

RCRA RECORDS CENTER  
FACILITY *Jones Environmental*  
I.D. NOMAD047075734  
FILE LOC *R-5*  
OTHER *#103329*

FINAL ASSESSMENT REPORT  
RCRA CORRECTIVE ACTION PROGRAM  
GEOCHEM, INC SITE  
LOWELL, MASSACHUSETTS

Prepared for  
U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 1  
Office of Waste Programs Enforcement  
Boston, MA 02203

RDMS DocID



103329

**Jet-Line  
Environmental  
Services**

THE ENVIRONMENTAL SOLUTION PEOPLE

February 23, 1995

CRA RECORDS CENTER  
FACILITY Jones Environmental  
I.D. NO. MA0047075734  
FILE LOC. R-5  
OTHER 103329

Ms. Betty Davis  
Project Officer  
U.S. Environmental Protection Agency  
Region 1  
JFK Federal building  
Boston, MA 02203

SUBJECT: Final Assessment Report  
Geochem, Inc. Site  
Lowell, Massachusetts  
Document No.: 002-1/95  
Project No. 009GWPEP

Dear Ms. Davis:

Please find enclosed the Final Assessment Report for Geochem Site, Lowell, Massachusetts as fulfillment of the reporting requirements for this Voluntary Corrective Action program.

If you have any comments regarding this submittal, please contact Don Corey of Phoenix Environmental, Inc. at (617) 275-2970 or me at 617-344-2510.

Sincerely,

JET-LINE ENVIRONMENTAL SERVICES, INC.



William F. Connor  
President

bj:WFC

cc: Al Nardone, MADEP

*Certified Ret. Receipt  
P708541249*

BRANCH OFFICE

263 Howard Street • Lowell, MA 01852  
(508) 937-7294 • FAX (508) 453-0195

JET-LINE ENVIRONMENTAL SERVICES, INC.

441 R Canton Street • P.O. Box 847 • Stoughton, Massachusetts 02072  
24 Hr. (617) 344-2510 • FAX: (617) 341-0635

BRANCH OFFICE

8 Progress Drive • Dover, NH 03820  
(603) 749-5735 • FAX (603) 749-9095

## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION	2
2.0 RCA SAMPLING VISIT OBJECTIVES	3
3.0 SAMPLING PLAN APPROACH	4
3.1 Building 1 Drum Storage Area 1A and 1B	4
3.2 Yard Adjacent to Loading Dock Area	5
3.3 Catch Basin Loading Dock Area	5
3.4 Interim Drum Storage Area	5
4.0 SAMPLING VISIT RESULTS	6
4.1 Building 1 Drum Storage Area 1A and 1B	9
4.2 Yard Adjacent to Loading Dock Area	9
4.3 Catch Basin Loading Dock Area	9
4.4 Interim Drum Storage Area	10
5.0 GROUNDWATER QUALITY	11
6.0 CONCLUSIONS AND FINAL RCA RECOMMENDATIONS	13
6.1 Conclusions	13
6.2 Recommendations	14
TABLE 1 - Summary of Analytical Data - 11/10/94	8
FIGURE 1 - Sampling Locations	
APPENDIX A - Data Validation Report for RCA Samples Collected at Geochem of Lowell on November 10, 1994	
APPENDIX B - Jet-Line Field Notes	

## 1.0 INTRODUCTION

USEPA requested Geochem, Inc. to conduct a RCRA Corrective Action facility assessment (RCA) of Geochem, Inc/ Jet-Line of Lowell in Lowell, Massachusetts. This assignment was subcontracted to Jet-Line Environmental Services, Inc. , with the work being conducted for U.S. EPA Region I with the assistance of Donald Corey, P.E. President of Phoenix Environmental Services, Inc.. The EPA primary contact is Betsy Davis.

A preliminary review (PR) of file information about Geochem/Jet-Line of Lowell was performed using documents collected from the Massachusetts Department of Environmental Protection (DEP) office in Boston and EPA Region I office in Boston. A visual site inspection (VSI) of the facility was conducted on October 11, 1994. The findings of these phases of the RCA have been summarized in this RCRA Facility Assessment Report for Geochem/ Jet-Line of Lowell.

Based on the findings of the Final Preliminary Assessment Report, a sampling visit (SV) was performed at the facility. During the SV, NINETEEN (19) soil samples were to be collected from FIVE locations for target compound list (TCL) organics analyses. This RCA Report presents the results of these analyses, and evaluates releases from drum storage areas and other areas of concern identified previously.

## 2.0 RCA SAMPLING VIST OBJECTIVES

The sampling visit is the final step of the RCA process designed to identify releases of hazardous waste or hazardous waste constituents at RCRA facilities. This SV focused on the collection and analysis of samples to detect releases from selected solid waste storage areas and other areas of concern. The results of this SV will provide release determinations on the areas of concern and thus guide appropriate future actions.

