymph glands.

Presently, no cure exists for HIV or AIDS and no vaccination is currently available.

1.2 Exposure Determination

The purpose of the guidelines in this plan are designed to limit occupational exposure of site workers to infectious blood materials which could result in disease or possibly death. The contents of this plan are intended to protect the IT employees trained in first aid and CPR that are responsible for administering medical assistance to site workers.

1.2.1 Means of Transmission

The major activity that may expose any of these IT employees to bloodborne pathogens is their response and care to on-site personal injuries or decontamination of equipment/surfaces contaminated by blood or other potentially infectious materials during the incident.

IT employees could be subject to bloodborne pathogens during rendering of first aid or CPR by accidental exposure due to:

- Punctures through the skin with a contaminated sharp object (i.e., scissors)
- Contact or absorption of blood or blood-contaminated objects through open or broken skin (i.e., cuts, scratches, rashes)
- Blood splashes to their eyes, nose, or mouth or other mucous membranes.

Workers can reduce their risk of contacting HBV or HIV by implementing the recommended work practices (outlined in this plan) before, during, and after responding to emergency medical incidents involving personal injuries.

1.3 Measures for Prevention

The establishment of work practice controls is an integral part of an effective exposure control plan in preventing accidental infection of employees. These work practices are designed to protect employees from reasonably foreseeable occupational exposures to bloodborne pathogens from blood and other potentially infectious material. The work practice controls outlined in this section are applicable to the administration of first aid in emergency situations and subsequent cleanup only.

1.3.1 Universal Precautions

Universal precautions is an approach to infection control which operates on the assumption that all human blood and bodily fluids are to be treated as if they are known to be contaminated with HIV, HBV, or other infectious diseases. Universal precautions shall be implemented whenever there exists a foreseeable potential for contact with blood or bodily fluids.

1.3.2 Engineering Controls

Due to the remote location of the worksite, the nature of work in outdoor locations with potential exposure to airborne chemical contaminants, and the potential for exposure being limited to emergency situations, the implementation of engineering controls is not feasible. Exposure control shall be accomplished through implementation of work practice controls and use of personal protective equipment.

1.3.3 Work Practice Controls

Work practice controls shall be instituted whenever foreseeable potential contact with, or exposure to, blood and bodily fluid exists. Examples of situations in which these controls are to be implemented include, but are not limited to, accidents or injuries in which administration of first aid is required, application of bandages to minor cuts and abrasions of another person, and contact with sores, wounds, or broken skin.

Following are specific work practice controls that shall be implemented:

- Open wounds or cuts will be promptly bandaged.
- Wash hands and face as soon as possible after administering first aid or CPR. If wash facilities are not readily available, stock disposable one-time use towelettes.

- No eating, drinking, or smoking is allowed in any work area where a potential exists for occupational exposure to blood borne pathogens.

- Non-disposable equipment or materials that have or may have blood or infectious fluid contact must be washed immediately after their use. (A 1 to 10 solution of bleach and water is recommended for proper decontamination.)

- Any clothing that becomes contacted with blood or infectious fluids shall be removed as soon as possible after administering first aid or CPR.

- No personal clothing that becomes contacted with blood or infectious fluids shall be laundered off-site.

- Ensure that first-aid kits on-site are equipped with a pair of surgical gloves and CPR mouth pieces.

1.3.3.1 Minimization of Contact

Direct contact with blood and bodily fluids should be kept to an absolute minimum, as required in a particular situation. In situations where direct contact is likely, personal protective equipment shall be worn to help prevent infection.

Based upon professional judgment, an employee may choose to temporarily forego the use of PPE if he determines that the use of PPE will further jeopardize his well-being or that of the injured worker. This limited application must be carefully evaluated by the employee.

If this does occur, IT is obligated to investigate and document the circumstances in an effort to provide alternative means to avoid future occurrence.

1.3.4 Personal Protective Equipment

The following are specific personal protective equipment items that shall be implemented:

- Always wear hand (i.e., latex or nitrile surgical gloves) and eye (i.e., safety glasses, goggles) protection to administer or apply first aid or CPR.

- Always use CPR mouthpieces or ventilation devices.

