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SUBJECT: SOIL SAMPLING INVESTIGATION, LIBERTY INDUSTRIAL FINISHING SITE, FARMINGDALE, NEW YORK, WORK ASSIGNMENT # 1-250 - FINAL REPORT

Attached please find the following document prepared under this work assignment:

FINAL REPORT
LIBERTY INDUSTRIAL FINISHING SITE, FARMINGDALE, NEW YORK
SOIL SAMPLING INVESTIGATION

cc: Central File - WA 1-250 (w/attachment)
REAC Program Manager (w/o attachment)

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FINAL REPORT
SOIL SAMPLING INVESTIGATION
LIBERTY INDUSTRIAL FINISHING SITE
FARMINGDALE, NEW YORK
MAY 1997

U.S. EPA Work Assignment No.: 1-250
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TECHNICAL REPORT ABSTRACT

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Does this report contain confidential business information?

Yes _____ No XX

KEYWORDS/DESCRIPTORS - Select the scientific or engineering terms that identify the major concepts of the research and are sufficiently specific and precise to be used as index entries for cataloging.

Chromium; Cadmium; Preliminary Remediation Goals; Region II; N.Y.; Plating; VOCs

REPORT ABSTRACT - Include a brief (200 words or less) factual summary of the scope and nature of the work performed and referenced in the report

- The United States Environmental Protection Agency's Environmental Response Team Center was mobilized by the Region II U.S. EPA On Scene Coordinator to conduct a supplemental soil sampling investigation at the Liberty Industrial Finishing Site located in Farmingdale, New York. This investigation was completed by Response Engineering and Analytical Contract personnel during the period of 21 through 23 January 1997. The objective of the sampling program was to gain sufficient data to further define the horizontal and vertical extent of source contaminants. In the Northwest Disposal Area, and the Former Disposal Basins/Sludge Disposal Basin Area, relatively small soil areas were delineated that exceeded preliminary remediation goals for total chromium and cadmium. The total volume of contaminated soil to be excavated at the Liberty Industrial Finishing Site was identified as 6,044 yd^3.

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1.0 INTRODUCTION

1.1 Objective of This Study

The United States Environmental Protection Agency's (U.S. EPA) Environmental Response Team Center (ERTC) was mobilized by the Region II U.S. EPA On Scene Coordinator (OSC) to conduct a supplemental soil sampling investigation at the Liberty Industrial Finishing (LIF) Site located in Farmingdale, New York (Figure 1). This investigation was completed by Response Engineering and Analytical Contract (REAC) personnel during the period of 21 through 23 January 1997. The REAC team was accompanied on site by the ERTC Work Assignment Manager (WAM), Craig Beasley, and the U.S. EPA's Region II OSC, Andrew Confortini. The objective of the supplemental sampling program was to collect additional surface and subsurface soil samples to assist in further defining the horizontal and vertical extent of source contaminants and calculate an amended cleanup volume. Soil samples were collected from the Northwest Disposal Area, the Basin Area, and at several random locations from the western portion of the site. In addition, the ash located at the base of three (3) on-site exhaust stacks was sampled. These stacks are located within the eastern portion of the site. The purpose of this final report is to provide documentation of the sampling effort and data in the final analytical report.

1.2 Site Background

The LIF Site is located approximately one mile south of Bethpage State Park in the Town of Oyster Bay, Nassau County, New York (Figure 1). The 30-acre property is bordered by the Long Island Railroad to the north, Motor Avenue to the south, Main Street to the east, and a small county park (Ellsworth Allen Park) to the west. The northwest corner of the site abuts property owned by the South Farmingdale Water District which operates two deep public water supply wells located side gradient of the site. The surrounding area is primarily residential with several commercial establishments on the major roads. Approximately 10 schools, both primary and secondary, are located within 1.5 miles of the site.

Currently, the western half of the property consists of vacant land that abuts Ellsworth Allen Park. The eastern half of the site contains approximately 10 buildings currently leased to tenants engaged in trucking, warehousing, automobile parts salvaging, and product distribution operations.

The site terrain is generally flat with numerous areas of standing water after heavy precipitation. There are no streams or drainage ditches on the site property. Nassau County storm drains are located along Motor Avenue and Roberts Street, which drain into the headwaters of Massapequa Creek. Massapequa Creek feeds several small detention ponds, including a pond adjacent to Farmingdale High School, approximately three quarters of a mile from the site. Massapequa Creek passes through the Massapequa Preserve and ultimately discharges into South Oyster Bay on the southern coast of Long Island.

The site is located on the outwash plain of Long Island. The uppermost aquifer, the Upper Glacial, is estimated to be 85 feet thick beneath the site. The depth to groundwater below the site ranges from 18 to 21 feet below grade.

1.3 Site History

The LIF Site is a former aircraft parts manufacturing and metal finishing facility that began its operation in the late 1930s. During the 1940s, the facility was used for the manufacturing of aircraft parts. Hazardous materials used at the facility included volatile organic compounds (VOCs) such as trichloroethane (TCE), and inorganics such as chromium (Cr) and cadmium (Cd). Throughout most of the industrial operation period, wastes containing these and other materials were discharged untreated into sumps, leaching chambers and unlined lagoons.

In March 1957, the LIF Site was converted into an industrial park. During the subsequent 25 years, aircraft parts manufacturing was discontinued and a variety of other operations were conducted by site tenants. These included metal plating and finishing, fiberglass product manufacturing, furniture manufacturing and warehousing.

In September 1978, the Liberty Industrial Finishing Corporation entered into an agreement with the State of New York to conduct site cleanup activities. Limited cleanup activity occurred consisting of partial removal of contaminated soils from two recharge basins. In July and August of 1987, approximately 4,000 tons of metal-contaminated soils from the sludge drying bed and recharge basins were excavated and disposed of off site.

In June 1986, the LIF Site was placed on the National Priorities List of federal hazardous substance sites. In September 1990, the U.S. EPA contracted Roy F. Weston, Inc. to conduct a Remedial Investigation/Feasibility Study (RI/FS) at the LIF Site. A final RI report was completed in January 1994 (U.S. EPA 1994). From 1994 through 1995, removal actions were conducted by potentially responsible parties (PRPs) under U.S. EPA oversight to eliminate the majority of current-use risk associated with the site.

In 1995, the U.S. EPA held a series of community outreach meetings to address the anticipated future land use of the LIF Site. In October 1996, U.S. EPA released a draft Feasibility Study (FS) report which evaluated cleanup alternatives for addressing the contaminated soil and sludge in the western portion of the LIF Site. In October 1996, the U.S. EPA held a public meeting to present the findings of the draft FS report. Preliminary Remediation Goals (PRGs) for total Cr and Cd were developed by U.S. EPA under a commercial/industrial future land use scenario. These elements are the primary soil contaminants cited by the U.S. EPA as constituting a potential human health threat under a future commercial/industrial land use scenario. The PRGs for total Cr and Cd are 4,300 and 230 milligrams/kilogram (mg/kg), respectively.

1.4 Scope of Work

The following scope of work was developed to further define the horizontal and vertical extent of soil contaminants within source areas identified as a result of previous investigations. The additional data will be used for the selection of a remedy to address site soil, sludge and debris. The following provides a summary of the sampling program and related activities conducted within various portions of the site:

- Northwest Disposal Area - Soil sample locations were established using a systematic sampling design with a 50-foot by 50-foot grid. The primary objective was to define the horizontal and vertical extent of total Cr and Cd contaminated soil. Sampling was performed to a depth of approximately 15 feet below ground surface (bgs) using a Geoprobe® sampling rig. All soil samples collected from this area were analyzed for total Cr and Cd using X-Ray Fluorescence (XRF) methods. Sixteen soil samples were analyzed for Target Compound List (TCL) VOCs. Of these samples, four were also submitted for complete Toxicity Characteristic Leaching Procedure (TCLP) analyses, including inorganics, VOCs, semi-volatile organics and pesticides.

- Former Disposal Basins and Sludge Drying Bed (FDB/SDB) Area - Due to previous excavation activities within this area, the FDB elevation has been depressed to approximately 8 feet below the surrounding terrain. Soil samples were collected to a maximum depth of 10 feet below the existing surface. At boring location HA-35, which was installed east of the FDB/SDB Area, sampling extended to a depth of 14.5 feet bgs. All soil samples were analyzed for total Cr and Cd using XRF methods. Thirteen soil samples were analyzed for TCL VOCs. Of these samples, five were also submitted for complete TCLP analyses.

- Boiler Smokestacks - Currently, three smokestacks are present at the site, one of which is active. During site activities, the ash contained within the base of each stack was sampled and analyzed for total Cr and Cd using XRF methods. One grab sample was collected from each of the three stacks.

- Random Areas - Soil samples were collected from 19 random locations in the western portion of the LIF Site. All of these samples were analyzed for total Cr and Cd using XRF methods. At seven of these locations, soil samples were analyzed for TCL VOCs. Of these samples, three were also submitted for complete TCLP analyses.

- Total Samples Collected - Eighty-five soil samples were collected for XRF analysis of total Cr and Cd. Of these, 20 samples with the highest total Cr and Cd concentrations were sent to an off-site laboratory for confirmatory analysis. The same soil sample used for XRF analysis was sent for confirmatory analysis. Thirty-six soil samples were analyzed for TCL VOCs analysis. Twelve samples were submitted for TCLP analyses.

- Comparison With PRGs - Analytical concentrations of total Cr and Cd were compared to their PRGs of 4,300 mg/kg and 230 mg/kg, respectively. Chemical results for VOCs, including TCE, tetrachloroethylene (PCE), and 1,2-dichloroethylene (1,2-DCE) were compared to their respective New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) soil cleanup levels. The TAGM soil cleanup levels for TCE, PCE, and 1,2-DCE are 700, 1,400, and 300 micrograms per kilogram (µg/kg), respectively.

2.0 METHODOLOGY

2.1 Soil Sampling

Fifteen soil boring locations were established in the Northwest Disposal Area. These are shown in Figure 2. The point of origin for locating these borings was the northwest corner of the fence surrounding the site. Each boring was located 50 feet apart on a systematic grid. Boring locations were numbered sequentially from B-41 through B-55. Soil samples were collected using a Geoprobe® sampling rig equipped with 2-inch steel sampling tubes. Each sample was collected in a continuous acetate sleeve contained inside the 4-foot long steel sampling tube. The end of each tube was capped immediately upon collection to prevent loss of VOCs. All samples were collected in accordance with ERTC/REAC Standard Operating Procedures (SOP) #2001, *General Field Sampling Guidelines,* and #2012, *Soil Sampling*. Each soil core was screened for VOCs using an HNu photo ionization detector (PID) in accordance with SOP #2114, *Photo ionization Detector (PID) HNu*. Soil cores were cut open for purposes of PID screening and description. None of the soil contained in cores from the Northwest Disposal Area contained detectable VOCs using this screening method. Soil descriptions are presented in Appendix A. Soil samples were collected at the following depth increments: 4.5 to 5.0 feet, 9.5 to 10.0 feet, and 14.5 to 15.0 feet. Table 1 provides a soil sampling summary for the LIF Site. The steel sampling tube used by the Geoprobe® was decontaminated between each soil boring location. Photographic documentation was collected at the majority of soil boring locations. Soil cores were photographed if they were either discolored or contained fill materials. Photographs taken at four soil boring locations are presented in Appendix B.

Soil samples were collected from eight locations in the FDB/SDB Area as shown in Figure 3. Because of limited access to drilling equipment, all soil samples were collected through the use of standard hand augering techniques. Final sampling depths were dependent upon the depth at which groundwater was encountered at each boring location. The maximum depth of sample collection was 14.5 feet below ground surface (bgs). Sampling equipment was decontaminated in accordance with ERTC/REAC SOP #2006, *Sampling Equipment Decontamination*. Samples were collected from each of the eight locations

to aid in the determination of soil volume estimates, with the contaminants of concern being total Cr, Cd and VOCs.

Ash was collected from each of three boiler smokestacks at locations shown in Figure 2. One grab sample was collected from each location and analyzed for total Cr and Cd. All three stacks were inactive at the time of sampling.

Soil samples were collected from 19 random locations as depicted in Figure 2. Most of the samples were collected at a depth of 0 to 2 inches bgs. Some samples were collected from 1.0 to 2.0 feet. All soil samples were analyzed for total Cr and Cd. At several of these locations, soil samples were also collected from 1 to 2 feet bgs for VOC and TCLP analyses.

Sample documentation was conducted in accordance with ERTC/REAC SOP #2002, *Sample Documentation*. Sample storage, packaging and shipment was conducted in accordance with ERTC/REAC SOP# 2003, *Sample Storage, Preservation and Handling*, and #2004, *Sample Packaging and Shipment*. Quality assurance/quality control (QA/QC) samples were prepared in accordance with ERTC/REAC SOP #2005, *Quality Assurance/Quality Control Samples*. Chain of custody forms for all soil samples are included in Appendix C.

All 85 soil samples collected were analyzed for total Cr and Cd. Field data sheets for all soil samples collected at the LIF site are presented in Appendix D. The majority of these samples were screened at the LIF site for total Cr and Cd using XRF analytical methods in accordance with ERTC/REAC SOP #1713, *Spectrace 9000 Field Portable X-Ray Fluorescence Operating Procedure*. Thirty-two samples were screened at REAC using the same XRF analytical procedures. The Spectrace 9000 was utilized for bench top screening using prepared (i.e., dried and sieved) sample cup methods. Replicate analyses were run on approximately 10 percent of the samples. Results of replicate analyses were used to determine the instrument precision. Twenty soil samples (23 percent of all samples collected) were retained for laboratory confirmation by a U.S. EPA-approved method using atomic absorption (AA) or inductively coupled plasma (ICP) analyses. Two sets of soil samples were submitted for laboratory confirmation. The original sample set contained complete soil samples. The second sample set contained the XRF subsamples. The purpose of submitting XRF subsamples for laboratory analysis was to ensure the highest correlation between XRF and laboratory analytical results. Both sets of laboratory values were compared to the XRF values using linear regression analysis. Data were also analyzed for differences using a paired T-test. A coefficient of determination (r^2) value greater than or equal to 0.7 by linear regression analysis, as stated in the U.S. EPA/ERT Quality Assurance Technical Information Bulletin (Vol. 1, No. 4, May 1991), is indicative of an acceptable correlation between the two methods and qualifies XRF data as Quality Assurance Level 2 (QA2) data. Field screening data which have an r^2 value less than 0.7 are considered Quality Assurance Level 1 (QA1) data.

Thirty-six soil samples were analyzed for TCL VOCs. Twelve of these samples were also subjected to full scan TCLP analyses. Quality control (QC) samples included two matrix spike/matrix spike duplicate (MS/MSD) samples.

2.2 Volume of Contaminated Soil Determination

Soil contamination exceeding PRGs had been previously detected in soil samples collected from the Northwest Disposal Area. Fifteen soil borings were advanced within the Northwest Disposal Area using a systematic grid design. Soil samples were collected for analysis from 4.5 to 5.0 feet bgs, 9.5 to 10.0 feet bgs, and 14.5 to 15.0 feet bgs. All analytical data obtained from these samples were compared to PRGs. Scaled site maps were used to estimate horizontal limits of soil contaminated with total Cr and Cd (Figures 4 and 5, respectively). In the FDB/SDB Area, considerable soil disturbance had occurred from previous soil excavation. Because of this, a decision was made by the U.S. EPA to remove soil from

the entire bottoms of Basins #1 and #2 rather than remove selected hot spots exceeding the PRGs.

3.0 RESULTS

3.1 Chromium and Cadmium XRF Results

Results of the XRF analysis are presented in Table 2. Of the 85 samples analyzed, 20 samples with the highest total Cr and Cd concentrations were selected for confirmatory analysis by an outside laboratory. Six of the 85 samples contained total Cd ranging from 130 to 4,900 mg/kg. Thirty-six samples contained total Cr at concentrations ranging from 460 to 95,000 mg/kg. Neither total Cr nor Cd was detectable in the three bottom ash samples from the boiler smokestacks.

3.2 Chromium and Cadmium Laboratory Confirmation Results

Table 3 presents the confirmatory analytical results for total Cr and Cd on 20 soil samples. These samples represented 23 percent of the total samples collected. They were selected because they contained the highest total Cr and Cd concentrations as determined by XRF methods. The values of total Cr contained in the full soil samples ranged from 17 mg/kg to 97,000 mg/kg. Total Cr contained in the XRF subsamples ranged from 350 mg/kg to 89,000 mg/kg. The values of total Cd in the full soil samples ranged from not detected to 4,300 mg/kg. Total Cd in the XRF subsamples ranged from 1.1 mg/kg to 4,600 mg/kg. The Analytical Report is in Appendix E.

3.3 Statistical Analysis of Chromium and Cadmium

The XRF results were compared to the laboratory confirmation analyses by both linear regression analysis and a non-parametric paired comparison T-test. These statistical tests were conducted using SAS® statistical software (Version 6.11). The data quality objective for this investigation was to obtain QA Level 2 data. The paired T-test determines whether paired XRF data and laboratory data are significantly different statistically. Cadmium data were not subjected to these tests because only 6 of the 20 samples contained detectable Cd by XRF analysis. Two sets of soil samples were submitted for laboratory confirmation. The original set contained the complete soil sample. The second set contained the XRF subsamples. The purpose of submitting the XRF subsample for laboratory analysis was to help ensure the highest correlation between XRF and laboratory analytical results. Both sets of laboratory values were compared to the XRF values using linear regression analysis. To obtain QA Level 2 data the calculated r^2 obtained from the regression analysis is required to be 0.70 or greater.

Based on the examination of the plotted data, regression analyses were initially conducted using all pairs of laboratory and XRF Cr data. A second regression analysis was also conducted after removing the highest concentration data point. Removal of this point was performed as a means of exploratory data analysis to evaluate the fit of the data closer to the range of the concentration of concern (4,300 mg/kg). Statistical output and plots of the regression analyses can be found in Appendix F.

The calculated r^2 for the set of results based on the laboratory analysis of the XRF subsample including all pairs of points was 0.99, and with the single high value removed was 0.77. The r^2 for the complete soil sample including all pairs of data points was 0.98, and with the single high XRF value removed was 0.60.

3.4 Volatile Organic Compounds Results

Table 4 presents a summary of positive detections for VOCs in soil. The total VOCs within the Northwest Disposal Area ranged from not detected to 208.5 µg/kg. The total VOCs within the FDB Area ranged from not detected to 10 µg/kg. Most of the detections were very low estimated concentrations below method detection limits. Only one compound, PCE, was present at levels equal to or greater than 100 µg/kg. The highest level of PCE present was 180 µg/kg at SB-42 at 9.5 to 10 feet bgs. The Analytical Report is included in Appendix E.

3.5 Toxicity Characteristic Leachate Procedure (TCLP) Results

Results of TCLP analyses for inorganics are presented in Table 5. The values of inorganic compounds for total Cd in TCLP extracts ranged from not detected to 0.68 milligrams per liter (mg/L); for total Cr, extracts ranged from not detected to 0.45 mg/L; for barium, extracts ranged from 0.18 mg/L to 0.64 mg/L; and for lead extracts ranged from non-detectable to 0.41 mg/L. Mercury was present in one of 12 samples at a concentration of 0.00021 mg/L. Selenium, silver and arsenic were not detected in TCLP extracts.

Pesticides, VOCs, and semi-volatile organic compounds were not detected in TCLP extracts. One herbicide, 2,4-D, was detected at a concentration of 0.0063. The Analytical Report is in Appendix E.

3.6 Volume of Contaminated Soil Calculations

In the Northwest Disposal Area, soil samples from two soil borings were found to exceed PRGs. A supporting table containing the calculations of the volume of contaminated soil is found in Appendix G. In boring SB-41, soil samples collected between 4.5 and 5.0 feet bgs and 9.5 and 10.0 bgs exceeded PRGs for total Cr and Cd, respectively. Neither total Cr nor Cd was detected at 14.5 to 15.0 feet bgs at this location. In boring SB-44, a soil sample collected from 4.5 to 5.0 feet bgs exceeded the PRGs for both total Cr and Cd, while a soil sample collected from 9.5 to 10.0 feet bgs at this location did not exceed PRGs.

In the FDB/SDB Area, soil contamination exceeded PRGs within Basins #1 and #2 at one location, SB-2 (Figure 3). This sample was collected at 2 inches bgs, and contained 97,000 mg/kg total Cr and 4,300 mg/kg total Cd. An excavation depth of 3 feet below the existing surface was conservatively selected for the bottoms of Basins #1 and #2. Because these basins have been disturbed by previous soil excavation, cross contamination is likely. For this reason, soil will be excavated from the entire bottom areas of Basins #1 and #2 rather than just at location SB-2. No soil samples within Basin #3 exceeded PRGs, and soil excavation within this basin is not required.

4.0 DISCUSSION OF RESULTS

4.1 Chromium and Cadmium XRF Results

Results of the XRF analysis are presented in Table 2. The XRF detection limits for these analyses were 300 mg/kg for total Cr and 100 mg/kg for total Cd. Concentrations of either Cr or Cd at or near their detection limits should be considered qualitative only. A practical quantitation limit (PQLs) is approximately three times these concentrations. For total Cr and Cd data to be considered quantitative, concentrations of approximately 900 and 300 mg/kg must be present in soil samples. In 79 of 85 soil samples, Cd was not detectable. Of the six samples in which Cd was detectable, three samples exceeded the PRG of 230 mg/kg. The locations where the PRG was exceeded in the Northwest Disposal Area were at boring locations B-41 (9.5 to 10 feet bgs) and B-44 (4.5 to 5.0 feet bgs). The remaining sample, which contained 4,900 mg/kg Cd, was a near-surface sample collected at location SB-2 within the FDB/SDB Area. It should be noted that sample number SB-2 was also utilized during the previous remedial investigation.

Chromium was detected in 36 of 85 samples. Of these 36 samples, the PRG of 4,300 mg/kg was exceeded in three samples. One of these was within the Northwest Disposal Area at boring location B-41 (4.5 to 5.0 feet bgs). This sample contained 18,000 mg/kg total Cr. Two of the three samples were located within the FDB/SDB Area at SB-2 (near-surface) and at HA-36 (0 to 0.5 feet bgs). These samples contained 95,000 mg/kg and 5,900 mg/kg, respectively.

4.2 Chromium and Cadmium Laboratory Confirmation Results

Table 3 presents the confirmatory analytical results for total Cr and Cd on 20 soil samples. These samples represented 23 percent of the total samples collected, and they were selected because they contained the highest total Cr and Cd concentrations as determined by XRF methods. The values for total Cd samples which were above the PRG concentration of 230 mg/kg were 320 mg/kg, 550 mg/kg, and 4,600 mg/kg. These data represent analysis of XRF subsamples. The laboratory data from entire samples, which are also shown in Table 3, do not vary substantially from the laboratory analysis of XRF subsamples. The values for total Cr in XRF subsamples where the PRG of 4,300 mg/kg was exceeded were 89,000 mg/kg, 6,800 mg/kg, and 4,400 mg/kg. All sample locations where soil samples exceeded PRGs for total Cr and Cd were the same as those identified by XRF analysis except for boring location SB-44 (4.5 to 5.0 feet bgs). At that location, 4,400 mg/kg of total Cr was found by the laboratory in the XRF subsample, while XRF analysis of this sample showed it contained 2,800 mg/kg total Cr.

4.3 Statistical Analysis of Chromium and Cadmium

The XRF results were compared to the laboratory confirmation analyses by both linear regression analysis and a non-parametric paired T-test of difference. As cited in Section 3.3, the coefficient of determination (r^2) by linear regression analysis must be 0.70 or greater for field screening data to qualify as QA Level 2. The data quality objective for this investigation was to obtain QA Level 2 data.

The paired T-test determines whether paired XRF data and laboratory data are significantly different. Results of the paired difference T-test indicated that the XRF and laboratory Cr data were significantly different. Cadmium data were not subjected to these tests because 14 of the 20 samples did not contain detectable Cd by XRF analysis.

The initial soil samples sent for confirmatory laboratory analysis represented the entire collected sample. The calculated coefficient of determination (r^2) based on the regression analysis for these data was 0.98, which is above the threshold required for QA Level 2 data. As discussed earlier, the highest Cr concentration data point was removed and the regression analysis recalculated to examine only those values which fell closer to the concentration of concern (4,300 mg/kg). This additional exploratory analysis resulted in an r^2 of 0.60. Subsequently, the actual XRF subsamples of these 20 samples were submitted for laboratory analysis. The assumption was that a higher correlation would be likely between the two data sets. A similar r^2 value of 0.99 was obtained when all pairs of points were included, and an r^2 of 0.77 was obtained when the single high value was removed. Thus for XRF subsamples, r^2 values exceeded the criterion for obtaining QA Level 2 data whether or not the highest concentration data point was removed. However, when the entire soil sample was analyzed, the criterion for QA Level 2 data was met only when all data points were included in the regression analysis. When the highest concentration data point was removed, the resulting r^2 of 0.60 was below QA Level 2 criterion.

The following information should be noted about the statistical evaluation of the analytical data. The determination of whether XRF data from the LIF Site qualify for designation as QA Level 1 or QA Level 2 is probably not critical. Twenty soil samples containing the highest XRF levels of total Cr and Cd were submitted for laboratory analysis. These laboratory data were validated as QA Level 2. Concentrations of total Cr in these samples were well below the PRG of 4,300 mg/kg. Therefore, all Cr data of potential concern were validated as QA Level 2. All samples containing detectable Cd by XRF were also submitted for laboratory analysis. Based on this information, it is highly unlikely any sample analyzed

only by XRF methods could have contained either Cr and Cd at or near their respective PRG concentrations of 4,300 mg/kg and 230 mg/kg.

Seven of the 20 soil samples submitted contained total Cr concentrations very close to the PQL of about 1,000 mg/kg for total Cr analysis by XRF. Chromium concentrations at or below the PQL should be considered qualitative, and correlations with laboratory analyses can be low. The laboratory PQL for total Cr is 1 mg/kg. Had total Cr concentrations in soil samples from the LIF site been higher, a better correlation between XRF and laboratory data would have probably occurred. Although the paired T-test of differences between XRF screening data and laboratory confirmatory data showed the paired data were significantly different, this frequently occurs, even when data are highly correlated.

4.4 Volatile Organic Compounds Results

Table 4 presents the results for VOCs in the soil samples. The frequency of detection for VOCs was relatively low, with only 42 percent of samples containing detectable levels of one or more of these compounds. Four soil samples contained five or more VOCs. The levels of these compounds were relatively low. Only one compound, PCE, was present at levels in excess of 100 µg/kg. The highest level of PCE present was 180 µg/kg at SB-42 at 9.5 to 10 feet bgs. However, this level is well below the NYSDEC TAGM for this compound of 1,400 µg/kg. Neither of the other two NYSDEC TAGM standards for VOCs in soil was exceeded.

4.5 Toxicity Characteristics Leachate Procedure (TCLP) Results

Results of TCLP analyses for inorganics and herbicides are presented in Table 5. Semi-volatile organics, pesticides, and VOCs are not presented because those analytes were not detectable in TCLP extracts. Inorganics in TCLP extracts, including total Cr and Cd, were all within federal regulatory limits. The single herbicide detected, 2,4-D, was also within federal regulatory limits.

4.6 Volume of Contaminated Soil Calculations

The calculations of contaminated soil volumes are presented in Appendix G. Within the Northwest Disposal Area, the areal extent of contaminated soil exceeding PRGs was estimated to be 6,400 square feet (ft^2). The average depth of contamination was calculated by assuming that contaminated soil in borings SB-41 and SB-44 extended to the next depth interval where sample results were below PRGs. For SB-41, this depth is 14.5 feet bgs. For SB-44, this depth is 9.5 feet bgs. Because soil borings SB-41 and SB-44 are in close proximity, the depth used for the volume estimate was 12 feet bgs at both locations. Based on this approach, the estimated volume of soil exceeding PRGs is 2,844 cubic yards (yd^3). This volume estimate is based on the assumption that contaminated soil exceeding PRGs does not extend beyond the boundary of the Northwest Disposal Area as depicted in Figures 4 and 5.

In the FDB/SDB Area, soil contamination exceeding PRGs was identified within Basins #1 and #2 at depths between 0 and 3 feet below the existing excavated surface. No samples within Basin #3 exceeded PRGs. The bottoms of these basins have been disturbed as a result of previous soil excavation. Because of this, lateral cross contamination is likely to have occurred. A volume estimate for contaminated soil was developed on the assumption that all the bottom area of Basin #2 and a majority of the bottom area of Basin #1 would require excavation. The calculated area of the basin bottoms is 16,800 ft^2. The resulting contaminated soil volume to a 3 foot depth is approximately 1,900 yd^3. It was also assumed that sidewalls in Basins #1 and #2 were contaminated to a depth of 3 feet below the existing surface along a 1,500 foot perimeter. The average depth of the basin was estimated to be 8 feet. Given a 3 foot depth of sidewall, the estimated volume of contaminated soil from sidewalls is 1,300 yd^3. The resulting estimated volume of contaminated soil from the basin area is 3,200 yd^3.

The total volume of contaminated soil to be excavated at the LIF from both the Northwest Disposal Area and the FDB/SDB Area is 6,044 yd^3.

REFERENCES

U.S. EPA. 1994. "Final Remedial Investigation Report for the Liberty Industrial Finishing Site." U.S. EPA Contract 68-W9-0022. January 1994.

U.S. EPA. 1996. "Draft Final Feasibility Study for the Western Portion of the Liberty Industrial Finishing Site." U.S. EPA Contract 68-W9-0022. October 1996.

