SITE CHARACTERIZATION REPORT

DANIEL'S DRY CLEANERS

730 Gilman Blvd.
Issaquah, Washington

Submitted by:

Sound Environmental & Safety

Prepared for:

Mr. Daniel Ferrelli
Daniel's Dry Cleaning
730 Gilman Blvd.,
Issaquah, WA 98027

February 8, 1995

Prepared by:

Paul F. Schmidt
Geologist

♦ 1827 - 210th Court NE, Redmond, Washington 98053-4211 ♦ 206-868-6292 ♦

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1.0 INTRODUCTION

This report presents the results of Sound Environmental & Safety's (SE&S) activities during the characterization of soil conditions at the rear of Daniel's Dry Cleaners, 730 Gilman Blvd., Issaquah, Washington. Additionally, a summary of site assessment, soil excavation and disposal activities conducted by others at the site are provided.

1.1 Purpose and Scope of Work

The purpose of SE&S's activities were to collect and analyze soil samples near the rear door of Dainel's Dry Cleaners (site). Additionally, SE&S was requested to summarize the soil sampling, testing and disposal activities conducted by others at the site. The scope of work consisted of the following tasks:

- Collect soil samples from three locations surrounding the rear door of the site;
- Submit the collected soil samples to an Ecology accredited analytical laboratory for chemical analysis of halogenated volatile organics using EPA Method 8010. Specific attention was focused on the presence or absence of Tetrachloroethene (a.k.a. PERC or PCE);
- Review and summarize the soil assessment and remedial action activities conducted by others at the site;
- Prepare a report documenting the site characterization and remedial activities.

1.2 Site Background

Limited historical information pertaining to the site has been complied. According to representatives of Daniel's Dry Cleaners the property was initially developed in 1984. Daniel's Dry Cleaners is the first and only occupant of the suite. Records of chemical delivery to and disposal from the site have been maintained by Mr. Daniel Ferrelli. Mr. Ferrelli has indicated that inventory reconciliation has accounted for chemicals used at the site. During the nine years of operation preceding October 1994, Mr. Ferrelli was not aware of nor had been informed of any potential release or reported dumping at the rear of the site. Co-tenants have indicated to Mr. Ferrelli that activities at the site have not generated visual concerns.

In October 1994, Mr. Ferrelli was notified by his attorney, Ms. Silvia Luppert that soil contaminated with PERC was suspected at the rear of the site. To date no source of the release has been identified. The property management also reported to Mr. Ferrelli that soil samples collected between 1984 and 1993 tested nondetected for the presence of PERC. These reports were not presented to Mr. Ferrelli. Following confirmation of the suspected release by AGRA Earth & Environmental, Inc. (AGRA)of

Kirkland, Washington, a cleanup action was initiated by Mr. Ferrelli. The cleanup action consisted of soil excavation, disposal and laboratory testing.

2.0 SITE CONDITIONS

2.1 Vicinity Description

Daniel's Dry Cleaners is located approximately one mile northwest of the center of the downtown Issaquah, Washington. Daniel's is positioned close to the western end of the strip mall known as Heritage Square. The release site is suspected of being in the planting strip on the north side (rear) of the building. The strip mall faces Gilman Boulevard to the south and is bordered by Interstate Highway 90 to the north, and by undeveloped parcels to the east and west. Gilman Boulevard is bordered by small and newly developing businesses that cater to local community. The vicinity terrain is nearly level with spectacular views of Tiger, Squak and Cougar Mountains. The southern end of Lake Sammamish is present approximately one mile northwest of the site. Issaquah Creek is located approximately 1/4 mile east of the site.

Interstate Highway 90, State Highway 900, Front Street and Gilman Boulevard are the major routes providing access to the site. Site access is from Gilman Boulevard on the south, as shown on the attached Site Location Map (Figure 1).

2.2 Site Description

The release site is located on the north side of the rectangular shaped building. Soil was excavated from the three feet wide planting strip at the rear door of the dry cleaners. The nearly level parcel has a slight slope to the northwest. An asphalt paved alley provides rear access to the cleaners and other suites in the building. The excavation site was limited to the three feet wide by seven feet long planting strip. A sparse covering of ivy is present in the planting strip. The approximate surface elevation at the site is 65 feet above sea level (USGS topographic map, NW 1/4 of NE 1/4 of Section 28, T24N, R6E, Issaquah, Washington Quadrangle). Surrounding are occupied by retail and restaurant businesses.

Ground surface at the site is generally flat and asphalt-covered. Original construction on the site was reported to have begun in the early 1980s. Improvements present on the site include three single-story wooden structures (strip mall), two detached restaurants (Denny's and Dairy Queen) and asphalt covered parking areas. The site configuration is illustrated on the attached Site Map (Figure 2).

3.0 FIELD ACTIVITIES

3.1 Initial Soil Sampling and Testing

On August 11, 1994, it is understood that Tacoma Environmental Sciences, Inc. (TES) of Tacoma, Washington was on site to collect soil samples. It is reported that the property management requested TES to complete the soil sampling and testing. The soil sampling procedures and field conditions at the time of sampling are described TES's report dated September 28, 1994. Three soil samples were collected and submitted for analytical testing. Soil sample collection data and analytical results are included in Table I & II respectively. Analytical testing of the collected soil samples indicated the presence of PERC at a concentration in excess of the 0.5 parts per million (ppm) MTCA Method A Soil Cleanup level. AGRA was retained to assist Mr. Ferrelli with confirmation and assessment of the contamination issue.

3.2 1st Phase Confirmation and Soil Sampling by AGRA

On November 4, 1994, AGRA representatives visited the site to collect soil samples from locations near the rear door of Daniel's Dry Cleaners. Sample locations are illustrated on Figure 2. The results of soil sampling and analytical testing completed by AGRA were presented in their report dated November 15, 1995. This report and Daily Field Report are included in Appendix A. The AGRA report concludes that concentrations of PERC in excess of the cleanup level were present at the sampled locations. A more through characterization of site conditions was recommended by AGRA.

3.3 1st Phase Excavation of Contaminated Soil

Following the receipt of AGRA's November 15, 1994, report, Mr. Ferrelli initiated a remedial action. The remedial action consisted of excavation of soil located on the east side of the concrete slab at the rear door of the cleaners. An excavation approximately three feet in diameter by four feet deep was made by Mr. Ferrelli during the week of December 12, 1994. Soil removed from the excavation was yellow brown sandy gravel with cobbles. The dense material is believed to be imported fill material placed during grading and development of the parcel. The excavated soil was stockpile on top of heavy plastic sheeting on the west side of the concrete slab. Excavating activities was stopped when field conditions suggested that the end of PERC contaminated soil had been reached. Olfactory indicators were the most useful. After this phase of excavation was completed, Mr. Ferrelli requested that AGRA to return to the site and collect additional soil samples for analytical testing.

3.4 2nd Phase Soil Sampling by AGRA

On December 15, 1994, an AGRA representative again visited the site to collect soil samples for analytical testing. During this sampling episode AGRA collected four soil samples. Sample locations are illustrated on Figure 2. The samples were again submitted for analytical testing. Results of the

analytical testing were orally transmitted to Mr. Ferrelli. The analytical results of this sampling episode and AGRA's Daily Field Report dated December 15, 1994 are included in Appendix A. The detected concentrations of PERC were in excess of the cleanup level. On the basis of this sampling episode Mr. Ferrelli resumed the excavation activities.

3.5 2nd Phase Excavation of Contaminated Soil

Following the receipt of AGRA's December 15, 1994, analytical testing data, Mr. Ferrelli initiated a 2nd phase of soil excavation. An excavation approximately six feet long, three feet wide and four feet deep was made by Mr. Ferrelli during the week of December 26, 1994. The excavated soil was added to the existing stockpile on the west side of the concrete slab. Excavating activities were stopped when field conditions suggested that the end of contamination had been reached. Lateral limits were established by the alley on the north and the building on the south. Utility conduits were also exposed in the excavation. Olfactory indicators were the most useful. After this 2nd phase of excavation was completed, Mr. Ferrelli again requested that AGRA to return to the site and collect additional soil samples for analytical testing. AGRA was also requested to place the excavated soil in drums in preparation for disposal.

3.6 3rd Phase Soil Sampling by AGRA

On January 3, 1995, an AGRA representative again visited the site to collect soil samples for analytical testing. During this third sampling episode AGRA collected three soil samples. Sample locations are illustrated on Figure 2. The samples were again submitted for analytical testing using EPA Method 8010. Results of the analytical testing were orally transmitted to Mr. Ferrelli. The analytical results of this sampling episode and AGRA's Daily Field Report dated January 3, 1995, are included in Appendix A. The detected concentrations of PERC were in excess of the cleanup level. On the basis of this sampling episode Mr. Ferrelli resumed the excavation activities.

3.7 3rd Phase Excavation of Contaminated Soil

Following the receipt of AGRA's January 3, 1995, analytical testing data, Mr. Ferrelli initiated a 3rd (final) phase of soil excavation. The existing excavation was deepened to an approximate depth of five feet below grade. The excavating was done by Mr. Ferrelli during the week of January 16, 1995. The excavated soil was added to the existing stockpile on the west side of the concrete slab. Excavating activities was stopped when dark gray clayey soils were encountered. After this 3rd phase of excavation was completed, Mr. Ferrelli backfilled the hole with imported pit run. A concern for the integrity of the adjacent alley, building foundation in addition to worker safety prompted the backfilling. The excavated soils were placed in drums. The Waste Material Profile & Uniform Hazardous Waste Manifest forms are included in Appendix B.

4.0 CONFIRMATION OF SOIL REMEDIATION USING GEOPROBE

On January 25, 1995, a representative from SE&S visited the site to collect soil samples. Soil sampling was completed using Geoprobe soil sampling tools. Three sampling locations and target depths were selected after discussion with and approval by Mr. Ferrelli. The selected sample locations are illustrated on Figure 2. A site specific underground utility locate was completed by Locating, Inc., of Issaquah, Washington. The City of Issaquah was also notified of the sampling activity and was on site during the advancement of each of the three sample holes. Concern with regard to the unknown position of a 6-inch PVC water main warranted the City's presence. Hand augering to a depth of five feet below grade was done at each of the three sample locations. Encountered soil was predominantly a yellow brown sandy gravel with cobbles. It is believed that this material is imported fill.

After the hole was advanced to a depth of five feet, the Geoprobe sampling tools were readied. A schematic of the Geoprobe tools is included as Appendix C. Prior to each advancement the sampling tools were cleaned using a triple wash system that included a Liquinox™ and tap water for the initial wash, followed by tap water rinse and then distilled water final rinse. The Geoprobe was lowered to the target depth of five feet then opened and hand driven through the target sampling interval to a depth of seven feet. The Geoprobe was then removed from the hole and the discrete sample was extruded from the sampler. One discrete sample from the interval 5.0' - 7.0' feet was collected from each hole. Encountered soil was a dark gray clayey silt. Some organics and iron staining were present. Moisture conditions were damp to moist. Indications of static groundwater (i.e., saturated soil) were not observed. Sample location data and analytical testing results are presented in Tables I & II. Complete laboratory data sheets for these analytical tests are included as Appendix D.

Before collection of each discrete sample, new nitrile gloves were donned. The soil samples were placed, with a gloved hand, into the laboratory-supplied glass jars. Each jar was completely filled with soil to minimize headspace and then sealed with a Teflon-lined screw cap. The sample jar was then labeled and placed in a cooler filled with ice packs. Sample collection data are provided in Table I. The samples were transported to the analytical laboratory and analyzed under priority turnaround.

5.0 LABORATORY ANALYSIS

5.1 Sample Handling

At least 16 soil samples were collected during completion of the sampling activities. The samples were submitted under chain-of-custody protocol to Sound Analytical Services of Tacoma, Washington, Freidman & Bruya of Seattle, Washington and North Creek Analytical of Bothell, Washington. The samples were chosen to best represent subsurface conditions remaining within the excavation and surrounding area. All submitted samples were analyzed as discrete samples.

5.2 Analytical Methods

The samples were analyzed for halogenated volatile organics using EPA Method 8010. Laboratory data are summarized in Table II and complete laboratory data sheets are presented in Appendices A & D. Analytical results were compared to cleanup levels promulgated under Model Toxics Control Act (MTCA) Cleanup Regulation (WAC 173-340) dated February 1991. The MTCA cleanup level is presented at the bottom of Table II.

5.3 Analytical Results

Twelve of the 16 samples collected contained concentrations of tetrachloroethene in excess of MTCA cleanup level of 0.5 ppm. Actual concentrations are shown in Table II. Sample S-11/4-3 was the only sample that contained detectable PERC at a concentration less than 0.5 ppm.

Three samples (GP-1 @ 5.0' - 7.0', GP-2 @ 5.0' - 7.0' & GP-3 @ 5.0' - 7.0') did not contain any of the analyzed for compounds in excess of the MTCA soil cleanup levels or analytical method detection limits.