- Inspect PPE prior to use to ensure it is in good working order and without flaws.

- Do not reuse gloves once removed.

- After use, remove gloves from top to bottom inside-out, not allowing unprotected skin to contact the exterior of the gloves.

1.3.5 Waste Handling

Disposable items that have or may have blood contact must be bagged separately from other trash. These wastes must be placed in leak proof containers or bags and labeled.

A collection container for contaminated articles will be available on-site. Wastes used in medical emergency treatment (i.e., gloves, towels, gauze) shall be disposed in the infectious waste container(s). The container will be replaced as needed and not be overfilled.

1.3.6 Waste Disposal

The waste will remain on site in approved container(s) until an approved disposal facility capable of receiving medical wastes is identified. Disposal of the infectious waste container(s) shall be in accordance with applicable local, state, and federal regulations.

1.4 Medical Requirements

The medial requirements of the exposure control plan include provision of a Hepatitis B vaccination to all exposed employees and post-exposure procedures and evaluation.

1.4.1 Hepatitis B Vaccination

All potentially exposed employees will have made available to them at no cost a Hepatitis B vaccination. The employee will also receive training as to the vaccine's efficacy, safety, benefits, and consequences prior to administration. The vaccination series shall be initiated within 24 hours of providing first aid/CPR in an incident and shall be administered under the supervision of a licensed physician. Employees may at their own discretion decline the vaccination, in which case documentation of declination will be completed. If an employee covered by this exposure plan decides to accept the vaccination at a later date, the vaccination will be offered at that time at no cost to the employee.

1.4.2 Post-Exposure Procedures and Evaluation

Subsequent to all reported exposure incidents, a confidential medical evaluation and follow-up shall be made available to each employee exposed in the incidents.

1.4.2.1 Documentation Procedures

Documentation of the exposure incident shall be recorded as soon as possible, and include the route(s) of exposure, the circumstances surrounding the incident, and the identification of the source individual. Additionally, each incident shall be placed on the "first aid incident list" attached to the location OSHA Log of Occupational Injuries and Illnesses.

1.4.2.2 Blood Testing

1.4.2.2.1 Source Individuals

As soon as feasible, the source individual in an exposure incident will be asked to consent to a blood test to determine HBV and HIV infectivity. Where applicable laws require employee consent, documented consent shall be obtained prior to testing. If an employee refuses the blood test, documentation of the refusal will be made. Documentation of the test results shall be made available to the exposed employee(s). All results should be kept confidential, as criminal and civil penalties may be charged against persons negligently or wilfully releasing such information, depending on local laws.

1.4.2.2.2 Exposed Employees

Exposed employees will be asked to consent to a blood test for HBV and HIV serological status. If consent to HIV testing is denied, the blood sample will be preserved for 90 days, within such time the employee may elect to consent to the HIV test.

1.4.3 Post-Exposure Medical Evaluations

Exposed employees shall receive a healthcare professional's written opinion for post-exposure evaluations. The written opinion shall include the results of the evaluation and any medical conditions resulting from the exposure incident which requires further medical treatment.

1.5 Hazard Communication

1.5.1 Warning Labels

Containers used for disposal of blood contaminated supplies and waste will be labeled in accordance with the word "biohazard."

1.5.2 Warning Signs

There are no designated areas for medical treatment on site, since first aid will be provided on an emergency basis only, and therefore warning signs are not applicable. In cases of potential exposure, observers and non-essential personnel should be verbally warned to keep a safe distance from injured personnel.

1.5.3 Employee Training Program

All associates who are first aid/CPR trained and may provide assistance shall be trained in the requirements for voluntary providers as described in HS512 and this SSHASP, and the general provisions of HS512.

1.6 Recordkeeping

1.6.1 Training Records

All employees selected to attend the training program that covers the contents of this plan shall sign the Acknowledgment Form and the Training Attendance Form.

The training record will contain the date, training outline, name and qualifications of the trainer, and names and job titles of attendees.

At the completion of the training program, all participants must take and pass the training quiz.

The training records will be maintained by the IT Training Department for at least three years from the training date.