TABLE 1
Soil Sampling Summary
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997

Location Number	Sample Number	Date Collected	Depth (ft)	Analysis
SB-41	1250-003	1/22/97	4.5-5.0	Metals Cd, Cr
SB-41	1250-004	1/22/97	9.5-10.0	Metals Cd, Cr
SB-41	1250-005	1/22/97	14.5-15.0	Metals Cd, Cr
SB-42	1250-036	1/23/97	4.5-5.0	VOC, Full Scan TCLP, Metals Cd, Cr
SB-42	1250-37	1/23/97	9.5-10.0	VOC, Metals Cd, Cr
SB-42	1250-38	1/23/97	14.5-15.0	VOC, Metals Cd, Cr
SB-43	1250-39	1/23/97	4.5-5.0	Metals Cd, Cr
SB-43	1250-40	1/23/97	9.5-10.0	Metals Cd, Cr
SB-43	1250-41	1/23/97	14.5-15.0	VOC, Metals Cd, Cr
SB-44	1250-006	1/22/97	4.5-5.0	Metals Cd, Cr
SB-44	1250-007	1/22/97	9.5-10.0	Metals Cd, Cr
SB-44	1250-008	1/22/97	14.5-15.0	Metals Cd, Cr
SB-44	1250-042	1/23/97	4.5-5.0	VOC
SB-44	1250-043	1/23/97	9.5-10.0	VOC, Full Scan TCLP
SB-45	1250-044	1/23/97	4.5-5.0	VOC, Metals Cd, Cr
SB-46	1250-045	1/23/97	5.0	VOC, Metals Cd, Cr Full Scan TCLP

TABLE 1 (Cont'd)
Soil Sampling Summary
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997

Location Number	Sample Number	Date Collected	Depth (ft)	Analysis
SB-46	1250-046	1/23/97	10.0	VOC, Metals Cd, Cr
SB-46	1250-47	1/23/97	12.0	VOC, Metals Cd, Cr
SB-47	1250-009	1/22/97	4.5-5.0	Metals Cd, Cr
SB-47	1250-010	1/22/97	9.5-10.0	Metals Cd, Cr
SB-47	1250-011	1/22/97	14.5-15.0	Metals Cd, Cr
SB-48	1250-012	1/22/97	4.5-5.0	Metals Cd, Cr
SB-48	1250-013	1/22/97	9.5-10.0	Metals Cd, Cr
SB-48	1250-014	1/22/97	14.5-15.0	Metals Cd, Cr
SB-48	1250-048	1/23/97	4.5-5.0	VOC
SB-48	1250-049	1/23/97	9.5-10.0	VOC
SB-48	1250-050	1/23/97	14.5-15.0	VOC
SB-49	1250-051	1/23/97	4.5-5.0	Metals Cd, Cr
SB-49	1250-052	1/23/97	9.5-10.0	Metals Cd, Cr
SB-49	1250-053	1/23/97	14.5-15.0	Metals Cd, Cr
SB-50	1250-054	1/23/97	4.5-5.0	Metals Cd, Cr
SB-50	1250-055	1/23/97	9.5-10.0	Metals Cd, Cr
SB-50	1250-056	1/23/97	14.5-15.0	Metals Cd, Cr
SB-51	1250-015	1/22/97	4.5-5.0	Metals Cd, Cr
SB-51	1250-016	1/22/97	9.5-10.0	Metals Cd, Cr
SB-51	1250-017	1/22/97	14.5-15.0	Metals Cd, Cr
SB-52	1250-018	1/22/97	4.5-5.0	Metals Cd, Cr

TABLE 1 (Cont'd)
Soil Sampling Summary
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997

Location Number	Sample Number	Date Collected	Depth (ft)	Analysis
SB-52	1250-019	1/22/97	9.5-10.0	Metals Cd, Cr
SB-52	1250-020	1/22/97	14.5-15.0	Metals Cd, Cr
SB-53	1250-057	1/23/97	4.5-5.0	VOC, Metals Cd, Cr
SB-53	1250-058	1/23/97	9.5-10.0	VOC, Full Scan TCLP, Metals Cd, Cr
SB-53	1250-059	1/23/97	14.5-15.0	VOC, Metals Cd, Cr
SB-54	1250-060	1/23/97	4.5-5.0	Metals Cd, Cr
SB-54	1250-061	1/23/97	9.5-10.0	Metals Cd, Cr
SB-54	1250-062	1/23/97	14.5-15.0	Metals Cd, Cr
SB-55	1250-021	1/22/97	4.5-5.0	Metals Cd, Cr
SB-55	1250-022	1/22/97	9.5-10.0	Metals Cd, Cr
SB-55	1250-023	1/22/97	14.5-15.0	Metals Cd, Cr
SB-2	1250-034	1/22/97	0-0.167	Metals Cd, Cr
Smoke Stack-1	1250-001	1/22/97	0-0.167	Metals Cd, Cr
Smoke Stack-2	1250-002	1/22/97	0-0.167	Metals Cd, Cr
Smoke Stack-3	1250-035	1/23/97	0-0.167	Metals Cd, Cr
HA-30	1250-024	1/22/97	5.0	VOC, Metals Cd, Cr
HA-30	1250-025	1/22/97	10.0	VOC, Metals Cd, Cr

TABLE 1 (Cont'd)
Soil Sampling Summary
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997

Location Number	Sample Number	Date Collected	Depth (ft)	Analysis
HA-31	1250-026	1/22/97	5.0	Metals Cd, Cr
HA-31	1250-027	1/22/97	8.0	VOC, Full Scan TCLP Metals Cd, Cr
HA-31	1250-063	1/23/97	5.0	Metals Cd, Cr
HA-31	1250-064	1/23/97	7.5	Metals Cd, Cr
HA-32	1250-028	1/22/97	5.0	Metals Cd, Cr
HA-32	1250-029	1/22/97	10.0	Metals Cd, Cr
HA-32	1250-065	1/23/97	5.0	VOC, Full Scan TCLP
HA-32	1250-66	1/23/97	9.0	VOC
HA-33	1250-030	1/22/97	5.0	Metals Cd, Cr
HA-33	1250-031	1/22/97	7.5	Metals Cd, Cr
HA-33	1250-067	1/23/97	5.0	VOC, Full Scan TCLP
HA-33	1250-068	1/23/97	7.0	VOC
HA-34	1250-032	1/22/97	5.0	VOC, Metals Cd, Cr
HA-34	1250-033	1/22/97	9.0	VOC, Metals Cd, Cr
HA-35	1250-069	1/23/97	4.5	VOC, Full Scan TCLP, Metals Cd, Cr
HA-35	1250-070	1/23/97	9.5	VOC, Metals Cd, Cr

TABLE 1 (Cont'd)
Soil Sampling Summary
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997

Location Number	Sample Number	Date Collected	Depth (ft)	Analysis
HA-35	1250-071	1/23/97	14.5	VOC, Metals Cd, Cr
HA-36	1250-072	1/23/97	0.5	VOC, Full Scan TCLP, Metals Cd, Cr
SS-1	1250-073	1/23/97	0-0.167	Metals Cd, Cr
SS-2	1250-074	1/23/97	0-0.167	Metals Cd, Cr
SS-3	1250-075	1/23/97	0-0.167	Metals Cd, Cr
SS-4	1250-076	1/23/97	0-0.167	Metals Cd, Cr
SS-5	1250-077	1/23/79	0-0.167	Metals Cd, Cr
SS-5	1250-078	1/23/97	1.0-2.0	VOC, Metals Cd, Cr
SS-6	1250-079	1/23/97	0-0.167	Metals Cd, Cr
SS-6	1250-080	1/23/97	1.0-2.0	VOC, Full Scan TCLP, Metals Cd, Cr
SS-7	1250-081	1/23/97	0-0.167	Metals Cd, Cr
SS-8	1250-082	1/23/97	0-0.167	Metals Cd, Cr
SS-9	1250-083	1/23/97	0-0.167	Metals Cd, Cr
SS-9	1250-084	1/23/97	1.0-2.0	VOC, Metals Cd, Cr
SS-10	1250-085	1/23/97	0-0.167	Metals Cd, Cr
SS-11	1250-086	1/23/97	0-0.167	Metals Cd, Cr
SS-12	1250-087	1/23/97	0-0.167	Metals Cd, Cr
SS-13	1250-088	1/23/97	0-0.167	Metals Cd, Cr

TABLE 1 (Cont'd)
Soil Sampling Summary
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997

Location Number	Sample Number	Date Collected	Depth (ft)	Analysis
SS-14	1250-089	1/23/97	0-0.167	Metals Cd, Cr
SS-15	1250-090	1/23/97	0-0.167	VOC, Metals Cd, Cr
SS-16	1250-091	1/23/97	1.8	VOC, Full Scan TCLP, Metals Cd, Cr
SS-17	1250-092	1/23/97	1.6	VOC, Metals Cd, Cr
SS-19	1250-093	1/23/97	0-0.167	Metals Cd, Cr
SS-20	1250-094	1/23/97	1.9	VOC, Full Scan TCLP, Metals Cd, Cr

TABLE 2
XRF Data For Soil Samples
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997

XRF ID	CLIENT ID	LOCATION/DEPTH	DATE ANALYZED	MDL 300 Cr (mg/kg)	MDL 100 Cd (mg/kg)
A001	A001	Smoke Stack #1	27-JAN-1997	U	U
A002	A002	Smoke Stack #2	27-JAN-1997	U	U
A09256	A003	B41 4.5-5'	23-JAN-1997	18000	U
B09256	A004	B41 9.5-10'	23-JAN-1997	3000	570
C09256	A005	B41 14.5-15'	23-JAN-1997	U	U
A006	A006	B44 4.5-5'	27-JAN-1997	2800	520
B09253	A007	B44 9.5-10'	23-JAN-1997	1400	U
A007DUP	A007	B44 9.5-10'	27-JAN-1997	1900	U
AOO8	A008	B44 14.5-15'	27-JAN-1997	U	U
C09253DUP	A008	B44 14.5-15'	23-JAN-1997	U	U
A09255	A009	B47 4.5-5'	23-JAN-1997	U	U
B09255	A010	B47 9.5-10'	23-JAN-1997	U	U
C09255	A011	B47 14.5-15'	23-JAN-1997	U	U
A09252	A012	B48 4.5-5'	22-JAN-1997	720	U
B09252	A013	B48 9.5-10'	22-JAN-1997	U	U
C09252	A014	B48 14.5-15'	22-JAN-1997	U	U
C09252DUP	A014	B48 14.5-15'	22-JAN-1997	U	U
A09257	A015	B51 4.5-5'	23-JAN-1997	U	U
B09257DUP	A016	B51 9.5-10'	23-JAN-1997	850	U
B09257	A016	B51 9.5-10'	23-JAN-1997	670	U
C09257	A017	B51 14.5-15'	23-JAN-1997	U	U
A09251	A018	B52 4.5-5'	22-JAN-1997	630	U
B09251	A019	B52 9-9.5'	22-JAN-1997	U	U
C09251	A020	B52 14.5-15'	22-JAN-1997	U	U
A09254	A021	B55 4.5-5'	23-JAN-1997	U	U
A09254DUP	A021	B55 4.5-5'	23-JAN-1997	U	U
B09254	A022	B55 9.5-10'	23-JAN-1997	U	U
C09254	A023	B55 14.5-15'	23-JAN-1997	U	U
A09270	A024	Basin HA30 -5'	22-JAN-1997	700	U
A09271	A025	Basin HA30 - 10'	22-JAN-1997	1100	U
A09272	A026	Basin HA31 - 5'	23-JAN-1997	1000	U
A09273	A027	Basin HA31 - 8'	23-JAN-1997	2000	180
A09274	A028	Basin HA32 - 5'	23-JAN-1997	2500	U
A09275DUP	A029	Basin HA32 - 10'	23-JAN-1997	2700	U
A09275	A029	Basin HA32 - 10'	23-JAN-1997	1800	U
A09660	A030	HA33 - 5'	23-JAN-1997	1100	U
B09660	A031	HA33 - 7.5'	23-JAN-1997	1500	U
A09661	A032	HA34 - 5'	23-JAN-1997	1100	U
B09661	A033	HA34 - 9'	23-JAN-1997	1000	U
A034	A034	SB-2 0-0.167'	22-JAN-1997	95,000	4,900
A09663	A035	Smoke Stack #3	23-JAN-1997	U	U
A09663DUP	A035	Smoke Stack #3	23-JAN-1997	U	U
A035	A035	Smoke Stack #3	27-JAN-1997	U	U
A036	A036	B42 4.5-5'	27-JAN-1997	U	U
A037	A037	B42 9.5-10'	27-JAN-1997	3400	U
A038DUP	A038	B42 14.5-15'	27-JAN-1997	U	U
A038	A038	B42 14.5-15'	27-JAN-1997	U	U
A039	A039	B43 4.5-5'	27-JAN-1997	U	U
A040	A040	B43 9.5-10'	27-JAN-1997	U	U
A041	A041	B43 14.5-15'	27-JAN-1997	U	U
A045	A045	B46 - 5'	27-JAN-1997	U	U
A046	A046	B46 - 10'	27-JAN-1997	U	U
A047	A047	B46 - 12'	27-JAN-1997	U	U
A051	A051	B49 4.5-5'	27-JAN-1997	U	U

TABLE 2
XRF Data For Soil Samples
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997

XRF ID	CLIENT ID	LOCATION/DEPTH	DATE ANALYZED	MDL 300 Cr (mg/kg)	MDL 100 Cd (mg/kg)
A052	A052	B49 9.5-10'	27-JAN-1997	U	U
A053	A053	B49 14.5-15'	27-JAN-1997	U	U
A054	A054	B50 4.5-5'	27-JAN-1997	U	U
A055	A055	B50 9.5-10'	27-JAN-1997	U	U
A056	A056	B50 14.5-15'	27-JAN-1997	U	U
A057	A057	B53 4.5-5'	27-JAN-1997	U	U
A058	A058	B53 9.5-10'	27-JAN-1997	U	U
A059	A059	B53 14.5-15'	27-JAN-1997	U	U
A09258	A060	B54 4.5-5'	23-JAN-1997	U	U
B09258	A061	B54 9.5-10'	23-JAN-1997	U	U
C09258	A062	B54 14.5-15'	23-JAN-1997	U	U
A09662	A063	Basin retake HA31 5 ft	23-JAN-1997	1300	U
B09662	A064	Basin retake HA31 7.5 ft	23-JAN-1997	1900	150
A069	A069	HA35 - 4.5'	27-JAN-1997	U	U
A070DUP	A070	HA35 - 9.5'	27-JAN-1997	U	U
A070	A070	HA35 - 9.5'	27-JAN-1997	U	U
A071	A071	HA35 - 14.5'	27-JAN-1997	U	U
A072	A072	HA36 - 0-0.5'	27-JAN-1997	5900	U
SS-1	A073	SS-1 0-0.167'	23-JAN-1997	U	U
SS-2	A074	SS-2 0-0.167'	23-JAN-1997	480	U
SS-3	A075	SS-3 0-0.167'	27-JAN-1997	460	U
SS4	A076	SS-4 0-0.167'	27-JAN-1997	980	U
SS-5	A078	SS-5 1-2'	23-JAN-1997	1200	U
SS-5-DUP	A078	SS-5 1-2'	23-JAN-1997	940	U
SS-5-REP	A078	SS-5 1-2'	24-JAN-1997	1300	U
SS6	A079	SS6 0-0.167'	27-JAN-1997	2500	U
A080	A080	SS-6 1-2'	27-JAN-1997	U	U
SS7	A081	SS-7 0-0.167'	27-JAN-1997	2800	U
SS8	A082	SS-8 0-0.167'	27-JAN-1997	3100	130
SS9	A083	SS-9 0-0.167'	27-JAN-1997	U	U
SS10	A084	SS-10 1-2'	27-JAN-1997	U	U
SS11	A086	SS-11 0-0.167'	27-JAN-1997	500	U
SS12	A087	SS-12 0-0.167'	27-JAN-1997	U	U
SS13	A088	SS-13 0-0.167'	27-JAN-1997	U	U
SS14	A089	SS-14 0-0.167'	27-JAN-1997	U	U
A090	A090	SS-15 0-0.167'	27-JAN-1997	U	U
A091DUP	A091	SS-16 - 1.8'	27-JAN-1997	U	U
A091	A091	SS-16 - 1.8'	27-JAN-1997	U	U
A092	A092	SS-17 - 1.6'	27-JAN-1997	U	U
A094	A094	SS-20 - 1.9'	27-JAN-1997	U	U
SS19	B093	SS-19 0-0.167'	27-JAN-1997	1000	U

MDL - method detection Limit; U - Not Detected (less than the MDL)
DUP - duplicate sample; REP - repeat sample measurement

TABLE 3
Laboratory Confirmation Analysis of Total Chromium and Cadmium in Soil Samples
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997

Sample Location/ Depth (feet bgs)	Sample Number(s) Full Soil Sample/ XRF Soil Sample	Concentration (mg/kg)			
		Chromium		Cadmium	
		XRF Subsample[2]	Full Sample[3]	XRF Subsample[2]	Full Sample[3]
SB-41/4.5-5.0	1250-003/003a[1]	6800	5900	35	30
SB-41/9.5-10.0	1250-004/004a	1600	1500	320	130
SB-44/4.5-5.0	1250-006/006a	4400	4900	550	520
SB-44/9.5-10.0	1250-007/007a	1100	670	11	8.9
HA-30/10.0	1250-025/025a	350	260	3.8	2.1
HA-31/5.0	1250-026/026a	380	290	15	11
HA-32/5.0	1250-028/028a	940	600	9.2	7.4
HA-32/10.0	1250-029/029a	830	700	11	9.8
HA-33/5.0	1250-030/030a	370	330	10	8.6
HA-33/7.5	1250-031/031a	360	410	12	14
HA-34/5.0	1250-032/032a	510	530	10	12
SB-42/9.5-10.0	1250-037/037a	1000	860	33	27
HA-31/5.0	1250-063/063a	350	330	13	11
HA-31/7.5	1250-064/064a	500	400	120	120
HA-36/0.5	1250-072/072a	2500	1600	30	34
SS-5/1.0-2.0	1250-078/078a	820	17	1.1	U[4]
SS-6/0-0.17	1250-079/079a	1200	2100	9.2	6.5
SS-7/0-0.17	1250-081/081a	1400	1300	19	19
SS-8/0-0.17	1250-082/082a	1700	2000	6.5	7.5
SB-2/0-0.17	1250-034/034a	89000	97000	4600	4300
Coefficient of Determination (r^2)		0.99	0.98	ND[5]	ND[5]

[1]Sample No. 1250-003 represents the entire soil sample; Sample No. 1250-003a represents the XRF subsample.
[2]Laboratory analysis of total chromium on XRF subsample
[3]Laboratory analysis of total chromium on entire soil sample
[4]U=Not detected
[5]ND = Not determined

TABLE 4
Volatile Organic Compounds in Soil Samples
Summary of Positive Detections
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997
(Concentrations in µg/kg)

Sample Location/ Depth (ft)	Sample Number	Methylene Chloride	Acetone	Trichloro-fluoro-methane	1,2-DCE[2]	1,1,1-TCA[3]	TCE[4]	PCE[5]	Toluene	Chloro-benzene	Total Xylenes	Total VOCs
HA-30/5	1250-024	ND[1]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HA-30/10	1250-025	5.4J[7]	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4
HA-34/5	1250-032	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HA-34/9	1250-033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-42/4.5-5	1250-036	ND	24J	ND	ND	ND	1.3J	63	2.2J	0.82J	ND	91.32
SB-42/9.5-10	1250-037	1.5J	ND	ND	2.3J	ND	23	180	1.7J	ND	ND	208.5
SB-42/14.5-15	1250-038	ND	ND	ND	ND	ND	ND	1.0J	ND	ND	ND	1.0
SB-43/14.5-15	1250-041	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-44/4.5-5	1250-042	3.3J	ND	2.1J	ND	ND	64	2.7J	1.2J	ND	ND	73.3
SB-44/9.5-10	1250-043	0.58B[8]	14J	ND	ND	ND	1.1J	ND	ND	ND	ND	15.68

[1]ND=Not detected
[2]1,2-DEC=1,2-dichloroethene
[3]1,1,1-TCA=1,1,1-trichloroethane
[4]TCE=trichloroethene
[5]PCE=tetrachloroethene
[6]Regulatory Level=New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) soil cleanup levels
[7]J=estimated value; compound present, but below the method detection limit
[8]B=compound present in blank

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TABLE 4 (Cont'd)
Volatile Organic Compounds in Soil Samples
Summary of Positive Detections
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997
(Concentrations in µg/kg)

Sample Location/ Depth (ft)	Sample Number	Methylene Chloride	Acetone	Trichloro-fluoro-methane	1,2-DCE[2]	1,1,1-TCA[3]	TCE[4]	PCE[5]	Toluene	Chloro-benzene	Total Xylenes	Total VOCs
SB-45/4.5-5	1250-044	1.6J	ND	ND	ND	ND	11	2.7J	1.9J	ND	ND	17.2
SB-46/5	1250-045	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-46/10	1250-046	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-46/12	1250-047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-48/4.5-5	1250-048	1.4J	ND	1.4J	4.3J	2.8J	43	100	2.0J	ND	ND	154.9
SB-48/9.5-10	1250-049	ND	ND	ND	ND	ND	ND	2.7J	0.83J	ND	ND	3.53
SB-48/14.5-15	1250-050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-53/4.5-5	1250-057	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-53/9.5-10	1250-058	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-53/14.5-15	1250-059	ND	4.5J	ND	ND	ND	ND	ND	ND	ND	ND	4.5

[1]ND=Not detected
[2]1,2-DEC=1,2-dichloroethene
[3]1,1,1-TCA=1,1,1-trichloroethane
[4]TCE=trichloroethene
[5]PCE=tetrachloroethene
[6]Regulatory Level=New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) soil cleanup levels
[7]J=estimated value; compound present, but below the method detection limit
[8]B=compound present in blank

TABLE 4 (Cont'd)
Volatile Organic Compounds in Soil Samples
Summary of Positive Detections
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997
(Concentrations in µg/kg)

Sample Location/ Depth (ft)	Sample Number	Methylene Chloride	Acetone	Trichloro-fluoro-methane	1,2-DCE[2]	1,1,1-TCA[3]	TCE[4]	PCE[5]	Toluene	Chloro-benzene	Total Xylenes	Total VOCs
HA-32/5	1250-065	ND	6.1J	ND	ND	ND	2.7J	1.7J	ND	ND	ND	10.5
HA-32/9	1250-066	ND	ND	ND	ND	ND	0.65J	ND	ND	ND	ND	0.65
HA-33/5	1250-067	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HA-33/7	1250-068	0.56J	4.6J	ND	ND	ND	ND	ND	ND	ND	ND	5.16
HA-35/4.5	1250-069	ND	ND	ND	ND	ND	0.66J	ND	ND	ND	ND	0.66
HA-35/9.5	1250-070	ND	6.4J	ND	ND	ND	ND	ND	ND	ND	ND	6.4
HA-35/14.5	1250-071	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HA-36/0.5	1250-072	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS-5/1-2	1250-078	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS-6/1-2	1250-080	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

[1]ND=Not detected
[2]1,2-DEC=1,2-dichloroethene
[3]1,1,1-TCA=1,1,1-trichloroethane
[4]TCE=trichloroethene
[5]PCE=tetrachloroethene
[6]Regulatory Level=New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) soil cleanup levels
[7]J=estimated value; compound present, but below the method detection limit
[8]B=compound present in blank

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TABLE 4 (Cont'd)
Volatile Organic Compounds in Soil Samples
Summary of Positive Detections
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997
(Concentrations in µg/kg)

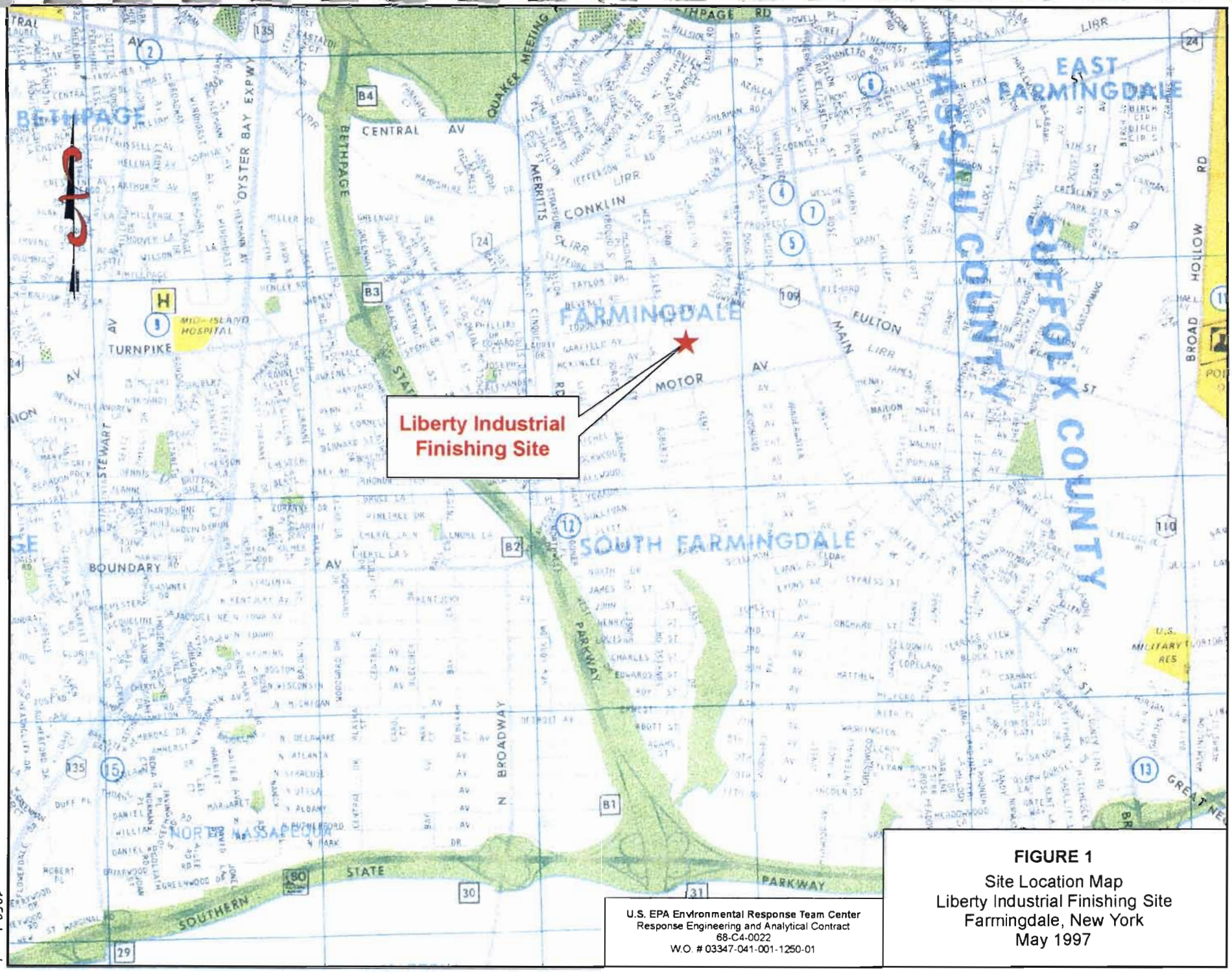
Sample Location/ Depth (ft)	Sample Number	Methylene Chloride	Acetone	Trichloro-fluoro-methane	1,2-DCE[2]	1,1,1-TCA[3]	TCE[4]	PCE[5]	Toluene	Chloro-benzene	Total Xylenes	Total VOCs
SS-9/1-2	1250-084	ND	34J	ND	ND	ND	ND	ND	ND	ND	ND	34
SS-15/0-0.17	1250-090	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS-16/1.8	1250-091	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS-17/1.6	1250-092	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SS-20/1.9	1250-094	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HA-31/8	1250-027	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Regulatory[6] Level					300		700	1400				

[1]ND=Not detected
[2]1,2-DEC=1,2-dichloroethene
[3]1,1,1-TCA=1,1,1-trichloroethane
[4]TCE=trichloroene
[5]PCE=tetrachloroethene
[6]Regulatory Level=New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) soil cleanup levels
[7]J=estimated value; compound present, but below method detection limit
[8]B=compound present in blank

TABLE 5
Results of Toxicity Characteristic Leaching Procedure Analysis of Soil Samples - Inorganics
Liberty Industrial Finishing Site
Farmingdale, NY
May 1997
(all concentrations in mg/L)

Sample Location/ Depth (ft)	Sample Number	Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver	Mercury
SB-42/4.5-5.0	1250-036	ND[1]	0.26	ND	0.024	ND	ND	ND	ND
SB-44/9.5-10	1250-043	ND	0.64	0.091	0.29	0.41	ND	ND	ND
SB-46/5.0	1250-045	ND	0.20	0.55	0.20	ND	ND	ND	ND
SB-53/9.5-10.0	1250-058	ND	0.18	ND	ND	ND	ND	ND	0.00021
HA-32/5.0	1250-065	ND	0.21	0.15	0.36	ND	ND	ND	ND
HA-33/5.0	1250-067	ND	0.19	0.13	0.45	ND	ND	ND	ND
HA-35/4.5	1250-069	ND	0.22	0.14	0.055	ND	ND	ND	ND
HA-36/0.5	1250-072	ND	0.31	0.29	0.12	ND	ND	ND	ND
SS-6/1.0-2.0	1250-080	ND	0.22	ND	ND	ND	ND	ND	ND
SS-16/1.8	1250-091	ND	0.29	ND	ND	ND	ND	ND	ND
SS-20/1.9	1250-094	ND	0.29	ND	ND	ND	ND	ND	ND
HA-31/8.0	1250-027	ND	0.20	0.68	0.17	ND	ND	ND	ND
Regulatory Level[2]		5.0	100.0	1.0	5.0	5.0	1.0	5.0	0.2