6.0 RESULTS AND CONCLUSIONS

A surface release of tetrachloroethene (PERC) at the rear of Daniel's Dry Cleaners has been confirmed by analytical testing of collected soil samples. Concentrations of PERC were detected in excess of the MTCA Method A soil cleanup level. No single event or source of the release has been determined.

On the basis of the confirmed release, Mr. Daniel Ferrelli initiated a cleanup action. The cleanup action consisted of several episodes of excavation and analytical testing. Excavation of contaminated soil was carried out until field screening indicated the end of detectable PERC. Approximately one cubic yard of soil was removed by Mr. Ferrelli during three excavation phases. Limits of the excavation are illustrated in Figure 2. At least five episodes of soil sampling and testing were conducted at the site. Sample locations are illustrated on Figure 2 and described on Table I. At least 16 soil samples were collected during the site activities. Analytical results are presented on Table II. Results of the last sampling episode indicate that the PERC contaminated soil was not detected at the sampling locations.

On the basis of the completed analytical testing and excavation activities conducted by Mr. Ferrelli, it appears that the PERC contaminated soil has been removed from the release site. Soil sampling was completed at the suspected point source as well as about 10 feet away. The excavated soil was placed in drums and accepted for disposal by Burlington Environmental, Inc.

Groundwater was not encountered during the excavation activities or in the Geoprobe soil sample locations to a depth of seven feet below grade. Groundwater conditions with respect to potential contamination have not been assessed. The depth to groundwater in the local area is suspected to be less than 15 feet below grade. The maximum depth of PERC contamination appears to have been five feet below grade. Clean soil samples were collected from a depth of seven feet below grade. Therefore, it is believed that at least two feet of uncontaminated soil is present between the maximum depth of the final excavation and the maximum depth explored.

On the basis of the above data, additional soil characterization activities do not appear warranted at this time.

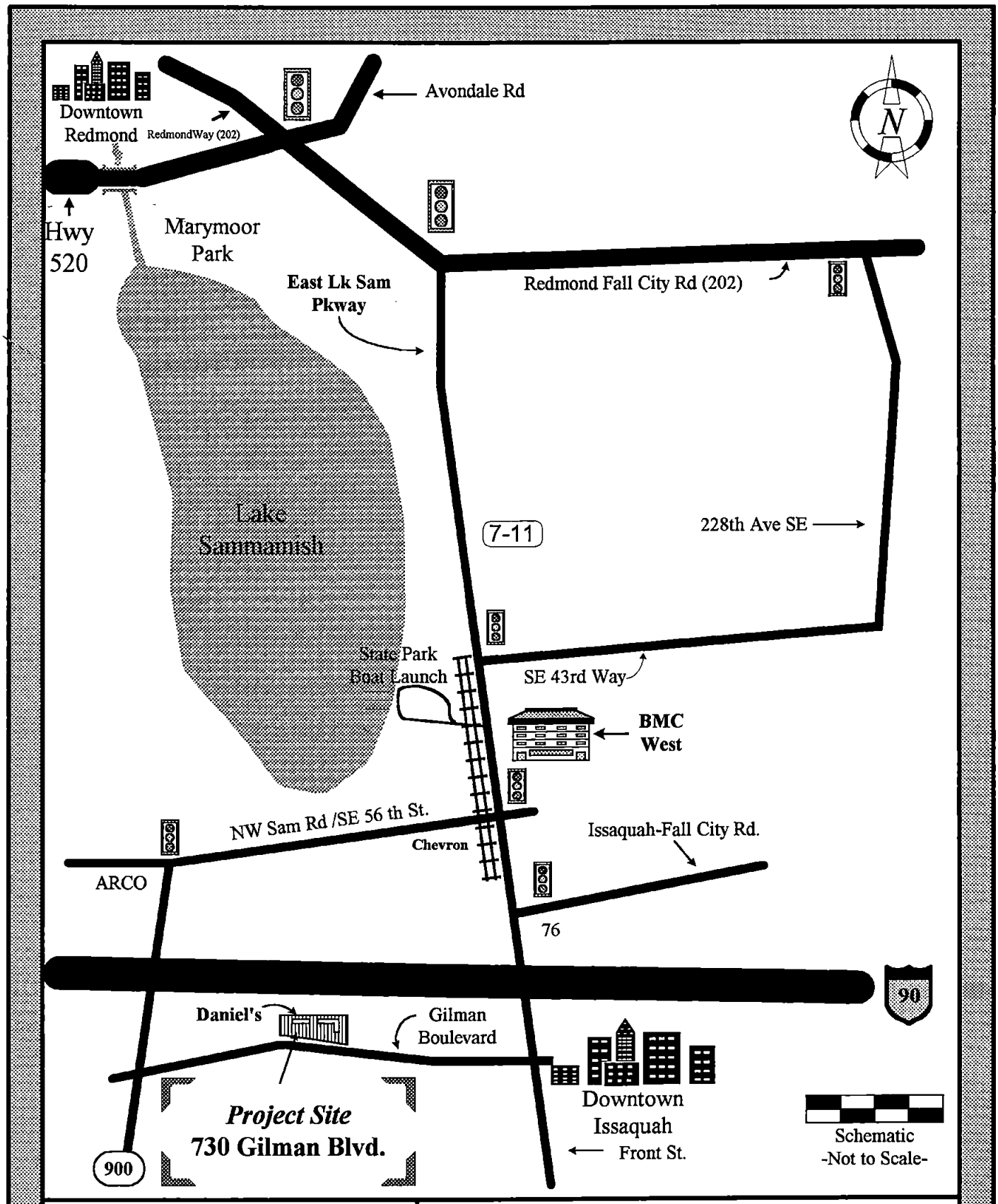
7.0 LIMITATIONS

SE&S has prepared this report for use by Mr. Daniel Ferrelli and his authorized agents in their evaluation of subsurface conditions at Daniel's Dry Cleaners, 730 Gilman Blvd., Issaquah, Washington. This report may be made available to lenders, and regulatory agencies. This report is not intended for use by others and the information contained herein is not applicable to other sites.

The data reported herein are based on visual observations, field data, and soil sampling at locations on the subject site. SE&S has relied upon information provided by others in our description of historical conditions. The available data do not provide definitive information with regard to all past uses, operations or incidences at the site. It is always possible that contamination exists in portion of the site that were not explored or sampled. Further evaluation of such potential contamination would require additional exploration and testing.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted environmental science practices for environmental site assessments in this area at the time this report was prepared. No warranty, express or implied, should be understood.

FIGURES
&
TABLES



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206-868-6292

FIGURE 1
SITE LOCATION MAP

Daniel's Dry Cleaners, 730 Gilman Blvd. Issaquah, WA
Prepared for Mr. Daniel Ferrelli, 2-8-95

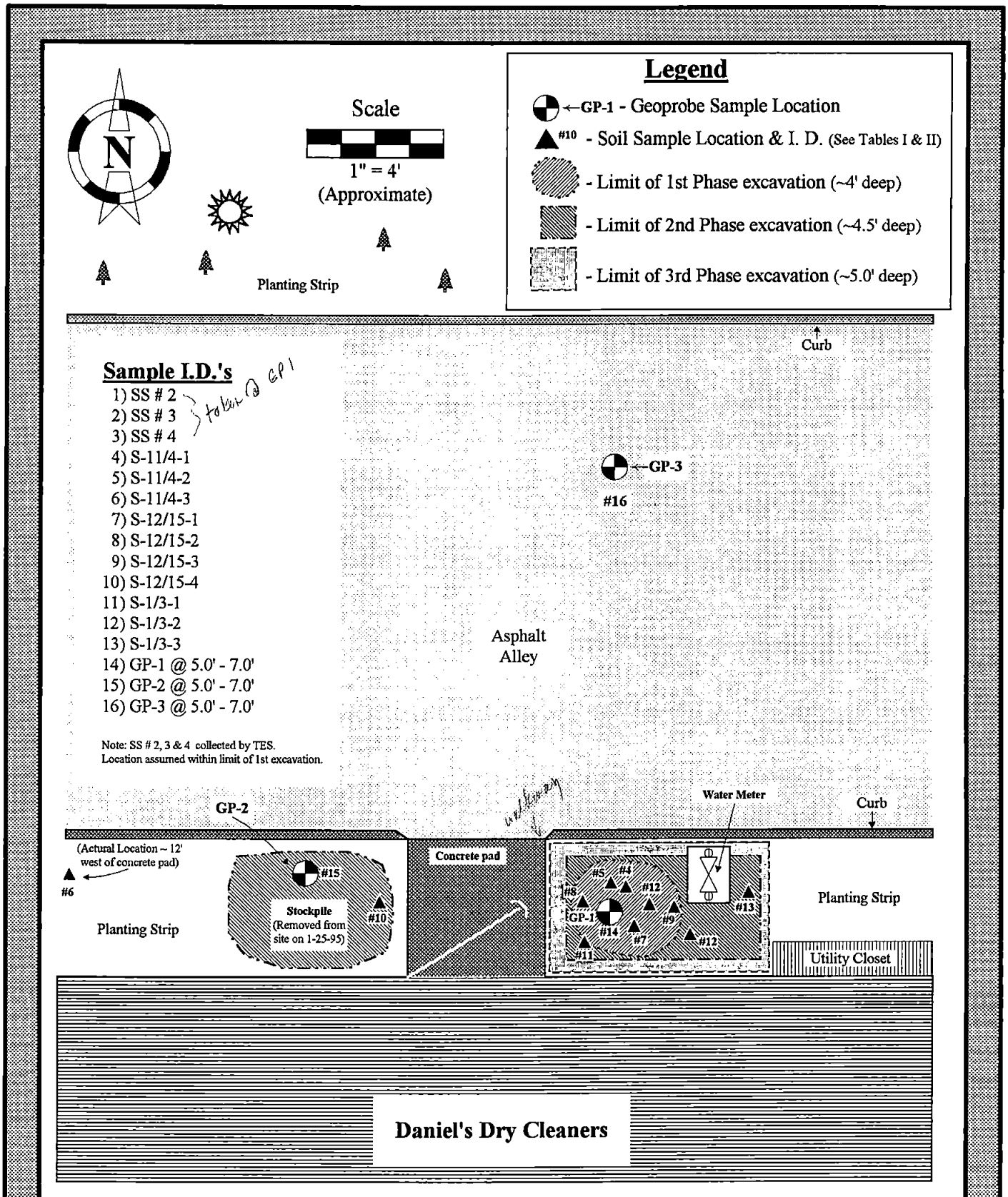

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FIGURE 2

SITE PLAN with SOIL SAMPLE LOCATIONS

Daniel's Dry Cleaners, 730 Gilman Blvd., Issaquah, WA

Prepared for Mr. Daniel Ferrelli 2-8-95

TABLE I

SOIL SAMPLE COLLECTION DATA
DANIEL'S DRY CLEANERS, ISSAQUAH, WA

Sample I.D.	Collected by & Date	Approx. Depth (ft.)	Location
SS # 2	TES / 8-11-94	0.75' - 1.42'	2' east of concrete pad & 1.5' north of wall
SS # 3	TES / 8-11-94	1.75' - 2.25'	2' east of concrete pad & 1.5' north of wall
SS # 4	TES / 8-11-94	2.75' - 3.25'	2' east of concrete pad & 1.5' north of wall
S-11/4-1	AGRA / 11-4-94	1.0' - 2.5'	2' east of concrete pad & 1.5' north of wall
S-11/4-2	AGRA / 11-4-94	2.5'-4.0'	2' east of concrete pad & 1.5' north of wall
S-11/4-3	AGRA / 11-4-94	1.0' - 2.5'	12' west of concrete pad & 3.0' north of wall
S-12/15-1	AGRA / 12-15-94	4.5'	2.5' east of concrete pad & 1.5' north of wall
S-12/15-2	AGRA / 12-15-94	2.0'	1.5' east of concrete pad & 1.5' north of wall
S-12/15-3	AGRA / 12-15-94	2.0'	4' east of concrete pad & 1.5' north of wall
S-12/15-4	AGRA / 12-15-94	--	Stockpile
S-1/3-1	AGRA / 1-3-95	2.0'	0.5' east of concrete pad & 2.0' north of wall
S-1/3-2	AGRA / 1-3-95	4.0'	3.0' east of concrete pad & 2.0' north of wall
S-1/3-3	AGRA / 1-3-95	2.0'	5.5' east of concrete pad & 2.0' north of wall
GP-1 @ 5.0' - 7.0'	SE&S / 1-25-95	5.0' - 7.0'	2.5' east of concrete pad & 2.0' north of wall
GP-2 @ 5.0' - 7.0'	SE&S / 1-25-95	5.0' - 7.0'	1.0' west of concrete pad & 2.5' north of wall
GP-3 @ 5.0' - 7.0'	SE&S / 1-25-95	5.0' - 7.0'	3.5' east of concrete pad & 10.0' north of wall