The SV performed at Geochem/Jet-Line of Lowell involved the collection of NINETEEN soil samples from FIVE locations. Figure 1 shows the locations sampled during the SV. Specific objectives of the sampling visit at Geochem/Jet-Line of Lowell were to:

Collect FOUR soil samples from under Building 1, drum storage Area 1A & 1B, to determine whether hazardous wastes/constituents are in the soil.

Collect soil samples from the yard area to determine whether hazardous wastes/constituents are in the soil. However, because the parking area is paved, samples were taken from TWO locations of the paved parking lot, and FIVE locations in the Yard Adjacent to Loading Dock from an unpaved area where office trailers are now located.

Collect a soil sample from under the containment area in the loading dock area to determine whether hazardous wastes/constituents have leaked under catch basin liner into the soil.

Collect FOUR soil samples from underneath the analytical laboratory area to determine whether hazardous wastes/constituents are in the soil.

Document any visual evidence of past or current releases by taking photographs, if necessary.

Groundwater sampling is being done on a semi-annual basis and was not conducted during this SV.

### 3.0 SAMPLING PLAN APPROACH

The technical approach taken for the sampling visit was based on specific recommendations in the Work Plan for Corrective Action, Geochem, Inc. Site, Lowell, MA. All samples were analyzed at a certified laboratory, Phoenix Analytical Laboratory Program for Routine Analytical Services for organic analyses and in compliance with the QA/QC procedure outlined in EPA 600/4-79-019, and SW846. A brief summary of each area of concern sampled and the rationale for sampling are provided below.

#### 3.1 Building 1 Drum Storage Area 1A and 1B

Building 1 drum storage area 1A and 1B is a bermed concrete pad that has been used for drum storage since 1976. The area of concern is the soil beneath the original wood floor. The building is divided by a berm into areas A and B to separate incompatible materials. Any spills would be adequately contained. However, this is not true of past spills because the floor was originally wood, which would not have contained spills adequately. There was no conclusive evidence that releases had occurred from this area.

Four composite soil samples were taken from under each area of Building 1, drum storage Area 1A & 1B. The eight soil samples were collected from about 6 to 12 inches below the soil surface and analyzed for the TCL substances.

### 3.2 Yard Adjacent to Loading Dock Area

Trucks are normally parked in the northern portion of the site. None were present during the VSI. The soil in the yard, although it appeared clean during VSI, may have been contaminated with releases from previous operations before the area was paved. Jet-Line collected two composite soil samples consisting of two aliquots each from about a depth of 6 inches in the yard area. The samples were analyzed for the TCL substances. Jet-Line also collected one composite sample from FIVE locations in the yard adjacent to the loading dock from an unpaved area where office trailers are now located.

### 3.3 Catch Basin Loading Dock Area

The loading dock area is a bermed concrete pad that has been used for drum handling since 1976. Most spills would be adequately contained by the catch basin with containment located in the loading dock. There was no evidence that releases had occurred from this area. A soil sample was to be collected from under the Catch Basin liner to determine whether hazardous wastes/constituents are in the soil.

### 3.4 Interim Drum Storage Area

FOUR soil samples were collected from underneath the Interim drum storage area on the north end of Building 1 to determine whether hazardous wastes/constituents are in the soil. The soil samples were collected from about 6 inches below the soil surface and analyzed for the Target Compound List (TCL) substances.

#### 4.0 SAMPLING VISIT RESULTS

Soil samples collected during the sampling visit were analyzed for organic chemicals. Raw analytical data sheets are attached for the U.S. EPA Region I office, Boston, Massachusetts.

Headspace readings were taken to indicate the presence of volatile organic contaminants. Soil samples were collected from the split spoon, placed in sealed jars and screened for volatile organic compounds with a direct reading, HNU Model No. PI 101 portable photoionization detector (PID). The detector response is displayed on a scale with a range of up to 0-2000 parts per million (ppm). Using a 10.2 eV lamp, the range of detectable compounds encompasses a large number of solvent materials including, benzene, vinyl chloride, trichloroethylene, xylene, acetone, 1,2 dichlorobenzene, methyl ethyl ketone and toluene.

Headspace readings were obtained by filling a pre-cleaned 16 oz. glass jar approximately 2/3 full with the soil sample. The jar was covered with aluminum foil and capped. The sample jars were allowed to equilibrate for approximately 10 to 15 minutes. Each jar was then shaken vigorously for approximately 10 seconds immediately prior to puncturing the aluminum foil with the detector probe and inserting the probe approximately 1/2 the headspace depth. The highest meter response was recorded as the headspace result.