[1] ND = not detected
[2] 40 CFR Part 261.24 ; concentration in mg/L



U.S. EPA Environmental Response Team Center
Response Engineering and Analytical Contract
68-C4-0022
W.O. # 03347-041-001-1250-01

FIGURE 1

Site Location Map
Liberty Industrial Finishing Site
Farmingdale, New York
May 1997

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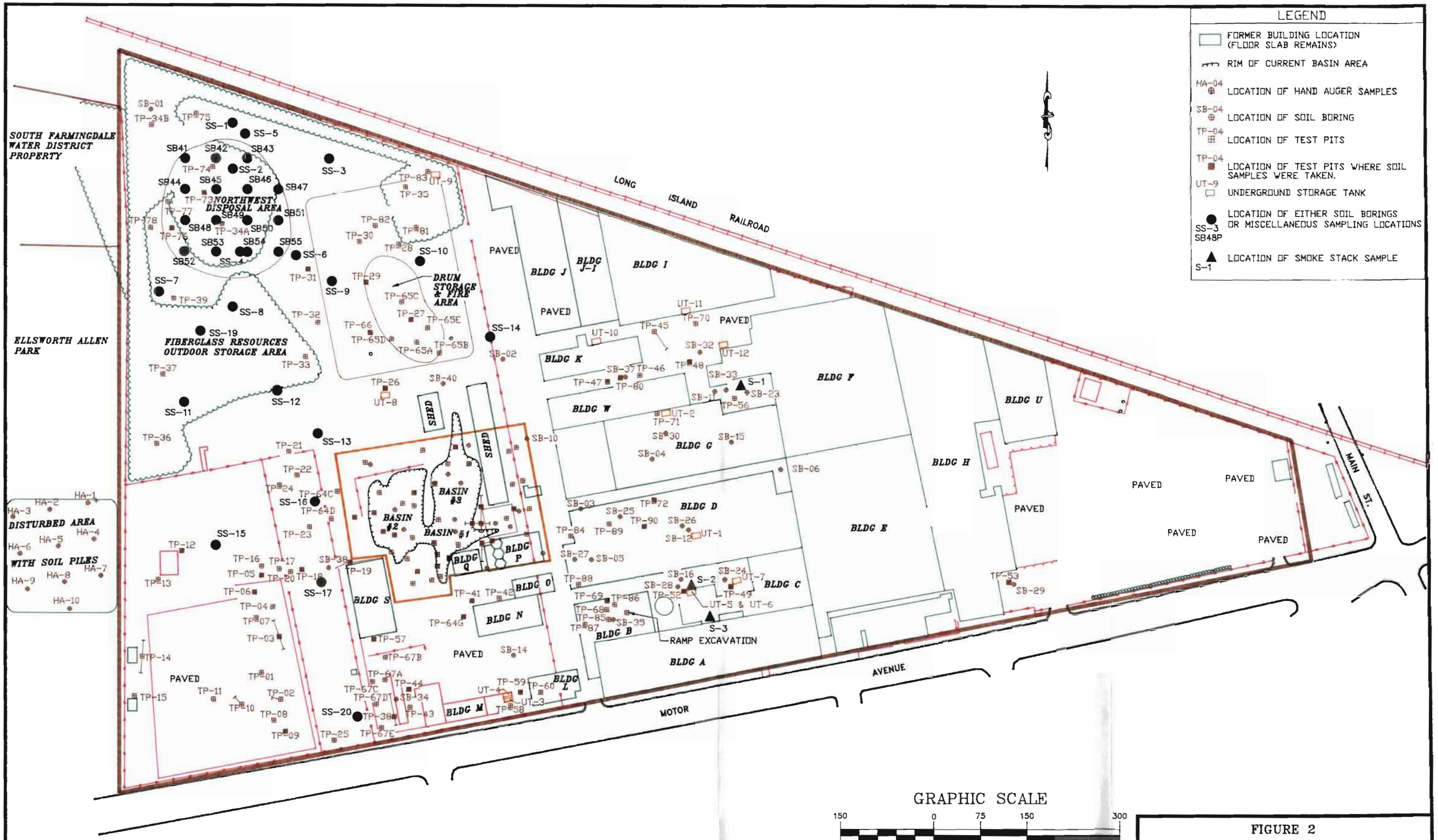

MAP NOTES:

1. SEE FIGURE 1-4 (MAP NOTES) FOR THE SOURCES OF INFORMATION FOR OTHER SITE FEATURES SHOWN ON THE MAP.
2. SEE FIGURE 1-7 FOR EXPANDED AREA OF TEST PITS AND SOIL BORING LOCATIONS IN BASIN AREA.

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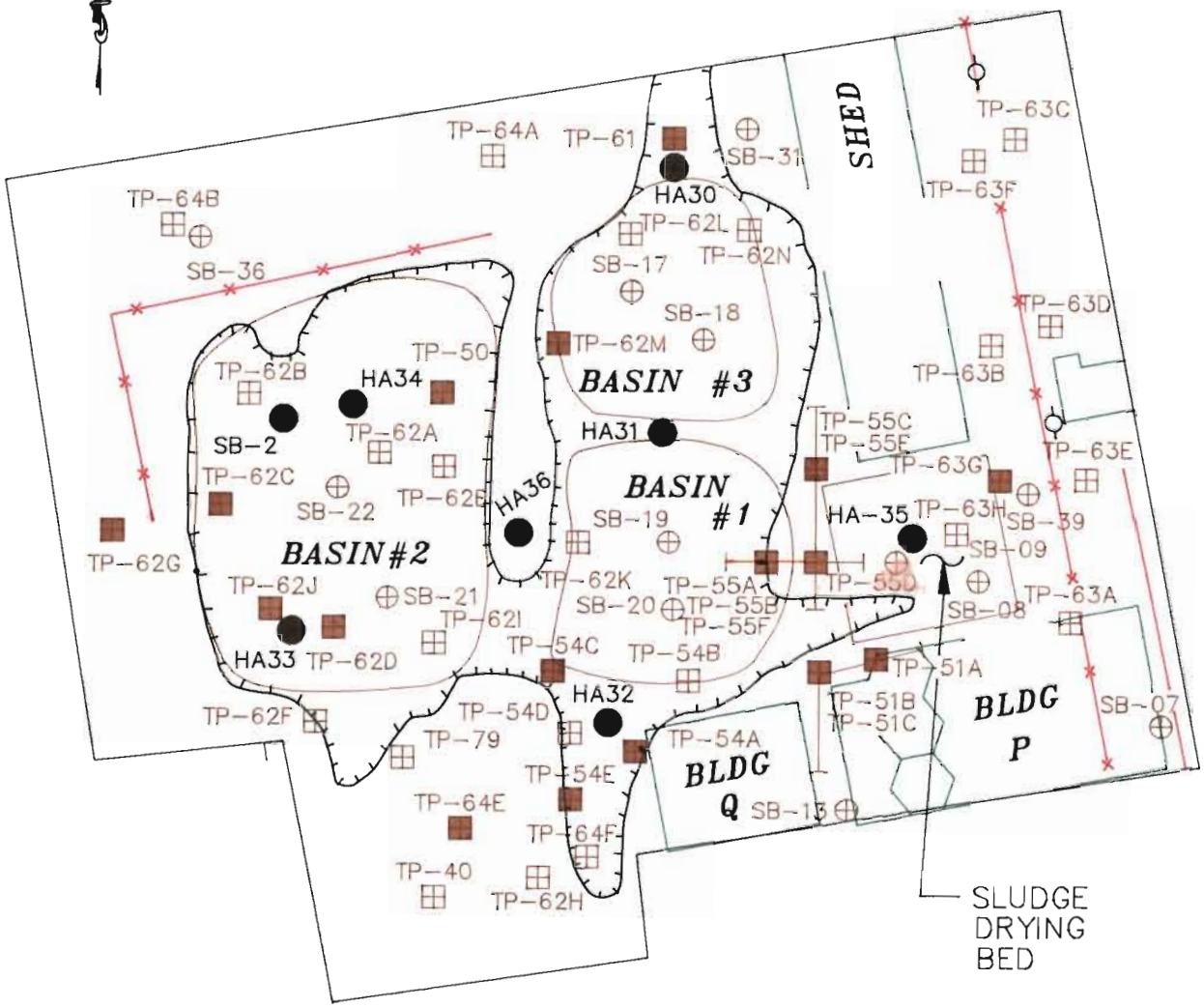
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
68-C4-0022
W.O.# 03347-041-001-1250-01

FIGURE 2
SOIL BORING LOCATIONS
NORTHWEST DISPOSAL AREA AND VICINITY
LIBERTY INDUSTRIAL FINISHING
FARMINGDALE, NEW YORK
MAY 1997



LEGEND

- FORMER BUILDING LOCATION (FLOOR SLAB REMAINS)
- RIM OF CURRENT BASIN AREA
- LOCATION OF SOIL BORINGS
- LOCATION OF TEST PITS WHERE SOIL SAMPLES WERE COLLECTED
- LOCATION OF TEST PITS
- LOCATION OF HAND AUGER SOIL SAMPLING POINTS

GRAPHIC SCALE

50 0 25 50 100

(IN FEET)
1 inch = 50 ft.

FIGURE 3

SOIL BORING LOCATIONS

FORMER DISPOSAL BASINS/SLUDGE DRYING BED AND VICINITY

LIBERTY INDUSTRIAL FINISHING

FARMINGDALE, NEW YORK

MAY 1997

U.S. EPA ENVIRONMENTAL RESPONSE TEAM CENTER
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT
68-C4-0022
W.O.# 03347-041-001-1250-01

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MAP NOTES:

1. POSITIVE DETECTS OR ND VALUES SHOWN
2. PRELIMINARY REMEDIATION GOAL (PRG) FOR CHROMIUM = 4300 mg/kg
3. REFER TO TABLE 1 IN THIS REPORT FOR THE REAC HAND AUGER, SOIL BORING, AND SURFACE SOIL SAMPLE LOCATIONS AND DEPTHS
4. REFER TO TABLE 2 IN THIS REPORT FOR THE REAC FIELD X-RAY FLUORESCENCE (XRF) ANALYTICAL DATA
5. REFER TO TABLE 3 IN THIS REPORT FOR THE REAC LABORATORY CONFIRMATION ANALYTICAL DATA
6. REFER TO TABLES 2-2, 2-3, AND 2-4 IN THE FINAL RI REPORT (WESTON, 1994) FOR THE RI HAND AUGER, TEST PIT, AND SOIL BORING SAMPLE LOCATIONS AND DEPTHS
7. REFER TO TABLE 4-6 IN THE FINAL RI REPORT (WESTON, 1994) FOR THE RI SUBSURFACE TEST PIT ANALYTICAL DATA
8. REFER TO TABLE 4-10 IN THE FINAL RI REPORT (WESTON, 1994) FOR THE RI SUBSURFACE SOIL BORING ANALYTICAL DATA
9. REFER TO TABLE 4-25 IN THE FINAL RI REPORT (WESTON, 1994) FOR THE RI SUBSURFACE SOIL HAND AUGER ANALYTICAL DATA
10. ND = NOT DETECTED
11. DATA SHOWN ARE FOR THE 0-10 FOOT DEPTH INTERVAL BELOW GRADE SURFACE, EXCEPT FOR THE NORTHWEST DISPOSAL AREA, WHERE DATA COLLECTED FROM DEPTHS TO 15 FEET BELOW GRADE ARE SHOWN
12. RELATIVE TO THE RI DATA SHOWN: A) FOR SAMPLING LOCATIONS WHERE FIELD DUPLICATES WERE COLLECTED, THE HIGHEST DETECTABLE VALUE BETWEEN THE FIELD SAMPLE AND ITS DUPLICATE SAMPLE IS SHOWN AND B) FOR TEST PIT SAMPLES COLLECTED FROM DIFFERENT AREAS OF THE TEST PIT BUT AT THE SAME APPROX. DEPTH, THE HIGHEST DETECTABLE VALUE IS SHOWN
13. REFER TO FIGURES 2-3 AND 2-4 IN THE FINAL RI REPORT (WESTON, 1994) FOR LOCATIONS OF ADDITIONAL RI TEST PITS AND SOIL BORINGS WHERE EITHER NO SAMPLES WERE COLLECTED OR SAMPLES WERE COLLECTED ONLY FROM DEEPER THAN 10 FEET BELOW GRADE

LEGEND

- FORMER BUILDING LOCATION (FLOOR SLAB REMAINS)
- RIM OF CURRENT BASIN AREA
- HA-04 — RI HAND AUGER SAMPLES
- SB-04 — RI SOIL BORING
- TP-04 — RI TEST PITS
- TP-04 — RI TEST PITS WHERE SOIL SAMPLES WERE TAKEN.
- UT-9 — UNDERGROUND STORAGE TANK
- HA35 — REAC HAND AUGER SAMPLES
- SS-9 — REAC SURFICIAL SOIL SAMPLES
- SB45 — REAC SOIL BORING
- F:130 — XRF FIELD SCREENING ANALYTICAL DATA
- L:6.5 — XRF LAB CONFIRMATORY ANALYTICAL DATA (ALL OTHERS, RI ANALYTICAL DATA)
- 6800 — VALUES ABOVE PRGs
- 150/4.2 — SAMPLES COLLECTED AT THE SAME LOCATION FROM DIFFERENT DEPTHS (SHALLOW/DEEPER, RELATIVE ONLY TO SAMPLE LOCATION)
- APPROXIMATE AREAS OF SOILS WITH CHROMIUM CONCENTRATIONS ABOVE PRGs

ALL CONCENTRATIONS IN MG/KG

GRAPHIC SCALE

75 0 37.5 75 150

(IN FEET)
1 inch = 75 ft.

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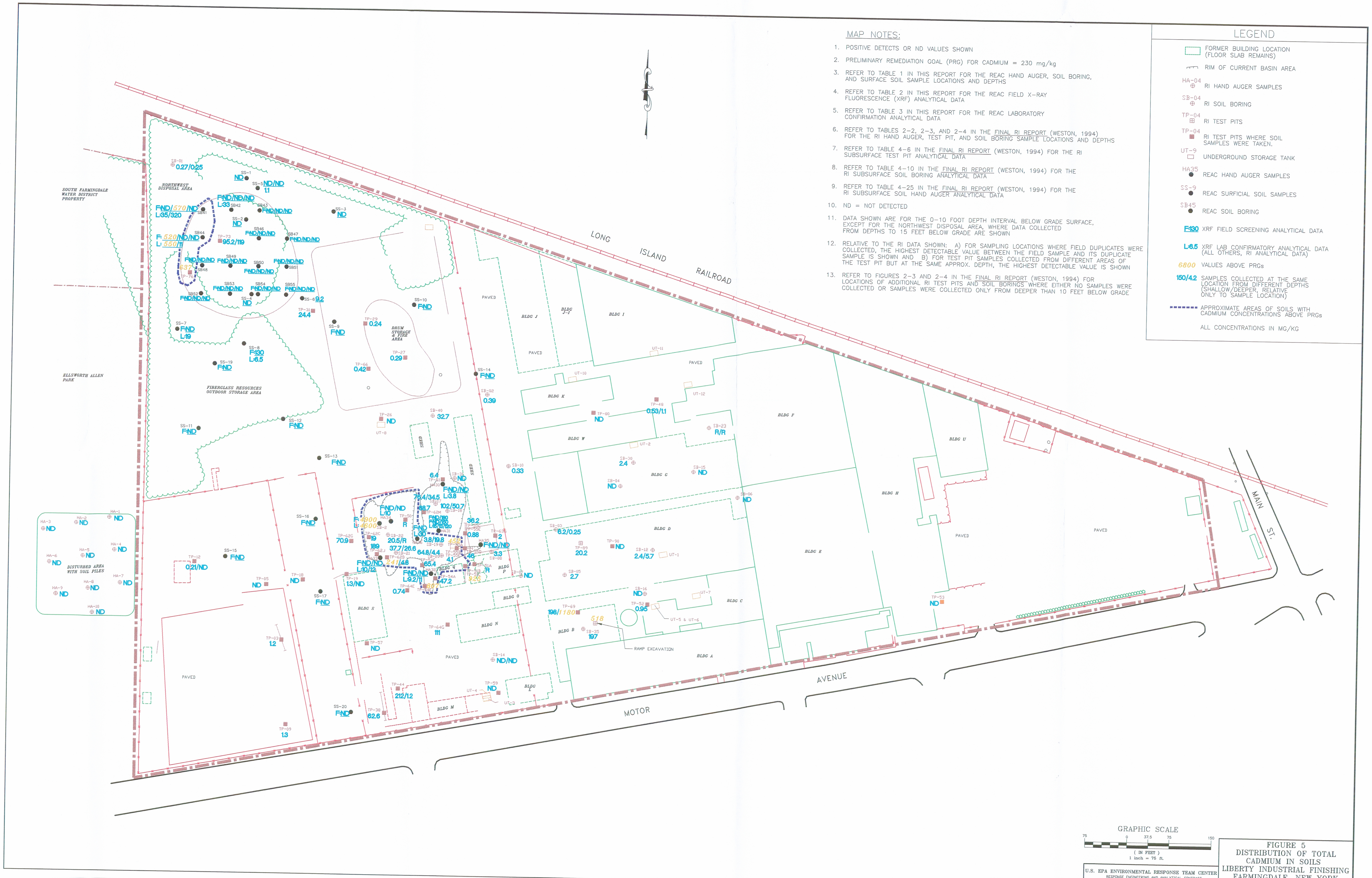
FIGURE 4
DISTRIBUTION OF TOTAL CHROMIUM IN SOILS
LIBERTY INDUSTRIAL FINISHING
FARMINGDALE, NEW YORK
MAY 1997



MAP NOTES:

1. POSITIVE DETECTS OR ND VALUES SHOWN
2. PRELIMINARY REMEDIATION GOAL (PRG) FOR CADMIUM = 230 mg/kg
3. REFER TO TABLE 1 IN THIS REPORT FOR THE REAC HAND AUGER, SOIL BORING, AND SURFACE SOIL SAMPLE LOCATIONS AND DEPTHS
4. REFER TO TABLE 2 IN THIS REPORT FOR THE REAC FIELD X-RAY FLUORESCENCE (XRF) ANALYTICAL DATA
5. REFER TO TABLE 3 IN THIS REPORT FOR THE REAC LABORATORY CONFIRMATION ANALYTICAL DATA
6. REFER TO TABLES 2-2, 2-3, AND 2-4 IN THE FINAL RI REPORT (WESTON, 1994) FOR THE RI HAND AUGER, TEST PIT, AND SOIL BORING SAMPLE LOCATIONS AND DEPTHS
7. REFER TO TABLE 4-6 IN THE FINAL RI REPORT (WESTON, 1994) FOR THE RI SUBSURFACE TEST PIT ANALYTICAL DATA
8. REFER TO TABLE 4-10 IN THE FINAL RI REPORT (WESTON, 1994) FOR THE RI SUBSURFACE SOIL BORING ANALYTICAL DATA
9. REFER TO TABLE 4-25 IN THE FINAL RI REPORT (WESTON, 1994) FOR THE RI SUBSURFACE SOIL HAND AUGER ANALYTICAL DATA
10. ND = NOT DETECTED
11. DATA SHOWN ARE FOR THE 0-10 FOOT DEPTH INTERVAL BELOW GRADE SURFACE, EXCEPT FOR THE NORTHWEST DISPOSAL AREA, WHERE DATA COLLECTED FROM DEPTHS TO 15 FEET BELOW GRADE ARE SHOWN
12. RELATIVE TO THE RI DATA SHOWN: A) FOR SAMPLING LOCATIONS WHERE FIELD DUPLICATES WERE COLLECTED, THE HIGHEST DETECTABLE VALUE BETWEEN THE FIELD SAMPLE AND ITS DUPLICATE SAMPLE IS SHOWN AND B) FOR TEST PIT SAMPLES COLLECTED FROM DIFFERENT AREAS OF THE TEST PIT BUT AT THE SAME APPROX. DEPTH, THE HIGHEST DETECTABLE VALUE IS SHOWN
13. REFER TO FIGURES 2-3 AND 2-4 IN THE FINAL RI REPORT (WESTON, 1994) FOR LOCATIONS OF ADDITIONAL RI TEST PITS AND SOIL BORINGS WHERE EITHER NO SAMPLES WERE COLLECTED OR SAMPLES WERE COLLECTED ONLY FROM DEEPER THAN 10 FEET BELOW GRADE

LEGEND

- FORMER BUILDING LOCATION (FLOOR SLAB REMAINS)
- RIM OF CURRENT BASIN AREA
- HA-04 — RI HAND AUGER SAMPLES
- SB-04 — RI SOIL BORING
- TP-04 — RI TEST PITS
- TP-04 — RI TEST PITS WHERE SOIL SAMPLES WERE TAKEN.
- UT-9 — UNDERGROUND STORAGE TANK
- HA35 — REAC HAND AUGER SAMPLES
- SS-9 — REAC SURFICIAL SOIL SAMPLES
- SB45 — REAC SOIL BORING
- F:130 — XRF FIELD SCREENING ANALYTICAL DATA
- L:6.5 — XRF LAB CONFIRMATORY ANALYTICAL DATA (ALL OTHERS, RI ANALYTICAL DATA)
- 6800 — VALUES ABOVE PRGs
- 150/4.2 — SAMPLES COLLECTED AT THE SAME LOCATION FROM DIFFERENT DEPTHS (SHALLOW/DEEPER, RELATIVE ONLY TO SAMPLE LOCATION)
- APPROXIMATE AREAS OF SOILS WITH CADMIUM CONCENTRATIONS ABOVE PRGs

ALL CONCENTRATIONS IN MG/KG

GRAPHIC SCALE

75 0 37.5 75 150

(IN FEET)
1 inch = 75 ft.

U.S. EPA ENVIRONMENTAL RESPONSE TEAM CENTER
RESPONSE ENGINEERING AND ANALYTICAL CONTRACT

FIGURE 5
DISTRIBUTION OF TOTAL CADMIUM IN SOILS
LIBERTY INDUSTRIAL FINISHING
FARMINGDALE, NEW YORK

APPENDIX A
Soil Descriptions At Soil Boring Locations
Northwest Disposal Area
Liberty Industrial Finishing Site
Farmingdale, New York
May 1997

Soil Boring Location: SB-41 **Sampled: 22 January 1997, 1245 to 1300 hours**

Depth Interval (ft bgs)	Description
3-6	Dark grey brown loamy sand
6-8	Red brown loamy coarse sand w/thin bluish sand at 7-8 feet
8-10	Dark grey brown sandy loam
10-12	Yellow brown very coarse sand
12-13	Red brown medium to coarse sand
13-16	Yellow brown very coarse sand; moderate pebbles

Photographs P-08 and P-16
Soil photo ionization detector (HNu) = 0 ppm at all depths

Soil Boring Location: B-42 **Sampled 23 January 1997, 1300 to 1350 hours**

Depth Interval (ft bgs)	Description
3-4	Grey brown to grey stony fill
4-7	Layered grey to black stony very coarse sand
8-12	Layered grey to black stony very coarse sand
12-14	Grey brown stony fill
14-16	Yellow brown very coarse sand; some pebbles

Photographs P-20, P 21 and P 22
Soil photoionization detector (HNu) = 0 ppm at all depths

Soil Boring Location: B-43 **Sampled 23 January 1997, 1020 to 1155 hours**

Depth Interval (ft bgs)	Description
3-4	Red brown very coarse sand; abundant pebbles
4-7	Yellow brown very coarse sand; abundant pebbles
7-12	Yellow brown very coarse sand; abundant pebbles
12-14	Greyish yellow brown very coarse sand
14-16	Yellow brown very coarse sand

Boring location is 10 feet southwest of 50 x 50 foot grid node
Soil photoionization detector (HNu) = 0 ppm at all depths

Soil Boring Location SB-44 **Sampled: 22 January 1997, 1220 to 1240 hours**

Depth Interval (ft bgs)	Description
3-4	Dark grey brown fill; loamy coarse sand
4-5	Red brown fine sandy loam
5-6	Grey brown loamy coarse sand
6-7	Olive grey brown loamy coarse sand
7-8	Dark grey brown loamy coarse sand
8-9	Dark grey brown loamy coarse sand
9-10	Black loamy coarse sand; oily
10-12	Yellow brown very coarse sand
12-13	Dark grey brown loamy coarse sand
13-14	Yellow brown medium sand
14-16	Yellow brown very coarse sand

Soil photoionization detector (HNu) = 0 ppm at all depths
Photographs P-07, P-11 and P-12

Soil Boring Location: B-45 **Sampled 23 January 1997, 1200 to 1245 hours**

Depth Interval (ft bgs)	Description
3-4	Dark grey black loamy sand; oily
5-7	Grey brown loamy coarse sand; some pebbles

Soil photoionization detector (HNu) = 0 ppm at all depths
Refusal at 7 feet bgs
Photograph P-19

Soil Boring Location: SB-47 **Sampled 22 January 1997, 1340 to 1415 hours**

Depth Interval (ft bgs)	Description
3-4	Grey brown very coarse sand
4-8	Yellow brown very coarse sand
8-10	Grey brown very coarse sand, grading to dark grey brown deeper
10-12	Yellow brown coarse sand; some pebbles
12-14	Grey brown coarse sand
14-16	Yellow brown very coarse sand

Soil photoionization detector (HNu) = 0 ppm at all depths
Photographs P-09, P-14 and P-15

Soil Boring Location: SB-48 **Sampled: 22 January 1997, 1120 to 1220 hours**

Depth Interval (ft bgs)	Description
3-8	Fill; dark grey to grey brown with wood fragments; loamy coarse sand to coarse sandy loam
8-9	Dark grey loamy coarse sand
9-10	Reddish brown coarse sand; few pebbles
10-10.5	Olive grey silty clay loam
10.5-12	Yellow brown very coarse sand
12-13	Dark grey loamy coarse sand
13-16	Yellow brown very coarse sand; some pebbles

Soil photoionization detector (HNu) = 0 ppm at all depths
Photographs P-03, P-04, P-05 and P-06

Soil Boring Location: B-49 **Sampled 23 January 1997, 0920 to 0950 hours**

Depth Interval (ft bgs)	Description
3-4	Yellow brown very coarse sand
4-5	Light olive brown coarse sandy loam; moderate pebbles
5-6	Light grey silty clay with yellow brown mottles
6-7	Yellow brown very coarse sand
8-9	Very coarse gravelly yellow brown sand
9-12	Yellow brown coarse sand; few pebbles
12-14	Yellow brown loamy coarse sand w/grey mottles; few pebbles
14-16	Light yellow brown coarse sand; few pebbles

Boring location is 10 feet south of 50 x 50 foot grid node
Soil photoionization detector (HNu) = 0 ppm at all depths

Soil Boring Location: B-50 **Sampled 23 January 1997, 0820 to 0900 hours**

Depth Interval (ft bgs)	Description
3-4	Red brown very coarse sand; abundant pebbles
4-7	Yellow brown very coarse to coarse sand; moderate pebbles
7-8	Yellow brown loamy coarse sand with large grey mottles
8-12	Yellow brown very coarse sand; few pebbles
12-15	Yellow brown very coarse sand; moderate pebbles
15-16	Red brown very coarse sand; moderate pebbles

Photograph P-18

Soil Boring Location: SB-51 **Sampled 22 January 1997, 1425 to 1550 hours**

Depth Interval (ft bgs)	Description
4-8	Yellow brown very coarse sand; moderate pebbles
8-9	Yellow brown coarse sand; moderate pebbles
9-10	Dark grey brown coarse sand; moderate pebbles
10-16	Yellow brown very coarse sand; moderate pebbles

Soil photoionization detector (HNu) = 0 ppm at all depths
Photographs P-10 and P-17

Soil Boring Location: SB-52 **Sampled: 22 January 1997, 1020 to 1115 hours**

Depth Interval (ft bgs)	Description
4-5	Reddish yellow brown sandy loam
5-8	Reddish yellow brown very coarse sand & fine gravel
8-11	Reddish yellow brown very coarse sand & fine gravel
11-12	Grey brown coarse sand w/few pebbles
12-14	Yellowish grey brown coarse loamy sand
14-16	Light yellow brown very coarse sand

Soil photoionization detector (HNu) = 0 ppm at all depths
Photographs P-01 and P-02

Soil Boring Location: B-53 **Sampled 23 January 1997, 1400 to 1435 hours**

Depth Interval (ft bgs)	Description
3-4	Yellow brown very coarse sand with large grey mottles
4-7	Yellow brown very coarse sand; few pebbles
9-10	Light yellow brown coarse sand
10-11	Yellow brown coarse sand
12-14	Yellow brown coarse sand with large grey mottles
14-16	Yellow brown very coarse sand; some pebbles

Soil photoionization detector (HNu) = 0 ppm at all depths

Soil Boring Location: SB-54 **Sampled 23 January 1997, 0730 to 0805 hours**

Depth Interval (ft bgs)	Description
3-7	Yellow brown coarse to very coarse sand
8-9	Greyish yellow brown coarse sand
9-12	Light yellow brown very coarse sand; moderate pebbles
12-13	Greyish yellow brown very coarse sand
13-14	Light yellow brown very coarse sand; moderate pebbles
14-16	Red brown coarse sand; moderate pebbles