TABLE II

SOIL SAMPLE ANALYTICAL RESULTS
DANIEL'S DRY CLEANERS, ISSAQUAH, WA

Sample I.D.	Collected by & Date	Tetrachloroethene (mg/Kg)
SS # 2	TES / 8-11-94	**31.0**
SS # 3	TES / 8-11-94	**10.0**
SS # 4	TES / 8-11-94	**26.0**
S-11/4-1	AGRA / 11-4-94	**1.0**
S-11/4-2	AGRA / 11-4-94	**1.0**
S-11/4-3	AGRA / 11-4-94	0.2
S-12/15-1	AGRA / 12-15-94	**4.8**
S-12/15-2	AGRA / 12-15-94	**3.4**
S-12/15-3	AGRA / 12-15-94	**120**
S-12/15-4	AGRA / 12-15-94	**5.4**
S-1/3-1	AGRA / 1-3-95	**4.2**
S-1/3-2	AGRA / 1-3-95	**25**
S-1/3-3	AGRA / 1-3-95	**19**
GP-1 @ 5.0' - 7.0'	SE&S / 1-25-95	<0.050
GP-2 @ 5.0' - 7.0'	SE&S / 1-25-95	<0.050
GP-3 @ 5.0' - 7.0'	SE&S / 1-25-95	<0.050
MDL		0.050
MTCA Method A Soil Cleanup Level		0.5

Notes:
TES = Tacoma Environmental Sciences, AGRA = AGRA Earth & Environmental, SE&S = Sound Environmental & Safety.
All values reported in **mg/Kg (ppm)**.
Tetrachloroethene using EPA Method 8010.
Values in **bold** exceed the MTCA Cleanup Level.
Shaded sample locations have been overexcavated and material accepted for disposal by Burlington Environmental.
MDL = Analytical Method Detection Limit.
MTCA = Model Toxics Control Act Method A Soil Cleanup Level, WAC Chapter 173-340-720 (2) (a) (i), dated 3-93.
Available laboratory reports are attached in Appendix A and D.

APPENDIX A

AGRA REPORT and DAILY FIELD REPORTS
&
LABORATORY DATA SHEETS

November 4, 1994 by AGRA Earth & Environmental (Daily)
November 15, 1994 by AGRA Earth & Environmental (Report)
December 15, 1994 by AGRA Earth & Environmental (Daily)
January 3, 1995 by AGRA Earth & Environmental (Daily)
December 23, 1994 by Friedman & Bruya
January 9, 1995 by Friedman & Bruya

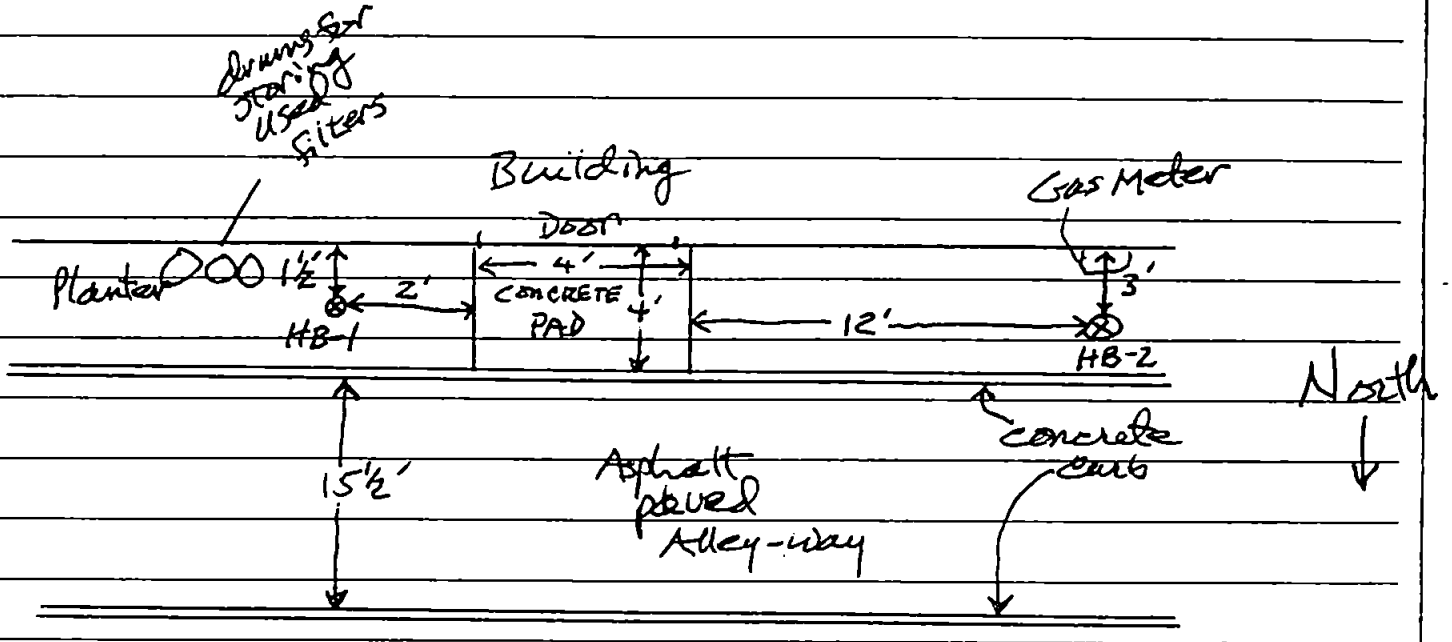
AGRA
Earth & Environmental

DAILY FIELD REPORT

PROJECT NAME	PROJECT No.	FIELD REPORT No.
DANIEL'S DRY CLEANERS	11-09959-00	1
	DATE 11/4/94	PAGE 2 OF 2

COMMENTS (Describe work completed during the day; any problems and their solutions)

Boring #	Sample #	Depth	Time Collected
HB-1	5-11/4-1	1-2½'	9:50 AM
HB-1	5-11/4-2	2½-4'	10:10 AM
HB-2	5-11/4-3	1-2½'	10:30 AM



HB-2 was located in a topographical low.

AGRA E&E Field Rep. (Initials) TDP AGRA E&E Project Manager (Initials) _____ Contractor's Rep. (Initials) _____ Continued ☐

AGRA
Earth & Environmental

AGRA Earth &
Environmental, Inc.
11335 NE 122nd Way
Suite 100
Kirkland, Washington
U.S.A. 98034-6918
Tel (206) 820-4669
Fax (206) 821-3914

15 November 1994
11-09959-00

Reaugh, Fischnaller, Oettinger
2001 Sixth Avenue, Suite 2000
Seattle, Washington 98121

Attention: Ms. Sylvia Luppert

Subject: Soil Testing Results
Daniel's Dry Cleaners
Issaquah, Washington

Dear Ms. Luppert:

This letter presents the results of analytical laboratory testing conducted on soil samples collected at Daniel's Dry Cleaners in Issaquah, Washington. The scope of work performed was based upon information obtained from Mr. Steve High of Tacoma Environmental Services, Inc. (TESI) and from our conversations with you since the time of our first involvement with this project on 5 October 1994. Three soil samples were collected from two hand borings located in the planting strip near the back door to the dry cleaner on 4 November 1994. The locations of the two hand borings, labelled HB-1 and HB-2, are shown on the Site and Exploration Plan, Figure 1. Boring HB-1 was located 1 ½ feet north of the building wall and two feet east of the east side of the rear entrance to the dry cleaners. Based on a previous telephone conversation with Mr. Steve High of TESI, this is approximately the same location where soil samples SS#2, SS#3, and SS#4 were collected by TESI on 11 August 1994. Boring HB-2 was located three feet north of the building wall, approximately 12 feet west of the west side of the rear entrance to the dry cleaners. This location is a topographically low area in the planter which, unlike the majority of the planter, is devoid of vegetation.

Each of the two borings was excavated to a depth of approximately one foot using a post hole digger. Soil samples were then collected using 18-inch long by 2-inch outside diameter steel split spoon soil samplers. The split spoon samplers were driven into the soil using a hand operated slide hammer. The sampling spoons were decontaminated prior to collection of each sample by scrubbing with a stiff brush in a mixture of Alconox and water, followed by consecutive rinses in liberal quantities of clean potable and distilled water. Upon recovery samples were scooped directly into glass jars and placed into a chilled cooler. The samples were then submitted to Friedman and Bruya, Inc. for analysis of halogenated volatile organics by EPA Method 8010. AGRA Earth & Environmental chain of custody procedures were

maintained during transportation to the laboratory to document sample integrity. A summary of the laboratory results is shown in Table 1. A copy of the analytical laboratory certificate has been attached. For reference, analytical results for soil samples SS#2 through SS#4 collected by TESI have also been included in Table 1.

The November test results indicate a decrease in perchloroethylene (PCE) concentrations in the vicinity of HB-1 by a factor of approximately 10 to 30 as compared to the August test results. Some possible causes for this reduction in concentrations include soil inhomogeneities, PCE migration, volatilization, or degradation. Although the November data indicates that PCE concentrations in the soil are relatively low in the locations tested, additional testing is recommended to delineate the vertical and lateral extent of the impacted area. Because of the apparent decreasing trend in PCE concentration, we do not recommend proceeding with remediation of the site until a more thorough characterization of site conditions is completed.

We appreciate this opportunity to be of service to you with this project. Should you have any questions regarding this letter or other aspects of this report, please do not hesitate to call.

Respectfully submitted,
AGRA Earth & Environmental, Inc.

Timothy J. Peter
Environmental Geologist

Daryl S. Petrarca, REA
Associate

Enclosures: Table 1. Summary of Analytical Laboratory Results: Soil
Figure 1. Site and Exploration Plan
Analytical Laboratory Certificates

TJP/DSP/lad

Table 1: Summary of Analytical Laboratory Results: Soil
Daniels Dry Cleaners
Issaquah, Washington
AGRA Earth & Environmental, Inc. Project No. 11-09959-00

Boring Number	Sample Number	Depth Collected (ft)	PCE (mg/kg)
HB-1	S-11/4-1	1 - 2.5	1.0
HB-1	S-11/4-2	2.5 - 4	1.0
HB-2	S-11/4-3	1 - 2.5	0.2
	SS#2	.75 - 1.42	31*
	SS#3	1.75 - 2.25	10*
	SS#4	2.75 - 3.25	26*
MTCA Method "A" Cleanup Level			0.5

Notes:

* = Samples collected by Tacoma Environmental Services, Inc. on 11 August 1994.
MTCA = Model Toxics Contraol Act, Method "A" Cleanup Levels.
PCE = Tetrachloroethene by EPA Method 8010.

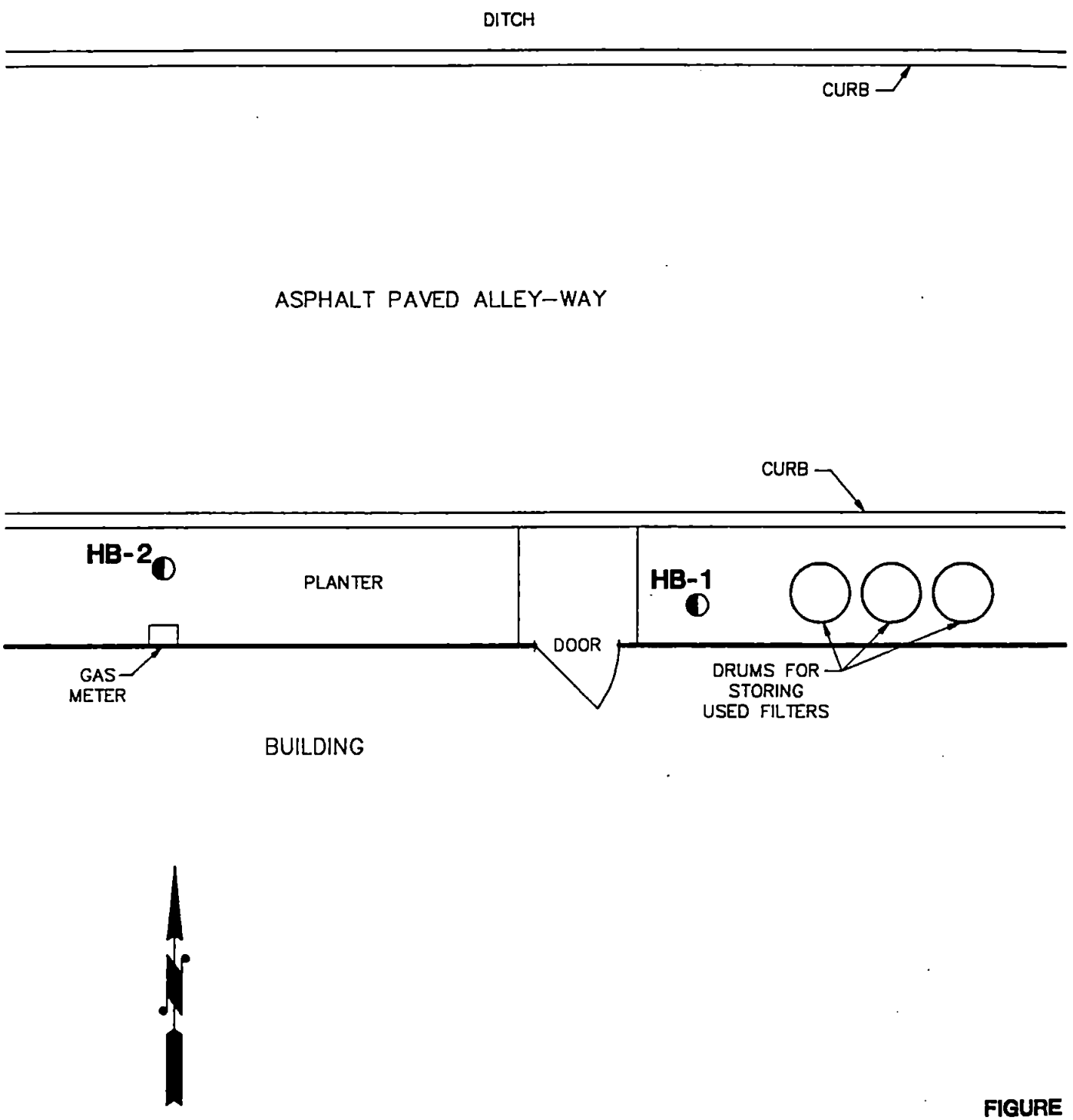


FIGURE 1

AGRA
Earth & Environmental
11335 N.E. 122nd Way, Suite 100
Kirkland, WA, U.S.A. 98034–6918

W.O.	11–09959–00
DESIGN	TJP
DRAWN	BDT
DATE	NOV 1994
SCALE	N.T.S.