1.6.2 Medical Records

Medical records necessary for IT employees must include documentation on HBV vaccination status, medical follow-up, post-exposure testing, and a medical professional's written evaluation.

1.6.2.1 Confidentiality

The employee medical records will be forwarded to EMR for inclusions in the employee's medical file:

ENVIRONMENTAL MEDICINE RESOURCES, INC.
4360 Chamblee Dunwoody Road
Suite 202
Atlanta, GA 30341

1.6.2.2 Maintenance and Transfer of Records

IT Corporation shall maintain the employee medical records for the duration of the employee's employment plus 30 years thereafter.

If, for whatever reason, IT Corporation no longer does business and no successor exists, IT Corporation will notify the Director of NIOSH in writing three months prior to the disposal of records. If so directed, the records shall be transferred to the Director of NIOSH.

1.6.3 Incident Recording

An incident that occurs as a result of rendering emergency medical care will be recorded on the OSHA 200 log as OSHA defines work-related injuries and illnesses.

Exposure Control Plan
Acknowledgment Form

I have read, understand, and will abide by the procedures set forth in this Exposure Control Plan.

I will comply with all of the provisions of this Exposure Control Plan and with any additional health and safety requirements which may be required by IT Corporation.

Name (Print)	Signature	Company	Date

APPENDIX D

CALCULATION OF THE ACTION LEVEL FOR AIRBORNE DUSTS AND PARTICULATES AT THE TA-40 SCRAP DETONATION SITE

Calculation of the Action Level for Airborne Particulates and Dusts at the TA-40 Scrap Detonation Site

Given:

1. The formula for calculating the action level is:

$$\text{Action Level} = \frac{(1 \times 10^6 \text{ mg/kg})\ (\text{exposure limit mg/m}^3)}{(\text{concentration mg/kg})\ (\text{safety factor})}$$

2. The OSHA exposure limit for respirable nuisance dust (quartz) is 0.1 mg/m^3

3. The OSHA exposure limit for respirable lead dust is 0.05 mg/m^3

4. Highest lead concentration is 4,420 mg/kg at the East Burn Area

Assumptions:

1. We will encounter lead concentrations of 5,000 mg/kg

2. All of the 5,000 mg/kg lead will be respirable

3. We will calculate the action level based on the lead exposure limit because it is lower (i.e., more conservative) than the exposure limit for nuisance dust.

4. Safety factor of 4.

Calculation:

$$\text{Action Level} = \frac{(1 \times 10^6 \text{ mg/kg})\ (0.05 \text{ mg/m}^3)}{(5{,}000 \text{ mg/kg})(4)} = \frac{50{,}000\ \dfrac{\text{mg}^2}{\text{Kg.m}^3}}{20{,}000 \text{ mg/kg}} = 2.5 \text{ mg/m}^3$$

APPENDIX G

ENERGY DISPERSIVE X-RAY FLUORESCENCE (EDXRF) INSTRUMENTS, FIELD SCREENING METHODOLOGY, AND FIELD SCREENING RESULTS

ENERGY DISPERSIVE X-RAY FLUORESCENCE (EDXRF) INSTRUMENTS, FIELD SCREENING METHODOLOGY, AND FIELD SCREENING RESULTS

Introduction

This appendix describes the soil screening methods used during remediation of the Burn Cage Area (BCA) and Burn Area East (BAE) at the Technical Area (TA)-40 Scrap Detonation Site (SDS) at the Los Alamos National Laboratory. Remediation of the two areas took place in September/October and December 1994. As detailed in the Amendment to the Final Closure Plan (Appendix B of this closure report), energy dispersive x-ray fluorescence (EDXRF) was used to screen soils for lead (Pb) and antimony (Sb). The field analytical results were used to guide the direction and extent of excavation. An X-Met Model 920 EDXRF unit was used during the September/October activities, and an X-Met Model 880 unit was used during the December activities. Both instruments are manufactured by Outokumpu Electronics.