Soil photoionization detector (HNu) = 0 ppm at all depths

Soil Boring Location: SB-55 **Sampled 22 January 1997, `1600 to 1645 hours**

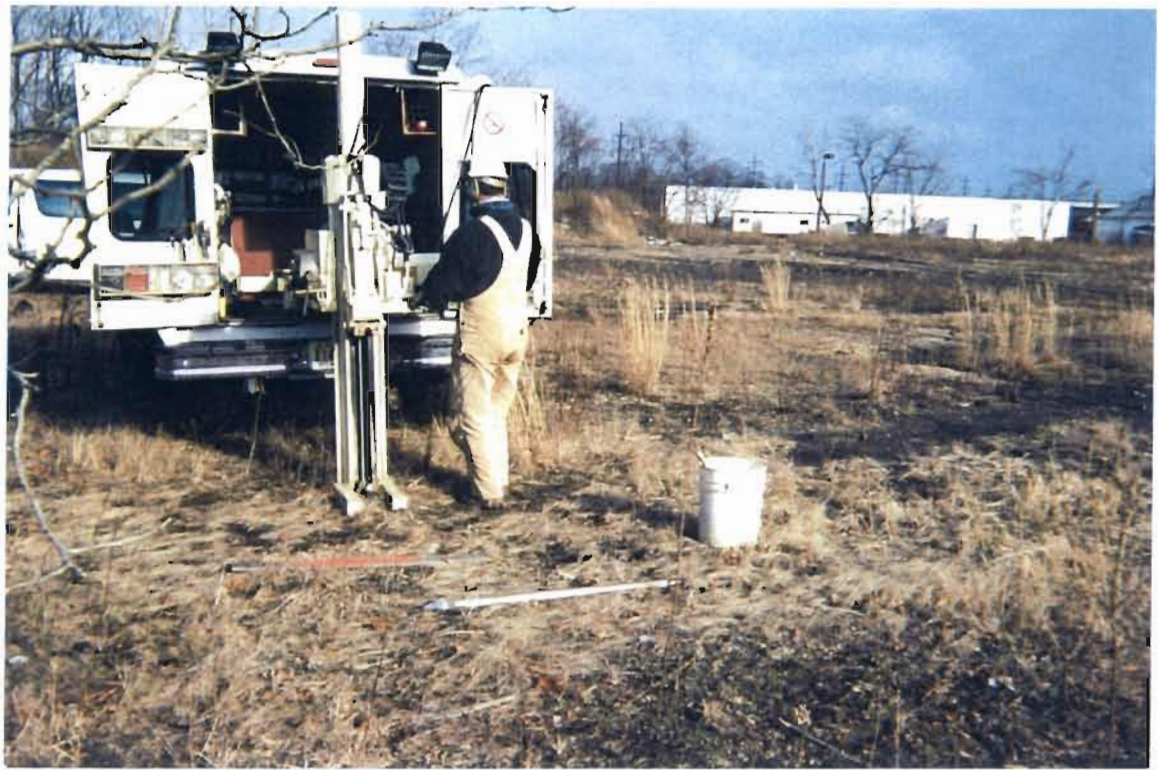
Depth Interval (ft bgs)	Description
3-7	Yellow brown very coarse sand; moderate pebbles
7-9	Yellow brown very coarse sand with large grey mottles
9-12	Light yellow brown very coarse sand
12-14	Yellow brown coarse sand with large grey mottles
14-16	Light yellow brown very coarse sand

Soil photoionization detector (HNu) = 0 ppm at all depths
Photograph P-13

APPENDIX B
Photographic Documentation At Soil Boring Locations
Northwest Disposal Area
Liberty Industrial Finishing Site
Farmingdale, New York
May 1997

Soil boring location B-50 showing wooded characteristic of Northwest Disposal Area

Core of discolored soil from SB-48 at 3 to 8 feet bgs; color ranges from dark grey to grey brown with wood fragments



Soil boring location SB-52, showing Geoprobe® drill rig and physical site features

Soil core from SB-44 at 3 to 8 feet bgs; multi-colored fill

APPENDIX C
Sample Chain of Custody Forms
Liberty Industrial Finishing Site
Farmingdale, New York
May 1997

USEPA ERT

CHAIN OF CUSTODY RECORD

COC # 1250-1005

REAC, Edison, NJ
Contact: James Brown
908-494-4060
WO#: 03347-041-001-1250-01
EPA Contract 68-C4-0022

Project Name: Liberty Industrial/Finishing
Location: Farmingdale, NY
Site Phone:

Page No.: 2 of 2
Cooler #:6365
Lab:
Contact: James Brown
908-494-4060

LAB #	Tag	Sample #	Location	Matrix	Collected	Container/Preservative	Analysis Requested	MS MSD	Comments
	A	1250-076	SS-4	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-077	SS-5	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-078	SS-5	Soil	1/23/97	8 oz glass/None	metals Cd, Cr		
	A	1250-079	SS-6	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-080	SS-6	Soil	1/23/97	8 oz glass/None	metals Cd, Cr		
	A	1250-081	SS-7	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-082	SS-8	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-083	SS-9	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-084	SS-9	Soil	1/23/97	8 oz glass/None	metals Cd, Cr		
	A	1250-085	SS-10	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-086	SS-11	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-087	SS-12	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-088	SS-13	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-089	SS-14	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-090	SS-15	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-091	SS-16	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-092	SS-17	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-093	SS-19	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-094	SS-20	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		

Special Instructions:

REFERENCE COC:

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Ana. Sys.	[illegible]	1/24/97	B [illegible]	1/24/97	1735						

USFPA ERT

CHAIN OF CUSTODY RECORD

COC # 1250-1001

REAC, Edison, NJ
Contact: James Brown
908-494-4060
WO#: 03347-041-001-1250-01
EPA Contract 68-C4-0022

Project Name: Liberty Industrial/Finishing
Location: Farmingdale, NY
Site Phone:

Page No.: 1 of 2
Cooler #:6365
Lab:
Contact: James Brown
908-494-4060

LAB #	Tag	Sample #	Location	Matrix	Collected	Container/Preservative	Analysis Requested	MS MSD	Comments
	A	1250-001	Smoke Stack-1	Soil	1/21/97	4 oz glass/None	metals Cd, Cr		
	A	1250-002	Smoke Stack-2	Soil	1/21/97	4 oz glass/None	metals Cd, Cr		
	A	1250-003	B41	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-004	B41	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-005	B41	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-006	B44	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-007	B44	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-008	B44	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-009	B47	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-010		Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-011	B47	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-012	B48	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-013	B48	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-014	B48	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-015	B51	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-016	B51	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-017	B51	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-018	B52	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-019	B52	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		

Special Instructions:

REFERENCE COC: 04431 – select samples sent to lab. for analysis

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Analysis	[illegible]	1/23/97	B Lewis	1/24/97	1735						

USEPA ERT

CHAIN OF CUSTODY RECORD

COC # 1250-1007

REAC, Edison, NJ
Contact: James Brown
908-494-4060
WO#: 03347-041-001-1250-01
EPA Contract 68-C4-0022

Project Name: Liberty Industrial/Finishing
Location: Farmingdale, NY
Site Phone:

Page No.: 2 of 3
Cooler #:8279
Lab:
Contact: James Brown
908-494-4060

LAB #	Tag	Sample #	Location	Matrix	Collected	Container/Preservative	Analysis Requested	MS MSD	Comments
	A	1250-039	B43	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-040	B43	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-041	B43	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-044	B45	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-045	B46	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-046	B46	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-047	B46	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-051	B49	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-052	B49	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		

Special Instructions:

REFERENCE COC:

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Analysis	Jim Brown	1/24/97	B Lewis	1/24/97	1735						

USEPA ERT

CHAIN OF CUSTODY RECORD

COC # 1250-1006

REAC, Edison, NJ
Contact: James Brown
908-494-4060
WO#: 03347-041-001-1250-01
EPA Contract 68-C4-0022

Project Name: Liberty Industrial/Finishing
Location: Farmingdale, NY
Site Phone:

Page No.: 1 of 3
Cooler #:6279
Lab:
Contact: James Brown
908-494-4060

LAB #	Tag	Sample #	Location	Matrix	Collected	Container/Preservative	Analysis Requested	MS MSD	Comments
	A	1250-020	B52	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-021	B55	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-022	B55	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-023	B55	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-024	HA-30	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-025	HA-30	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-026	HA-31	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-027	HA-31	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-028	HA-32	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-029	HA-32	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-030	HA-33	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-031	HA-33	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-032	HA-34	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-033	HA-34	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-034	Middle Basin-2 (B B2)	Soil	1/22/97	4 oz glass/None	metals Cd, Cr		
	A	1250-035	Smoke Stack-3	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-036	B42	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-037	B42	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-038	B42	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		

Special Instructions:

REFERENCE COC: 04431 - Select samples sent to lab for analysis

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Analysis	Jim Brown	1/31/97	B Jones	1/14/97	1725						

USEPA ERT

CHAIN OF CUSTODY RECORD

COC # 1250-1003

REAC, Edison, NJ
Contact: James Brown
908-494-4060
WO#: 03347-041-001-1250-01
EPA Contract 68-C4-0022

Project Name: Liberty Industrial/Finishing
Location: Farmingdale, NY
Site Phone:

Page No.: 1 of 2
Cooler #:008673
Lab:
Contact: James Brown
908-494-4060

LAB #	Tag	Sample #	Location	Matrix	Collected	Container/Preservative	Analysis Requested	MS MSD	Comments
	B	1250-024	HA-30	Soil	1/22/97	2 oz Septa/None	VOC, ~~full scan TCLP~~		
	B	1250-025	HA-30	Soil	1/22/97	2 oz Septa/None	VOC, ~~full scan TCLP~~		
	B	1250-032	HA-34	Soil	1/22/97	2 oz Septa/None	VOC, ~~full scan TCLP~~		
	B	1250-033	HA-34	Soil	1/22/97	2 oz Septa/None	VOC, ~~full scan TCLP~~		
	B	1250-036	B42	Soil	1/23/97	4 oz glass/None	VOC, full scan TCLP		
	B	1250-037	B42	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-038	B42	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-041	B43	Soil	1/23/97	4 oz glass/None	Volatiles	Y	
	A	1250-042	B44	Soil	1/23/97	4 oz glass/None	Volatiles		
	A	1250-043	B44	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-044	B45	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-045	B46	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-046	B46	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-047	B46	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	A	1250-048	B46	Soil	1/23/97	4 oz glass/None	Volatiles		
	A	1250-049	B46	Soil	1/23/97	4 oz glass/None	Volatiles		
	A	1250-050	B46	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-057	B53	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-058	B53	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		

Special Instructions:

REFERENCE COC:

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
1-19/Analysis	[illegible]	1/24/97	B Lewson	1/24/97	1105		[illegible]	1/24/97			

[illegible]

USEPA ERT

CHAIN OF CUSTODY RECORD

COC # 1250-1002

REAC, Edison, NJ
Contact: James Brown
908-494-4060
WO#: 03347-041-001-1250-01
EPA Contract 68-C4-0022

Project Name: Liberty Industrial/Finishing
Location: Farmingdale, NY
Site Phone:

Page No.: 3 of 3
Cooler #:6279
Lab:
Contact: James Brown
908-494-4060

LAB #	Tag	Sample #	Location	Matrix	Collected	Container/Preservative	Analysis Requested	MS MSD	Comments
	A	1250-053	B49	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-054	B50	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-055	B50	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-056	B50	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-057	B53	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-058	B53	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-059	B53	Soil	1/23/97	4 oz glass/None	metals Cd, Cr	Y	
	A	1250-060	B54	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-061	B54	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-062	B54	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-063	HA-31	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-064	HA-31	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-069	HA-35	Soil	1/23/97	8 oz glass/None	metals Cd, Cr		
	A	1250-070	HA-35	Soil	1/23/97	8 oz glass/None	metals Cd, Cr		
	A	1250-071	HA-35	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-072	HA-36	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-073	SS-1	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-074	SS-2	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		
	A	1250-075	SS-3	Soil	1/23/97	4 oz glass/None	metals Cd, Cr		

Special Instructions:

REFERENCE COC:

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Analysis	[illegible]	1/24/97	[illegible]	1/24/97	1735						

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: Liberty Enchet Finishing
Project Number: (1-250) 03347-041-001-1350-01
RFW Contact: Jim L. Brown Phone: (908) 494-4060

No: 04431

SHEET NO. 1 OF 1

Cooler # 9279

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Cd/Cr			
	A003	B41	S	1-22-97	1	4oz glass/none				
	A004	B41	"	1-22-97						
	A006	B44	"	1-22-97						
	A007	B44		1-22-97						
	A025	HA-30								
	A026	HA-31								
	~~A027~~	~~HA-31~~								
	A028	HA-32								
	A029	HA-32								
	A030	HA-33								
	A031	HA-33								
	A032	HA-34								
	A037	B42		1/23/97						
	A063	HA-31								
	A064	HA-31								
	A072	HA-36								
	A078	SS-5				8oz glass/none				
	A079	SS-6				4oz glass/none				
	A081	SS-7								
	A082	SS-8								

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions:

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY # 1250 (1001, 1005
1250 (1006, 1007, 100
1003, 1004

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Analyses	Jim L. Brown	4/28/97									

USEPA ERT

CHAIN OF CUSTODY RECORD

COC # 1250-1004

REAC, Edison, NJ
Contact: James Brown
908-494-4060
WO#: 03347-041-001-1250-01
EPA Contract 68-C4-0022

Project Name: Liberty Industrial/Finishing
Location: Farmingdale, NY
Site Phone:

Page No.: 2 of 2
Cooler #:008673
Lab:
Contact:

LAB #	Tag	Sample #	Location	Matrix	Collected	Container/Preservative	Analysis Requested	MS MSD	Comments
	B	1250-059	B53	Soil	1/23/97	4 oz glass/None	VOC, ~~full scan TCLP~~	Y	
	A	1250-065	HA-32	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	A	1250-066	HA-32	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	A	1250-067	HA-33	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	A	1250-068	HA-33	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-069	HA-35	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-070	HA-35	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-071	HA-35	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-072	HA-36	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-078	SS-5	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-080	SS-6	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-084	SS-9	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-090	SS-15	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-091	SS-16	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-092	SS-17	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-094	SS-20	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	A	1250-027	HA-31	Soil	1/22/97	8oz glass/none	VOC, full scan TCLP		

Special Instructions:

REFERENCE COC:

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
1-16/Analysis	Jim L Brown	1/24/97	B Lewis	1/24/97	1735		Jim L. Brown	1/27/97			

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: Liberty Industrial Finishing
Project Number: 03347-041-001-1250-01
RFW Contact: Jim L. Brown Phone: (908) 494 4060

No: 00111

SHEET NO. 1 OF 1

Sample Identification							Analyses Requested				
REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Cd/Cr				
	A003A	B41	S	01-22-97	1	2 oz glass/none					
	A004A	B41									
	A006A	B44									
	A007A	B44									
	A025A	HA-30									
	A026A	HA-31									
	A028A	HA-32									
	A029A	HA-32									
	A030A	HA-33									
	A031A	HA-33									
	A032A	HA-34									
	A037A	B-42		01-23-97							
	A063a	HA-31									
	A064A	HA-31									
	A072A	HA-36									
	A078A	SS-5									
	A079A	SS-6									
	A081A	SS-7									
	A082A	SS-8									
	A034A	SB-2		01-22-97							

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions: Mix each sample well before taking aliquot for digestion

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY # 4432, 1001, 1005, 1006, 1007, 1002, 1003, 1004

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Analysis	Jim L. Brown	01/16/97									

8/94

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: Liberty Industrial Finishing
Project Number: 03247-040-001-1250-01
RFW Contact: Jim Brown Phone: 908 494 4060

No: 04432

SHEET NO 1 OF 1

Sample Identification | **Analyses Requested**

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Cd+Cr			
	A037	SB2	S	1/13/97	1	4oz. glass/none				

Cooler # ____

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions:

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Analysis	Jim Brown	1/27/97									

FORM #4

* U.S. GPO: 1994-383-

APPENDIX D
Field Data Sheets
Liberty Industrial Finishing Site
Farmingdale, New York
May 1997

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B55 **Sample # 1250-023**

Sample #	1250-023	Units:	Metric
Date	1/22/97	Sampler:	J. Royce
Time	4:30:00 PM	Witness:	J. Brown
Location:	B55	Composition:	
Sample Depth:	14.5 - 15	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-30 **Sample # 1250-024**

Sample #	**1250-024**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**A. Fernandez**
Time	**12:00:00 PM**	**Witness:**	**C. Beasley**
Location:	**HA-30**	**Composition:**	
Sample Depth:	**5 - 5**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None
B	1003	VOC, full scan TCLP	Auger	2 oz Septa	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-33 **Sample # 1250-030**

Sample #	**1250-030**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**A. Fernandez**
Time	**4:05:00 PM**	**Witness:**	**C. Beasley**
Location:	**HA-33**	**Composition:**	
Sample Depth:	**5 - 5**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-33 **Sample # 1250-031**

Sample #	**1250-031**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**A. Fernandez**
Time	**4:20:00 PM**	**Witness:**	**C. Beasley**
Location:	**HA-33**	**Composition:**	
Sample Depth:	**7.5 - 7.5**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-34 **Sample # 1250-032**

Sample #	**1250-032**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**A. Fernandez**
Time	**2:35:00 PM**	**Witness:**	**C. Beasley**
Location:	**HA-34**	**Composition:**	
Sample Depth:		**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None
B	1003	VOC, full scan TCLP	Auger	2 oz Septa	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-34 **Sample # 1250-033**

Sample #	**1250-033**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**A. Fernandez**
Time	**4:50:00 PM**	**Witness:**	**C. Beasley**
Location:	**HA-34**	**Composition:**	
Sample Depth:	**9 - 9**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None
B	1003	VOC, full scan TCLP	Auger	2 oz Septa	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: Middle Basin-2 **Sample # 1250-034**

Sample #	**1250-034**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**Andrew C.**
Time	**12:00:00 PM**	**Witness:**	
Location:	**Middle Basin-2**	**Composition:**	
Sample Depth:	**0 - .3**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: Smoke Stack-3 **Sample # 1250-035**

Sample #	**1250-035**	**Units:**	**Metric**
Date	**1/23/97**	**Sampler:**	**C. Beasley**
Time	**9:30:00 AM**	**Witness:**	**A. Fernandez**
Location:	**Smoke Stack-3**	**Composition:**	
Sample Depth:	**0 - 2**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B42 **Sample # 1250-036**

Sample #	**1250-036**	**Units:**	**Metric**
Date	**1/23/97**	**Sampler:**	**J. Royce**
Time	**12:20:00 PM**	**Witness:**	**J. Brown**
Location:	**B42**	**Composition:**	
Sample Depth:	**4.5 - 5**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None
B	1003	VOC, full scan TCLP	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B42 **Sample # 1250-037**

Sample #	**1250-037**	**Units:**	**Metric**
Date	**1/23/97**	**Sampler:**	**J. Royce**
Time	**12:20:00 PM**	**Witness:**	**J. Brown**
Location:	**B42**	**Composition:**	
Sample Depth:	**9.5 - 10**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None
B	1003	Volatiles	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-30 **Sample # 1250-025**

Sample #	**1250-025**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**A. Fernandez**
Time		**Witness:**	**C. Beasley**
Location:	**HA-30**	**Composition:**	
Sample Depth:	**10 - 10**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None
B	1003	VOC, full scan TCLP	Auger	2 oz Septa	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-31 **Sample # 1250-026**

Sample #	**1250-026**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**A. Fernandez**
Time	**3:00:00 PM**	**Witness:**	**C. Beasley**
Location:	**HA-31**	**Composition:**	
Sample Depth:	**5 - 5**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-31 **Sample # 1250-027**

Sample #	**1250-027**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**A. Fernandez**
Time	**3:10:00 PM**	**Witness:**	**C. Beasley**
Location:	**HA-31**	**Composition:**	
Sample Depth:	**8 - 8**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-32 **Sample # 1250-028**

Sample #	**1250-028**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**A. Fernandez**
Time	**3:22:00 PM**	**Witness:**	**C. Beasley**
Location:	**HA-32**	**Composition:**	
Sample Depth:	**5 - 5**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-32 **Sample # 1250-029**

Sample #	**1250-029**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**A. Fernandez**
Time	**3:45:00 PM**	**Witness:**	**C. Beasley**
Location:	**HA-32**	**Composition:**	
Sample Depth:	**10 - 10**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/21/97 16:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: Smoke Stack-1 **Sample # 1250-001**

Sample #	1250-001	Units:	Metric
Date	1/21/97	Sampler:	J. Royce
Time	3:30:00 PM	Witness:	A. Fernandez
Location:	Smoke Stack-1	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/21/97 16:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: Smoke Stack-2 **Sample # 1250-002**

Sample #	**1250-002**	**Units:**	**Metric**
Date	**1/21/97**	**Sampler:**	**J. Royce**
Time	**3:50:00 PM**	**Witness:**	**A. Fernandez**
Location:	**Smoke Stack-2**	**Composition:**	
Sample Depth:	**0 - 2**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B41 **Sample # 1250-003**

Sample #	1250-003	Units:	Metric
Date	1/22/97	Sampler:	J. Royce
Time	1:30:00 PM	Witness:	J. Brown
Location:	B41	Composition:	
Sample Depth:	4.5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B41 **Sample # 1250-004**

Sample #	1250-004	Units:	Metric
Date	1/22/97	Sampler:	J. Royce
Time	1:30:00 PM	Witness:	J. Brown
Location:	B41	Composition:	
Sample Depth:	9.5 - 10	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B41 **Sample # 1250-005**

Sample #	1250-005	Units:	Metric
Date	1/22/97	Sampler:	J. Royce
Time	1:30:00 PM	Witness:	J. Brown
Location:	B41	Composition:	
Sample Depth:	14.5 - 15	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B44 **Sample # 1250-006**

Sample #	**1250-006**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**12:25:00 PM**	**Witness:**	**J. Brown**
Location:	**B44**	**Composition:**	
Sample Depth:	**4.5 - 5**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B44 **Sample # 1250-007**

Sample #	1250-007	Units:	Metric
Date	1/22/97	Sampler:	J. Royce
Time	12:25:00 PM	Witness:	J. Brown
Location:	B44	Composition:	
Sample Depth:	9.5 - 10	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B44 **Sample # 1250-008**

Sample #	**1250-008**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**12:25:00 PM**	**Witness:**	**J. Brown**
Location:	**B44**	**Composition:**	
Sample Depth:	**14.5 - 15**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B47 **Sample # 1250-009**

Sample #	1250-009	Units:	Metric
Date	1/22/97	Sampler:	J. Royce
Time	1:50:00 PM	Witness:	J. Brown
Location:	B47	Composition:	
Sample Depth:	4.5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: **Sample # 1250-010**

Sample #	**1250-010**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**1:50:00 PM**	**Witness:**	**J. Brown**
Location:		**Composition:**	
Sample Depth:	**9.5 - 10**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B47 **Sample # 1250-011**

Sample #	**1250-011**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**1:50:00 PM**	**Witness:**	**J. Brown**
Location:	**B47**	**Composition:**	
Sample Depth:	**14.5 - 15**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B48 **Sample # 1250-012**

Sample #	**1250-012**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**11:30:00 AM**	**Witness:**	**J. Brown**
Location:	**B48**	**Composition:**	
Sample Depth:	**4.5 - 5**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B48 **Sample # 1250-013**

Sample #	**1250-013**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**11:30:00 AM**	**Witness:**	**J. Brown**
Location:	**B48**	**Composition:**	
Sample Depth:	**9.5 - 10**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B48 **Sample # 1250-014**

Sample #	**1250-014**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**11:30:00 AM**	**Witness:**	**J. Brown**
Location:	**B48**	**Composition:**	
Sample Depth:	**14.5 - 15**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B51 **Sample # 1250-015**

Sample #	**1250-015**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**3:30:00 PM**	**Witness:**	**J. Brown**
Location:	**B51**	**Composition:**	
Sample Depth:	**4.5 - 5**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B51 **Sample # 1250-016**

Sample #	1250-016	Units:	Metric
Date	1/22/97	Sampler:	J. Royce
Time	3:30:00 PM	Witness:	J. Brown
Location:	B51	Composition:	
Sample Depth:	9.5 - 10	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B51 **Sample # 1250-017**

Sample #	**1250-017**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**3:30:00 PM**	**Witness:**	**J. Brown**
Location:	**B51**	**Composition:**	
Sample Depth:	**14.5 - 15**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B52 **Sample # 1250-018**

Sample #	**1250-018**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**10:40:00 AM**	**Witness:**	**J. Brown**
Location:	**B52**	**Composition:**	
Sample Depth:	**4.5 - 5**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B52 **Sample # 1250-019**

Sample #	**1250-019**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**10:40:00 AM**	**Witness:**	**J. Brown**
Location:	**B52**	**Composition:**	
Sample Depth:	**9.5 - 10**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1001	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B52 **Sample # 1250-020**

Sample #	1250-020	Units:	Metric
Date	1/22/97	Sampler:	J. Royce
Time	10:40:00 AM	Witness:	J. Brown
Location:	B52	Composition:	
Sample Depth:	14.5 - 15	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B55 **Sample # 1250-021**

Sample #	1250-021	Units:	Metric
Date	1/22/97	Sampler:	J. Royce
Time	4:30:00 PM	Witness:	J. Brown
Location:	B55	Composition:	
Sample Depth:	4.5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/22/97 15:30	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B55 **Sample # 1250-022**

Sample #	**1250-022**	**Units:**	**Metric**
Date	**1/22/97**	**Sampler:**	**J. Royce**
Time	**4:30:00 PM**	**Witness:**	**J. Brown**
Location:	**B55**	**Composition:**	
Sample Depth:	**9.5 - 10**	**% Silt:**	**NA**
Type	**Grab**	**% Clay:**	**NA**
Color:		**% Sand:**	**NA**
Munsel Code:	**NA**	**% Gravel:**	**NA**

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-5738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B42 **Sample # 1250-038**

Sample #	1250-038	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	12:20:00 PM	Witness:	J. Brown
Location:	B42	Composition:	
Sample Depth:	14.5 - 15	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1006	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None
B	1003	VOC, full scan TCLP,	Geoprobe	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-32 **Sample # 1250-065**

Sample #	1250-065	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	2:00:00 PM	Witness:	C. Beasley
Location:	HA-32	Composition:	
Sample Depth:	5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B43 **Sample # 1250-040**

Sample #	1250-040	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	10:30:00 AM	Witness:	J. Brown
Location:	B43	Composition:	
Sample Depth:	9.5 - 10	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1007	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B44 **Sample # 1250-042**

Sample #	1250-042	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	3:00:00 PM	Witness:	J. Brown
Location:	B44	Composition:	
Sample Depth:	4.5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1003	Volatiles	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing — **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-33 — **Sample # 1250-068**

Sample #	1250-068	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	2:30:00 PM	Witness:	C. Beasley
Location:	HA-33	Composition:	
Sample Depth:	7 - 7	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B45 **Sample # 1250-044**

Sample #	1250-044	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	12:00:00 PM	Witness:	J. Brown
Location:	B45	Composition:	
Sample Depth:	4.5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1007	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None
B	1003	Volatiles	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing — **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-35 — **Sample # 1250-070**

Sample #	1250-070	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	5:15:00 PM	Witness:	C. Beasley
Location:	HA-35	Composition:	
Sample Depth:	9.5 - 10	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Auger	8 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B46 **Sample # 1250-046**

Sample #	1250-046	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	5:00:00 PM	Witness:	C. Beasley
Location:	B46	Composition:	
Sample Depth:	10 - 10	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1007	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None
B	1003	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-36 **Sample # 1250-072**

Sample #	1250-072	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	5:40:00 PM	Witness:	C. Beasley
Location:	HA-36	Composition:	
Sample Depth:	.5 - 1	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B48 **Sample # 1250-048**

Sample #	1250-048	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	3:30:00 PM	Witness:	J. Brown
Location:	B48	Composition:	
Sample Depth:	4.5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1003	Volatiles	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-2 **Sample # 1250-074**

Sample #	1250-074	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	9:40:00 AM	Witness:	J. Royce
Location:	SS-2	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B48 **Sample # 1250-050**

Sample #	1250-050	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	3:30:00 PM	Witness:	J. Brown
Location:	B48	Composition:	
Sample Depth:	14.5 - 15	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1003	Volatiles	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-4 **Sample # 1250-076**

Sample #	1250-076	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	10:10:00 AM	Witness:	J. Brown
Location:	SS-4	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B49 **Sample # 1250-052**

Sample #	1250-052	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	9:45:00 AM	Witness:	J. Brown
Location:	B49	Composition:	
Sample Depth:	9.5 - 10	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1007	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing — **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beesley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-5 — **Sample # 1250-078**

Sample #	1250-078	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	4:10:00 PM	Witness:	J. Royce
Location:	SS-5	Composition:	
Sample Depth:	1 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	8 oz glass	1	Wet Ice	None
B	1004	Volatiles	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B50 **Sample # 1250-054**

Sample #	1250-054	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	8:30:00 AM	Witness:	J. Brown
Location:	B50	Composition:	
Sample Depth:	4.5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-6 **Sample # 1250-080**

Sample #	1250-080	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	4:30:00 PM	Witness:	J. Royce
Location:	SS-6	Composition:	
Sample Depth:	1 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	8 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	trowel,plastic	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beesley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B50 **Sample # 1250-056**

Sample #	1250-056	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	8:30:00 AM	Witness:	J. Brown
Location:	B50	Composition:	
Sample Depth:	14.5 - 15	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B53 **Sample # 1250-058**

Sample #	1250-058	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	2:10:00 PM	Witness:	J. Brown
Location:	B53	Composition:	
Sample Depth:	9.5 - 10	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None
B	1003	VOC, full scan TCLP	Geoprobe	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-9 **Sample # 1250-083**

Sample #	1250-083	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	9:20:00 AM	Witness:	J. Royce
Location:	SS-9	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B54 **Sample # 1250-060**