DANIEL'S DRY CLEANERS
ISSAQUAH, WASHINGTON

SITE AND EXPLORATION PLAN

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. \11\09959–00\SITE.DWG

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

November 11, 1994

Tim Peter, Project Leader
AGRA Earth & Environmental, Inc.
11335 NE 122nd Way, Suite 100
Kirkland, WA 98034-6918

Dear Mr. Peter:

Enclosed are the results from the testing of material submitted on November 4, 1994 from your Daniel's Dry Cleaners project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Amy Gray

Amy M. Gray
Chemist

jdp
Enclosures

RZA1111R

Friedman & Bruya, Inc.

(206) 285-8282

Analysis For Volatile Compounds By EPA Method 8240

Client Sample Name:	method blank	Matrix:	SOIL
FBI Sample Name:	METHOD BLANK	Run Date:	11/08/94
Client:	AGRA	Instrument:	GCMS1
Extraction Date:	11/8/94	Operator:	SC
Data File:	110809.D	Units:	mg/kg(ppm)
Project:	DANIEL'S DRY CLEANERS		

Surrogates	% Recovery	Lower Limit	Upper Limit
1,2-Dichloroethane-d4	116	81	117
Toluene-d8	94	70	121
4-Bromofluorobenzene	99	74	121

Compounds	Concentration mg/kg(ppm)	Compounds	Concentration mg/kg(ppm)
Dichlorodifluoromethane	<0.04	4-Methyl-2-pentanone (MIBK)	<0.2
Chloromethane	<0.2	Toluene	<0,04
Vinyl chloride	<0.2	Ethyl methacrylate	<0.2
Bromomethane	<0.04	Tetrachloroethene	<0.04
Chloroethane	<0.2	2-Hexanone	<0.2
Trichlorofluoromethane	<0.04	Dibromochloromethane	<0.04
1,1-Dichloroethene	<0.04	1,2-Dibromoethane (EDB)	<0.04
Carbon disulfide	.12 a.	Chlorobenzene	<0.04
Iodomethane	<0.04	Ethylbenzene	<0.04
Acetone	<0.2	1,1,1,2-Tetrachloroethane	<0.04
Allyl chloride	<0.04	m,p-Xylene	<0.04
Acetonitrile	<0.04	o-Xylene	<0.04
Dichloromethane	.14 a.	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Bromoform	<0.04
1,1-Dichloroethane	<0.04	cis-1,4-Dichloro-2-butene	<0.2
Chloroform	<0.04	Bromobenzene	<0.04
1,2-Dichloroethane	<0.04	1,1,2,2-Tetrachloroethane	<0.04
Vinyl Acetate	<0.04	1,2,3-Trichloropropane	<0.04
2-Butanone (MEK)	.25 a.	trans-1,4-Dichloro-2-butene	<0.2
Methacrylonitrile	<0.2	1,3-Dichlorobenzene	<0.04
1,1,1-Trichloroethane	<0.04	1,4-Dichlorobenzene	<0.04
Carbon Tetrachloride	<0.04	Benzyl chloride	<0.04
Benzene	<0.04	1,2-Dichlorobenzene	<0.04
Trichloroethene	<0.04	1,2-Dibromo-3-chloropropane (DBCP)	<0.04
1,2-Dichloropropane	<0.04		
Methyl methacrylate	<0.2		
Bromodichloromethane	<0.04		

a. Presence of analyte may be due to laboratory contamination

Friedman & Bruya, Inc.

(206) 285-8282

Analysis For Volatile Compounds By EPA Method 8240

Client Sample Name:	5-11/4-1	Matrix:	SOIL
FBI Sample Name:	54675	Run Date:	11/08/94
Client:	AGRA	Instrument:	GCMS1
Extraction Date:	11/8/94	Operator:	SC
Data File:	110810.D	Units:	mg/kg(ppm)
Project:	DANIEL'S DRY CLEANERS		

Surrogates	% Recovery	Lower Limit	Upper Limit
1,2-Dichloroethane-d4	117	81	117
Toluene-d8	96	70	121
4-Bromofluorobenzene	101	74	121

Compounds	Concentration mg/kg(ppm)	Compounds	Concentration mg/kg(ppm)
Dichlorodifluoromethane	<0.04	4-Methyl-2-pentanone (MIBK)	<0.2
Chloromethane	<0.2	Toluene	<0.04
Vinyl chloride	<0.2	Ethyl methacrylate	<0.2
Bromomethane	<0.04	Tetrachloroethene	1
Chloroethane	<0.2	2-Hexanone	<0.2
Trichlorofluoromethane	<0.04	Dibromochloromethane	<0.04
1,1-Dichloroethene	<0.04	1,2-Dibromoethane (EDB)	<0.04
Carbon disulfide	.12 a.	Chlorobenzene	<0.04
Iodomethane	<0.04	Ethylbenzene	<0.04
Acetone	<0.2	1,1,1,2-Tetrachloroethane	<0.04
Allyl chloride	<0.04	m,p-Xylene	<0.04
Acetonitrile	<0.04	o-Xylene	<0.04
Dichloromethane	.14 a.	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Bromoform	<0.04
1,1-Dichloroethane	<0.04	cis-1,4-Dichloro-2-butene	<0.2
Chloroform	<0.04	Bromobenzene	<0.04
1,2-Dichloroethane	<0.04	1,1,2,2-Tetrachloroethane	<0.04
Vinyl Acetate	<0.04	1,2,3-Trichloropropane	<0.04
2-Butanone (MEK)	<0.2	trans-1,4-Dichloro-2-butene	<0.2
Methacrylonitrile	<0.2	1,3-Dichlorobenzene	<0.04
1,1,1-Trichloroethane	<0.04	1,4-Dichlorobenzene	<0.04
Carbon Tetrachloride	<0.04	Benzyl chloride	<0.04
Benzene	<0.04	1,2-Dichlorobenzene	<0.04
Trichloroethene	<0.04	1,2-Dibromo-3-chloropropane (DBCP)	<0.04
1,2-Dichloropropane	<0.04		
Methyl methacrylate	<0.2		
Bromodichloromethane	<0.04		

a. Presence of analyte may be due to laboratory contamination

Friedman & Bruya, Inc.

(206) 285-8282

Analysis For Volatile Compounds By EPA Method 8240

Client Sample Name:	5-11/4-2	Matrix:	SOIL
FBI Sample Name:	54676	Run Date:	11/08/94
Client:	AGRA	Instrument:	GCMS1
Extraction Date:	11/8/94	Operator:	SC
Data File:	110811.D	Units:	mg/kg(ppm)
Project:	DANIEL'S DRY CLEANERS		

Surrogates	% Recovery	Lower Limit	Upper Limit
1,2-Dichloroethane-d4	119 b.	81	117
Toluene-d8	97	70	121
4-Bromofluorobenzene	102	74	121

Compounds	Concentration mg/kg(ppm)	Compounds	Concentration mg/kg(ppm)
Dichlorodifluoromethane	<0.04	4-Methyl-2-pentanone (MIBK)	<0.2
Chloromethane	<0.2	Toluene	<0.04
Vinyl chloride	<0.2	Ethyl methacrylate	<0.2
Bromomethane	<0.04	Tetrachloroethene	1
Chloroethane	<0.2	2-Hexanone	<0.2
Trichlorofluoromethane	<0.04	Dibromochloromethane	<0.04
1,1-Dichloroethene	<0.04	1,2-Dibromoethane (EDB)	<0.04
Carbon disulfide	.12 a.	Chlorobenzene	<0.04
Iodomethane	<0.04	Ethylbenzene	<0.04
Acetone	<0.2	1,1,1,2-Tetrachloroethane	<0.04
Allyl chloride	<0.04	m,p-Xylene	<0.04
Acetonitrile	<0.04	o-Xylene	<0.04
Dichloromethane	.14 a.	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Bromoform	<0.04
1,1-Dichloroethane	<0.04	cis-1,4-Dichloro-2-butene	<0.2
Chloroform	<0.04	Bromobenzene	<0.04
1,2-Dichloroethane	<0.04	1,1,2,2-Tetrachloroethane	<0.04
Vinyl Acetate	<0.04	1,2,3-Trichloropropane	<0.04
2-Butanone (MEK)	.24 a.	trans-1,4-Dichloro-2-butene	<0.2
Methacrylonitrile	<0.2	1,3-Dichlorobenzene	<0.04
1,1,1-Trichloroethane	<0.04	1,4-Dichlorobenzene	<0.04
Carbon Tetrachloride	<0.04	Benzyl chloride	<0.04
Benzene	<0.04	1,2-Dichlorobenzene	<0.04
Trichloroethene	<0.04	1,2-Dibromo-3-chloropropane (DBCP)	<0.04
1,2-Dichloropropane	<0.04		
Methyl methacrylate	<0.2		
Bromodichloromethane	<0.04		

a. Presence of analyte may be due to laboratory contamination

b. Surrogate recovery falls outside of control limits

Friedman & Bruya, Inc.

(206) 285-8282

Analysis For Volatile Compounds By EPA Method 8240

Client Sample Name:	5-11/4-3	Matrix:	SOIL
FBI Sample Name:	54677 QC	Run Date:	11/08/94
Client:	AGRA	Instrument:	GCMS1
Extraction Date:	11/8/94	Operator:	SC
Data File:	110812.D	Units:	mg/kg(ppm)
Project:	DANIEL'S DRY CLEANERS		

Surrogates	% Recovery	Lower Limit	Upper Limit
1,2-Dichloroethane-d4	117	81	117
Toluene-d8	95	70	121
4-Bromofluorobenzene	100	74	121

Compounds	Concentration mg/kg(ppm)	Compounds	Concentration mg/kg(ppm)
Dichlorodifluoromethane	<0.04	4-Methyl-2-pentanone (MIBK)	<0.2
Chloromethane	<0.2	Toluene	<0.04
Vinyl chloride	<0.2	Ethyl methacrylate	<0.2
Bromomethane	<0.04	Tetrachloroethene	0.20
Chloroethane	<0.2	2-Hexanone	<0.2
Trichlorofluoromethane	<0.04	Dibromochloromethane	<0.04
1,1-Dichloroethene	<0.04	1,2-Dibromoethane (EDB)	<0.04
Carbon disulfide	.12 a.	Chlorobenzene	<0.04
Iodomethane	<0.04	Ethylbenzene	<0.04
Acetone	<0.2	1,1,1,2-Tetrachloroethane	<0.04
Allyl chloride	<0.04	m,p-Xylene	<0.04
Acetonitrile	<0.04	o-Xylene	<0.04
Dichloromethane	.14 a.	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Bromoform	<0.04
1,1-Dichloroethane	<0.04	cis-1,4-Dichloro-2-butene	<0.2
Chloroform	<0.04	Bromobenzene	<0.04
1,2-Dichloroethane	<0.04	1,1,2,2-Tetrachloroethane	<0.04
Vinyl Acetate	<0.04	1,2,3-Trichloropropane	<0.04
2-Butanone (MEK)	<0.2	trans-1,4-Dichloro-2-butene	<0.2
Methacrylonitrile	<0.2	1,3-Dichlorobenzene	<0.04
1,1,1-Trichloroethane	<0.04	1,4-Dichlorobenzene	<0.04
Carbon Tetrachloride	<0.04	Benzyl chloride	<0.04
Benzene	<0.04	1,2-Dichlorobenzene	<0.04
Trichloroethene	<0.04	1,2-Dibromo-3-chloropropane (DBCP)	<0.04
1,2-Dichloropropane	<0.04		
Methyl methacrylate	<0.2		
Bromodichloromethane	<0.04		

a. Presence of analyte may be due to laboratory contamination

Friedman & Bruya, Inc.