EDXRF Instrumentation

The EDXRF instruments use a radioactive curium-244 gamma source to excite the elements in the samples, causing the elements to emit their own characteristic (in terms of wavelength and energy) fluorescent x-radiation. The instrument detector sorts the fluorescent x-rays by energies, and the concentrations of the elements are calculated by comparing the fluorescent intensities in the sample unknowns to those in standard samples. The form of the metal analyte in the samples is unimportant (e.g., amorphous versus crystalline, organically versus inorganically bound, silicate versus oxide, etc.). Analytical accuracy is greatly enhanced if the matrix composition and particle size distribution of the sample unknowns are similar to that of the standards (in terms of bulk elemental composition).

Lead EDXRF Standards

Site-specific calibration standards were not available, so "generic" standards provided by Outokumpu were used in lieu of site-specific standards. The generic standards are supposed to be representative of typical soils from around the United States, but their degree of acceptability varies greatly from site to site. The generic standards contained varying concentrations as great as 10,000 parts per million (ppm) of Pb, arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), and zinc (Zn).

EDXRF Calibration

Field calibration checks were performed, at a minimum, immediately before and after each analytical batch using the generic standards. The sample standards were analyzed with the EDXRF unit to generate fluorescent intensity data for Pb. To avoid conflict with As which might be present in the site soils, the L-beta line for Pb was used for calibration purposes (the energy of the L-alpha line for Pb, which is the most intense, coincides with that of the K-alpha line for As). The fluorescent intensities and the known Pb concentrations were used to develop a linear calibration curve for Pb in the generic soil.

Soil/Sediment Sampling Locations

Soil screening sample locations at the BCA were determined as specified in Figure 4-1 of the Amendment to the Final Closure Plan. If Pb was detected above 100 ppm at a given node, the grid was expanded by one foot and the next node out from the center was sampled. The grid was expanded in this fashion until the limits of surface contamination were defined. The first 6-inch lift was removed, comprising all soil with Pb concentrations above 100 ppm. Sampling and

excavation proceeded in this manner until field screening results indicated that all Pb-contaminated soil (above 100 ppm) was removed.

Soil screening sample locations at the BAE were established in a similar fashion (see Figure 4-2 of the Amendment to the Final Closure Plan). After approximately one foot of soil was removed, it became apparent that contaminated soil was present beneath a thin soil cover in an area estimated at 15-by 15-by 4-feet deep, north of, and partially overlapping the original 6- by 6-foot area described in the Amendment (Figure 3 of this closure report). Field activities were suspended pending preparation of the Remedial Action Plan (RAP) (Appendix D of this closure report). Soil screening and excavation activities began on December 12, 1994 to complete the remediation of the BAE.

Due to the larger area of the BAE, the method used to select screening sample locations was modified. A 15-by 15-feet grid was established over the larger area, and six samples per one-foot lift were collected (four random and two biased) for screening per Section 3.3 of the RAP. The grid nodes were numbered sequentially from 1 to 225, beginning in the northwest corner and proceeding west to east, succeeding "rows" were numbered west to east. The Excel 5.0 function "RANDBETWEEN(1:225)" was used to select 4 node locations, with the constraint that only one sample would be collected from a given location at each lift. Grid spacing was initially one foot, however, the excavation was expanded to approximately 20-by 20-feet and the grid spacing was increased accordingly to approximately 1.3 feet. The two biased sample locations for each lift were selected based on the presence of visibly contaminated soil or debris.

Soil/Sediment Sampling Procedures

Samples were collected for field screening using a stainless steel spoon and placed in plastic baggies for analysis. Selection of sampling locations is described above.

EDXRF Analysis for PB

The soil analyses were performed through the walls of the plastic baggies. If necessary, samples were dried in a microwave before testing. Samples that contained an excessive amount of coarse material (gravel, metal debris, etc.) were sieved through a No. 10 sieve prior to testing to remove the coarse material. Each of the samples was homogenized inside the baggie by shaking and kneading immediately prior to analysis. The analyses were performed by "counting" each sample at least three times for at least 60 seconds each; the sample was remixed and/or repositioned between measurements to provide new surfaces for analysis. The final concentration was taken as the average of the three readings. The results were used in the field to guide the direction and extent of soil/sediment excavation. Calibration samples were run periodically during testing to insure the EDXRF unit was functioning properly.