Sample #	1250-060	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	7:45:00 AM	Witness:	J. Brown
Location:	B54	Composition:	
Sample Depth:	4.5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-10 **Sample # 1250-085**

Sample #	1250-085	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	10:25:00 AM	Witness:	J. Royce
Location:	SS-10	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: B54 **Sample # 1250-062**

Sample #	1250-062	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	7:45:00 AM	Witness:	J. Brown
Location:	B54	Composition:	
Sample Depth:	14.5 - 15	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Geoprobe	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing — **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-12 — **Sample # 1250-087**

Sample #	1250-087	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	10:40:00 AM	Witness:	J. Royce
Location:	SS-12	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel;plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-31 **Sample # 1250-064**

Sample #	1250-064	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	8:00:00 AM	Witness:	C. Beasley
Location:	HA-31	Composition:	
Sample Depth:	7.5 - 7.5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-14 **Sample # 1250-089**

Sample #	1250-089	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	11:50:00 AM	Witness:	J. Royce
Location:	SS-14	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-32 **Sample # 1250-066**

Sample #	1250-066	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	2:15:00 PM	Witness:	C. Beasley
Location:	HA-32	Composition:	
Sample Depth:	9 - 9	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-33 **Sample # 1250-067**

Sample #	1250-067	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	2:00:00 PM	Witness:	C. Beasley
Location:	HA-33	Composition:	
Sample Depth:	5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-33 **Sample # 1250-068**

Sample #	1250-068	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	2:30:00 PM	Witness:	C. Beasley
Location:	HA-33	Composition:	
Sample Depth:	7 - 7	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-35 **Sample # 1250-069**

Sample #	1250-069	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	5:00:00 PM	Witness:	C. Beasley
Location:	HA-35	Composition:	
Sample Depth:	4.5 - 5	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Auger	8 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing | **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-35 | **Sample # 1250-070**

Sample #	1250-070	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	5:15:00 PM	Witness:	C. Beasley
Location:	HA-35	Composition:	
Sample Depth:	9.5 - 10	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Auger	8 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-35 **Sample # 1250-071**

Sample #	1250-071	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	5:30:00 PM	Witness:	C. Beasley
Location:	HA-35	Composition:	
Sample Depth:	14.5 - 15	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing — **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: HA-36 — **Sample # 1250-072**

Sample #	1250-072	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	5:40:00 PM	Witness:	C. Beasley
Location:	HA-36	Composition:	
Sample Depth:	.5 - 1	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	Auger	4 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	Auger	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beesley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-1 **Sample # 1250-073**

Sample #	1250-073	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	9:35:00 AM	Witness:	J. Brown
Location:	SS-1	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing — **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-2 — **Sample # 1250-074**

Sample #	1250-074	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	9:40:00 AM	Witness:	J. Royce
Location:	SS-2	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-3 **Sample # 1250-075**

Sample #	1250-075	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	9:45:00 AM	Witness:	J. Brown
Location:	SS-3	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1002	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-4 **Sample # 1250-076**

Sample #	1250-076	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	10:10:00 AM	Witness:	J. Brown
Location:	SS-4	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-5 **Sample # 1250-077**

Sample #	1250-077	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	10:15:00 AM	Witness:	J. Brown
Location:	SS-5	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing | **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-5 | **Sample # 1250-078**

Sample #	1250-078	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	4:10:00 PM	Witness:	J. Royce
Location:	SS-5	Composition:	
Sample Depth:	1 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	8 oz glass	1	Wet Ice	None
B	1004	Volatiles	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-5738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-6 **Sample # 1250-079**

Sample #	1250-079	Units:	Metric
Date	1/23/97	Sampler:	J. Royce
Time	9:20:00 AM	Witness:	J. Brown
Location:	SS-6	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing | **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-6 | **Sample # 1250-080**

Sample #	1250-080	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	4:30:00 PM	Witness:	J. Royce
Location:	SS-6	Composition:	
Sample Depth:	1 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	8 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	trowel,plastic	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-7 **Sample # 1250-081**

Sample #	1250-081	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	11:55:00 AM	Witness:	J. Royce
Location:	SS-7	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-8 **Sample # 1250-082**

Sample #	1250-082	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	12:00:00 PM	Witness:	J. Royce
Location:	SS-8	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-9 **Sample # 1250-083**

Sample #	1250-083	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	9:20:00 AM	Witness:	J. Royce
Location:	SS-9	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-9 **Sample # 1250-084**

Sample #	1250-084	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	4:00:00 PM	Witness:	
Location:	SS-9	Composition:	
Sample Depth:	1 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	Geoprobe	8 oz glass	1	Wet Ice	None
B	1004	Volatiles	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing | **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-10 | **Sample # 1250-085**

Sample #	1250-085	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	10:25:00 AM	Witness:	J. Royce
Location:	SS-10	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beesley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-11 **Sample # 1250-086**

Sample #	1250-086	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	10:45:00 AM	Witness:	J. Royce
Location:	SS-11	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing | **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-12 | **Sample # 1250-087**

Sample #	1250-087	Units:	Metric
Date	1/23/97	Sampler:	J. Brown
Time	10:40:00 AM	Witness:	J. Royce
Location:	SS-12	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel;plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-13 **Sample # 1250-088**

Sample #	1250-088	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	11:45:00 AM	Witness:	J. Royce
Location:	SS-13	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing — **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-14 — **Sample # 1250-089**

Sample #	1250-089	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	11:50:00 AM	Witness:	J. Royce
Location:	SS-14	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-15 **Sample # 1250-090**

Sample #	1250-090	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	3:45:00 PM	Witness:	C. Beasley
Location:	SS-15	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	Geoprobe	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing | **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-16 | **Sample # 1250-091**

Sample #	1250-091	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	3:27:00 PM	Witness:	C. Beasley
Location:	SS-16	Composition:	
Sample Depth:	1.8 - 1.8	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	Geoprobe	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing | **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-17 | **Sample # 1250-092**

Sample #	1250-092	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	3:00:00 PM	Witness:	C. Beasley
Location:	SS-17	Composition:	
Sample Depth:	1.6 - 1.6	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	Geoprobe	8 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing — **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-19 — **Sample # 1250-093**

Sample #	1250-093	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	11:30:00 AM	Witness:	C. Beasley
Location:	SS-19	Composition:	
Sample Depth:	0 - 2	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None

Site: Liberty Industrial/Finishing **Task: Soil/Sediment**

WA/Site #:	1250	WO #:	03347-041-001-1250-01
Site Location:	Farmingdale, NY	Description:	Industrial
EPA WAM	Craig Beasley	Phone:	908 321-6738
REAC Contact:	James Brown	Phone:	908-494-4060
Field OP ID:	1/23/97 09:00	Wind (mph):	
Ambient (C):		Wind Direction:	
% Rel Humidity:		Precip:	
Temp (C):		Sky:	

Location: SS-20 **Sample # 1250-094**

Sample #	1250-094	Units:	Metric
Date	1/23/97	Sampler:	A. Fernandez
Time	3:15:00 PM	Witness:	C. Beasley
Location:	SS-20	Composition:	
Sample Depth:	1.9 - 1.9	% Silt:	NA
Type	Grab	% Clay:	NA
Color:		% Sand:	NA
Munsel Code:	NA	% Gravel:	NA

Remarks:

Tag	COC	Lab Analyses	Collection Method	Container	# of	Storage	Preservation
A	1005	metals Cd, Cr	trowel,plastic	4 oz glass	1	Wet Ice	None
B	1004	VOC, full scan TCLP	trowel,plastic	8 oz glass	1	Wet Ice	None

APPENDIX E
Analytical Report
Liberty Industrial Finishing Site
Farmingdale, New York
May 1997

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ANALYTICAL REPORT

Prepared by
Roy F. Weston, Inc.

Liberty Industrial Finishing Site
Farmingdale, New York

March, 1997

EPA Work Assignment No. 1-250
WESTON Work Order No. 03347-041-001-1250-01
EPA Contract No. 68-C4-0022

Submitted to
C. Beasley
EPA-ERTC

J. Brown — Date
Task Leader

V. Kansal — 3/11/97 Date
Analytical Section Leader

E. Gilardi — 3/11/97 Date
Program Manager

Analysis by:
DataChem Labs

Prepared by:
D. Laviska

Reviewed by:
M. Barkley

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Appendix will be furnished on request.

Introduction

REAC in response to WA #1-250, provided analytical support as described in the following table, for environmental samples collected from the Liberty Industrial Finishing Site located in Farmingdale, New York. The support also included QA/QC, data review, and preparation of an analytical report containing a summary of the analytical methods, the results, and the QA/QC results.

Chain of Custody	Number of Samples	Sampling Date	Date Received	Matrix	Analysis	Laboratory
1250-1003	4	01/22/97	01/28/97	Soil	VOC	DataChem Labs
	11	01/23/97				
	4				VOC, TCLP**	
1250-1004	9	01/23/97	01/28/97		VOC	
	7				VOC, TCLP**	
	1	01/22/97				
04431	11	01/22/97	01/29/97		Cadmium & Chromium	
	8	01/23/97				
04432	1	01/22/97	01/28/97			
04434	12	01/22/97	01/28/97			
	8	01/23/97				

**This analysis (TCLP) is a full TCLP scan; this includes TCLP VOC, BNA, pesticides, herbicides, and metals.

CASE NARRATIVE

All sample coolers should be maintained at 4 ± 2 °C. The temperatures were measured from 8 to 9 °C upon arrival at the subcontracted laboratory. The data are not qualified.

Data Package G039 - TCLP VOC and VOC Analyses

TCLP VOC Analysis -

Tetrachloroethylene (0.0050mg/L) was detected in the TCLP blank (TB-129723-1). The result for this compound in the sample 1250-036 is considered nondetected since it is less than five times the concentration found in the TCLP blank.

VOC Analysis -

Methylene chloride (0.56 µg/kg) and styrene (0.39 µg/kg) were detected in method blank 1 (BL-129761-1). The result for methylene chloride in the sample 1250-043 is considered nondetected since it is less than five times the concentration found in method blank 1.

In the initial calibration from 10/15/96 for the instrument 5971-L, the percent relative standard deviation for carbon disulfide (45%) and carbon tetrachloride (43%) exceeded acceptable QC limits. No samples were quantitated using this initial calibration; the data are not affected.

In the continuing calibration from 02/06/97 for the instrument 5971-L, the percent difference for carbon disulfide (28%) and vinyl acetate (51%) exceeded acceptable QC limits. Carbon disulfide was not detected in the associated samples; the data for this compound are not affected. All results for vinyl acetate in the associated samples 1250-070, 1250-071, 1250-072, 1250-078, 1250-080, 1250-084, 1250-090, 1250-091, 1250-092, and 1250-094 are considered estimated.

In the continuing calibration from 02/06/97 for the instrument 5971-M, the percent difference for 2-hexanone (28%) exceeded acceptable QC limits. This compound was not detected in the associated samples; the data are not affected.

The recovery of one surrogate was outside the acceptable QC limits for the samples 1250-037, 1250-042, and 1250-048. All results for these samples are considered estimated.

The area for the internal standard chlorobenzene-d5 for the sample 1250-048 was less than 50% of the corresponding calibration area. All compounds quantitated with this internal standard for this sample are considered estimated.

Data Package G041 - TCLP BNA Analysis

The data have been examined and were found to be acceptable.

Data Package G042 - TCLP Pesticides Analysis

The data have been examined and were found to be acceptable.

Data Package G043 - TCLP Herbicides Analysis

The data were examined and were found to be acceptable.

Data Package G044 - TCLP Metals and Cadmium & Chromium Analyses

The data were examined and were found to be acceptable.

Data Package G045 - Cadmium & Chromium Analysis

The data were examined and were found to be acceptable.

Summary of Abbreviations

AA	Atomic Absorption
B	The analyte was found in the blank
BFB	Bromofluorobenzene
BPQL	Below the Practical Quantitation Limit
BS	Blank Spike
BSD	Blank Spike Duplicate
C	Centigrade
D	(Surrogate Table) this value is from a diluted sample and was not calculated (Result Table) this result was obtained from a diluted sample
CLP	Contract Laboratory Protocol
COC	Chain of Custody
CONC	Concentration
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DFTPP	Decafluorotriphenylphosphine
DL	Detection Limit
E	The value is greater than the highest linear standard and is estimated
EMPC	Estimated maximum possible concentration
J	The value is below the method detection limit and is estimated
ICAP	Inductively Coupled Argon Plasma
IDL	Instrument Detection Limit
ISTD	Internal Standard
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MI	Matrix Interference
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MW	Molecular Weight
NA	either Not Applicable or Not Available
NC	Not Calculated
NR	Not Requested
NS	Not Spiked
% D	Percent Difference
% REC	Percent Recovery
PQL	Practical Quantitation Limit
PPBV	Parts per billion by volume
QL	Quantitation Limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SIM	Selected Ion Mode
U	Denotes not detected

m^3	cubic meter	kg	kilogram
L	liter	g	gram
dL	deciliter	cg	centigram
mL	milliliter	mg	milligram
μL	microliter	μg	microgram
		ng	nanogram
		pg	picogram

* denotes a value that exceeds the acceptable QC limit

Abbreviations that are specific to a particular table are explained in footnotes on that table.

Revision 7/02/96

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Analytical Procedure for VOC in TCLP Extract

The subcontracted laboratory determined the concentration of VOCs in TCLP Extract from soil samples using USEPA Method 1311 (Toxicity Characteristic Leaching Procedure) in conjunction with USEPA SW-846 method 8240. The results of the analysis are listed in Table 1.1.

Analytical Procedure for VOC in Soil

The subcontracted laboratory determined the concentration of VOCs in soil samples using USEPA SW-846 method 8260. The results of the analysis are listed in Table 1.2.

Analytical Procedure for BNA in TCLP Extract

The subcontracted laboratory determined the concentration of BNAs in TCLP Extract from soil samples using USEPA Method 1311 (Toxicity Characteristic Leaching Procedure) in conjunction with USEPA SW-846 method 8270B. The results of the analysis are listed in Table 1.3.

Analytical Procedure for Pesticides in TCLP Extract

The subcontracted laboratory determined the concentration of pesticides in TCLP Extract from soil samples using USEPA Method 1311 (Toxicity Characteristic Leaching Procedure) in conjunction with USEPA SW-846 method 8080. The results of the analysis are listed in Table 1.4.

Analytical Procedure for Herbicides in TCLP Extract

The subcontracted laboratory determined the concentration of herbicides in TCLP Extract from soil samples using USEPA Method 1311 (Toxicity Characteristic Leaching Procedure) in conjunction with USEPA SW-846 method 8150. The results of the analysis are listed in Table 1.5.

Analytical Procedure for Metals in TCLP Extract

The subcontracted laboratory determined the concentration of metals in TCLP Extract from soil samples using USEPA Method 1311 (Toxicity Characteristic Leaching Procedure) in conjunction with USEPA SW-846 digestion method 3015 and analysis method 6010. Mercury was analyzed by method 7470. The results of the analysis are listed in Table 1.6.

Analytical Procedure for Cadmium & Chromium in Soil

The subcontracted laboratory determined the concentration of cadmium & chromium in soil samples using USEPA SW-846 digestion method 3050 and analysis method 6010. The results of the analysis are listed in Table 1.7.

Table 1.1 Results of the Analysis for VOC in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	Method Blank		TCLP Blank		1250-036		1250-043		1250-045	
Location	—		—		B42		B44		B46	
Collected	—		—		01/23/97		01/23/97		01/23/97	
Analyzed	02/05/97		02/05/97		02/05/97		02/05/97		02/05/97	
Dilution Factor	1		1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Benzene	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Carbon Tetrachloride	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Chlorobenzene	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Chloroform	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
1,2-Dichloroethane	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
1,1-Dichloroethylene	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Methyl Ethyl ketone	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010
Tetrachloroethylene	U	0.005	0.0050	0.005	0.024 B	0.005	U	0.005	U	0.005
Trichloroethylene	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Vinyl chloride	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010

Table 1.1 (cont.) Results of the Analysis for VOC in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	1250-058		1250-065		1250-067		1250-069		1250-072	
Location	B53		HA-32		HA-33		HA-35		HA-36	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/05/97		02/05/97		02/05/97		02/05/97		02/05/97	
Dilution Factor	1		1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Benzene	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Carbon Tetrachloride	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Chlorobenzene	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Chloroform	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
1,2-Dichloroethane	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
1,1-Dichloroethylene	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Methyl Ethyl ketone	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010
Tetrachloroethylene	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Trichloroethylene	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Vinyl chloride	U	0.010	U	0.010	U	0.010	U	0.010	U	0.010

Table 1.1 (cont.) Results of the Analysis for VOC in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	1250-080		1250-091		1250-094		1250-027	
Location	SS-6		SS-16		SS-20		HA-31	
Collected	01/23/97		01/23/97		01/23/97		01/22/97	
Analyzed	02/05/97		02/05/97		02/05/97		02/05/97	
Dilution Factor	1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Benzene	U	0.005	U	0.005	U	0.005	U	0.005
Carbon Tetrachloride	U	0.005	U	0.005	U	0.005	U	0.005
Chlorobenzene	U	0.005	U	0.005	U	0.005	U	0.005
Chloroform	U	0.005	U	0.005	U	0.005	U	0.005
1,2-Dichloroethane	U	0.005	U	0.005	U	0.005	U	0.005
1,1-Dichloroethylene	U	0.005	U	0.005	U	0.005	U	0.005
Methyl Ethyl ketone	U	0.010	U	0.010	U	0.010	U	0.010
Tetrachloroethylene	U	0.005	U	0.005	U	0.005	U	0.005
Trichloroethylene	U	0.005	U	0.005	U	0.005	U	0.005
Vinyl chloride	U	0.010	U	0.010	U	0.010	U	0.010

Table 1.2 Results of the Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	Method Blank 1		1250-024		1250-025		1250-032		1250-033	
Location	—		HA-30		HA-30		HA-34		HA-34	
Collected	—		01/22/97		01/22/97		01/22/97		01/22/97	
Analyzed	02/05/97		02/05/97		02/05/97		02/05/97		02/05/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	100		97		89		93		92	
Units	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Chloromethane	U	10	U	10	U	11	U	11	U	11
Bromomethane	U	10	U	10	U	11	U	11	U	11
Vinyl chloride	U	10	U	10	U	11	U	11	U	11
Chloroethane	U	10	U	10	U	11	U	11	U	11
Methylene chloride	0.56 J	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Acetone	U	100	U	100	5.4 J	110	U	110	U	110
Carbon disulfide	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Trichlorofluoromethane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
1,1-Dichloroethane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
1,1-Dichloroethene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Total-1,2-dichloroethene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Chloroform	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
1,2-Dichloroethane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Iodomethane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Acrolein	U	20	U	21	U	22	U	22	U	22
Acrylonitrile	U	20	U	21	U	22	U	22	U	22
2-Butanone	U	100	U	100	U	110	U	110	U	110
1,1,1-Trichloroethane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Carbon tetrachloride	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Vinyl acetate	U	10	U	10	U	11	U	11	U	11
Bromodichloromethane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
1,2-Dichloropropane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
cis-1,3-Dichloropropene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Trichloroethene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Benzene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Dibromochloromethane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
1,1,2-Trichloroethane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
trans-1,3-Dichloropropene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
2-Chloroethyl vinyl ether	U	10	U	10	U	11	U	11	U	11
Bromoform	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Dibromomethane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
trans-1,4-Dichloro-2-butene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
4-Methyl-2-Pentanone	U	50	U	52	U	56	U	54	U	54
1,2,3-Trichloropropane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
2-Hexanone	U	50	U	52	U	56	U	54	U	54
1,1,2,2-Tetrachloroethane	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Tetrachloroethene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Ethyl methacrylate	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Toluene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Chlorobenzene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Ethyl benzene	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Styrene	0.39 J	5.0	U	5.2	U	5.6	U	5.4	U	5.4
Total xylenes	U	5.0	U	5.2	U	5.6	U	5.4	U	5.4

Table 1.2 (cont.) Results of the Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	1250-036		1250-038		1250-041		1250-043		1250-045	
Location	B42		B42		B43		B44		B46	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/05/97		02/05/97		02/05/97		02/06/97		02/06/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	92		96		97		83		97	
Units	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Chloromethane	U	11	U	10	U	10	U	12	U	10
Bromomethane	U	11	U	10	U	10	U	12	U	10
Vinyl chloride	U	11	U	10	U	10	U	12	U	10
Chloroethane	U	11	U	10	U	10	U	12	U	10
Methylene chloride	U	5.4	U	5.2	U	5.2	0.58 B J	6.0	U	5.2
Acetone	24 J	110	U	100	U	100	14 J	120	U	100
Carbon disulfide	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Trichlorofluoromethane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
1,1-Dichloroethane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
1,1-Dichloroethene	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Total-1,2-dichloroethene	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Chloroform	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
1,2-Dichloroethane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Iodomethane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Acrolein	U	22	U	21	U	21	U	24	U	21
Acrylonitrile	U	22	U	21	U	21	U	24	U	21
2-Butanone	U	110	U	100	U	100	U	120	U	100
1,1,1-Trichloroethane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Carbon tetrachloride	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Vinyl acetate	U	11	U	10	U	10	U	12	U	10
Bromodichloromethane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
1,2-Dichloropropane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
cis-1,3-Dichloropropene	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Trichloroethene	1.3 J	5.4	U	5.2	U	5.2	1.1 J	6.0	U	5.2
Benzene	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Dibromochloromethane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
1,1,2-Trichloroethane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
trans-1,3-Dichloropropene	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
2-Chloroethyl vinyl ether	U	11	U	10	U	10	U	12	U	10
Bromoform	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Dibromomethane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
trans-1,4-Dichloro-2-butene	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
4-Methyl-2-Pentanone	U	54	U	52	U	52	U	60	U	52
1,2,3-Trichloropropane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
2-Hexanone	U	54	U	52	U	52	U	60	U	52
1,1,2,2-Tetrachloroethane	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Tetrachloroethene	63	5.4	1.0 J	5.2	U	5.2	U	6.0	U	5.2
Ethyl methacrylate	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Toluene	2.2 J	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Chlorobenzene	0.82 J	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Ethyl benzene	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Styrene	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2
Total xylenes	U	5.4	U	5.2	U	5.2	U	6.0	U	5.2

Table 1.2 (cont.) Results of the Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	1250-046		1250-047		1250-027	
Location	B46		B46		HA-31	
Collected	01/23/97		01/23/97		01/22/97	
Analyzed	02/06/97		02/06/97		02/05/97	
Dilution Factor	1		1		1	
Percent Solids	97		97		87	
Units	µg/kg		µg/kg		µg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL
Chloromethane	U	10	U	10	U	12
Bromomethane	U	10	U	10	U	12
Vinyl chloride	U	10	U	10	U	12
Chloroethane	U	10	U	10	U	12
Methylene chloride	U	5.2	U	5.1	U	5.8
Acetone	U	100	U	100	U	120
Carbon disulfide	U	5.2	U	5.1	U	5.8
Trichlorofluoromethane	U	5.2	U	5.1	U	5.8
1,1-Dichloroethane	U	5.2	U	5.1	U	5.8
1,1-Dichloroethene	U	5.2	U	5.1	U	5.8
Total-1,2-dichloroethene	U	5.2	U	5.1	U	5.8
Chloroform	U	5.2	U	5.1	U	5.8
1,2-Dichloroethane	U	5.2	U	5.1	U	5.8
Iodomethane	U	5.2	U	5.1	U	5.8
Acrolein	U	21	U	21	U	23
Acrylonitrile	U	21	U	21	U	23
2-Butanone	U	100	U	100	U	120
1,1,1-Trichloroethane	U	5.2	U	5.1	U	5.8
Carbon tetrachloride	U	5.2	U	5.1	U	5.8
Vinyl acetate	U	10	U	10	U	12
Bromodichloromethane	U	5.2	U	5.1	U	5.8
1,2-Dichloropropane	U	5.2	U	5.1	U	5.8
cis-1,3-Dichloropropene	U	5.2	U	5.1	U	5.8
Trichloroethene	U	5.2	U	5.1	U	5.8
Benzene	U	5.2	U	5.1	U	5.8
Dibromochloromethane	U	5.2	U	5.1	U	5.8
1,1,2-Trichloroethane	U	5.2	U	5.1	U	5.8
trans-1,3-Dichloropropene	U	5.2	U	5.1	U	5.8
2-Chloroethyl vinyl ether	U	10	U	10	U	12
Bromoform	U	5.2	U	5.1	U	5.8
Dibromomethane	U	5.2	U	5.1	U	5.8
trans-1,4-Dichloro-2-butene	U	5.2	U	5.1	U	5.8
4-Methyl-2-Pentanone	U	52	U	51	U	58
1,2,3-Trichloropropane	U	5.2	U	5.1	U	5.8
2-Hexanone	U	52	U	51	U	58
1,1,2,2-Tetrachloroethane	U	5.2	U	5.1	U	5.8
Tetrachloroethene	U	5.2	U	5.1	U	5.8
Ethyl methacrylate	U	5.2	U	5.1	U	5.8
Toluene	U	5.2	U	5.1	U	5.8
Chlorobenzene	U	5.2	U	5.1	U	5.8
Ethyl benzene	U	5.2	U	5.1	U	5.8
Styrene	U	5.2	U	5.1	U	5.8
Total xylenes	U	5.2	U	5.1	U	5.8

Table 1.2 (cont.) Results of the Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	Method Blank 2		1250-037		1250-042		1250-044		1250-048	
Location	—		B42		B44		B45		B48	
Collected	—		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/06/97		02/06/97		02/06/97		02/06/97		02/06/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	100		82		67		89		81	
Units	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Chloromethane	U	10	U	12	U	15	U	11	U	12
Bromomethane	U	10	U	12	U	15	U	11	U	12
Vinyl chloride	U	10	U	12	U	15	U	11	U	12
Chloroethane	U	10	U	12	U	15	U	11	U	12
Methylene chloride	U	5.0	1.5 J	6.1	3.3 J	7.5	1.6 J	5.6	1.4 J	6.2
Acetone	U	100	U	120	U	150	U	110	U	120
Carbon disulfide	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Trichlorofluoromethane	U	5.0	U	6.1	2.1 J	7.5	U	5.6	1.4 J	6.2
1,1-Dichloroethane	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
1,1-Dichloroethene	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Total-1,2-dichloroethene	U	5.0	2.3 J	6.1	U	7.5	U	5.6	4.3 J	6.2
Chloroform	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
1,2-Dichloroethane	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Iodomethane	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Acrolein	U	20	U	24	U	30	U	22	U	25
Acrylonitrile	U	20	U	24	U	30	U	22	U	25
2-Butanone	U	100	U	120	U	150	U	110	U	120
1,1,1-Trichloroethane	U	5.0	U	6.1	U	7.5	U	5.6	2.8 J	6.2
Carbon tetrachloride	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Vinyl acetate	U	10	U	12	U	15	U	11	U	12
Bromodichloromethane	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
1,2-Dichloropropane	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
cis-1,3-Dichloropropene	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Trichloroethene	U	5.0	23	6.1	64	7.5	12	5.6	43	6.2
Benzene	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Dibromochloromethane	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
1,1,2-Trichloroethane	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
trans-1,3-Dichloropropene	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
2-Chloroethyl vinyl ether	U	10	U	12	U	15	U	11	U	12
Bromoform	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Dibromomethane	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
trans-1,4-Dichloro-2-butene	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
4-Methyl-2-Pentanone	U	50	U	61	U	75	U	56	U	62
1,2,3-Trichloropropane	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
2-Hexanone	U	50	U	61	U	75	U	56	U	62
1,1,2,2-Tetrachloroethane	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Tetrachloroethene	U	5.0	180	6.1	2.7 J	7.5	2.7 J	5.6	100	6.2
Ethyl methacrylate	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Toluene	U	5.0	1.7 J	6.1	1.2 J	7.5	1.9 J	5.6	2.0 J	6.2
Chlorobenzene	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Ethyl benzene	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Styrene	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2
Total xylenes	U	5.0	U	6.1	U	7.5	U	5.6	U	6.2

Table 1.2 (cont.) Results of the Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	1250-049		1250-050		1250-057		1250-058		1250-059	
Location	B48		B48		B53		B53		B53	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/06/97		02/06/97		02/06/97		02/06/97		02/06/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	92		96		98		98		97	
Units	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Chloromethane	U	11	U	10	U	10	U	10	U	10
Bromomethane	U	11	U	10	U	10	U	10	U	10
Vinyl chloride	U	11	U	10	U	10	U	10	U	10
Chloroethane	U	11	U	10	U	10	U	10	U	10
Methylene chloride	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Acetone	U	110	U	100	U	100	U	100	4.5 J	100
Carbon disulfide	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Trichlorofluoromethane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
1,1-Dichloroethane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
1,1-Dichloroethene	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Total-1,2-dichloroethene	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Chloroform	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
1,2-Dichloroethane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Iodomethane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Acrolein	U	22	U	21	U	21	U	21	U	21
Acrylonitrile	U	22	U	21	U	21	U	21	U	21
2-Butanone	U	110	U	100	U	100	U	100	U	100
1,1,1-Trichloroethane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Carbon tetrachloride	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Vinyl acetate	U	11	U	10	U	10	U	10	U	10
Bromodichloromethane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
1,2-Dichloropropane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
cis-1,3-Dichloropropene	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Trichloroethene	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Benzene	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Dibromochloromethane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
1,1,2-Trichloroethane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
trans-1,3-Dichloropropene	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
2-Chloroethyl vinyl ether	U	11	U	10	U	10	U	10	U	10
Bromoform	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Dibromomethane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
trans-1,4-Dichloro-2-butene	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
4-Methyl-2-Pentanone	U	54	U	52	U	51	U	51	U	51
1,2,3-Trichloropropane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
2-Hexanone	U	54	U	52	U	51	U	51	U	51
1,1,2,2-Tetrachloroethane	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Tetrachloroethene	2.7 J	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Ethyl methacrylate	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Toluene	0.83 J	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Chlorobenzene	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Ethyl benzene	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Styrene	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1
Total xylenes	U	5.4	U	5.2	U	5.1	U	5.1	U	5.1