(206) 285-8282

Analysis For Volatile Compounds By EPA Method 8240

Client Sample Name:	5-11/4-3 duplicate	Matrix:	SOIL
FBI Sample Name:	54677 DU	Run Date:	11/08/94
Client:	AGRA	Instrument:	GCMS1
Extraction Date:	11/8/94	Operator:	SC
Data File:	110813.D	Units:	mg/kg(ppm)
Project:	DANIEL'S DRY CLEANERS		

Surrogates	% Recovery	Lower Limit	Upper Limit
1,2-Dichloroethane-d4	120 b.	81	117
Toluene-d8	95	70	121
4-Bromofluorobenzene	102	74	121

Compounds	Concentration mg/kg(ppm)	Compounds	Concentration mg/kg(ppm)
Dichlorodifluoromethane	<0.04	4-Methyl-2-pentanone (MIBK)	<0.2
Chloromethane	<0.2	Toluene	<0.04
Vinyl chloride	<0.2	Ethyl methacrylate	<0.2
Bromomethane	<0.04	Tetrachloroethene	0.14
Chloroethane	<0.2	2-Hexanone	<0.2
Trichlorofluoromethane	<0.04	Dibromochloromethane	<0.04
1,1-Dichloroethene	<0.04	1,2-Dibromoethane (EDB)	<0.04
Carbon disulfide	.12 a.	Chlorobenzene	<0.04
Iodomethane	<0.04	Ethylbenzene	<0.04
Acetone	<0.2	1,1,1,2-Tetrachloroethane	<0.04
Allyl chloride	<0.04	m,p-Xylene	<0.04
Acetonitrile	<0.04	o-Xylene	<0.04
Dichloromethane	.14 a.	Styrene	<0.04
trans-1,2-Dichloroethene	<0.04	Bromoform	<0.04
1,1-Dichloroethane	<0.04	cis-1,4-Dichloro-2-butene	<0.2
Chloroform	<0.04	Bromobenzene	<0.04
1,2-Dichloroethane	<0.04	1,1,2,2-Tetrachloroethane	<0.04
Vinyl Acetate	<0.04	1,2,3-Trichloropropane	<0.04
2-Butanone (MEK)	.31 a.	trans-1,4-Dichloro-2-butene	<0.2
Methacrylonitrile	<0.2	1,3-Dichlorobenzene	<0.04
1,1,1-Trichloroethane	<0.04	1,4-Dichlorobenzene	<0.04
Carbon Tetrachloride	<0.04	Benzyl chloride	<0.04
Benzene	<0.04	1,2-Dichlorobenzene	<0.04
Trichloroethene	<0.04	1,2-Dibromo-3-chloropropane (DBCP)	<0.04
1,2-Dichloropropane	<0.04		
Methyl methacrylate	<0.2		
Bromodichloromethane	<0.04		

a. Presence of analyte may be due to laboratory contamination

b. Surrogate recovery falls outside of control limits

Friedman & Bruya, Inc.

(206) 285-8282

Analysis For Volatile Compounds by EPA Method 8240

Client Sample Name:	spike blank	Matrix:	SOIL
FBI Sample Name:	SPIKE BLANK	Run Date:	11/08/94
Client:	AGRA	Instrument:	GCMS1
Extraction Date:	11/8/94	Operator:	SC
Data File:	110815.D	Units:	% Recovery

Surrogates	% Recovery	Lower Limit	Upper Limit
1,2-Dichloroethane-d4	118 b.	81	117
Toluene-d8	94	70	121
4-Bromofluorobenzene	100	74	121

Compounds	Concentration % Recovery	Compounds	Concentration % Recovery
Dichlorodifluoromethane	na	4-Methyl-2-pentanone (MIBK)	na
Chloromethane	na	Toluene	96%
Vinyl chloride	na	Ethyl methacrylate	na
Bromomethane	na	Tetrachloroethene	na
Chloroethane	na	2-Hexanone	na
Trichlorofluoromethane	na	Dibromochloromethane	na
1,1-Dichloroethene	87%	1,2-Dibromoethane (EDB)	na
Carbon disulfide	na	Chlorobenzene	104%
Iodomethane	na	Ethylbenzene	na
Acetone	na	1,1,1,2-Tetrachloroethane	na
Allyl chloride	na	m,p-Xylene	na
Acetonitrile	na	o-Xylene	na
Dichloromethane	na	Styrene	na
trans-1,2-Dichloroethene	na	Bromoform	na
1,1-Dichloroethane	na	cis-1,4-Dichloro-2-butene	na
Chloroform	na	Bromobenzene	na
1,2-Dichloroethane	na	1,1,2,2-Tetrachloroethane	na
Vinyl Acetate	na	1,2,3-Trichloropropane	na
2-Butanone (MEK)	na	trans-1,4-Dichloro-2-butene	na
Methacrylonitrile	na	1,3-Dichlorobenzene	na
1,1,1-Trichloroethane	na	1,4-Dichlorobenzene	na
Carbon Tetrachloride	na	Benzyl chloride	na
Benzene	87%	1,2-Dichlorobenzene	na
Trichloroethene	87%	1,2-Dibromo-3-chloropropane (DBCP)	na
1,2-Dichloropropane	na		
Methyl methacrylate	na		
Bromodichloromethane	na		

na. Analyte indicated was not added to matrix spike

b. Surrogate recovery falls outside of control limits.

Friedman & Bruya, Inc.

(206) 285-8282

Analysis For Volatile Compounds by EPA Method 8240

Client Sample Name:	5-11/4-3 matrix spike	Matrix:	SOIL
FBI Sample Name:	54677 MS	Run Date:	11/08/94
Client:	AGRA	Instrument:	GCMS1
Extraction Date:	11/8/94	Operator:	SC
Data File:	110816.D	Units:	% Recovery

Surrogates	% Recovery	Lower Limit	Upper Limit
1,2-Dichloroethane-d4	117	81	117
Toluene-d8	95	70	121
4-Bromofluorobenzene	102	74	121

Compounds	Concentration % Recovery	Compounds	Concentration % Recovery
Dichlorodifluoromethane	na	4-Methyl-2-pentanone (MIBK)	na
Chloromethane	na	Toluene	106%
Vinyl chloride	na	Ethyl methacrylate	na
Bromomethane	na	Tetrachloroethene	na
Chloroethane	na	2-Hexanone	na
Trichlorofluoromethane	na	Dibromochloromethane	na
1,1-Dichloroethene	89%	1,2-Dibromoethane (EDB)	na
Carbon disulfide	na	Chlorobenzene	111%
Iodomethane	na	Ethylbenzene	na
Acetone	na	1,1,1,2-Tetrachloroethane	na
Allyl chloride	na	m,p-Xylene	na
Acetonitrile	na	o-Xylene	na
Dichloromethane	na	Styrene	na
trans-1,2-Dichloroethene	na	Bromoform	na
1,1-Dichloroethane	na	cis-1,4-Dichloro-2-butene	na
Chloroform	na	Bromobenzene	na
1,2-Dichloroethane	na	1,1,2,2-Tetrachloroethane	na
Vinyl Acetate	na	1,2,3-Trichloropropane	na
2-Butanone (MEK)	na	trans-1,4-Dichloro-2-butene	na
Methacrylonitrile	na	1,3-Dichlorobenzene	na
1,1,1-Trichloroethane	na	1,4-Dichlorobenzene	na
Carbon Tetrachloride	na	Benzyl chloride	na
Benzene	100%	1,2-Dichlorobenzene	na
Trichloroethene	107%	1,2-Dibromo-3-chloropropane (DBCP)	na
1,2-Dichloropropane	na		
Methyl methacrylate	na		
Bromodichloromethane	na		

na. Analyte indicated was not added to matrix spike

Friedman & Bruya, Inc.

(206) 285-8282

Analysis For Volatile Compounds by EPA Method 8240

Client Sample Name:	5-11/4-3 matrix spike duplicate	Matrix:	SOIL
FBI Sample Name:	54677 MD	Run Date:	11/08/94
Client:	AGRA	Instrument:	GCMS1
Extraction Date:	11/8/94	Operator:	SC
Data File:	110817.D	Units:	% Recovery

Surrogates	% Recovery	Lower Limit	Upper Limit
1,2-Dichloroethane-d4	119 b.	81	117
Toluene-d8	94	70	121
4-Bromofluorobenzene	102	74	121

Compounds	Concentration % Recovery	Compounds	Concentration % Recovery
Dichlorodifluoromethane	na	4-Methyl-2-pentanone (MIBK)	na
Chloromethane	na	Toluene	119%
Vinyl chloride	na	Ethyl methacrylate	na
Bromomethane	na	Tetrachloroethene	na
Chloroethane	na	2-Hexanone	na
Trichlorofluoromethane	na	Dibromochloromethane	na
1,1-Dichloroethene	100%	1,2-Dibromoethane (EDB)	na
Carbon disulfide	na	Chlorobenzene	118%
Iodomethane	na	Ethylbenzene	na
Acetone	na	1,1,1,2-Tetrachloroethane	na
Allyl chloride	na	m,p-Xylene	na
Acetonitrile	na	o-Xylene	na
Dichloromethane	na	Styrene	na
trans-1,2-Dichloroethene	na	Bromoform	na
1,1-Dichloroethane	na	cis-1,4-Dichloro-2-butene	na
Chloroform	na	Bromobenzene	na
1,2-Dichloroethane	na	1,1,2,2-Tetrachloroethane	na
Vinyl Acetate	na	1,2,3-Trichloropropane	na
2-Butanone (MEK)	na	trans-1,4-Dichloro-2-butene	na
Methacrylonitrile	na	1,3-Dichlorobenzene	na
1,1,1-Trichloroethane	na	1,4-Dichlorobenzene	na
Carbon Tetrachloride	na	Benzyl chloride	na
Benzene	113%	1,2-Dichlorobenzene	na
Trichloroethene	113%	1,2-Dibromo-3-chloropropane (DBCP)	na
1,2-Dichloropropane	na		
Methyl methacrylate	na		
Bromodichloromethane	na		

na. Analyte indicated was not added to matrix spike

b. Surrogate recovery falls outside control limits.

BO-AMG-11
4:30pm
11.4.94

00197

AGRA
Earth & Environmental
11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918
Tel (206) 820-4669 Fax (206) 821-3914

CHAIN OF CUSTODY

PROJECT	PROJECT No.
DANIELSDAY CLEANERS	
CLIENT	PHONE No.
RFO	
PROJECT MANAGER	PHONE No.
TIM PETER	820-4669
SAMPLER'S NAME (please print)	PHONE No.
TIM PETER	820-4669
SAMPLER'S SIGNATURE	
Timothy J. Peter	

SAMPLE I.D.	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS No.	CONTAINERS VOL.
1. S-11/4-1	11/4/94	9:50	Soil	COLD	1	80Z
2. S-11/4-2	"	10:10	"	"	1	80Z
3. S-11/4-3	"	10:30	"	"	1	80Z
4.						
5.						
6.						
7.						
8.						
9.						
10.						