Sample results from the analytical laboratory are keyed to each sample location in the summary Table 1. All samples were analyzed for target compound list (TCL) organics and only detected compounds are shown in these tables. Blank spaces indicate that the analyte was analyzed for, but not detected or the analytical results are invalid. Appendix A contains validated data and a copy of Jet-Line's Chain of custody forms from the SV. Appendix B contains a copy of Jet-Line's field notes from the SV.

Characteristics of contaminants and release evidence from the drum storage areas or other areas of concern are presented below by area. Figure 1 depicts the locations sampled during the Sampling Visit (SV).

TABLE 1

Summary of Analytical Data  
November 10, 1994

SAMPLE I.D.#	LOCATION	RESULTS (ug/kg, ppb)	COMPONENT
AA52254	Parking Lot 1	ND	
AA52255	Parking Lot 2	ND	
AA52256	Parking Lot 3	ND	
AA52257	Parking Lot 4	ND	
AA52258	Parking Lot 5	34	Trichloroethene
AA52259	Parking Lot Paved 1	ND	
AA52260	Parking Lot Paved 2	ND	
AA52261	Building I-1	ND	
AA52262	Building I-3	7	Tetrachloroethene
AA52262	Building I-3	88	Trichloroethene
AA52265	Building I A-2	45	Tetrachloroethene
AA52265	Building I A-2	380	Trichloroethene
AA52266	Building I A-4	5300	Chloroform
AA52266	Building I A-4	66	Trichloroethene
AA52269	Building 1B-1	63	Trichloroethene
AA52270	Building 1B-3	57	Trichloroethene

#### 4.1 Building 1 Drum Storage Area 1A and 1B (AOC 2)

Jet-Line assessed releases to the soil underneath Building 1, Drum Storage Area 1A and 1B by collecting four shallow soil samples from a depth of 6 to 12 inches from under Storage Area 1A and four samples from under Storage Area 1B. .

Headspace concentrations were below 0.0 ppm for all soil samples obtained from soil sampling under 1A and 1B. The PID data was so noted on the work sheet included in Appendix B.

Tetrachloroethylene (PCE), trichloroethylene (TCE) and chloroform were detected in the soil at concentrations well below the Massachusetts Contingency Plan (MCP) Reportable Concentrations for RCS-2 soils (Table 1).

#### 4.2 Yard Adjacent to Loading Area Dock

Jet-Line assessed releases to the soil in the parking area by collecting shallow soil samples from two locations in the paved parking lot and five samples from the unpaved area where office trailers are now located.

In the paved parking area, Trichloroethylene (TCE), at 34 ug/Kg (ppb), was detected in one sample, but no volatile organic compounds were detected any other sample (Table 1).

#### 4.3 Catch Basin Loading Dock Area

During the SV, the liner was removed from the catch basin in order to collect a sample from beneath it. However, the loading dock is a single monolithic concrete block so no soil is exposed beneath the catch basin which could be sampled.

#### 4.4 Interim Drum Storage Area (AOC-1)

Jet-Line assessed releases to the soil underneath the Interim Drum Storage Area by collecting four shallow soil samples (approximately 6 to 12 inches below the surface).. Jet-Line entered the crawl space underneath the building to collect the samples.

Two volatiles, trichloroethene at 88 ug/Kg (ppb) and tetrachloroethene at 7 ug/Kg (ppb) were detected in one of the samples (Table 1). The concentrations are well below the Massachusetts Contingency Plan (MCP) Reportable Concentrations for RCS-2 Soil.

Headspace concentrations were 0.0 ppm for all soil samples obtained from soil sampling under the Interim Drum Storage Area (AOC-1). The PID data was so noted on the work sheet included in Appendix B.

## 5.0 GROUNDWATER QUALITY

Groundwater is to be sampled on a semi-annual basis. It was not included in this SV, but analytical data from prior perimeter groundwater monitoring is summarized in this section.

GZA-1 - This well was located on the north side of the property in the vicinity of the present loading dock. The well was removed in 1988. Sampling events in 1984 and 1985 showed total VOCs of under 400 ug/L (ppb). Only the decomposition product 1,1-dichloroethylene exceeded the current MCP Reportable Concentration RCGW-2.

GZA-2 - This well was located on the west side of the yard and was removed in 1988. Sampling events in 1984 and 1985 showed total VOCs of 50 ug/L or less, with no substance exceeding RCGW-2 limits.

GZA-3 - This well was located in the southwest corner of the yard in the most upgradient area of the facility off Tanner Street. It was also removed in 1988. Sampling events in 1984 and 1985 showed total VOCs in the range of 2400 to 3200 ug/L, which appear to represent background concentrations in the vicinity of the sewer on Tanner Street. Only the decomposition product 1,1-dichloroethylene exceeded the current RCGW-2 limit.