Table 1.2 (cont.) Results of the Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	1250-065		1250-066		1250-067		1250-068		1250-069	
Location	HA-32		HA-32		HA-33		HA-33		HA-35	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/06/97		02/06/97		02/06/97		02/06/97		02/06/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	96		96		96		92		94	
Units	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Chloromethane	U	10	U	10	U	10	U	11	U	11
Bromomethane	U	10	U	10	U	10	U	11	U	11
Vinyl chloride	U	10	U	10	U	10	U	11	U	11
Chloroethane	U	10	U	10	U	10	U	11	U	11
Methylene chloride	U	5.2	U	5.2	U	5.2	0.56 J	5.4	U	5.3
Acetone	6.1 J	100	U	100	U	100	4.6 J	110	U	110
Carbon disulfide	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Trichlorofluoromethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
1,1-Dichloroethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
1,1-Dichloroethene	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Total-1,2-dichloroethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Chloroform	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
1,2-Dichloroethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Iodomethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Acrolein	U	21	U	21	U	21	U	22	U	21
Acrylonitrile	U	21	U	21	U	21	U	22	U	21
2-Butanone	U	100	U	100	U	100	U	110	U	110
1,1,1-Trichloroethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Carbon tetrachloride	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Vinyl acetate	U	10	U	10	U	10	U	11	U	11
Bromodichloromethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
1,2-Dichloropropane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
cis-1,3-Dichloropropene	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Trichloroethene	2.7 J	5.2	0.65 J	5.2	U	5.2	U	5.4	0.66 J	5.3
Benzene	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Dibromochloromethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
1,1,2-Trichloroethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
trans-1,3-Dichloropropene	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
2-Chloroethyl vinyl ether	U	10	U	10	U	10	U	11	U	11
Bromoform	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Dibromomethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
trans-1,4-Dichloro-2-butene	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
4-Methyl-2-Pentanone	U	52	U	52	U	52	U	54	U	53
1,2,3-Trichloropropane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
2-Hexanone	U	52	U	52	U	52	U	54	U	53
1,1,2,2-Tetrachloroethane	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Tetrachloroethene	1.7 J	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Ethyl methacrylate	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Toluene	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Chlorobenzene	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Ethyl benzene	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Styrene	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3
Total xylenes	U	5.2	U	5.2	U	5.2	U	5.4	U	5.3

Table 1.2 (cont.) Results of the Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	Method Blank 3		1250-070		1250-071		1250-072		1250-078	
Location	—		HA-35		HA-35		HA-36		SS-5	
Collected	—		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/06/97		02/06/97		02/06/97		02/06/97		02/06/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	100		97		97		87		86	
Units	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Chloromethane	U	10	U	10	U	10	U	11	U	12
Bromomethane	U	10	U	10	U	10	U	11	U	12
Vinyl chloride	U	10	U	10	U	10	U	11	U	12
Chloroethane	U	10	U	10	U	10	U	11	U	12
Methylene chloride	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Acetone	U	100	6.4 J	100	U	100	U	110	U	120
Carbon disulfide	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Trichlorofluoromethane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
1,1-Dichloroethane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
1,1-Dichloroethene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Total-1,2-dichloroethene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Chloroform	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
1,2-Dichloroethane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Iodomethane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Acrolein	U	20	U	21	U	21	U	23	U	23
Acrylonitrile	U	20	U	21	U	21	U	23	U	23
2-Butanone	U	100	U	100	U	100	U	110	U	120
1,1,1-Trichloroethane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Carbon tetrachloride	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Vinyl acetate	U	10	U	10	U	10	U	11	U	12
Bromodichloromethane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
1,2-Dichloropropane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
cis-1,3-Dichloropropene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Trichloroethene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Benzene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Dibromochloromethane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
1,1,2-Trichloroethane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
trans-1,3-Dichloropropene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
2-Chloroethyl vinyl ether	U	10	U	10	U	10	U	11	U	12
Bromoform	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Dibromomethane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
trans-1,4-Dichloro-2-butene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
4-Methyl-2-Pentanone	U	50	U	51	U	51	U	57	U	58
1,2,3-Trichloropropane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
2-Hexanone	U	50	U	51	U	51	U	57	U	58
1,1,2,2-Tetrachloroethane	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Tetrachloroethene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Ethyl methacrylate	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Toluene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Chlorobenzene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Ethyl benzene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Styrene	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8
Total xylenes	U	5.0	U	5.1	U	5.1	U	5.7	U	5.8

Table 1.2 (cont.) Results of the Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	1250-080		1250-084		1250-090		1250-091		1250-092	
Location	SS-6		SS-9		SS-15		SS-16		SS-17	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/06/97		02/06/97		02/06/97		02/06/97		02/06/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	97		95		94		92		97	
Units	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Chloromethane	U	10	U	11	U	11	U	11	U	10
Bromomethane	U	10	U	11	U	11	U	11	U	10
Vinyl chloride	U	10	U	11	U	11	U	11	U	10
Chloroethane	U	10	U	11	U	11	U	11	U	10
Methylene chloride	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Acetone	U	100	34 J	110	U	110	U	110	U	100
Carbon disulfide	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Trichlorofluoromethane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
1,1-Dichloroethane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
1,1-Dichloroethene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Total-1,2-dichloroethene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Chloroform	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
1,2-Dichloroethane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Iodomethane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Acrolein	U	21	U	21	U	21	U	22	U	21
Acrylonitrile	U	21	U	21	U	21	U	22	U	21
2-Butanone	U	100	U	110	U	110	U	110	U	100
1,1,1-Trichloroethane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Carbon tetrachloride	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Vinyl acetate	U	10	U	11	U	11	U	11	U	10
Bromodichloromethane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
1,2-Dichloropropane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
cis-1,3-Dichloropropene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Trichloroethene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Benzene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Dibromochloromethane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
1,1,2-Trichloroethane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
trans-1,3-Dichloropropene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
2-Chloroethyl vinyl ether	U	10	U	11	U	11	U	11	U	10
Bromoform	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Dibromomethane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
trans-1,4-Dichloro-2-butene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
4-Methyl-2-Pentanone	U	52	U	53	U	53	U	54	U	52
1,2,3-Trichloropropane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
2-Hexanone	U	52	U	53	U	53	U	54	U	52
1,1,2,2-Tetrachloroethane	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Tetrachloroethene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Ethyl methacrylate	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Toluene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Chlorobenzene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Ethyl benzene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Styrene	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2
Total xylenes	U	5.2	U	5.3	U	5.3	U	5.4	U	5.2

Table 1.2 (cont.) Results of the Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	1250-094
Location	SS-20
Collected	01/23/97
Analyzed	02/06/97
Dilution Factor	1
Percent Solids	92
Units	µg/kg

Analyte	Conc.	MDL
Chloromethane	U	11
Bromomethane	U	11
Vinyl chloride	U	11
Chloroethane	U	11
Methylene chloride	U	5.5
Acetone	U	110
Carbon disulfide	U	5.5
Trichlorofluoromethane	U	5.5
1,1-Dichloroethane	U	5.5
1,1-Dichloroethene	U	5.5
Total-1,2-dichloroethene	U	5.5
Chloroform	U	5.5
1,2-Dichloroethane	U	5.5
Iodomethane	U	5.5
Acrolein	U	22
Acrylonitrile	U	22
2-Butanone	U	110
1,1,1-Trichloroethane	U	5.5
Carbon tetrachloride	U	5.5
Vinyl acetate	U	11
Bromodichloromethane	U	5.5
1,2-Dichloropropane	U	5.5
cis-1,3-Dichloropropene	U	5.5
Trichloroethene	U	5.5
Benzene	U	5.5
Dibromochloromethane	U	5.5
1,1,2-Trichloroethane	U	5.5
trans-1,3-Dichloropropene	U	5.5
2-Chloroethyl vinyl ether	U	11
Bromoform	U	5.5
Dibromomethane	U	5.5
trans-1,4-Dichloro-2-butene	U	5.5
4-Methyl-2-Pentanone	U	55
1,2,3-Trichloropropane	U	5.5
2-Hexanone	U	55
1,1,2,2-Tetrachloroethane	U	5.5
Tetrachloroethene	U	5.5
Ethyl methacrylate	U	5.5
Toluene	U	5.5
Chlorobenzene	U	5.5
Ethyl benzene	U	5.5
Styrene	U	5.5
Total xylenes	U	5.5

Table 1.3 Results of the Analysis for BNA in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	Method Blank		TCLP Blank		1250-036		1250-043		1250-045	
Location	—		—		B42		B44		B46	
Collected	—		—		01/23/97		01/23/97		01/23/97	
Analyzed	02/05/97		02/05/97		02/05/97		02/05/97		02/06/97	
Dilution Factor	1		1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
m-Cresol and p-Cresol	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
o-Cresol	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
1,4-Dichlorobenzene	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
2,4-Dinitrotoluene	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Hexachlorobenzene	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Hexachloro-1,3-butadiene	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Hexachloroethane	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Nitrobenzene	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Pentachlorophenol	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50
Pyridine	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
2,4,5-Trichlorophenol	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
2,4,6-Trichlorophenol	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10

Table 1.3 (cont.) Results of the Analysis for BNA in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	1250-058		1250-065		1250-067		1250-069		1250-072	
Location	B53		HA-32		HA-33		HA-35		HA-36	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/05/97		02/05/97		02/05/97		02/05/97		02/06/97	
Dilution Factor	1		1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
m-Cresol and p-Cresol	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
o-Cresol	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
1,4-Dichlorobenzene	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
2,4-Dinitrotoluene	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Hexachlorobenzene	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Hexachloro-1,3-butadiene	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Hexachloroethane	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Nitrobenzene	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Pentachlorophenol	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50
Pyridine	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
2,4,5-Trichlorophenol	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
2,4,6-Trichlorophenol	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10

Table 1.3 (cont.) Results of the Analysis for BNA in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	1250-080		1250-091		1250-094		1250-027	
Location	SS-6		SS-16		SS-20		HA-31	
Collected	01/23/97		01/23/97		01/23/97		01/22/97	
Analyzed	02/06/97		02/06/97		02/06/97		02/06/97	
Dilution Factor	1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
m-Cresol and p-Cresol	U	0.10	U	0.10	U	0.10	U	0.10
o-Cresol	U	0.10	U	0.10	U	0.10	U	0.10
1,4-Dichlorobenzene	U	0.10	U	0.10	U	0.10	U	0.10
2,4-Dinitrotoluene	U	0.10	U	0.10	U	0.10	U	0.10
Hexachlorobenzene	U	0.10	U	0.10	U	0.10	U	0.10
Hexachloro-1,3-butadiene	U	0.10	U	0.10	U	0.10	U	0.10
Hexachloroethane	U	0.10	U	0.10	U	0.10	U	0.10
Nitrobenzene	U	0.10	U	0.10	U	0.10	U	0.10
Pentachlorophenol	U	0.50	U	0.50	U	0.50	U	0.50
Pyridine	U	0.10	U	0.10	U	0.10	U	0.10
2,4,5-Trichlorophenol	U	0.10	U	0.10	U	0.10	U	0.10
2,4,6-Trichlorophenol	U	0.10	U	0.10	U	0.10	U	0.10

Table 1.4 Results of the Analysis for Pesticides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	Method Blank		TCLP Blank		1250-036		1250-043		1250-045	
Location	—		—		B42		B44		B46	
Collected	—		—		01/23/97		01/23/97		01/23/97	
Analyzed	02/06/97		02/06/97		02/06/97		02/06/97		02/06/97	
Dilution Factor	1		1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Endrin	U	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0005
Lindane	U	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0005
Methoxychlor	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Toxaphene	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01
Alpha chlordane	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001
Gamma chlordane	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001
Heptachlor	U	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0005
Heptachor epoxide	U	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0005

Table 1.4 (cont.) Results of the Analysis for Pesticides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	1250-058		1250-065		1250-067		1250-069		1250-072	
Location	B53		HA-32		HA-33		HA-35		HA-36	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/06/97		02/06/97		02/07/97		02/07/97		02/07/97	
Dilution Factor	1		1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Endrin	U	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0005
Lindane	U	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0005
Methoxychlor	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
Toxaphene	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01
Alpha chlordane	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001
Gamma chlordane	U	0.001	U	0.001	U	0.001	U	0.001	U	0.001
Heptachlor	U	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0005
Heptachor epoxide	U	0.0005	U	0.0005	U	0.0005	U	0.0005	U	0.0005

Table 1.4 (cont.) Results of the Analysis for Pesticides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	1250-080		1250-091		1250-094		1250-027	
Location	SS-6		SS-16		SS-20		HA-31	
Collected	01/23/97		01/23/97		01/23/97		01/22/97	
Analyzed	02/07/97		02/07/97		02/07/97		02/07/97	
Dilution Factor	1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Endrin	U	0.0005	U	0.0005	U	0.0005	U	0.0005
Lindane	U	0.0005	U	0.0005	U	0.0005	U	0.0005
Methoxychlor	U	0.005	U	0.005	U	0.005	U	0.005
Toxaphene	U	0.01	U	0.01	U	0.01	U	0.01
Alpha chlordane	U	0.001	U	0.001	U	0.001	U	0.001
Gamma chlordane	U	0.001	U	0.001	U	0.001	U	0.001
Heptachlor	U	0.0005	U	0.0005	U	0.0005	U	0.0005
Heptachor epoxide	U	0.0005	U	0.0005	U	0.0005	U	0.0005

Table 1.5 Results of the Analysis for Herbicides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	Method Blank		TCLP Blank		1250-036		1250-043		1250-045	
Location	—		—		B42		B44		B46	
Collected	—		—		01/23/97		01/23/97		01/23/97	
Analyzed	02/04/97		02/04/97		02/04/97		02/04/97		02/04/97	
Dilution Factor	1		1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
2,4-D	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
2,4,5-TP (Silvex)	U	0.0030	U	0.0030	U	0.0030	U	0.0030	U	0.0030

Table 1.5 (cont.) Results of the Analysis for Herbicides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	1250-058		1250-065		1250-067		1250-069		1250-072	
Location	B53		HA-32		HA-33		HA-35		HA-36	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/04/97		02/04/97		02/04/97		02/04/97		02/05/97	
Dilution Factor	1		1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
2,4-D	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005
2,4,5-TP (Silvex)	U	0.0030	U	0.0030	U	0.0030	U	0.0030	U	0.0030

Table 1.5 (cont.) Results of the Analysis for Herbicides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	1250-080		1250-091		1250-094		1250-027	
Location	SS-6		SS-16		SS-20		HA-31	
Collected	01/23/97		01/23/97		01/23/97		01/22/97	
Analyzed	02/05/97		02/05/97		02/05/97		02/05/97	
Dilution Factor	1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
2,4-D	U	0.005	U	0.005	0.0063	0.005	U	0.005
2,4,5-TP (Silvex)	U	0.0030	U	0.0030	U	0.0030	U	0.0030

Table 1.6 Results of the Analysis for Metals in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	Method Blank		TCLP Blank		1250-036		1250-043		1250-045	
Location	—		—		B42		B44		B46	
Collected	—		—		01/23/97		01/23/97		01/23/97	
Analyzed	02/04/97		02/04/97		02/04/97		02/04/97		02/04/97	
Dilution Factor	1		1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Arsenic	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50
Barium	U	0.020	U	0.020	0.26	0.020	0.64	0.020	0.20	0.020
Cadmium	U	0.01	U	0.01	U	0.01	0.091	0.01	0.55	0.01
Chromium	U	0.020	U	0.020	0.024	0.020	0.29	0.020	0.20	0.020
Lead	U	0.10	U	0.10	U	0.10	0.41	0.10	U	0.10
Selenium	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30
Silver	U	0.020	U	0.020	U	0.020	U	0.020	U	0.020
Analyzed	02/03/97		02/03/97		02/03/97		02/03/97		02/03/97	
Dilution Factor	1		2		2		2		2	
Mercury	U	0.0001	U	0.0002	U	0.0002	U	0.0002	U	0.0002

Table 1.6 (cont.) Results of the Analysis for Metals in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	1250-058		1250-065		1250-067		1250-069		1250-072	
Location	B53		HA-32		HA-33		HA-35		HA-36	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/04/97		02/04/97		02/04/97		02/04/97		02/04/97	
Dilution Factor	1		1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Arsenic	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50
Barium	0.18	0.020	0.21	0.020	0.19	0.020	0.22	0.020	0.31	0.020
Cadmium	U	0.01	0.15	0.01	0.13	0.01	0.14	0.01	0.29	0.01
Chromium	U	0.020	0.36	0.020	0.45	0.020	0.055	0.020	0.12	0.020
Lead	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10
Selenium	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30
Silver	U	0.020	U	0.020	U	0.020	U	0.020	U	0.020
Analyzed	02/03/97		02/03/97		02/03/97		02/03/97		02/03/97	
Dilution Factor	2		2		2		2		2	
Mercury	0.00021	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002

Table 1.6 (cont.) Results of the Analysis for Metals in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	1250-080		1250-091		1250-094		1250-027	
Location	SS-6		SS-16		SS-20		HA-31	
Collected	01/23/97		01/23/97		01/23/97		01/22/97	
Analyzed	02/04/97		02/04/97		02/04/97		02/04/97	
Dilution Factor	1		1		1		1	
Units	mg/L		mg/L		mg/L		mg/L	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Arsenic	U	0.50	U	0.50	U	0.50	U	0.50
Barium	0.22	0.020	0.29	0.020	0.29	0.020	0.20	0.020
Cadmium	U	0.01	U	0.01	U	0.01	0.68	0.01
Chromium	U	0.020	U	0.020	U	0.020	0.17	0.020
Lead	U	0.10	U	0.10	U	0.10	U	0.10
Selenium	U	0.30	U	0.30	U	0.30	U	0.30
Silver	U	0.020	U	0.020	U	0.020	U	0.020
Analyzed	02/03/97		02/03/97		02/03/97		02/03/97	
Dilution Factor	2		2		2		2	
Mercury	U	0.0002	U	0.0002	U	0.0002	U	0.0002

Table 1.7 Results of the Analysis for Cadmium & Chromium in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	Method Blank 1		A003		A004		A006		A007	
Location	—		B41		B41		B44		B44	
Collected	—		01/22/97		01/22/97		01/22/97		01/22/97	
Analyzed	02/04/97		02/04/97		02/04/97		02/04/97		02/04/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	100		87		88		63		89	
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Cadmium	U	0.079	30	0.091	130	0.090	520	0.13	8.9	0.089
Chromium	U	0.31	5900	0.36	1500	0.35	4900	0.49	670	0.35

Sample #	A025		A026		A028		A029		A030	
Location	HA-30		HA-31		HA-32		HA-32		HA-33	
Collected	01/22/97		01/22/97		01/22/97		01/22/97		01/22/97	
Analyzed	02/04/97		02/04/97		02/04/97		02/04/97		02/04/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	89		97		96		97		97	
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Analyte	Conc.	MDL	Conc	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Cadmium	2.1	0.089	11	0.082	7.4	0.082	9.8	0.082	8.6	0.082
Chromium	260	0.35	290	0.32	600	0.32	700	0.32	330	0.32

Table 1.7 (cont.) Results of the Analysis for Cadmium & Chromium in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	A031		A032		A037		A063		A064	
Location	HA-33		HA-34		B42		HA-31		HA-31	
Collected	01/22/97		01/22/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/04/97		02/04/97		02/04/97		02/04/97		02/04/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	94		94		86		96		95	
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Cadmium	14	0.084	12	0.084	27	0.092	11	0.082	120	0.083
Chromium	410	0.33	530	0.33	860	0.36	330	0.32	400	0.33

Sample #	A072		A078		A079		A081		A082	
Location	HA-36		SS-5		SS-6		SS-7		SS-8	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/04/97		02/04/97		02/04/97		02/04/97		02/04/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	89		88		76		74		80	
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Cadmium	34	0.089	U	0.090	6.5	0.10	19	0.11	7.5	0.099
Chromium	1600	0.35	17	0.35	2100	0.41	1300	0.42	2000	0.39

Table 1.7 (cont.) Results of the Analysis for Cadmium & Chromium in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	A034
Location	SB2
Collected	01/22/97
Analyzed	02/04/97
Dilution Factor	1
Percent Solids	46
Units	mg/kg

Analyte	Conc.	MDL
Cadmium	4300	0.17
Chromium	97000	0.68

Sample #	Method Blank 2		A003A		A004A		A006A		A007A	
Location	—		B41		B41		B44		B44	
Collected	—		01/22/97		01/22/97		01/22/97		01/22/97	
Analyzed	02/14/97		02/14/97		02/14/97		02/14/97		02/14/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	100		98		97		83		99	
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Cadmium	U	0.19	35	0.19	320	0.20	550	0.23	11	0.19
Chromium	U	0.39	6800	2.0	1600	0.40	4400	0.47	1100	0.39

Table 1.7 (cont.) Results of the Analysis for Cadmium & Chromium in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	A025A		A026A		A028A		A029A		A030A	
Location	HA-30		HA-31		HA-32		HA-32		HA-33	
Collected	01/22/97		01/22/97		01/22/97		01/22/97		01/22/97	
Analyzed	02/14/97		02/14/97		02/14/97		02/14/97		02/14/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	100		100		100		100		100	
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Cadmium	3.8	0.19	15	0.19	9.2	0.19	11	0.19	10	0.19
Chromium	350	0.39	380	0.39	940	0.39	830	0.39	370	0.39

Sample #	A031A		A032A		A037A		A063A		A064A	
Location	HA-33		HA-34		B-42		HA-31		HA-31	
Collected	01/22/97		01/22/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/14/97		02/14/97		02/14/97		02/14/97		02/14/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	100		100		99		100		100	
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Cadmium	12	0.19	10	0.19	33	0.19	13	0.19	120	0.19
Chromium	360	0.39	510	0.39	1000	0.39	350	0.39	500	0.39

Table 1.7 (cont.) Results of the Analysis for Cadmium & Chromium in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	A072A		A078A		A079A		A081A		A082A	
Location	HA-36		SS-5		SS-6		SS-7		SS-8	
Collected	01/23/97		01/23/97		01/23/97		01/23/97		01/23/97	
Analyzed	02/14/97		02/14/97		02/14/97		02/14/97		02/14/97	
Dilution Factor	1		1		1		1		1	
Percent Solids	99		96		99		96		97	
Units	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Analyte	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL	Conc.	MDL
Cadmium	30	0.19	1.1	0.20	9.2	0.19	19	0.20	6.5	0.20
Chromium	2500	0.39	820	0.40	1200	0.39	1400	0.41	1700	0.40

Sample #	A034A	
Location	SB-2	
Collected	01/22/97	
Analyzed	02/14/97	
Dilution Factor	1	
Percent Solids	75	
Units	mg/kg	
Analyte	Conc.	MDL
Cadmium	4600	2.5
Chromium	89000	5.2

QA/QC for VOC in TCLP Extract

Results of the Surrogate Recoveries for VOC in TCLP Extract

Prior to purging, each sample was spiked with a three component surrogate mixture consisting of toluene-d_8, 4-bromofluorobenzene and 1,2-dichloroethane-d_4. The surrogate percent recoveries, listed in Table 2.1, ranged from 93 to 100. All fifty-one recoveries were within acceptable QC limits.

Results of the MS/MSD Analysis for VOC in TCLP Extract

The sample 1250-036 was chosen for the matrix spike/matrix spike duplicate (MS/MSD) analysis. The percent recoveries, listed in Table 2.2, ranged from 75 to 91. All twenty recoveries were within acceptable QC limits. The relative percent differences (RPDs), also listed in Table 2.2, ranged from 1 to 7. All ten RPD values were within acceptable QC limits.

Results of the Laboratory Control Sample Analysis for VOC in TCLP Extract

The percent recoveries for the analytes in the laboratory control standard are listed in Table 2.3. They ranged from 85 to 101. All ten recoveries were within acceptable QC limits.

Table 2.1 Results of the Surrogate Recoveries for VOC in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	Method Blank	TCLP Blank	1250-036	1250-043	1250-045	
Location	—	—	B42	B44	B46	
Collected	—	—	01/23/97	01/23/97	01/23/97	
Analyzed	02/05/97	02/05/97	02/05/97	02/05/97	02/05/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	95	93	94	94	94	(76 - 114
4-Bromofluorobenzene	97	98	98	98	98	(86 - 115
Toluene-D8	99	99	99	99	99	(88 - 110)

Sample #	1250-058	1250-065	1250-067	1250-069	1250-072	
Location	B53	HA-32	HA-33	HA-35	HA-36	
Collected	01/23/97	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/05/97	02/05/97	02/05/97	02/05/97	02/05/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	94	94	94	94	94	(76 - 1'
4-Bromofluorobenzene	98	97	97	98	97	(86 - 115)
Toluene-D8	100	99	99	99	99	(88 - 110)

Sample #	1250-080	1250-091	1250-094	1250-027	
Location	SS-6	SS-16	SS-20	HA-31	
Collected	01/23/97	01/23/97	01/23/97	01/22/97	
Analyzed	02/05/97	02/05/97	02/05/97	02/05/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%
1,2-Dichloroethane-D4	94	95	94	94	(76 - 114)
4-Bromofluorobenzene	98	98	98	97	(86 - 115)
Toluene-D8	100	99	100	99	(88 - 0)

Table 2.1 (cont.) Results of the Surrogate Recoveries for VOC in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	LCS-1	1250-036MS	1250-036MSD	
Location	—	B42	B42	
Collected	—	01/23/97	01/23/97	
Analyzed	02/05/97	02/05/97	02/05/97	
Analyte	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	98	99	98	(76 - 114)
4-Bromofluorobenzene	98	98	98	(86 - 115)
Toluene-D8	99	99	99	(88 - 110)

Table 2.2 Results of the MS/MSD Analysis for VOC in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

1250-036MS Analyte	Sample Result mg/L	Spiked Result mg/L	Spike Added mg/L	Percent Recovery	QC Limits (%)
1,1-Dichloroethene	U	0.0448	0.0500	90	1.0 - 234
1,2-Dichloroethane	U	0.0453	0.0500	91	49 - 155
2-Butanone	U	0.0419	0.0500	84	1.0 - 200
Benzene	0.000837 **	0.0458	0.0500	90	37 - 151
Carbon Tetrachloride	U	0.0433	0.0500	87	70 - 140
Chlorobenzene	U	0.0447	0.0500	89	37 - 160
Chloroform	U	0.0437	0.0500	87	51 - 138
Tetrachloroethene	0.0235	0.0623	0.0500	78	64 - 148
Trichloroethene	0.00191 **	0.0464	0.0500	89	71 - 157
Vinyl Chloride	U	0.0413	0.0500	83	1.0 - 251

1250-036MSD Analyte	Spiked Result mg/L	Percent Recovery	RPD	QC Limits (%)	RPD Limits (%)
1,1-Dichloroethene	0.0434	87	3	1.0 - 234	50
1,2-Dichloroethane	0.0450	90	1	49 - 155	50
2-Butanone	0.0390	78	7	1.0 - 200	50
Benzene	0.0449	88	2	37 - 151	50
Carbon Tetrachloride	0.0423	85	2	70 - 140	50
Chlorobenzene	0.0433	87	3	37 - 160	50
Chloroform	0.0424	85	3	51 - 138	50
Tetrachloroethene	0.0612	75	3	64 - 148	50
Trichloroethene	0.0451	86	3	71 - 157	50
Vinyl Chloride	0.0403	81	2	1.0 - 251	50

** These results are reported as "U" in the result Table 1.1 because the concentrations are less than the MDL value.

Table 2.3 Results of the Laboratory Control Sample Analysis for VOC in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

LCS - 1 Analyte	Concentration Recovered mg/L	Known Concentration mg/L	Percent Recovery	QC Limits (%)
1,1-Dichloroethene	0.0456	0.0500	91	1.0 - 234
1,2-Dichloroethane	0.0462	0.0500	92	49 - 155
2-Butanone	0.0433	0.0500	87	1.0 - 200
Benzene	0.0459	0.0500	92	37 - 151
Carbon Tetrachloride	0.0454	0.0500	91	70 - 140
Chlorobenzene	0.0457	0.0500	91	37 - 160
Chloroform	0.0453	0.0500	91	51 - 138
Tetrachloroethene	0.0503	0.0500	101	64 - 148
Trichloroethene	0.0452	0.0500	90	71 - 157
Vinyl Chloride	0.0427	0.0500	85	1.0 - 251

QA/QC for VOC in Soil

Results of the Surrogate Recoveries for VOC in Soil

Prior to purging, each sample was spiked with a three component surrogate mixture consisting of toluene-d_8, 4-bromofluorobenzene and 1,2-dichloroethane-d_4. The surrogate percent recoveries, listed in Table 2.4, ranged from 81 to 123. One hundred thirty-five out of 138 recoveries were within acceptable QC limits..

Results of the MS/MSD Analysis for VOC in Soil

The samples 1250-041 and 1250-059 were chosen for the matrix spike/matrix spike duplicate (MS/MSD) analysis. The percent recoveries, listed in Table 2.5, ranged from 86 to 98. All twenty recoveries were within acceptable QC limits. The relative percent differences (RPDs), also listed in Table 2.5, ranged from 2 to 8. All ten RPD values were within acceptable QC limits.