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

BTEX by EPA 602 / 8020	WTPH-G	BTEX / WTPH-G	WTPH-HCID	WTPH-D / WTPH-D EXTENDED	TPH by EPA 8015 MODIFIED	WTPH-418.1 MODIFIED	TPH by EPA 418.1	GC / MS EPA 624 / 8240 or EPA 8260 Volatiles	GC / MS EPA 625 / 8270 Semi-volatiles	VOCs EPA 601 / 8010 or EPA 602 / 8020	PCBs EPA 608 / 8080	LEAD EPA 6010 / EPA 7421 Total / Dissolved	TOTAL METALS	TCLP				
										X					54675			
										X					54676			
										X					54677			

SAMPLE RECEIPT	LABORATORY	TURNAROUND TIME	SPECIAL INSTRUCTIONS / ADDITIONAL COMMENTS
TOTAL # CONTAINERS: 3	SHIPPING I.D. / AIRBILL #	☐ 8 HOUR	
CONDITION OF CONTAINERS	CARRIER	☐ 24 HOUR	
CONDITION OF SEALS	DOT DESIGNATION	☐ 1 WEEK	
		☐ 2 WEEK (standard)	
		☐ OTHER _____	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1. Timothy J. Peter / AGRA	11/4/94	12:00	1. Amy Bray / Friedman & Bruya	11.4.94	4:25pm
2.			2.		
3.			3		

PAGE 1 OF 1

AGRA Earth & Environmental, Inc. (7/94)

DISTRIBUTION: White, Yellow - Laboratory, Pink - Originator

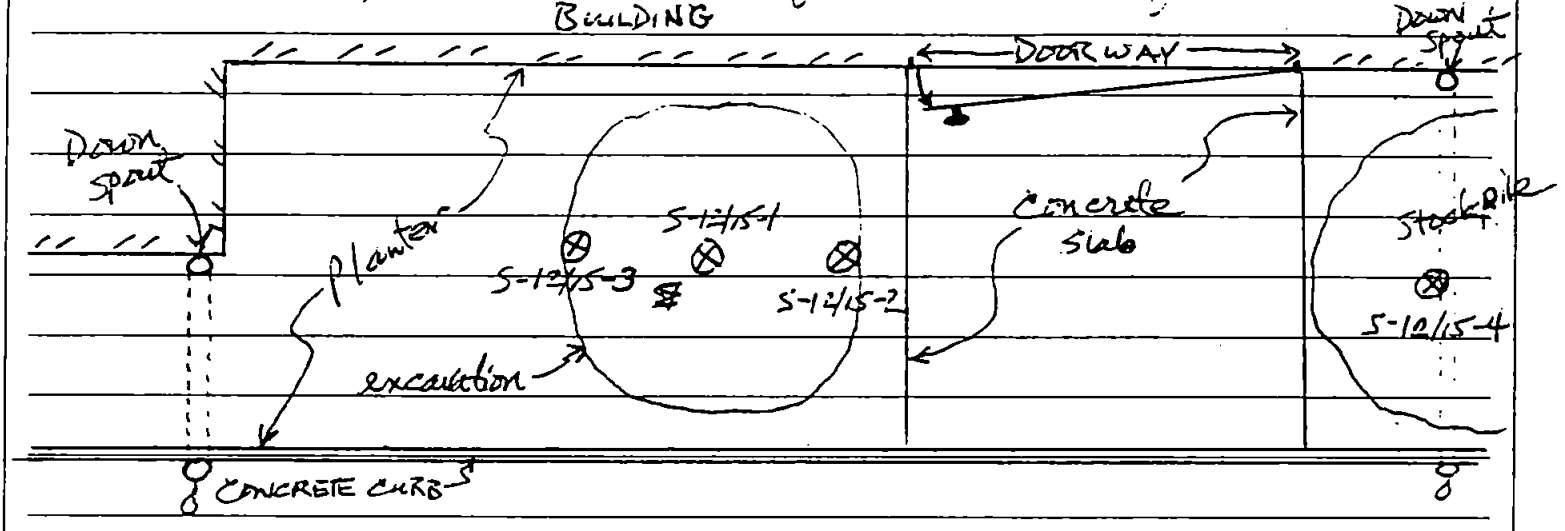
AGRA
Earth & Environmental

DAILY FIELD REPORT

PROJECT NAME	PROJECT No.	FIELD REPORT No.
DANIEL'S DRY CLEANERS	11-09959-01	2
	DATE 12/15/94	PAGE 2 OF 2

COMMENTS (Describe work completed during the day; any problems and their solutions)

Several inches of exposed soil was removed from each sampling location prior to collecting a sample in an attempt to collect samples representative of actual subsurface conditions



Note: both downspouts by the backdoor discharge directly onto the A/C NOT into planter.

Sample#	Approx. Depth	Location	Time
S-12/15-1	4½'	~6" below bottom of excavation	12:05
S-12/15-2	2'	west sidewall of excavation	12:10
S-12/15-3	2'	east sidewall of excavation	12:15
S-12/15-4	—	Stockpile, ~6" below surface	12:20

AGRA E&E Field Rep. (Initials) TJP AGRA E&E Project Manager (Initials) _____ Contractor's Rep. (Initials) _____ Continued ☐

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
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Seattle, WA 98119-2029
FAX: (206) 283-5044

December 23, 1994

Tim Peter, Project Leader
AGRA Earth & Environmental, Inc.
11335 NE 122nd Way, Suite 100
Kirkland, WA 98034-6918

Dear Mr. Peter:

Enclosed are the results from the testing of material submitted on December 16, 1994 from your project #11-09959-01, Daniel's Dry Cleaners.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Beth Albertson

Beth Albertson
Chemist

jdp
Enclosures

RZA1223R

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 23, 1994
Date Received: December 16, 1994
Project: #11-09959-01, Daniel's Dry Cleaners
Date Samples Extracted: December 20-21, 1994
Date Extracts Analyzed: December 22, 1994

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TETRACHLOROETHYLENE USING EPA METHOD 8010
Results Reported as μg/g (ppm)

Sample ID	Tetrachloroethylene	Surrogate Standard (% Recovery)
S-12/15-1	4.8	93%
S-12/15-2	3.4	95%
S-12/15-3	120	110%
S-12/15-4	5.4	90%
Quality Assurance		
Blank	<0.2	89%
S-12/15-4 (Duplicate)	7.8	92%
S-12/15-4 (Matrix Spike) % Recovery	[ai]	91%
S-12/15-4 (Matrix Spike Duplicate) % Recovery	[ai]	90%
Spike Blank % Recovery	88%	82%
Spike Level	1	

[ai] The amount spiked was insufficient to give meaningful recovery data.

AGRA
Earth & Environmental
11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918
Tel (206) 820-4669 Fax (206) 821-3914

CORY

12-16-94
12:31

CHAIN OF CUSTODY

PROJECT: DANIEL'S DRY CLEANERS
PROJECT No: 11-09959-01
CLIENT: AGRA
PHONE No: 820-4669
PROJECT MANAGER: TIM PETER
PHONE No: 820-4669
SAMPLER'S NAME (please print): TIM PETER
PHONE No: 820-4669
SAMPLER'S SIGNATURE: Timothy J. Peter

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

SAMPLE I.D	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS No	CONTAINERS VOL	BTEX by EPA 602 / 8020	WTPH-G	BTEX / WTPH-G	WTPH-HCID	WTPH-D / WTPH-D EXTENDED	TPH by EPA 8015 MODIFIED	WTPH-418 1 MODIFIED	TPH by EPA 418 1	GC / MS EPA 624 / 8240 or EPA 8260 Volatiles	GC / MS EPA 625 / 8270 Semi-volatiles	VOCs EPA 601 / 8010 or EPA 602 / 8020	PCBs EPA 608 / 8080	LEAD EPA 6010 / EPA 7421 Total / Dissolved	TOTAL METALS	TCLP	EPA 8010 PCE ONLY			
1 S-12/15-1	12/15/94	12:05	Soil	COLD	1	80z																X	55741		
2 S-12/15-2	↓	12:10	↓	↓	1	↓																X	55742		
3 S-12/15-3		12:15			1																	X	55743		
4 S-12/15-4		12:20			1																	X	55744		
5																									
6																									
7																									
8																									
9																									
10																									

SAMPLE RECEIPT
TOTAL # CONTAINERS
CONDITION OF CONTAINERS
CONDITION OF SEALS

LABORATORY FRIEDMAN & BRUYA
SHIPPING I.D. / AIRBILL #
CARRIER
DOT DESIGNATION

TURNAROUND TIME
[ ] 8 HOUR
[ ] 24 HOUR
[ ] 1 WEEK
[ ] 2 WEEK (standard)
[ ] OTHER

SPECIAL INSTRUCTIONS / ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1 Timothy J Peter / AGRA	12/16/94	8:00 AM	1 Cathy Rizz	12/16/94	1230
2			2		
3			3		

PAGE 1 OF 1

AGRA Earth & Environmental Inc (7/94)

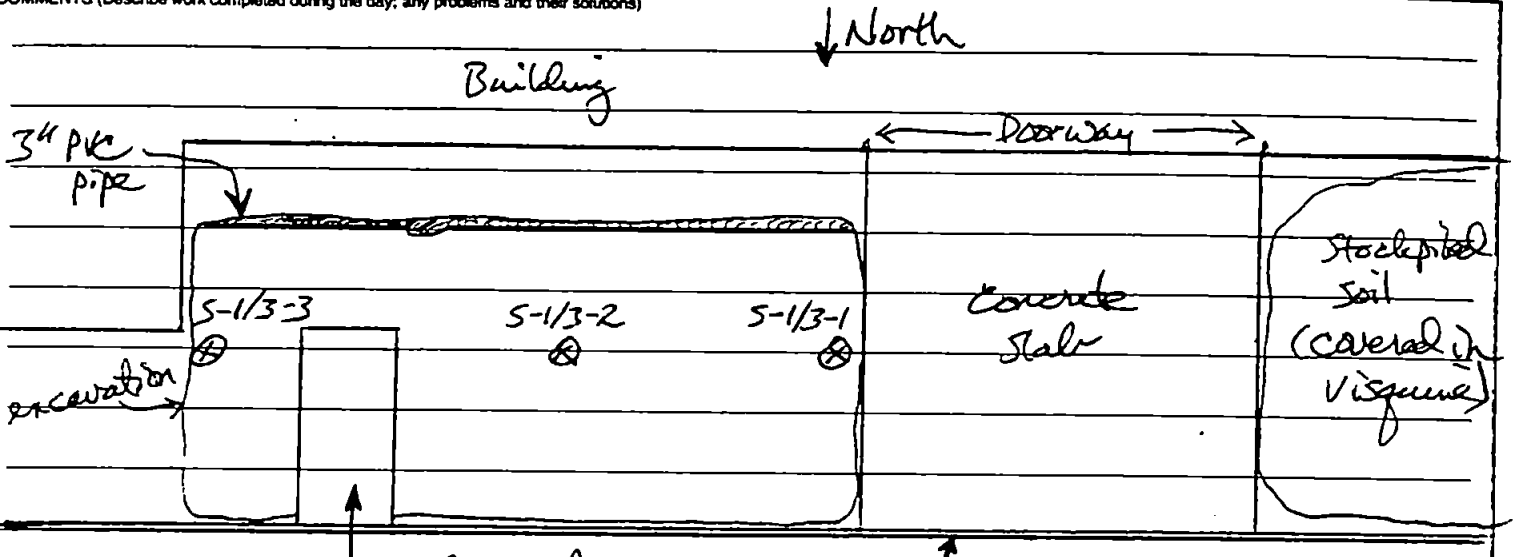
DISTRIBUTION White, Yellow - Laboratory, Pink Originator

AGRA
Earth & Environmental

DAILY FIELD REPORT

PROJECT NAME	PROJECT No.	FIELD REPORT No.
Daniel's Dry Cleaners	11-09959-01	3
	DATE 1/5/95	PAGE 2 OF 2

COMMENTS (Describe work completed during the day; any problems and their solutions)



Sample #	Depth (ft.)	Time Sampled
S-1/3-1	2'	3:10 pm
S-1/3-2	4'	3:15 pm
S-1/3-3	2'	3:20 pm

Depth of excavation east of water meter ≈ 2'
Depth of excavation west of water meter ≈ 4'

AGRA E&E Field Rep. (Initials) TJP AGRA E&E Project Manager (Initials) _____ Contractor's Rep. (Initials) _____ Continued ☐

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

January 9, 1995

Tim Peter, Project Manager
AGRA Earth & Environmental, Inc.
11335 NE 122nd Way, Suite 100
Kirkland, WA 98034-6918

Dear Mr. Peter:

Enclosed are the results from the testing of material submitted on January 4, 1995 from your project #11-09559-01, Daniel's Dry Cleaners.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Amy Gray

Amy M. Gray
Chemist

jdp
Enclosures

RZA0109R

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: January 9, 1995
Date Received: January 4, 1995
Project: #11-09559-01, Daniel's Dry Cleaners
Date Samples Extracted: January 4, 1995
Date Extracts Analyzed: January 5, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TETRACHLOROETHYLENE BY GC/FID/PID (Method 8010)

Results Reported as µg/g (ppm)

Sample ID	Tetrachloroethylene	Surrogate Standard (% Recovery)
S-1/3-1	4.2	99%
S-1/3-2	25[ve]	101%
S-1/3-3	19[ve]	103%
Quality Assurance		
Blank	<0.02	98%
S-1/3-3 (Duplicate)	19[ve]	100%
S-1/3-3 (Matrix Spike) % Recovery	[ai]	104%
S-1/3-3 (Matrix Spike Duplicate) % Recovery	[ai]	106%
Spike Blank % Recovery	79%	99%
Spike Level	1	

[ve] The value reported exceeded the calibration range established for the sample.
[ai] The amount spiked was insufficient to give meaningful recovery data.