GZA-4 - This well was located north of Building 1, which housed the distillation area under former ownership and management of the company. One sampling event in 1985 showed high concentrations of methylene chloride, 1,1,1-trichloroethane, trichloroethylene and toluene. This well was removed in 1988, but the adjacent well on the north side of the building, GZA-5 (since renumbered MW-6), provides a similar indication of groundwater conditions.

MW- A-5 - This well is located north of Building 1 on the bank of River Meadow Brook. It is downgradient from the building. One sampling event in 1985 showed total VOCs of 88,200 ug/L (ppb) and concentrations of 1,1-dichloroethylene, 1,1,1-trichloroethane, trichloroethylene and Freon exceeding the current RCGW-2 limits. However, a sampling event in 1987 showed that total VOCs had dropped to 137 ug/L and only 1,1-dichloroethylene exceeded the limit. This decrease is attributed to elimination of the source (former distillation), installation of concrete floors and natural attenuation (biodegradation, volatilization, dilution).

MW-5 - This well is located in the northwest corner of the yard behind the office trailers. It is part of the Silresim Trust monitoring well group. A 1987 sampling event showed that VOCs totaled 4,700 ug/L and that 1,1-dichloroethylene, 1,1,1trichloroethane and trichloroethylene exceeded current RCGW-2 limits. Due to the upstream location of this well relative to Geochem's operations, the VOCs appear to be representative of background concentrations (similar to GZA-3) downgradient from the Silresim site and Tanner Street sewer.

MW-1/WE-3 - This well is located on the northeast side of Building 1 next to Howard Street. In the sampling event in July 1994, total VOCs were 974 ug/L and only 1,1-dichloroethylene and trichloroethylene exceeded RCGW-2 limits.

MW-2/WE-2 - This well is located on the southeast corner of Building 1 at the intersection of Tanner and Howard Streets. Based on sampling events in 1985, 1987 and 1994, no RCGW-2 limits have ever been exceeded and VOCs in the 1994 event totalled only 5 ug/L.

MW-3/WE-1 - This well is located on the south side of the property between Buildings 1 and 2 and Tanner Street. During a sampling event in 1985, total VOCs were 222,800 ug/L with 1,1,1 trichloroethane, trichloroethylene and toluene exceeding RCGW-2 limits. However, when it was resampled in 1987, VOCs had dropped to 1,400 ug/L and only 1,1-dichloroethylene and 1,1,1-trichloroethane exceeded RCGW-2 limits. This is attributed to elimination of the source (closure of the former spill containment sump in Building 2) and natural attenuation (biodegradation, volatilization, dilution).

## 6.0 CONCLUSIONS AND FINAL RCRA RECOMMENDATIONS

### 6.1 Conclusions

The sampling visit (SV) at Geochem/Jetline of Lowell revealed the presence of various volatile organic compounds in the soils analyzed. The highest concentrations of volatile organic compounds were found in the samples collected from under Building 1 Drum Storage Area 1A. However, all were well below the Massachusetts Contingency Plan (MCP) Reportable Concentrations for RCS-2 soil.

The soils under the catch basin in the Loading Dock, were not sampled because there was a solid concrete bottom beneath the basin. It was decided during the SV not to punch a hole in the bottom after having removed the liner. The area is covered with concrete, so steps had been taken to minimize the migration of any contaminants in this area.