Results of the Laboratory Control Sample Analysis for VOC in Soil

The percent recoveries for the analytes in the laboratory control standards are listed in Table 2.6. They ranged from 76 to 99. All fifteen recoveries were within acceptable QC limits.

Table 2.4 Results of the Surrogate Recoveries for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	Method Blank 1	1250-024	1250-025	1250-032	1250-033	
Location	—	HA-30	HA-30	HA-34	HA-34	
Collected	—	01/22/97	01/22/97	01/22/97	01/22/97	
Analyzed	02/05/97	02/05/97	02/05/97	02/05/97	02/05/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	107	103	102	104	103	(70 - 121)
4-Bromofluorobenzene	98	98	98	97	100	(74 - 121)
Toluene-D8	100	101	100	102	101	(81 - 117)

Sample #	1250-036	1250-038	1250-041	1250-043	1250-045	
Location	B42	B42	B43	B44	B46	
Collected	01/23/97	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/05/97	02/05/97	02/05/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	104	104	102	106	103	(70 - 121)
4-Bromofluorobenzene	92	97	101	94	98	(74 - 121)
Toluene-D8	107	104	101	108	105	(81 - 117)

Sample #	1250-046	1250-047	1250-027	
Location	B46	B46	HA-31	
Collected	01/23/97	01/23/97	01/22/97	
Analyzed	02/06/97	02/06/97	02/05/97	
Analyte	%Rec	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	102	105	103	(70 - 121)
4-Bromofluorobenzene	100	99	98	(74 - 121)
Toluene-D8	103	101	103	(81 - 117)

Table 2.4 (cont.) Results of the Surrogate Recoveries for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	Method Blank 2	1250-037	1250-042	1250-044	1250-048	
Location	—	B42	B44	B45	B48	
Collected	—	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/06/97	02/06/97	02/06/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	99	101	103	103	100	(70 - 121)
4-Bromofluorobenzene	100	82	85	90	81	(74 - 121)
Toluene-D8	99	121 *	118 *	110	123 *	(81 - 117)

Sample #	1250-049	1250-050	1250-057	1250-058	1250-059	
Location	B48	B48	B53	B53	B53	
Collected	01/23/97	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/06/97	02/06/97	02/06/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	99	100	101	102	101	(70 - 121
4-Bromofluorobenzene	94	100	100	100	99	(74 - 121
Toluene-D8	105	100	99	100	100	(81 - 117)

Sample #	1250-065	1250-066	1250-067	1250-068	1250-069	
Location	HA-32	HA-32	HA-33	HA-33	HA-35	
Collected	01/23/97	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/06/97	02/06/97	02/06/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	101	102	102	100	100	(70 - 121)
4-Bromofluorobenzene	92	97	99	99	98	(74 - 121)
Toluene-D8	106	103	102	101	102	(81 - 117)

Table 2.4 (cont.) Results of the Surrogate Recoveries for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	Method Blank 3	1250-070	1250-071	1250-072	1250-078	
Location	—	HA-35	HA-35	HA-36	SS-5	
Collected	—	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/06/97	02/06/97	02/06/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	103	101	102	105	101	(70 - 121)
4-Bromofluorobenzene	101	103	99	94	97	(74 - 121)
Toluene-D8	99	97	99	97	99	(81 - 117)

Sample #	1250-080	1250-084	1250-090	1250-091	1250-092	
Location	SS-6	SS-9	SS-15	SS-16	SS-17	
Collected	01/23/97	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/06/97	02/06/97	02/06/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	103	105	103	102	104	(70 - 121)
4-Bromofluorobenzene	99	93	99	99	98	(74 - 121)
Toluene-D8	99	94	98	98	100	(81 - 117)

Sample #	1250-094	
Location	SS-20	
Collected	01/23/97	
Analyzed	02/06/97	
Analyte	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	104	(70 - 121)
4-Bromofluorobenzene	100	(74 - 121)
Toluene-D8	99	(81 - 117)

Table 2.4 (cont.) Results of the Surrogate Recoveries for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on Dry Weight

Sample #	LCS - 1	LCS - 2	LCS - 3	
Location	—	—	—	
Collected	—	—	—	
Analyzed	02/05/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	103	100	102	(70 - 121)
4-Bromofluorobenzene	99	100	99	(74 - 121)
Toluene-D8	100	98	99	(81 - 117)

Sample #	1250-041MS	1250-041MSD	1250-059MS	1250-059MSD	
Location	B-43	B-43	B-53	B-53	
Collected	—	—	—	—	
Analyzed	02/05/97	02/05/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
1,2-Dichloroethane-D4	104	105	100	101	(70 - 121
4-Bromofluorobenzene	102	101	99	100	(74 - 121)
Toluene-D8	102	101	101	102	(81 - 117)

Table 2.5 Results of the MS/MSD Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on dry weight

1250-041MS Analyte	Sample Result µg/kg	Spiked Result µg/kg	Spike Added µg/kg	Percent Recovery	QC Limits (%)
1,1-Dichloroethene	U	46.6	51.7	90	1.0 - 234
Benzene	U	46.7	51.7	90	37 - 151
Chlorobenzene	U	45.8	51.7	89	37 - 160
Toluene	U	46.5	51.7	90	47 - 150
Tetrachloroethene	U	45.0	51.7	87	71 - 157

1250-041MSD Analyte	Spiked Result µg/kg	Percent Recovery	RPD	QC Limits (%)	RPD Limits (%)
1,1-Dichloroethene	50.7	98	8	1.0 - 234	50
Benzene	49.7	96	6	37 - 151	50
Chlorobenzene	49.6	96	8	37 - 160	50
Toluene	50.3	97	8	47 - 150	50
Tetrachloroethene	48.4	94	7	71 - 157	50

Table 2.5 (cont.) Results of the MS/MSD Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on dry weight

1250-059MS Analyte	Sample Result µg/kg	Spiked Result µg/kg	Spike Added µg/kg	Percent Recovery	QC Limits (%)
1,1-Dichloroethene	U	44.2	51.4	86	1.0 - 234
Benzene	U	45.7	51.4	89	37 - 151
Chlorobenzene	U	46.4	51.4	90	37 - 160
Toluene	U	46.4	51.4	90	47 - 150
Tetrachloroethene	U	44.8	51.4	87	71 - 157

1250-059MSD Analyte	Spiked Result µg/kg	Percent Recovery	RPD	QC Limits (%)	RPD Limits (%)
1,1-Dichloroethene	45.2	88	2	1.0 - 234	50
Benzene	46.9	91	3	37 - 151	50
Chlorobenzene	47.5	92	2	37 - 160	50
Toluene	47.5	92	2	47 - 150	50
Tetrachloroethene	45.9	89	2	71 - 157	50

Table 2.6 Results of the Laboratory Control Sample Analysis for VOC in Soil
WA # 1-250 Liberty Industrial Finishing Site

LCS - 1 Analyte	Concentration Recovered µg/kg	Known Concentration µg/kg	Percent Recovery	QC Limits (%)
1,1-Dichloroethene	38.5	50.0	77	1.0 - 234
Benzene	39.2	50.0	78	37 - 151
Chlorobenzene	38.9	50.0	78	37 - 160
Toluene	39.0	50.0	78	47 - 150
Tetrachloroethene	38.0	50.0	76	71 - 157

LCS - 2 Analyte	Concentration Recovered µg/kg	Known Concentration µg/kg	Percent Recovery	QC Limits (%)
1,1-Dichloroethene	44.1	50.0	88	1.0 - 234
Benzene	45.1	50.0	90	37 - 151
Chlorobenzene	45.5	50.0	91	37 - 160
Toluene	44.1	50.0	88	47 - 150
Tetrachloroethene	43.8	50.0	88	71 - 157

LCS - 3 Analyte	Concentration Recovered µg/kg	Known Concentration µg/kg	Percent Recovery	QC Limits (%)
1,1-Dichloroethene	47.0	50.0	94	1.0 - 234
Benzene	49.5	50.0	99	37 - 151
Chlorobenzene	48.5	50.0	97	37 - 160
Toluene	49.3	50.0	99	47 - 150
Tetrachloroethene	44.1	50.0	88	71 - 157

QA/QC for BNA in TCLP Extract

Results of the Surrogate Recoveries for BNA in TCLP Extract

Prior to extraction, each sample was spiked with a six component surrogate mixture consisting of 2,4,6-tribromophenol, 2-fluorobiphenyl, 2-fluorophenol, nitrobenzene-d5, phenol-d5, and terphenyl-d14. The surrogate percent recoveries, listed in Table 2.7, ranged from 21 to 119. All one hundred two recoveries were within acceptable QC limits.

Results of the MS/MSD Analysis for BNA in TCLP Extract

The sample 1250-094 was chosen for the matrix spike/matrix spike duplicate (MS/MSD) analysis. The percent recoveries, listed in Table 2.8, ranged from 34 to 98. All twenty-four recoveries were within acceptable QC limits. The relative percent differences (RPDs), also listed in Table 2.8, ranged from 1 to 28. All twelve RPD values were within acceptable QC limits.

Results of the Laboratory Control Sample Analysis for BNA in TCLP Extract

The percent recoveries for the analytes in the laboratory control standard are listed in Table 2.9. They ranged from 38 to 96. All twelve recoveries were within acceptable QC limits.

Table 2.7 Results of the Surrogate Recoveries for BNA in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	Method Blank	TCLP Blank	1250-036	1250-043	1250-045	
Location	—	—	B42	B44	B46	
Collected	—	—	01/23/97	01/23/97	01/23/97	
Analyzed	02/05/97	02/05/97	02/05/97	02/05/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
2,4,6-Tribromophenol	71	69	77	90	67	(25 - 145)
2-Fluorobiphenyl	73	63	70	83	66	(57 - 122)
2-Fluorophenol	36	34	36	44	30	(14 - 91)
Nitrobenzene-d5	71	63	69	81	62	(41 - 133)
Phenol-d5	25	23	25	31	21	(10 - 68)
Terphenyl-d14	62	60	64	80	68	(45 - 142)

Sample #	1250-058	1250-065	1250-067	1250-069	1250-072	
Location	B53	HA-32	HA-33	HA-35	HA-36	
Collected	01/23/97	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/05/97	02/05/97	02/05/97	02/05/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
2,4,6-Tribromophenol	105	96	72	80	69	(25 - 145)
2-Fluorobiphenyl	119	95	67	78	66	(57 - 122)
2-Fluorophenol	56	50	40	42	32	(14 - 91)
Nitrobenzene-d5	103	88	71	78	65	(41 - 133)
Phenol-d5	39	34	28	30	23	(10 - 68)
Terphenyl-d14	96	83	64	75	65	(45 - 142)

Sample #	1250-080	1250-091	1250-094	1250-027	
Location	SS-6	SS-16	SS-20	HA-31	
Collected	01/23/97	01/23/97	01/23/97	01/22/97	
Analyzed	02/06/97	02/06/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
2,4,6-Tribromophenol	70	67	75	60	(25 - 145)
2-Fluorobiphenyl	68	66	69	60	(57 - 122)
2-Fluorophenol	33	32	37	29	(14 - 91)
Nitrobenzene-d5	64	63	70	60	(41 - 133)
Phenol-d5	23	23	26	21	(10 - 68)
Terphenyl-d14	62	62	66	64	(45 - 142)

Table 2.7 (cont.) Results of the Surrogate Recoveries for BNA in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	LCS-1	1250-094MS	1250-094MSD	
Location	—	SS-20	SS-20	
Collected	—	01/23/97	01/23/97	
Analyzed	02/06/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	QC Limits (%)
2,4,6-Tribromophenol	79	81	84	(25 - 145)
2-Fluorobiphenyl	75	78	80	(57 - 122)
2-Fluorophenol	39	41	43	(14 - 91)
Nitrobenzene-d5	77	78	83	(41 - 133)
Phenol-d5	28	29	31	(10 - 68)
Terphenyl-d14	67	71	71	(45 - 142)

Table 2.8 Results of the MS/MSD Analysis for BNA in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

1250-094MS Analyte	Sample Result mg/L	Spiked Result mg/L	Spike Added mg/L	Percent Recovery	QC Limits (%)
1,4-Dichlorobenzene	U	0.659	1.00	66	39 - 114
2,4,5-Trichlorophenol	U	0.869	1.00	87	46 - 130
2,4,6-Trichlorophenol	U	0.838	1.00	84	53 - 149
2,4-Dinitrotoluene	U	0.872	1.00	87	57 - 114
2-Methylphenol	U	0.826	1.00	83	32 - 117
4-Methylphenol	U	0.599	1.00	60	13 - 128
Hexachloro-1,3-butadiene	U	0.635	1.00	64	34 - 106
Hexachlorobenzene	U	0.961	1.00	96	63 - 129
Hexachloroethane	U	0.623	1.00	62	34 - 104
Nitrobenzene	U	0.815	1.00	82	53 - 117
Pentachlorophenol	U	0.977	1.00	98	23 - 151
Pyridine	U	0.341	1.00	34	6 - 99

1250-094MSD Analyte	Spiked Result mg/L	Percent Recovery	RPD	QC Limits (%)	RPD Limits (%)
1,4-Dichlorobenzene	0.697	70	6	39 - 114	26
2,4,5-Trichlorophenol	0.875	88	1	46 - 130	26
2,4,6-Trichlorophenol	0.827	83	1	53 - 149	26
2,4-Dinitrotoluene	0.917	92	5	57 - 114	20
2-Methylphenol	0.851	85	3	32 - 117	28
4-Methylphenol	0.616	62	3	13 - 128	28
Hexachloro-1,3-butadiene	0.689	69	8	34 - 106	26
Hexachlorobenzene	0.984	98	2	63 - 129	18
Hexachloroethane	0.683	68	9	34 - 104	27
Nitrobenzene	0.858	86	5	53 - 117	21
Pentachlorophenol	0.934	93	5	23 - 151	43
Pyridine	0.451	45	28	6 - 99	71

Table 2.9 Results of the Laboratory Control Sample Analysis for BNA in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

LCS - 1 Analyte	Concentration Recovered mg/L	Known Concentration mg/L	Percent Recovery	QC Limits (%)
1,4-Dichlorobenzene	0.657	1.00	66	49 - 107
2,4,5-Trichlorophenol	0.852	1.00	85	55 - 124
2,4,6-Trichlorophenol	0.819	1.00	82	60 - 145
2,4-Dinitrotoluene	0.861	1.00	86	54 - 114
2-Methylphenol	0.785	1.00	79	40 - 111
4-Methylphenol	0.574	1.00	57	38 - 114
Hexachloro-1,3-butadiene	0.629	1.00	63	33 - 108
Hexachlorobenzene	0.943	1.00	94	60 - 132
Hexachloroethane	0.623	1.00	62	34 - 105
Nitrobenzene	0.804	1.00	80	54 - 116
Pentachlorophenol	0.959	1.00	96	34 - 139
Pyridine	0.382	1.00	38	0 - 101

QA/QC for Pesticides in TCLP Extract

Results of the Surrogate Recoveries for Pesticides in TCLP Extract

Prior to extraction, each sample was spiked with a two component surrogate mixture consisting of dibutylchlorendate and tetrachloro-m-xylene. The surrogate percent recoveries, listed in Table 2.10, ranged from 70 to 103. All forty recoveries were within acceptable QC limits.

Results of the MS/MSD Analysis for Pesticides in TCLP Extract

The sample 1250-094 was chosen for the matrix spike/matrix spike duplicate (MS/MSD) analysis. The percent recoveries, listed in Table 2.11, ranged from 83 to 113. All sixteen recoveries were within acceptable QC limits. The relative percent differences (RPDs), also listed in Table 2.11, ranged from 1 to 20. All eight RPD values were within acceptable QC limits.

Results of the Laboratory Control Sample Analysis for Pesticides in TCLP Extract

The percent recoveries for the analytes in the laboratory control standards are listed in Table 2.12. They ranged from 82 to 109. All eight recoveries were within acceptable QC limits.

Table 2.10 Results of the Surrogate Recoveries for Pesticides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	Method Blank	TCLP Blank	1250-036	1250-043	1250-045	
Location	—	—	B42	B44	B46	
Collected	—	—	01/23/97	01/23/97	01/23/97	
Analyzed	02/06/97	02/06/97	02/06/97	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
Dibutylchlorendate	83	92	88	83	88	(40 - 160)
Tetrachloro-m-xylene	81	85	88	84	87	(40 - 160)

Sample #	1250-058	1250-065	1250-067	1250-069	1250-072	
Location	B53	HA-32	HA-33	HA-35	HA-36	
Collected	01/23/97	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/06/97	02/06/97	02/07/97	02/07/97	02/07/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
Dibutylchlorendate	89	86	84	81	87	(40 - 160)
Tetrachloro-m-xylene	86	87	88	75	92	(40 - 160)

Sample #	1250-080	1250-091	1250-094	1250-027	
Location	SS-6	SS-16	SS-20	HA-31	
Collected	01/23/97	01/23/97	01/23/97	01/22/97	
Analyzed	02/07/97	02/07/97	02/07/97	02/07/97	
Analyte	%Rec.	%Rec	%Rec.	%Rec.	QC Limits (%)
Dibutylchlorendate	82	84	81	92	(40 - 160)
Tetrachloro-m-xylene	85	70	83	91	(40 - 160)

Table 2.10 (cont.) Results of the Surrogate Recoveries for Pesticides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	LCS-1	LCS-2	
Location	—	—	
Collected	—	—	
Analyzed	02/06/97	02/06/97	
Analyte	%Rec.	%Rec.	QC Limits (%)
Dibutylchlorendate	84	102	(40 - 160)
Tetrachloro-m-xylene	84	89	(40 - 160)

Sample #	1250-094MS-1	1250-094MSD-1	1250-094MS-2	1250-094MSD-2	
Location	SS-20	SS-20	SS-20	SS-20	
Collected	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/07/97	02/07/97	02/07/97	02/07/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
Dibutylchlorendate	85	103	97	89	(40 - 160)
Tetrachloro-m-xylene	86	90	81	86	(40 - 160)

Table 2.11 Results of the MS/MSD Analysis for Pesticides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

1250-094MS-1 Analyte	Sample Result mg/L	Spiked Result mg/L	Spike Added mg/L	Percent Recovery	QC Limits (%)
Endrin	U	0.00958	0.0100	96	40 - 160
Lindane	U	0.00930	0.0100	93	40 - 160
Methoxychlor	U	0.0102	0.0100	102	40 - 160
Alpha chlordane	U	0.0833	0.100	83	40 - 160
Gamma chlordane	U	0.0104	0.0100	104	40 - 160
Heptachlor	U	0.0111	0.0100	111	40 - 160
Heptachlor epoxide	U	0.0103	0.0100	103	40 - 160

1250-094MSD-1 Analyte	Spiked Result mg/L	Percent Recovery	RPD	QC Limits (%)	RPD Limits (%)
Endrin	0.0110	110	14	40 - 160	50
Lindane	0.00954	95	3	40 - 160	50
Methoxychlor	0.0107	107	5	40 - 160	50
Alpha chlordane	0.102	102	20	40 - 160	50
Gamma chlordane	0.0113	113	8	40 - 160	50
Heptachlor	0.0112	112	1	40 - 160	50
Heptachlor epoxide	0.0111	111	7	40 - 160	50

Table 2.11 (cont.) Results of the MS/MSD Analysis for Pesticides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

1250-094MS-2 Analyte	Sample Result mg/L	Spiked Result mg/L	Spike Added mg/L	Percent Recovery	QC Limits (%)
Toxaphene	U	0.0881	0.100	88	40 - 160

1250-094MSD-2 Analyte	Spiked Result mg/L	Percent Recovery	RPD	QC Limits (%)	RPD Limits (%)
Toxaphene	0.0830	83	6	40 - 160	50

Table 2.12 Results of the Laboratory Control Sample Analysis for Pesticides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

LCS - 1 Analyte	Concentration Recovered mg/L	Known Concentration mg/L	Percent Recovery	QC Limits (%)
Endrin	0.00893	0.0100	89	40 - 160
Heptachlor	0.00916	0.0100	92	40 - 160
Heptachlor epoxide	0.00988	0.0100	99	40 - 160
Methoxychlor	0.0818	0.100	82	40 - 160
Alpha-chlordane	0.0103	0.0100	103	40 - 160
Gamma-BHC	0.0109	0.0100	109	40 - 160
Gamma-chlordane	0.0101	0.0100	101	40 - 160

LCS - 2 Analyte	Concentration Recovered mg/L	Known Concentration mg/L	Percent Recovery	QC Limits (%)
Toxaphene	0.0946	0.100	95	40 -160

QA/QC for Herbicides in TCLP Extract

Results of the Surrogate Recoveries for Herbicides in TCLP Extract

Prior to extraction, each sample was spiked with a the surrogate 2,4-dichlorophenylacetic acid. The surrogate percent recoveries, listed in Table 2.13, ranged from 99 to 160. All seventeen recoveries were within acceptable QC limits.

Results of the MS/MSD Analysis for Herbicides in TCLP Extract

The sample 1250-094 was chosen for the matrix spike/matrix spike duplicate (MS/MSD) analysis. The percent recoveries, listed in Table 2.14, ranged from 86 to 98. All four recoveries were within acceptable QC limits. The relative percent differences (RPDs), also listed in Table 2.14, ranged from 1 to 3. Both RPD values were within acceptable QC limits.

Results of the Laboratory Control Sample Analysis for Herbicides in TCLP Extract

The percent recoveries for the analytes in the laboratory control standard are listed in Table 2.15. They ranged from 95 to 96. Both recoveries were within acceptable QC limits.

Table 2.13 Results of the Surrogate Recoveries for Herbicides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	Method Blank	TCLP Blank	1250-036	1250-043	1250-045	
Location	—	—	B42	B44	B46	
Collected	—	—	01/23/97	01/23/97	01/23/97	
Analyzed	02/04/97	02/04/97	02/04/97	02/04/97	02/04/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
2,4-Dichlorophenylacetic acid	126	144	180	144	139	(43 - 176)

Sample #	1250-058	1250-085	1250-087	1250-089	1250-072	
Location	B53	HA-32	HA-33	HA-35	HA-36	
Collected	01/23/97	01/23/97	01/23/97	01/23/97	01/23/97	
Analyzed	02/04/97	02/04/97	02/04/97	02/04/97	02/05/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
2,4-Dichlorophenylacetic acid	144	143	124	121	134	(43 - 176

Sample #	1250-080	1250-091	1250-094	1250-027	
Location	SS-6	SS-16	SS-20	HA-31	
Collected	01/23/97	01/23/97	01/23/97	01/22/97	
Analyzed	02/05/97	02/05/97	02/05/97	02/05/97	
Analyte	%Rec.	%Rec.	%Rec.	%Rec.	QC Limits (%)
2,4-Dichlorophenylacetic acid	117	133	148	99	(43 - 1

Table 2.13 (cont.) Results of the Surrogate Recoveries for Herbicides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

Sample #	LCS-1	1250-094MS	1250-094MSD	
Location	—	SS-20	SS-20	
Collected	—	01/23/97	01/23/97	
Analyzed	02/04/97	02/05/97	02/05/97	
Analyte	%Rec.	%Rec.	%Rec.	QC Limits (%)
2,4-Dichlorophenylacetic acid	123	142	141	(43 - 176)

Table 2.14 Results of the MS/MSD Analysis for Herbicides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

1250-094MS Analyte	Sample Result mg/L	Spiked Result mg/L	Spike Added mg/L	Percent Recovery	QC Limits (%)
2,4,5-TP	0.00103	0.0247	0.0250	95	46 - 137
2,4-D	0.00628	0.0497	0.0500	87	41 - 145

1250-094MSD Analyte	Spiked Result mg/L	Percent Recovery	RPD	QC Limits (%)	RPD Limits (%)
2,4,5-TP	0.0255	98	3	46 - 137	25
2,4-D	0.0495	86	1	41 - 145	26

Table 2.15 Results of the Laboratory Control Sample Analysis for Herbicides in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

LCS - 1 Analyte	Concentration Recovered mg/L	Known Concentration mg/L	Percent Recovery	QC Limits (%)
2,4,5-TP	0.0237	0.0250	95	60 - 126
2,4-D	0.0479	0.0500	96	45 - 140

QA/QC for Metals in TCLP Extract

Results of the Duplicate Analysis for Metals in TCLP Extract

The sample 1250-094 was chosen for the duplicate analysis. The relative percent difference (RPD), shown in Table 2.16, is 1%. This single reported RPD value was within acceptable QC limits. Six RPD values were not calculated because one or both of the sample results was below the MDL value.

Results of the MS/MSD Analysis for Metals in TCLP Extract

The sample 1250-094 was chosen for the matrix spike/matrix spike duplicate (MS/MSD) analysis. The percent recoveries, listed in Table 2.17, ranged from 25 to 112. Fifteen out of sixteen recoveries were within acceptable QC limits. The relative percent differences (RPDs), also listed in Table 2.17, ranged from 1 to 110. Seven out of eight RPD values were within acceptable QC limits.

Results of the Laboratory Control Sample Analysis for Metals in TCLP Extract

The percent recoveries for the analytes in the laboratory control standard are listed in Table 2.18. They ranged from 89 to 113. All eight recoveries were within acceptable QC limits.

Table 2.16 Results of the Duplicate Analysis for Metals in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

1250-094 Analyte	Sample Result mg/L	Duplicate Result mg/L	RPD	QC Limits (%)
Arsenic	0.0383 **	0.0286	NC	20
Barium	0.290	0.294	1	20
Cadmium	0.00638 **	0.00387	NC	20
Chromium	0.00438 **	0.0161	NC	20
Lead	0.0207 **	U	NC	20
Selenium	0.0314 **	0.101	NC	20
Silver	0.00364 **	U	NC	20

** These results are reported as "U" in the result Table 1.6 because the concentrations are less than the MDL value.

Table 2.17 Results of the MS/MSD Analysis for Metals in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

1250-094MS Analyte	Sample Result mg/L	Spiked Result mg/L	Spike Added mg/L	Percent Recovery	QC Limits (%)
Arsenic	0.0383 **	1.95	2.00	96	75 - 125
Barium	0.290	2.22	2.00	97	75 - 125
Cadmium	0.00638 **	0.464	0.500	92	75 - 125
Chromium	0.00438 **	0.478	0.500	95	75 - 125
Lead	0.0207 **	0.961	1.00	94	75 - 125
Selenium	0.0314 **	2.09	2.00	103	75 - 125
Silver	0.00364 **	0.463	0.500	92	75 - 125
Mercury	0.000068 **	0.00231	0.0020	112	75 - 125

1250-094MSD Analyte	Spiked Result mg/L	Percent Recovery	RPD	QC Limits (%)	RPD Limits (%)
Arsenic	1.92	94	2	75 - 125	20
Barium	2.17	94	3	75 - 125	20
Cadmium	0.456	90	2	75 - 125	20
Chromium	0.473	94	1	75 - 125	20
Lead	0.930	91	3	75 - 125	20
Selenium	2.01	99	4	75 - 125	20
Silver	0.131	25 *	110 *	75 - 125	20
Mercury	0.00223	108	4	75 - 125	20

** These results are reported as "U" in the result Table 1.6 because the concentrations are less than the MDL value.

Table 2.18 Results of the Laboratory Control Sample Analysis for Metals in TCLP Extract
WA # 1-250 Liberty Industrial Finishing Site

LCS - 1 Analyte	Concentration Recovered mg/L	Known Concentration mg/L	Percent Recovery	QC Limits (%)
Arsenic	2.10	2.00	105	80 - 120
Barium	1.90	2.00	95	80 - 120
Cadmium	0.444	0.500	89	80 - 120
Chromium	0.473	0.500	95	80 - 120
Lead	0.94	1.00	94	80 - 120
Selenium	2.14	2.00	107	80 - 120
Silver	0.459	0.500	92	80 - 120
Mercury	0.00225	0.00200	113	80 - 120

QA/QC for Cadmium & Chromium in Soil

Results of the Duplicate Analysis for Cadmium & Chromium in Soil

The samples A004 and A003A were chosen for the duplicate analyses. The relative percent differences (RPDs), listed in Table 2.19, ranged from 9 to 67. Three out of four RPD values were within acceptable QC limits.

Results of the MS/MSD Analysis for Cadmium & Chromium in Soil

The samples A004 and A003A were chosen for the matrix spike/matrix spike duplicate (MS/MSD) analysis. Neither percent recoveries, nor relative percent differences were calculated for either sample since the concentrations of both analytes in these samples were greater than four times the spiking concentrations. The sample A003AMS vented during sample preparation. There was not enough sample to redo the MS/MSD. Therefore, the A003AMSD is reported as A003AMS.
The data are presented in Table 2.20.

Results of the Laboratory Control Sample Analysis for Cadmium & Chromium in Soil

The percent recoveries for the analytes in the laboratory control standards are listed in Table 2.21. They ranged from 87 to 95. All four recoveries were within acceptable QC limits.