AO-AMG-01
00451
01-04-95
3:25pm

AGRA
Earth & Environmental
11335 NE 122nd Way, Suite 100
Kirkland, Washington 98034-6918
Tel (206) 820-4669 Fax (206) 821-3914

CHAIN OF CUSTODY

PROJECT	PROJECT No
DANIEL'S DRY CLEANERS	11-09959-01
CLIENT	PHONE No.
PROJECT MANAGER: TIM PETER	PHONE No.: 820-4669
SAMPLER'S NAME (please print): TIM PETER	PHONE No.
SAMPLER'S SIGNATURE: [signature]	

ANALYSIS REQUESTED (circle, check box or write preferred method in box)

SAMPLE I.D.	DATE	TIME	MATRIX	PRESERVATIVE	CONTAINERS No.	CONTAINERS VOL.	BTEX by EPA 602 / 8020	WTPH-G	BTEX / WTPH-G	WTPH-HCID	WTPH-D / WTPH-D EXTENDED	TPH by EPA 8015 MODIFIED	WTPH-418.1 MODIFIED	TPH by EPA 418.1	GC / MS EPA 624 / 8240 or EPA 8260 Volatiles	GC / MS EPA 625 / 8270 Semi-volatiles	VOCs EPA 601 / 8010 or EPA 602 / 8020	PCBs EPA 608 / 8080	LEAD EPA 6010 / EPA 7421 Total / Dissolved	TOTAL METALS	TCLP	EPA PCE by 8010			
1. S-1/3-1	1/3/95	3:10	soil	cold	1	4oz																X	56042		
2. S-1/3-2	↓	3:15	↓	↓	1	↓																X	56043		
3. S-1/3-3	↓	3:20	↓	↓	1	↓																X	56044		
4.																									
5.																									
6.																									
7.																									
8.																									
9.																									
10.																									

SAMPLE RECEIPT	LABORATORY: FBI	TURNAROUND TIME	SPECIAL INSTRUCTIONS / ADDITIONAL COMMENTS
TOTAL # CONTAINERS: 3	SHIPPING I.D. / AIRBILL	☐ 8 HOUR	
CONDITION OF CONTAINERS	CARRIER	☐ 24 HOUR	
CONDITION OF SEALS	DOT DESIGNATION	☐ 1 WEEK	
		☐ 2 WEEK (standard)	
		☐ OTHER _____	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1. [signature]	1/4/95	1:20pm	1. Amy Friedman and Gray Bruya, Inc	1-4/95	1:20pm
2. [signature]			2. into lab at 3:20pm AG 01/04/95		
3.			3.		

PAGE _____ OF _____

AGRA Earth & Environmental, Inc. (7/94)

DISTRIBUTION: White, Yellow - Laboratory, Pink - Originator

APPENDIX B

WASTE MATERIAL PROFILE
&
UNIFORM HAZARDOUS WASTE MANIFEST

BURLINGTON
ENVIRONMENTAL
A Philip Environmental Company

January 23, 1995

Dan Ferrelli
Daniels Dry Cleaners
730 NW Gilman Blvd
Issaquah, WA 98027

RE: Waste Management Agreement for Waste Material Profile Number 142408-00

Dear Dan Ferrelli:

The waste material identified and described by Daniels Dry Cleaners ("Generator") in the Waste Material Profile Sheet ("Profile") No. 142408-00 ("Waste Materials") has been approved for acceptance by Burlington Environmental Inc. ("BEI") at a fully permitted Treatment, Storage and Disposal (TSD) facility. Enclosed are two printouts of the approved Profile and an additional copy of this Waste Management Agreement ("Agreement"). After you review the Profile for accuracy, please sign one copy to certify that your Profile accurately describes the Waste Materials. Upon receipt of the executed Profile from you, BEI agrees to reclaim, recover, sell, treat, distribute, dispose of, or store the Waste Materials, including their components and residues in accordance with the terms of this Agreement (the "Services").

Fee: Subject to the adjustment set forth on the reverse side hereof, Daniels Dry Cleaners shall pay the following fee for the Services (excluding transportation fees):

Profile No.: 142408-00	$600.00 Per 30-55 Gallon Drum (<450 lbs.)
	1.50 Per Pound Weight Surcharge (>450 lbs.)
	225.00 Standard Profile Fee

Term and Termination - The term of this Agreement shall commence upon the date first below written and shall continue until the Services are completed or this Agreement is terminated. This Agreement may be terminated by either party if the other party fails to perform any material obligation or defaults in any payment due hereunder and does not cure such failure within 30 days after written notice thereof.

IMPORTANT - By executing this Agreement, Daniels Dry Cleaners agrees to those terms, conditions and agreements set forth on this page and those set forth on the REVERSE SIDE hereof which are incorporated by reference herein.

Please return one copy of the signed Profile and Agreement to my attention, or fax the signed copies directly to me at (206) 227-6187. For this purpose, a faxed copy will be deemed to be an original. The remaining copies are for your files.

Please contact our Transportation Coordinator at 1-800-228-7872 to schedule your Waste Materials for shipment to our facility. If you desire, shipment of the Waste Materials can be arranged with our transportation company under separate agreement.

Sincerely,

Richard Wade
Sales Coordinator

I HAVE READ AND AGREE TO THE TERMS, CONDITIONS, AND AGREEMENTS SET FORTH ABOVE, AS WELL AS THOSE SET FORTH ON THE REVERSE SIDE HEREOF.

Daniels Dry Cleaners _____ _____
Date

_____ _____
Authorized Signature Typed / Printed Name

BURLINGTON ENVIRONMENTAL INC. / RESOURCE RECOVERY CORP.

1011 Western Ave., Suite 700 • Seattle, WA 98104
Burlington (206) 223-0500
Resource Recovery (206) 625-8631

Form Approved. OMB No

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page of	Information in the shaded areas is not required by Federal law, but may be required by your State.

GENERATOR

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name — 6. US EPA ID Number

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name — 7. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address — 10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

11. US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.						
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR**, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed /Typed Name	Signature	Month	Day	Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed /Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed /Typed Name	Signature	Month	Day	Year

ete.

GENERATOR'S COPY

No._____

CERTIFICATION

REGIONAL DISPOSAL CO.
200 - 112th Avenue NE, Suite 300
Bellevue, WA 98004
Ph: (206) 646-2400 / Fax (206) 646-2440

GENERAL INFORMATION FOR PETROLIUM CONTAMINATED SOIL

1. Customer's name and address: West Pac Environ. 54 So. Dawson St. Seattle, WA 98134
   Phone: 762-1190 Fax: 762-9382

X 2. Owner's name and address *(owner of property where soil originated, if different from #1)*_____
   Phone:_____ Fax:_____

3. Hauler's name and address: See #1
   Phone:_____ Fax:_____

X 4. Consultant's name and address:_____
   Phone:_____ Fax:_____

X 5. Amount of Waste:_____

X 6. Waste's current location*(include nearest road and railhead access, if known)*:_____

X 7. Original location of contaminated soil:_____

X 8. Activity which generated Waste:_____

X 9. Does waste have potential for creating fugitive dust? YES ☐ NO ☐
   If yes, what is your plan of action to mitigate dust?_____

X 10. Please check appropriate boxes describing activities which occurred on or near the soil's current and original locations:

	Current location	Original location		Current location	Original location
a. Tank Storage: petroleum products	☐	☐	g. Wrecking/materials recovery	☐	☐
b. Tank storage: waste oil or other	☐	☐	h. Manufacturing	☐	☐
c. Fuel handling or transfer	☐	☐	i. painting/sealing	☐	☐
d. Handling or transfer of other liquids	☐	☐	j. Waste disposal	☐	☐
e. Wood preservative handling	☐	☐	k. Other (please describe)	☐	☐
f. Use of solvents	☐	☐			

PETROLIUM CONTAMINATED SOIL WASTE ANALYSIS

X Customer shall indicate completion of the following by initial:
__1. Waste samples were collected in accordance with WAC 173-303-110 (2).
__2. Lab analytical procedures complied with WAC 173-303-110 (3).
__3. Waste has been analyzed in accordance with RDC's latest waste acceptance protocols.
__4. Chain of custody and lab analytical data for required waste analyses is attached.

Customer certifies that:
1. The Waste sampled and intended for disposal under this Certification is neither Dangerous nor Extremely Hazardous Waste as determined by Ch. 173-303-WAC.
2. The Waste has no free liquids per WAC 173-303-110 (3)(c)(i).
3. Customer further certifies that to the best of its knowledge, there have been no alterations to the Waste that would affect the accuracy of the analyses performed above; that there have been no material changes in the character of the Waste after the analyses were performed which would render those analyses inaccurate; and that the samples analyzed are representative of the Waste to be tendered to Regional Disposal Company.

This document (including its attachments) is hereby incorporated into the MASTER SERVICE AGREEMENT for PETROLIUM CONTAMINATED SOIL executed by _____ and Regional Disposal Company on _____, 19___ ("Agreement"). If there are conflicts between this Certification and the Agreement, the Agreement's terms shall prevail.

_____ _____
Signature of Authorized Agent Date

Printed Name and Title LORI A. HOLDEN / ADMIN. ASST.

For: West Pac Environ, Inc.
Customer

Revised 1/94

BURLINGTON ENVIRONMENTAL INC.

Starts : 22 JAN 1995
Expires: 30 APR 1995
Printed: 23 JAN 1995

GENERATOR'S WASTE MATERIAL PROFILE SHEET

PROFILE # : 142408-00
SALES REPS : GOULD, LAURA
Wade, Richard

A. GENERATOR SITE INFORMATION

DANIELS DRY CLEANERS
730 NW GILMAN BLVD
ISSAQUAH WA 98027-0000

Customer # 14708
Generator # 14708
EPA# WAD-151-089-166
Site Phone (206) 392-9888
Site Cntct DAN FERRELLI

B. MAIL INVOICES TO:

DANIELS DRY CLEANERS
DAN FERRELLI
730 NW GILMAN BLVD
ISSAQUAH WA 98027-0000

C. WASTE INFORMATION

Waste Name: SOIL CONTAMINATED WITH PERCHLOROETHYLENE
Process : REMEDIATION OF CONTAMINATED SOIL

MSDS N
Analysis N
Sample Y

D. PHYSICAL CHARACTERISTICS OF WASTE

Color	BROWN	Layers	SINGLE PHASED	pH Range	NA
Phys State	SOLID	S.Grav	>1	Flash Point	NONE
		Free Liq. %	0	Open/Closed	OPEN

E. COMPOSITION OF WASTE

	Min%	Max%
SOIL	98.00	100.00
PERCHLOROETHYLENE(FROM DRY CLEANING)	0.00	0.02
TOTAL COMP%		100.02

PCB N
Cyanide N
Phenolics N
Sulfides N

Info Provided by: GEN

F. METALS

Metal Test GEN

Arsenic	<5	Lead	<5	Silver	<5	Zinc		OTHER METALS	PPM
Barium	<100	Mercury	<0.2	Nickel	<134	Copper			
Cadmium	<1	Selenium	<1	Thallium	<130	Chrome-6			
Chromium	<5								

G. OTHER CHARACTERISTICS OF WASTE

Ign. Solid N | Shock Sensitive N | Oxidizer N | Water Reactv N | Reactive N

H. USEPA/STATE WASTE IDENTIFICATION

Dang/Haz Waste Y
TSCA Waste N
DW/EHW: DW
Org/Inrg IO
WT Spec Grav 1.35
NESHAP Waste N

DOE Waste Description SOIL CONTAMINATED WITH PERCHLOROETHYLENE

Waste Numbers F002
WP02

I. SHIPPING INFORMATION

DOT Haz Mtrl Y

One Time Only Y

Container Types DM55 METAL DRUM - 55 G

Qty to Ship Now 5
Annual Volume 5

DOT Shipping Name "RQ" HAZARDOUS WASTE SOLID, N.O.S.
(SOIL, PERCHLOROETHYLENE)

RQ (lbs) 100

DOT Hazard Class 9
DOT Sub-Hazard
DOT ID # NA3077

Additional Desc F002 WP02

Packing Grp #: III

J. SPECIAL HANDLING INFORMATION

GENERATOR CERTIFICATION: I hereby certify that all information submitted in this and all attached documents contains true and accurate descriptions of this waste material, and all relevant information regarding known or suspected hazards in the posession of this generator have been disclosed.