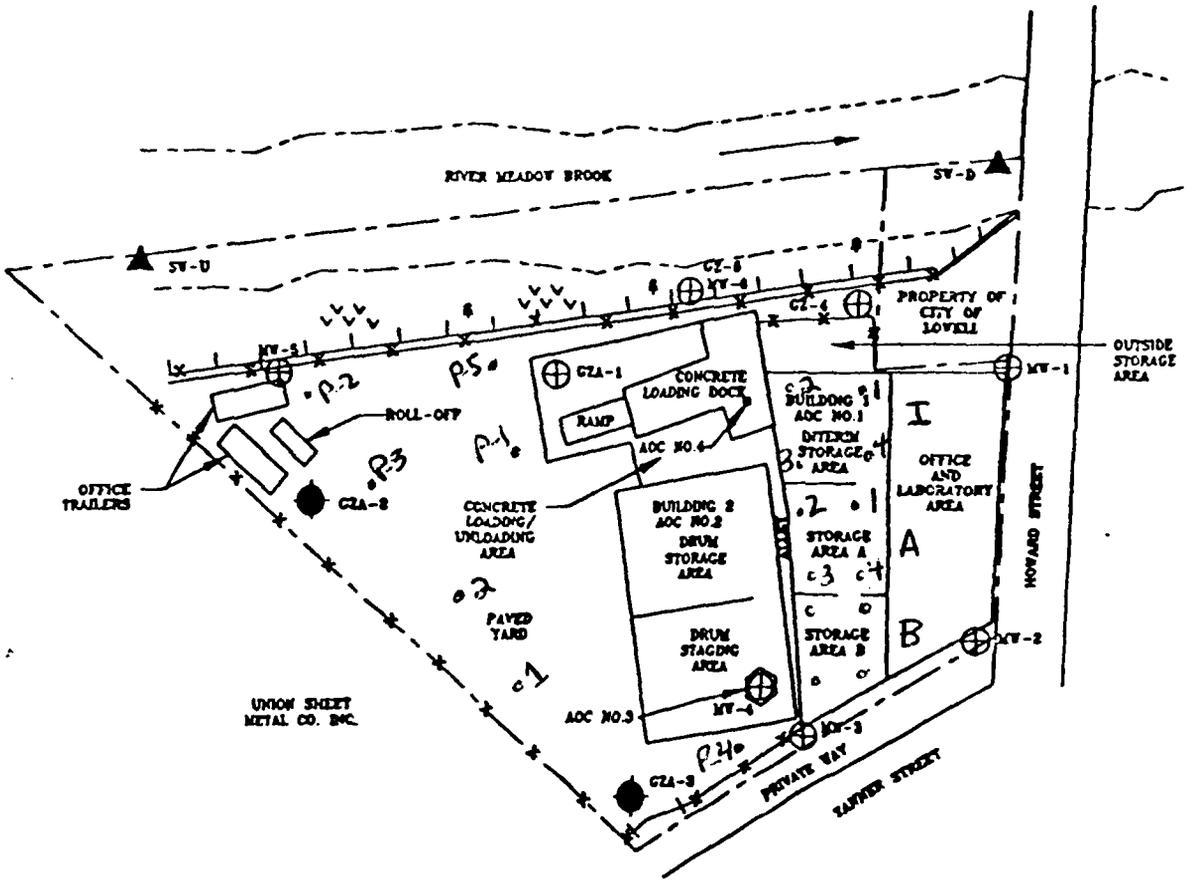
Since elimination of distillation at Geochem, installation of concrete floors in Building 1 and closure of the spill containment sump in Building 2, contamination of groundwater by volatile organic compounds has dropped to background levels. The highest total VOC concentration reported in 1987 had dropped to 4,700 ug/L (MW-5) and in July 1994 was 974 ug/l, (MW-1). In addition, the compound which most frequently exceeds current RCGW-2 limits is 1,1-dichloroethylene, which is a decomposition product indicative of old releases.

## 6.2 Recommendations

This RCRA Facility Corrective Action Program was to determine the extent of the soil and groundwater contamination and to determine the corrective measures necessary.

RCA sampling was designed to determine whether the facility has had any releases. The data indicate that the facility has not released chemical contaminants to the soils at levels that would constitute a hazard or trigger action. Since the soils beneath the buildings and environs show no evidence of significant contamination there should be no need to address them in a Corrective Measures Plan.

There is neither any imminent hazard nor any indication of any ongoing release to groundwater at the Geochem facility. Semi-annual sampling of groundwater and evaluation of results will continue. Any analytical results which would indicate a need for a Corrective Measures study will be submitted to U.S. EPA Region I.



- LEGEND**
- BANK OF RIVER
  - DOWNSLOPE
  - FENCE WITH GATE
  - FENCE
  - PROPERTY BOUNDARY
  - MONITORING WELL
  - BOREHOLE WITH OBSERVATION WELL
  - SURFACE WATER SAMPLE
  - GRASSY AREA
  - DIRT ROAD
  - WOODED AREA

ADAPTED FROM GEOCHEM, INC. & JET-LINE OF LOWELL

NOT TO SCALE

**SITE SKETCH**  
**JET-LINE SERVICES INC.**  
**LOWELL, MASSACHUSETTS**

**ARCS REGION I**  
**CONTRACT NO. 68-W9-0018**

FIGURE 1

APPENDIX A

Data Validation Report for RCA Samples Collected at  
Geochem of Lowell on November 10, 1994







**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O. Box 418, Manchester, CT 06040  
Tel. (203) 645-1102 Fax (203) 645-0823

November 22, 1994

Jet-Line Analytical Laboratory  
263 Howard Street  
Lowell, MA 01852

Attn: Mr. David Billo

SAMPLE I.D.#: AA52254 To AA52262, AA52265, AA52266, AA52269,  
AA52270, & AA52273

This laboratory is in compliance with the QA/QC procedure outlined in EPA 600/4-79-019, Handbook for Analytical Quality Control in Water and Waste Water, March 1979, and SW846 QA/QC requirements of procedures used.

If you have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext. 200.