Table 2.19 Results of the Duplicate Analysis for Cadmium & Chromium in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on dry weight

A004 Analyte	Sample Result mg/kg	Duplicate Result mg/kg	RPD	QC Limits (%)
Cadmium	130	260	67 *	20
Chromium	1500	1800	18	20

A003A Analyte	Sample Result mg/kg	Duplicate Result mg/kg	RPD	QC Limits (%)
Cadmium	34.5	31.4	9	20
Chromium	6800	5950	13	20

Table 2.20 Results of the MS/MSD Analysis for Cadmium & Chromium in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on dry weight

A004MS Analyte	Sample Result mg/kg	Spiked Result mg/kg	Spike Added mg/kg	Percent Recovery	QC Limits (%)
Cadmium	130	697	5.68	NC	75 - 125
Chromium	1489	1136	22.7	NC	75 - 125

A004MSD Analyte	Spiked Result mg/kg	Percent Recovery	RPD	QC Limits (%)	RPD Limits (%)
Cadmium	130	NC	NC	75 - 125	20
Chromium	1015	NC	NC	75 - 125	20

Table 2.20 (cont.) Results of the MS/MSD Analysis for Cadmium & Chromium in Soil
WA # 1-250 Liberty Industrial Finishing Site
Based on dry weight

A003AMS Analyte	Sample Result mg/kg	Spiked Result mg/kg	Spike Added mg/kg	Percent Recovery	QC Limits (%)
Cadmium	34.5	32.5	5.00	NC	75 - 125
Chromium	6800	5400	20.0	NC	75 - 125

Table 2.21 Results of the Laboratory Control Sample Analysis for Cadmium & Chromium in Soil
WA # 1-250 Liberty Industrial Finishing Site

LCS - 1 Analyte	Concentration Recovered mg/kg	Known Concentration mg/kg	Percent Recovery	QC Limits (%)
Cadmium	40.6	45.4	89	79 - 121
Chromium	93.9	99.6	94	80 - 120

LCS - 2 Analyte	Concentration Recovered mg/kg	Known Concentration mg/kg	Percent Recovery	QC Limits (%)
Cadmium	39.7	45.4	87	79 - 121
Chromium	94.6	99.6	95	80 - 120

PA ERT

CHAIN OF CUSTODY RECORD

COC # 1250-1003

:, Edison, NJ
:ct: James Brown
94-4060
. 03347-041-001-1250-01
Contract 68-C4-0022

Project Name: Liberty Industrial/Finishing
Location: Farmingdale, NY
Site Phone:

Page No.: 1 of 2
Cooler #:008673
Lab:
Contact: James Brown
908-494-4060

AB #	Tag	Sample #	Location	Matrix	Collected	Container/Preservative	Analysis Requested	MS MSD	Comments
	B	1250-024	HA-30	Soil	1/22/97	2 oz Septa/None	VOC, ~~full scan TCLP~~		
	B	1250-025	HA-30	Soil	1/22/97	2 oz Septa/None	VOC, ~~full scan TCLP~~		
	B	1250-032	HA-34	Soil	1/22/97	2 oz Septa/None	VOC, ~~full scan TCLP~~		
	B	1250-033	HA-34	Soil	1/22/97	2 oz Septa/None	VOC, ~~full scan TCLP~~		
	B	1250-036	B42	Soil	1/23/97	4 oz glass/None	VOC, full scan TCLP		
	B	1250-037	B42	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-038	B42	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-041	B43	Soil	1/23/97	4 oz glass/None	Volatiles	Y	
	A	1250-042	B44	Soil	1/23/97	4 oz glass/None	Volatiles		
	A	1250-043	B44	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-044	B45	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-045	B46	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-046	B46	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-047	B46	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	A	1250-048	B48	Soil	1/23/97	4 oz glass/None	Volatiles		
	A	1250-049	B46	Soil	1/23/97	4 oz glass/None	Volatiles		
	A	1250-050	B48	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-057	B53	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-058	B53	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		

ecial Instructions:

REFERENCE COC:

ems/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
-19/Analysis	[illegible]	1/24/97	[illegible]	1/24/97	1725		[illegible]	1/24/97			

L Note 20 Soil samples for Cd & will be

PA BT

CHAIN OF CUST Y RECORD

C, Edison, NJ
act: James Brown
494-4060
#: 03347-041-001-1250-01
Contract 68-C4-0022

Project Name: Liberty Industrial/Finishing
Location: Farmingdale, NY
Site Phone:

Page No.: 2 of 2
Cooler #:008673
Lab:
Contact:

AB #	Tag	Sample #	Location	Matrix	Collected	Container/Preservative	Analysis Requested	MS MSD	Comments
	B	1250-059	B53	Soil	1/23/97	4 oz glass/None	VOC, ~~full scan TCLP~~	Y	
	A	1250-065	HA-32	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	A	1250-066	HA-32	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	A	1250-067	HA-33	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	A	1250-068	HA-33	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-069	HA-35	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-070	HA-35	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-071	HA-35	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-072	HA-36	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-078	SS-5	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-080	SS-6	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-084	SS-9	Soil	1/23/97	4 oz glass/None	Volatiles		
	B	1250-090	SS-15	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-091	SS-16	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	B	1250-092	SS-17	Soil	1/23/97	8 oz glass/None	VOC, ~~full scan TCLP~~		
	B	1250-094	SS-20	Soil	1/23/97	8 oz glass/None	VOC, full scan TCLP		
	A	1250-027	HA-31	Soil	1/22/97	Burghaus/none	VOC, Full scan TCLP		

pecial Instructions:

REFERENCE COC:

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
1-16/Analysis	Jim L. Brown	1/24/97	B Lewis	1/24/97	1735		Jim L. Brown	1/24/97			

00073

C, Edison, NJ
321-4200
Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: Liberty Enclot Finishing
Project Number: (1-250) 03347-041-001-1350-01
RFW Contact: Jim L. Brown Phone: (908) 494-4060

No: 04431

SHEET NO. 1 OF 1

Sample Identification | **Analyses Requested**

C #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Cd/Cr			
	A003	B41	S	1-22-97	1	4oz glass/none				
	A004	B41	"	1-22-97						
	A006	B44	"	1-22-97						
	A007	B44		1-22-97						
	A025	HA-30								
	A026	HA-31								
	~~A027~~	~~HA-31~~								
	A028	HA-32								
	A029	HA-32								
	A030	HA-33								
	A031	HA-33								
	A032	HA-34								
	A037	B42		1/23/97						
	A063	HA-31								
	A064	HA-31								
	A072	HA-36								
	A078	SS-5				8oz glass/none				
	A079	SS-6				4oz glass/none				
	A081	SS-7								
	A082	SS-8								

00075

Matrix:
- Sediment
- Drum Solids
- Drum Liquids
- Other

PW - Potable Water
GW - Groundwater
SW - Surface Water
SL - Sludge

S - Soil
W - Water
O - Oil
A - Air

Special Instructions:

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY # 1250 (1001, 1005)
1250 (1006, 1007, 1002, 1003, 1004)

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Analysis	Jim L. Brown	1/28/97									

FORM #4 8/94

EAC: Edison, NJ
(908) 321-4
PA Contract 68-C4-0022

Project: [illegible]
Project Number: 03247-040-001-1250-01
RFW Contact: Tim Brown Phone: 908 424 4060

No. 0132

SHEET NO 1 OF 1

Sample Identification | **Analyses Requested**

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Cd + Cr			
	A037	SB2	S	1/23/97	1	4oz. glass/none				

Special Instructions:

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Analysis	[illegible]	1/27/97									

FORM 84

8/94

:EAC, Edison, NJ
908) 321-4200
:PA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: Liberty Industrial Finishing
Project Number: 03347-041-001-1250-01
RFW Contact: Jim L. Brown Phone: (908) 494 4060

No: 00111

SHEET NO. 1 OF 1

Sample Identification / **Analyses Requested**

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	Cd/Cr			
	A003A	B41	S	01-22-97	1	2 oz glass/none				
	A004A	B41								
	A006A	B44								
	A007A	B44								
	A025A	HA-30								
	A026A	HA-31								
	A028A	HA-32								
	A029A	HA-32								
	A030A	HA-33								
	A031A	HA-33								
	A032A	HA-34								
	A037A	B-42		01-23-97						
	A063a	HA-31								
	A064A	HA-31								
	A072A	HA-36								
	A078A	SS-5								
	A079A	SS-6								
	A081A	SS-7								
	A082A	SS-8								
	A034A	SB-2		01-22-97						

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions: Mix each sample well before taking aliquot for digestion

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY # 1001, 1005, 4432, 1006, 1007, 1002, 1003, 1004

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
Analysis	Jim L. Brown	02/10/97									

8/94

* U.S. GPO 1994 383 015

Roy F. Weston, Inc.
GSA Raritan Depot
Building 209 Annex (Bay F)
2890 Woodbridge Avenue
Edison, New Jersey 08837-3679
908-321-4200 • Fax 908-494-4021

DataChem labs Inc.
960 West LeVoy Drive
Salt Lake City, UT 84123

Attn: Scott Saulls

27 January 1997

Project # 3347-041-001-1250 Liberty Industrial Finishing

As per Weston REAC Purchase Order number 74894, please analyze samples according to the following parameters:

Analysis/Method	Matrix	# of samples
Metals Cd, Cr/SW-846 6010 or Series 7000	Soil	20
Full TCLP Screen/SW-846-1311	Soil	12
VOA\SW-846-8260	Soil	28
Data package: see attached Deliverables Requirements		

Samples are expected to arrive at your laboratory between January 28-29, 1997. All applicable QA/QC (MS/MSD) analysis as per method, will be performed on our sample matrix. Preliminary sample and MS/MSD result tables plus a signed copy of our Chain of Custody must be faxed to REAC 7 business days after receipt of each batch of samples. The complete data package is due 10 business days after receipt of last batch of samples. The complete data package must include all items on the deliverables checklist.

Please submit all reports and technical questions concerning this project to John Johnson at (908) 321-4248 or fax to (908) 494-4020. Any contractual question, please call Cynthia Davison at (908) 321-4296.
Thank you

Sincerely,

Misty Barkley
Data Validation and Report Writing Group Leader
Roy F. Weston, Inc. / REAC Project

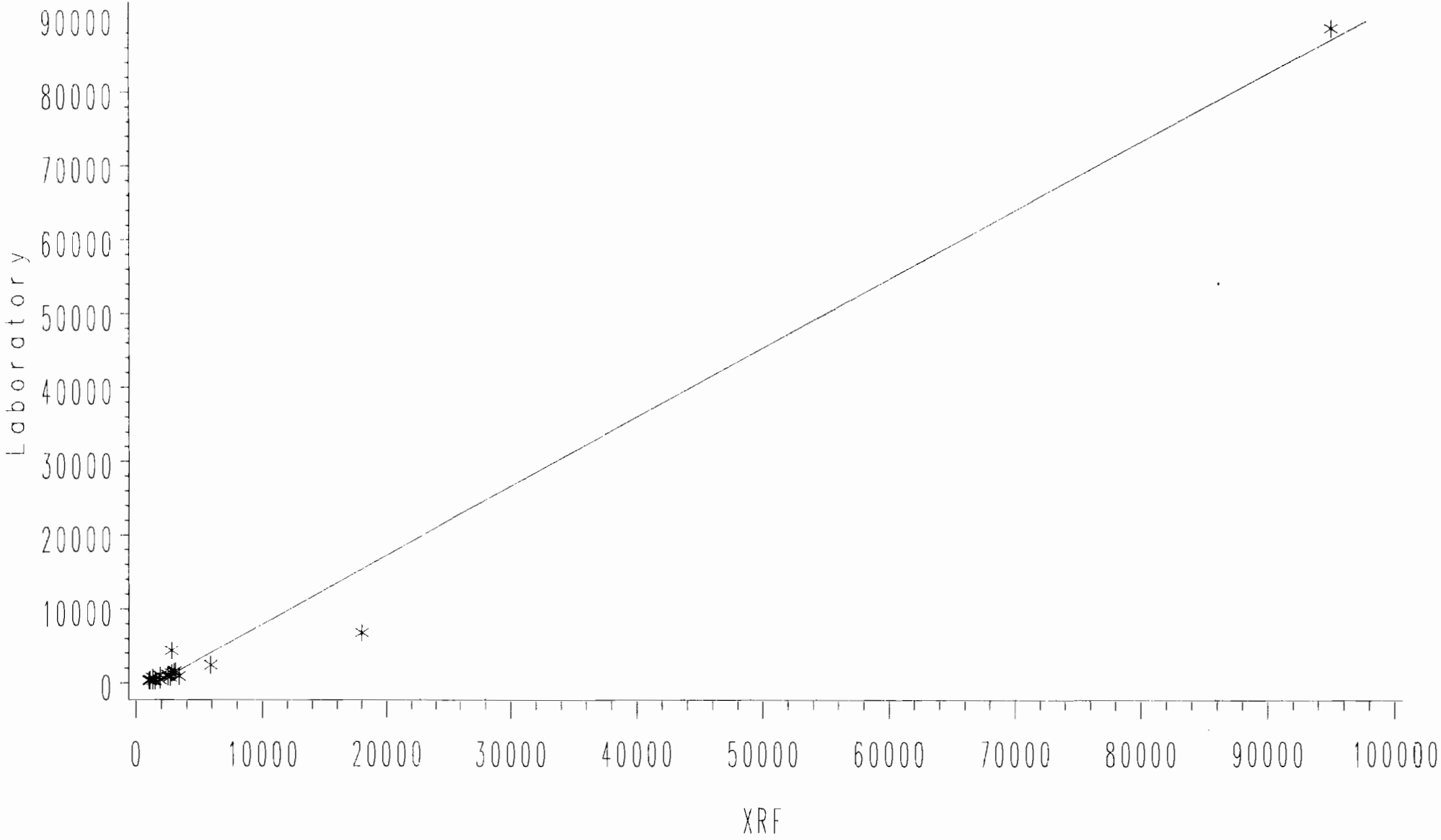
MB:jj Attachments

cc. R. Singhvi
C. Beasley
1250\non\mem\9701\sub\1250Con
V. Kansal
Subcontracting File
B. Lewan
C. Davison
J. Brown
M. Barkley

APPENDIX F
Regression Analysis of XRF and Laboratory Confirmatory Data
Liberty Industrial Finishing Site
Farmingdale, New York
May 1997

Figure 1

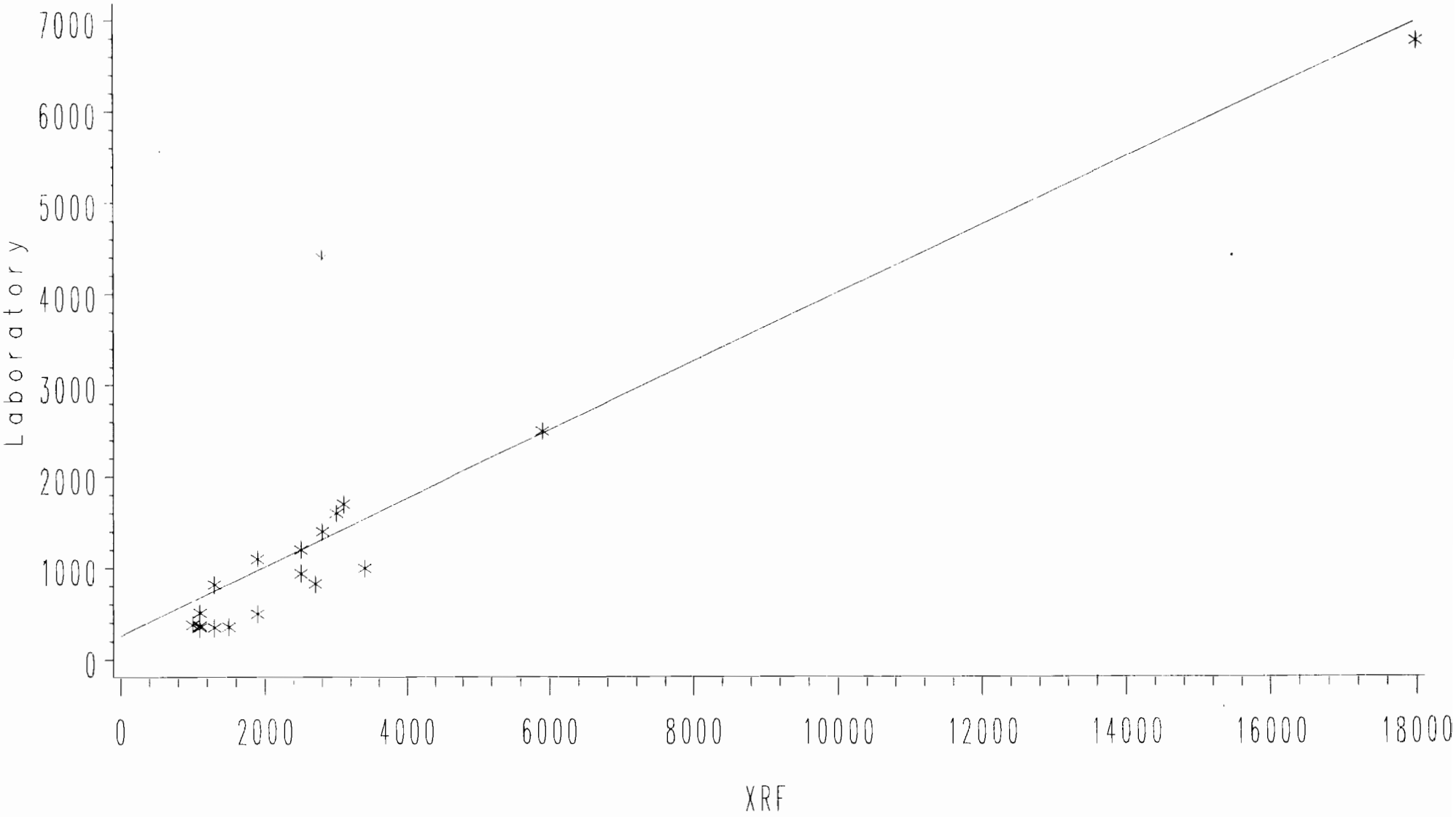
Plot of Laboratory Results from XRF Sample Jars vs. XRF Results
Chromium (ppm)
Liberty Industrial Finishing Site



250\del\..\9702\xrf_lab.sas

Figure 2

Plot of Laboratory Results from XRF Sample Jars vs. XRF Results
Chromium (ppm)
One Point Removed
Liberty Industrial Finishing Site



250\del\..\9702\xrf_lab.sas

Regression Analysis of Laboratory vs XRF Chromium Results
Lab Results from Lab Designated Sample Jars
Liberty Industrial Finishing Site

Model: MODEL1
Dependent Variable: LAB

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	1	8597112913.7	8597112913.7	1044.703	0.0001
Error	18	148126384.88	8229243.6044		
C Total	19	8745239298.6			

Root MSE	2868.66582	R-square	0.9831
Dep Mean	6084.85000	Adj R-sq	0.9821
C.V.	47.14440		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	-1754.855948	685.77931003	-2.559	0.0197
XRF	1	1.018805	0.03152062	32.322	0.0001

Regression Analysis of Laboratory vs XRF Chromium Results
Lab Results from Lab Designated Sample Jars
Liberty Industrial Finishing Site

Obs	Dep Var LAB	Predict Value	Std Err Predict	Residual	Std Err Residual	Student Residual	-2-1-0 1 2	Cook's D
1	5900.0	16583.6	719.006	-10683.6	2777.098	-3.847	|******|	0.496
2	1500.0	1301.6	658.303	198.4	2792.110	0.071	| |	0.000
3	4900.0	1097.8	659.749	3802.2	2791.769	1.362	| |** |	0.052
4	670.0	180.9	666.954	489.1	2790.057	0.175	| | |	0.001
5	260.0	-634.2	674.296	894.2	2788.291	0.321	| | |	0.003
6	290.0	-736.1	675.275	1026.1	2788.054	0.368	| | |	0.004
7	600.0	792.2	662.024	-192.2	2791.230	-0.069	| | |	0.000
8	700.0	995.9	660.493	-295.9	2791.593	-0.106	| | |	0.000
9	330.0	-634.2	674.296	964.2	2788.291	0.346	| | |	0.003
10	410.0	-226.6	670.517	636.6	2789.203	0.228	| | |	0.002
11	530.0	-634.2	674.296	1164.2	2788.291	0.418	| | |	0.005
12	860.0	1709.1	655.584	-849.1	2792.750	-0.304	| | |	0.003
13	330.0	-430.4	672.380	760.4	2788.754	0.273	| | |	0.002
14	400.0	180.9	666.954	219.1	2790.057	0.079	| | |	0.000
15	1600.0	4256.1	643.944	-2656.1	2795.457	-0.950	| *| |	0.024
16	17.0000	-430.4	672.380	447.4	2788.754	0.160	| | |	0.001
17	2100.0	792.2	662.024	1307.8	2791.230	0.469	| | |	0.006
18	1300.0	1097.8	659.749	202.2	2791.769	0.072	| | |	0.000
19	2000.0	1403.4	657.602	596.6	2792.276	0.214	| | |	0.001
20	97000.0	95031.6	2825.679	1968.4	494.756	3.978	| |******|	258.143

Sum of Residuals 0
Sum of Squared Residuals 148126384.88
Predicted Resid SS (Press) 4542409403.3

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Regression Analysis of Laboratory vs XRF Chromium Results
Lab Results from XRF Designated Sample Jars
Liberty Industrial Finishing Site

Model: MODEL1
Dependent Variable: LABACTUA

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	1	7238154208.4	7238154208.4	1370.140	0.0001
Error	18	95090086.598	5282782.5888		
C Total	19	7333244295			

Root MSE	2298.43046	R-square	0.9870
Dep Mean	5805.50000	Adj R-sq	0.9863
C.V.	39.59057		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	-1387.952394	549.45962814	-2.526	0.0211
XRF	1	0.934822	0.02525493	37.015	0.0001

Regression Analysis of Laboratory Vs XRF Chromium Results
Lab Results from XRF Designated Sample Jars
Liberty Industrial Finishing Site

Obs	Dep Var LABACTUA	Predict Value	Std Err Predict	Residual	Std Err Residual	Student Residual	-2-1-0 1 2	Cook's D
1	6800.0	15438.8	576.082	-8638.8	2225.065	-3.883	|******|	0.505
2	1600.0	1416.5	527.445	183.5	2237.093	0.082	| |	0.000
3	4400.0	1229.5	528.604	3170.5	2236.819	1.417	| |** |	0.056
4	1100.0	388.2	534.376	711.8	2235.447	0.318	| | |	0.003
5	350.0	-359.6	540.259	709.6	2234.033	0.318	| | |	0.003
6	380.0	-453.1	541.043	833.1	2233.843	0.373	| | |	0.004
7	940.0	949.1	530.427	-9.1017	2236.388	-0.004	| | |	0.000
8	830.0	1136.1	529.200	-306.1	2236.678	-0.137	| | |	0.001
9	370.0	-359.6	540.259	729.6	2234.033	0.327	| | |	0.003
10	360.0	14.2800	537.231	345.7	2234.763	0.155	| | |	0.001
11	510.0	-359.6	540.259	869.6	2234.033	0.389	| | |	0.004
12	1000.0	1790.4	525.266	-790.4	2237.605	-0.353	| | |	0.003
13	350.0	-172.7	538.724	522.7	2234.404	0.234	| | |	0.002
14	500.0	388.2	534.376	111.8	2235.447	0.050	| | |	0.000
15	2500.0	4127.5	515.940	-1627.5	2239.774	-0.727	| *| |	0.014
16	820.0	-172.7	538.724	992.7	2234.404	0.444	| | |	0.006
17	1200.0	949.1	530.427	250.9	2236.388	0.112	| | |	0.000
18	1400.0	1229.5	528.604	170.5	2236.819	0.076	| | |	0.000
19	1700.0	1510.0	526.883	190.0	2237.225	0.085	| | |	0.000
20	89000.0	87420.1	2263.988	1579.9	396.408	3.986	| |******|	259.063

Sum of Residuals 0
Sum of Squared Residuals 95090086.598
Predicted Resid SS (Press) 297606459.4.2

Regression Analysis of Laboratory vs XRF Chromium Results
Lab Results from Lab Designated Sample Jars
One Point Removed
Liberty Industrial Finishing Site

Model: MODEL1
Dependent Variable: LAB

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	1	26771634.285	26771634.285	25.463	0.0001
Error	17	17873454.242	1051379.6613		
C Total	18	44645088.526			

Root MSE	1025.36806	R-square	0.5997
Dep Mean	1299.84211	Adj R-sq	0.5761
C.V.	78.88405		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	303.830537	307.07536313	0.989	0.3363
XRF	1	0.321294	0.06367149	5.046	0.0001

Regression Analysis of Laboratory vs XRF Chromium Results
Lab Results from Lab Designated Sample Jars
One Point Removed
Liberty Industrial Finishing Site

Obs	Dep Var LAB	Predict Value	Std Err Predict	Residual	Std Err Residual	Student Residual	-2-1-0 1 2	Cook's D
1	5900.0	6087.1	977.434	-187.1	309.842	-0.604	| *| |	1.815
2	1500.0	1267.7	235.322	232.3	998.000	0.233	| | |	0.002
3	4900.0	1203.5	236.010	3696.5	997.837	3.705	| |******|	0.384
4	670.0	914.3	247.333	-244.3	995.091	-0.245	| | |	0.002
5	260.0	657.3	267.492	-397.3	989.862	-0.401	| | |	0.006
6	290.0	625.1	270.581	-335.1	989.022	-0.339	| | |	0.004
7	600.0	1107.1	238.318	-507.1	997.289	-0.508	| *| |	0.007
8	700.0	1171.3	236.610	-471.3	997.695	-0.472	| | |	0.006
9	330.0	657.3	267.492	-327.3	989.862	-0.331	| | |	0.004
10	410.0	785.8	256.348	-375.8	992.807	-0.378	| | |	0.005
11	530.0	657.3	267.492	-127.3	989.862	-0.129	| | |	0.001
12	860.0	1396.2	236.010	-536.2	997.837	-0.537	| *| |	0.008
13	330.0	721.5	261.669	-391.5	991.418	-0.395	| | |	0.005
14	400.0	914.3	247.333	-514.3	995.091	-0.517	| *| |	0.008
15	1600.0	2199.5	295.160	-599.5	981.967	-0.610	| *| |	0.017
16	17.0000	721.5	261.669	-704.5	991.418	-0.711	| *| |	0.018
17	2100.0	1107.1	238.318	992.9	997.289	0.996	| |* |	0.028
18	1300.0	1203.5	236.010	96.5461	997.837	0.097	| | |	0.000
19	2000.0	1299.8	235.236	700.2	998.020	0.702	| |* |	0.014

Sum of Residuals	0
Sum of Squared Residuals	17873454.242
Predicted Resid SS (Press)	24159968.132

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Regression Analysis of Laboratory vs XRF Chromium Results
Lab Results from XRF Designated Sample Jars
One Point Removed
Liberty Industrial Finishing Site

Model: MODEL1
Dependent Variable: LABACTUA

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	1	36463312.779	36463312.779	55.465	0.0001
Error	17	11175897.748	657405.74987		
C Total	18	47639210.526			

Root MSE	810.80562	R-square	0.7654
Dep Mean	1426.84211	Adj R-sq	0.7516
C.V.	56.82518		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob > |T|
INTERCEP	1	264.443709	242.81859256	1.089	0.2913
XRF	1	0.374967	0.05034797	7.448	0.0001

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Regression Analysis of Laboratory Vs XRF Chromium Results
Lab Results from XRF Designated Sample Jars
One Point Removed
Liberty Industrial Finishing Site

Obs	Dep Var LABACTUA	Predict Value	Std Err Predict	Residual	Std Err Residual	Student Residual	-2-1-0 1 2	Cook's D
1	6800.0	7013.9	772.902	-213.9	245.007	-0.873	| *| |	3.791
2	1600.0	1389.3	186.080	210.7	789.164	0.267	| | |	0.002
3	4400.0	1314.4	186.624	3085.6	789.036	3.911	| |******|	0.428
4	1100.0	976.9	195.578	123.1	786.864	0.156	| | |	0.001
5	350.0	676.9	211.518	-326.9	782.730	-0.418	| | |	0.006
6	380.0	639.4	213.961	-259.4	782.066	-0.332	| | |	0.004
7	940.0	1201.9	188.449	-261.9	788.602	-0.332	| | |	0.003
8	830.0	1276.9	187.099	-446.9	788.923	-0.566	| *| |	0.009
9	370.0	676.9	211.518	-306.9	782.730	-0.392	| | |	0.006
10	360.0	826.9	202.706	-466.9	785.058	-0.595	| *| |	0.012
11	510.0	676.9	211.518	-166.9	782.730	-0.213	| | |	0.002
12	1000.0	1539.3	186.624	-539.3	789.036	-0.684	| *| |	0.013
13	350.0	751.9	206.914	-401.9	783.959	-0.513	| *| |	0.009
14	500.0	976.9	195.578	-476.9	786.864	-0.606	| *| |	0.011
15	2500.0	2476.8	233.397	23.2497	776.487	0.030	| | |	0.000
16	820.0	751.9	206.914	68.0989	783.959	0.087	| | |	0.000
17	1200.0	1201.9	188.449	-1.8618	788.602	-0.002	| | |	0.000
18	1400.0	1314.4	186.624	85.6481	789.036	0.109	| | |	0.000
19	1700.0	1426.8	186.012	273.2	789.180	0.346	| | |	0.003

Sum of Residuals	0
Sum of Squared Residuals	11175897.748
Predicted Resid SS (Press)	17919547.479

APPENDIX G
Calculations of Contaminated Soil Volume
Liberty Industrial Finishing Site
Farmingdale, New York
May 1997

NORTHWEST DISPOSAL AREA	
Estimated horizontal extent of contamination (ft^2)	6,400
Estimated depth of contamination (ft)	12
Estimated volume of contaminated soil (yd^3)	2,844
FORMER DISPOSAL BASINS AREA	
Estimated horizontal extent of contamination (ft^2 of bottom)	16,800
Estimated depth of floor contamination (ft)	3
Estimated volume of contaminated soil on bottom (yd^3)	1,900
Estimated horizontal extent of contaminated sidewall (ft^2)	12,000
Estimated length of contaminated sidewall (ft)	1,500
Estimated depth of contaminated sidewall (ft)	3
Estimate height of contaminated sidewall (ft)	8
Estimated volume of soil from contaminated sidewall (yd^3)	1,300
Total estimated volume of contaminated soil (yd^3)	3,200