Sincerely yours,

John M. Schreiber  
Laboratory Director

CT Lab. Registration #PH-0618  
MA Lab. Registration #CT-007  
NY Lab. Registration #11301  
RI Lab. Registration #63  
NH Lab. Registration #213693-A,B

**Phoenix Environmental Laboratories Inc.**  
**587 E.Middle Turnpike, Box 418**  
**Manchester, Ct. 06045-0418**  
**(203) 645-1102 Fax 645-0823**

To: Jet-Line Analytical Laboratory  
 263 Howard Street  
 Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52254	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PARKING LOT UNPAVED #1	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/02/94 JS	SW8260

Data For Volatile:

Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

Phoenix Environmental Laboratories Inc.  
 587 E. Middle Turnpike, Box 418  
 Manchester, Ct. 06045-0418  
 (203) 645-1102 Fax 645-0823

To: Jet-Line Analytical Laboratory  
 263 Howard Street  
 Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52269	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PROJ: BUILDING 2 B - #1	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/08/94 JS	SW8260

Data For Volatile:

Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

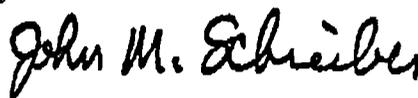
Jet-Line Analytical Laboratory Sample ID: AA52269

Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethene	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	63	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.



John M. Schreiber  
Laboratory Director

**Phoenix Environmental Laboratories Inc.**  
**587 E.Middle Turnpike, Box 418**  
**Manchester, Ct. 06045-0418**  
**(203) 645-1102 Fax 645-0823**

To: Jet-Line Analytical Laboratory  
 263 Howard Street  
 Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52270	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PROJ: BUILDING 2 B - #3	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/08/94 JS	SW8260

Data For Volatile:

Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

Jet-Line Analytical Laboratory Sample ID: AA52270  
Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethene	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	57	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

*John M. Schreiber*

John M. Schreiber  
Laboratory Director

Jet-Line Analytical Laboratory Sample ID: AA52265

Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethene	45	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	380	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

*John M. Schreiber*

John M. Schreiber  
Laboratory Director

**Phoenix Environmental Laboratories Inc.**  
**587 E. Middle Turnpike, Box 418**  
**Manchester, Ct. 06045-0418**  
**(203) 645-1102 Fax 645-0823**

To: Jet-Line Analytical Laboratory  
 263 Howard Street  
 Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52266	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PROJ: BUILDING 1 A - #4	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/08/94 JS	SW8260

Data For Volatile:

Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	5300	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

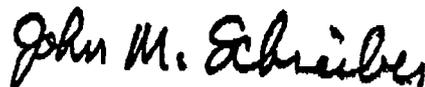
Jet-Line Analytical Laboratory Sample ID: AA52266

Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethene	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	66	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.



John M. Schreiber  
Laboratory Director

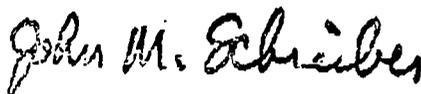
Jet-Line Analytical Laboratory Sample ID: AA52254

Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethene	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	Not detected	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.



John M. Schreiber  
Laboratory Director

**Phoenix Environmental Laboratories Inc.**  
**587 E.Middle Turnpike, Box 418**  
**Manchester, Ct. 06045-0418**  
**(203) 645-1102 Fax 645-0823**

To: Jet-Line Analytical Laboratory  
 263 Howard Street  
 Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52255	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PARKING LOT UNPAVED #2	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/02/94 JS	SW8260

Data For Volatile:

Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

Jet-Line Analytical Laboratory Sample ID: AA52255

Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethene	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	Not detected	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.



John M. Schreiber  
Laboratory Director

Phoenix Environmental Laboratories Inc.  
 587 E. Middle Turnpike, Box 418  
 Manchester, Ct. 06045-0418  
 (203) 645-1102 Fax 645-0823

To: Jet-Line Analytical Laboratory  
 263 Howard Street  
 Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52256	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PARKING LOT UNPAVED #3	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/02/94 JS	SW8260

Data For Volatile:

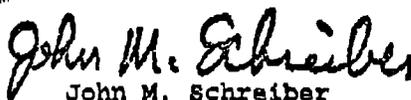
Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

Jet-Line Analytical Laboratory Sample ID: AA52256  
Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethene	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	Not detected	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

  
John M. Schreiber  
Laboratory Director

Phoenix Environmental Laboratories Inc.  
587 E.Middle Turnpike, Box 418  
Manchester, Ct. 06045-0418  
(203) 645-1102 Fax 645-0823

To: Jet-Line Analytical Laboratory  
263 Howard Street  
Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52257	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PARKING LOT UNPAVED #4	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/02/94 JS	SW8260

Data For Volatile:

Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

Jet-Line Analytical Laboratory Sample ID: AA52257  
Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethane	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	Not detected	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

*John M. Schreiber*

John M. Schreiber  
Laboratory Director

Phoenix Environmental Laboratories Inc.  
587 E.Middle Turnpike, Box 418  
Manchester, Ct. 06045-0418  
(203) 645-1102 Fax 645-0823

To: Jet-Line Analytical Laboratory  
263 Howard Street  
Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52258	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PARKING LOT UNPAVED #5	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/02/94 JS	SW8260

Data For Volatile:

Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

Jet-Line Analytical Laboratory Sample ID: AA52258

Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethane	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	Not detected	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

*John M. Schreiber*  
John M. Schreiber  
Laboratory Director

Phoenix Environmental Laboratories Inc.  
587 E.Middle Turnpike, Box 418  
Manchester, Ct. 06045-0418  
(203) 645-1102 Fax 645-0823

To: Jet-Line Analytical Laboratory  
263 Howard Street  
Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52259	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PARKING LOT PAVED #1	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/02/94 JS	SW8260

Data For Volatile:

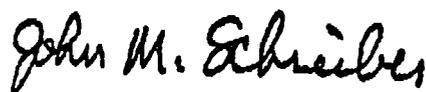
Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

Jet-Line Analytical Laboratory Sample ID: AA52259  
Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethene	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	34	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.



John M. Schreiber  
Laboratory Director

**Phoenix Environmental Laboratories Inc.**  
**587 E.Middle Turnpike, Box 418**  
**Manchester, Ct. 06043-0418**  
**(203) 645-1102 Fax 645-0823**

To: Jet-Line Analytical Laboratory  
 263 Howard Street  
 Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52260	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PARKING LOT PAVED #2	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/02/94 JS	SW8260

Data For Volatile:

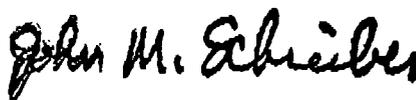
Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

Jet-Line Analytical Laboratory Sample ID: AA52260  
Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropane	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethane	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	Not detected	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.



John M. Schreiber  
Laboratory Director

Phoenix Environmental Laboratories Inc.  
587 E.Middle Turnpike, Box 418  
Manchester, Ct. 06045-0418  
(203) 645-1102 Fax 645-0823

To: Jet-Line Analytical Laboratory  
263 Howard Street  
Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52261	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PROJ: BUILDING 1 I - #1	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/02/94 JS	SW8260

Data For Volatile:

Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

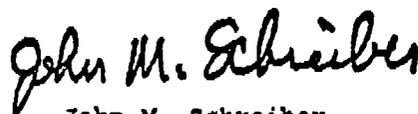
Jet-Line Analytical Laboratory Sample ID: AA52261

Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethane	Not detected	20
cis-1,2-Dichloroethane	Not detected	20
trans-1,2-Dichloroethane	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethene	Not detected	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	Not detected	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.



John M. Schreiber  
Laboratory Director

Phoenix Environmental Laboratories Inc.  
 587 E. Middle Turnpike, Box 418  
 Manchester, Ct. 06045-0418  
 (203) 645-1102 Fax 645-0823

To: Jet-Line Analytical Laboratory  
 263 Howard Street  
 Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52262	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PROJ: BUILDING 1 I - #3	Lab submittal date: 10/28/94
Sample collection date: 10/18/94	Lab submittal time: 13:30
Sample collection time: 08:00	Matrix: Solid
Sample collector:	

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/08/94 JS	SW8260

Data For Volatile:

Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

Jet-Line Analytical Laboratory Sample ID: AA52262  
Page 2

## Data For Volatile:

Component Name	Result	Component MDL
Dichlorodifluoromethane	Not detected	20
1,1-Dichloroethane	Not detected	20
1,2-Dichloroethane	Not detected	20
1,1-Dichloroethene	Not detected	20
cis-1,2-Dichloroethene	Not detected	20
trans-1,2-Dichloroethene	Not detected	20
1,2-Dichloropropane	Not detected	20
1,3-Dichloropropane	Not detected	20
2,2-Dichloropropane	Not detected	20
1,1-Dichloropropene	Not detected	20
Ethylbenzene	Not detected	20
Hexachlorobutadiene	Not detected	20
Isopropylbenzene	Not detected	20
p-Isopropyltoluene	Not detected	20
Methylene chloride	Not detected	20
Naphthalene	Not detected	20
n-Propylbenzene	Not detected	20
Styrene	Not detected	20
1,1,1,2-Tetrachloroethane	Not detected	20
1,1,2,2-Tetrachloroethane	Not detected	20
Tetrachloroethene	7	20
Toluene	Not detected	20
1,2,3-Trichlorobenzene	Not detected	20
1,2,4-Trichlorobenzene	Not detected	20
1,1,1-Trichloroethane	Not detected	20
1,1,2-Trichloroethane	Not detected	20
Trichloroethene	88	20
Trichlorofluoromethane	Not detected	20
1,2,3-Trichloropropane	Not detected	20
1,2,4-Trimethylbenzene	Not detected	20
1,3,5-Trimethylbenzene	Not detected	20
Vinyl chloride	Not detected	20
p&m-Xylene	Not detected	20
o-Xylene	Not detected	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

*John M. Schreiber*

John M. Schreiber  
Laboratory Director

**Phoenix Environmental Laboratories Inc.**  
**587 E. Middle Turnpike, Box 418**  
**Manchester, Ct. 06045-0418**  
**(203) 645-1102 Fax 645-0823**

To: Jet-Line Analytical Laboratory  
 263 Howard Street  
 Lowell, MA 01852

Date: November 22, 1994

The following analytical results have been obtained for the indicated sample.

Sample I.D.: AA52265	Received by: LC
Purchase order number: IN-HOUSE	Validated by: MJC
Project Code:	Location Code: JETLINE
Loc. Desc.: PROJ: BUILDING 1 A - #2	
Sample collection date: 10/18/94	Lab submittal date: 10/28/94
Sample collection time: 08:00	Lab submittal time: 13:30
Sample collector:	Matrix: Solid

Parameter	Result	Units	MDL	Completed	Reference
Volatile	Listed Below	ug/Kg	20	11/08/94 JS	SW8260

Data For Volatile:

Component Name	Result	Component MDL
Benzene	Not detected	20
Bromobenzene	Not detected	20
Bromochloromethane	Not detected	20
Bromodichloromethane	Not detected	20
Bromoform	Not detected	20
Bromomethane	Not detected	20
n-Butylbenzene	Not detected	20
sec-Butylbenzene	Not detected	20
tert-Butylbenzene	Not detected	20
Carbon tetrachloride	Not detected	20
Chlorobenzene	Not detected	20
Chloroethane	Not detected	20
Chloroform	Not detected	20
Chloromethane	Not detected	20
2-Chlorotoluene	Not detected	20
4-Chlorotoluene	Not detected	20
Dibromochloromethane	Not detected	20
1,2-Dibromo-3-chloropropane	Not detected	20
1,2-Dibromoethane	Not detected	20
Dibromomethane	Not detected	20
1,2-Dichlorobenzene	Not detected	20
1,3-Dichlorobenzene	Not detected	20
1,4-Dichlorobenzene	Not detected	20

APPENDIX B

Jet-Line Field Notes



MEMORANDUM

TO Field Notes From U.C.A.P.  
• At Lowell  
• \_\_\_\_\_

FROM \_\_\_\_\_  
• \_\_\_\_\_  
• \_\_\_\_\_

SUBJECT \_\_\_\_\_

DATE 10-18-94 19 \_\_\_\_\_

AOC # 1

8<sup>30</sup> AM took background reading HNU meter result was N/A also took LEL & O<sub>2</sub> readings result was 000/20.8.

8<sup>40</sup> AM entered crawl space and traveled to area labeled I1-4 and proceeded to take 4 samples using HNU meter checked for any readings (N/A)

9<sup>10</sup> AM took LEL & O<sub>2</sub> readings (000/20.8) then re-entered crawl space to take samples from A1-4, using HNU meter took head space readings N/A.

10<sup>00</sup> AM took LEL & O<sub>2</sub> readings (000/20.8) then re-entered crawl space to take samples from B1-4, using HNU meter took head space readings N/A.

10:50 am Complete Sampling of AOC #1

Signed \_\_\_\_\_



MEMORANDUM

TO \_\_\_\_\_  
• \_\_\_\_\_  
• \_\_\_\_\_

FROM \_\_\_\_\_  
• \_\_\_\_\_  
• \_\_\_\_\_

SUBJECT \_\_\_\_\_

DATE 10-18-94 19\_\_\_\_

AOC #2

11:15am began to sample un paved parking area took 5 samples for this area using HNU meter took head space reading which came up N/A

12:00 N sampled the paved area of the parking lot, took 2 samples in this area, using HNU meter took head space readings which came back N/A

Signed \_\_\_\_\_



MEMORANDUM

TO \_\_\_\_\_  
• \_\_\_\_\_  
• \_\_\_\_\_

FROM \_\_\_\_\_  
• \_\_\_\_\_  
• \_\_\_\_\_

SUBJECT \_\_\_\_\_

DATE 10-18-94 19\_\_\_\_

AOC #3

100 pm Started Removing Steel Drum  
from Deck catch basin Note once  
drum was removed we found that  
catch basin was a sealed concrete basin

Signed \_\_\_\_\_