Signature _____ Printed Name _____ Title _____ Date _____

APPENDIX C

GEOPROBE SOIL SAMPLING EQUIPMENT DIAGRAM

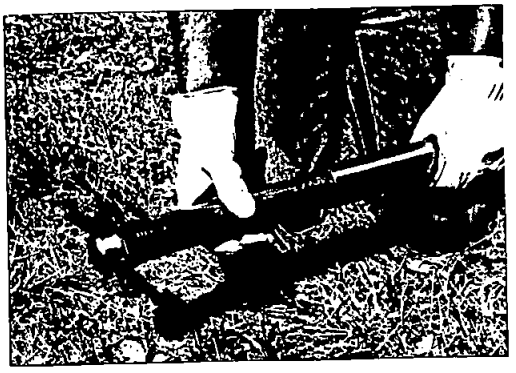
Geoprobe Systems

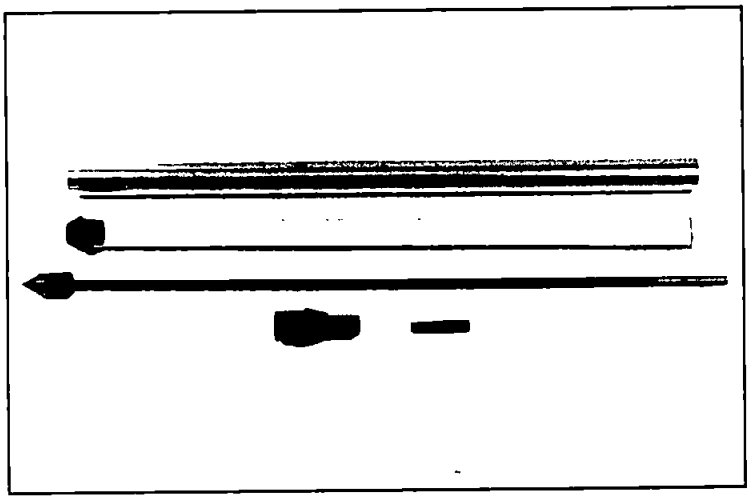
Soil Probing Equipment for Soil Gas, Soil Core and Groundwater Investigation

SOIL SAMPLING TOOLS

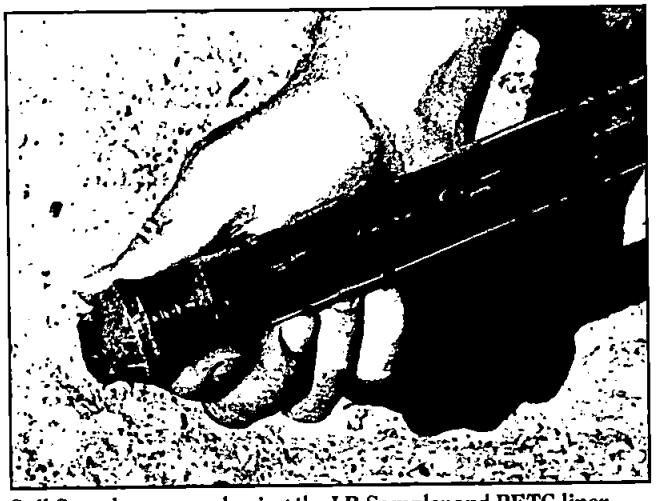
The Probe-Drive* Soil Sampling System * U.S. Patent No. 5,186,263

Soil Samplers that remain completely sealed while being pushed or driven to depth...

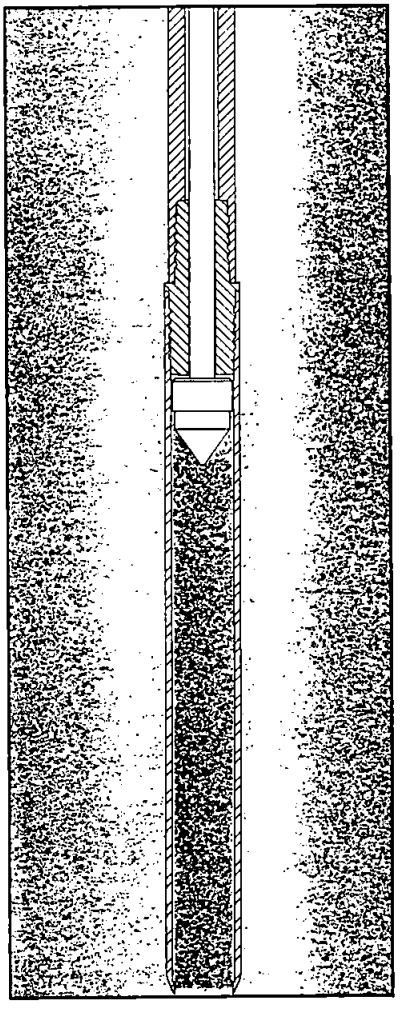




Large Bore (LB) Sampler Parts.



Soil Sample recovered using the LB Sampler and PETG liner.



Soil Sampling at depth using a probe-drive soil sampler. Piston tip and rod retract during sampling. ▶

Sound Environmental & Safety

1827-210th Court NE, Redmond, WA 98053-4211

206-868-6292

APPENDIX C

Schematic of Geoprobe Soil Sampling Tools

Daniel's Dry Cleaners, 730 Gilman Blvd., Issaquah, WA

Prepared for Mr. Daniel Ferrelli 2-8-95

APPENDIX D

LABORATORY DATA SHEETS
&
CHAIN OF CUSTODY RECORD

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 • Bothell, WA 98011-9508 (206) 481-9200 • FAX 485-2992
East 11115 Montgomery, Suite B • Spokane, WA 99206-4776 (509) 924-9200 • FAX 924-9290
9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132 (503) 643-9200 • FAX 644-2202

Sound Environmental & Safety	Client Project ID:	Daniel's Issaquah, #24-01-01	
1827 210th Court NE	Sample Matrix:	Soil	
Redmond, WA 98053			Received: Jan 26, 1995
Attention: Paul Schmidt	First Sample #:	B501282	Reported: Jan 27, 1995

TOTAL SOLIDS & MOISTURE CONTENT REPORT

Sample Number	Sample Description	Total Solids %	Moisture Content %
B501282-01	GP-1 @ 5 - 7'	73	27
B501282-02	GP-2 @ 5 - 7'	71	29
B501282-03	GP-3 @ 5 - 7'	73	27

The enclosed analytical results for soils, sediments and sludges have been converted to a DRY WEIGHT reporting basis.
To attain the wet weight "as received" equivalent, multiply the dry weight result by the decimal fraction of percent Total Solids.
The results in this report apply to the samples analyzed in accordance with the chain of custody document.
This analytical report must be reproduced in its entirety.

NORTH CREEK ANALYTICAL Inc.

Laura Dutton

Laura Dutton
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 • Bothell, WA 98011-9508 (206) 481-9200 • FAX 485-2992
East 11115 Montgomery, Suite B • Spokane, WA 99206-4776 (509) 924-9200 • FAX 924-9290
9405 S.W. Nimbus Avenue • Beaverton, OR 97008-7132 (503) 643-9200 • FAX 644-2202

Sound Environmental & Safety	Client Project ID:	Daniel's Issaquah, #24-01-01	Sampled:	Jan 25, 1995
1827 210th Court NE	Sample Descript:	Soil, GP-1 @ 5 - 7'	Received:	Jan 26, 1995
Redmond, WA 98053	Analysis Method:	EPA 8010	Analyzed:	Jan 26, 1995
Attention: Paul Schmidt	Sample Number:	B501282-01	Reported:	Jan 27, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Bromodichloromethane	0.050	N.D.
Bromoform	0.050	N.D.
Bromomethane	0.050	N.D.
Carbon tetrachloride	0.050	N.D.
Chlorobenzene	0.050	N.D.
Chloroethane	0.050	N.D.
Chloroform	0.050	N.D.
Chloromethane	0.050	N.D.
Dibromochloromethane	0.050	N.D.
1,2-Dichlorobenzene	0.050	N.D.
1,3-Dichlorobenzene	0.050	N.D.
1,4-Dichlorobenzene	0.050	N.D.
1,1-Dichloroethane	0.050	N.D.
1,2-Dichloroethane	0.050	N.D.
1,1-Dichloroethene	0.050	N.D.
cis 1,2-Dichloroethene	0.050	N.D.
trans 1,2-Dichloroethene	0.050	N.D.
1,2-Dichloropropane	0.050	N.D.
cis-1,3-Dichloropropene	0.050	N.D.
trans-1,3-Dichloropropene	0.050	N.D.
Methylene chloride	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.050	N.D.
Tetrachloroethene	0.050	N.D.
1,1,1-Trichloroethane	0.050	N.D.
1,1,2-Trichloroethane	0.050	N.D.
Trichloroethene	0.050	N.D.
Trichlorofluoromethane	0.050	N.D.
Vinyl chloride	0.050	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 100
Surrogate Recovery Control Limits are 32 - 148 %.
The results reported above are on a dry weight basis.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL Inc.

Laura Dutton
Project Manager

NORTH CREEK ANALYTICAL

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Sound Environmental & Safety	Client Project ID:	Daniel's Issaquah, #24-01-01	Sampled:	Jan 25, 1995
1827 210th Court NE	Sample Descript:	Soil, GP-2 @ 5 - 7'	Received:	Jan 26, 1995
Redmond, WA 98053	Analysis Method:	EPA 8010	Analyzed:	Jan 26, 1995
Attention: Paul Schmidt	Sample Number:	B501282-02	Reported:	Jan 27, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Bromodichloromethane	0.050	N.D.
Bromoform	0.050	N.D.
Bromomethane	0.050	N.D.
Carbon tetrachloride	0.050	N.D.
Chlorobenzene	0.050	N.D.
Chloroethane	0.050	N.D.
Chloroform	0.050	N.D.
Chloromethane	0.050	N.D.
Dibromochloromethane	0.050	N.D.
1,2-Dichlorobenzene	0.050	N.D.
1,3-Dichlorobenzene	0.050	N.D.
1,4-Dichlorobenzene	0.050	N.D.
1,1-Dichloroethane	0.050	N.D.
1,2-Dichloroethane	0.050	N.D.
1,1-Dichloroethene	0.050	N.D.
cis 1,2-Dichloroethene	0.050	N.D.
trans 1,2-Dichloroethene	0.050	N.D.
1,2-Dichloropropane	0.050	N.D.
cis-1,3-Dichloropropene	0.050	N.D.
trans-1,3-Dichloropropene	0.050	N.D.
Methylene chloride	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.050	N.D.
Tetrachloroethene	0.050	N.D.
1,1,1-Trichloroethane	0.050	N.D.
1,1,2-Trichloroethane	0.050	N.D.
Trichloroethene	0.050	N.D.
Trichlorofluoromethane	0.050	N.D.
Vinyl chloride	0.050	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 108
Surrogate Recovery Control Limits are 32 - 148 %.
The results reported above are on a dry weight basis.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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Sound Environmental & Safety	Client Project ID:	Daniel's Issaquah, #24-01-01	Sampled:	Jan 25, 1995
1827 210th Court NE	Sample Descript:	Soil, GP-3 @ 5 - 7'	Received:	Jan 26, 1995
Redmond, WA 98053	Analysis Method:	EPA 8010	Analyzed:	Jan 26, 1995
Attention: Paul Schmidt	Sample Number:	B501282-03	Reported:	Jan 27, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Bromodichloromethane	0.050	N.D.
Bromoform	0.050	N.D.
Bromomethane	0.050	N.D.
Carbon tetrachloride	0.050	N.D.
Chlorobenzene	0.050	N.D.
Chloroethane	0.050	N.D.
Chloroform	0.050	N.D.
Chloromethane	0.050	N.D.
Dibromochloromethane	0.050	N.D.
1,2-Dichlorobenzene	0.050	N.D.
1,3-Dichlorobenzene	0.050	N.D.
1,4-Dichlorobenzene	0.050	N.D.
1,1-Dichloroethane	0.050	N.D.
1,2-Dichloroethane	0.050	N.D.
1,1-Dichloroethene	0.050	N.D.
cis 1,2-Dichloroethene	0.050	N.D.
trans 1,2-Dichloroethene	0.050	N.D.
1,2-Dichloropropane	0.050	N.D.
cis-1,3-Dichloropropene	0.050	N.D.
trans-1,3-Dichloropropene	0.050	N.D.
Methylene chloride	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.050	N.D.
Tetrachloroethene	0.050	N.D.
1,1,1-Trichloroethane	0.050	N.D.
1,1,2-Trichloroethane	0.050	N.D.
Trichloroethene	0.050	N.D.
Trichlorofluoromethane	0.050	N.D.
Vinyl chloride	0.050	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 95
Surrogate Recovery Control Limits are 32 - 148 %.
The results reported above are on a dry weight basis.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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Sound Environmental & Safety	Client Project ID:	Daniel's Issaquah, #24-01-01		
1827 210th Court NE	Sample Descript:	Method Blank		
Redmond, WA 98053	Analysis Method:	EPA 8010	Analyzed:	Jan 26, 1995
Attention: Paul Schmidt	Sample Number:	BLK012695	Reported:	Jan 27, 1995

HALOGENATED VOLATILE ORGANICS

Analyte	Reporting Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Bromodichloromethane	0.050	N.D.
Bromoform	0.050	N.D.
Bromomethane	0.050	N.D.
Carbon tetrachloride	0.050	N.D.
Chlorobenzene	0.050	N.D.
Chloroethane	0.050	N.D.
Chloroform	0.050	N.D.
Chloromethane	0.050	N.D.
Dibromochloromethane	0.050	N.D.
1,2-Dichlorobenzene	0.050	N.D.
1,3-Dichlorobenzene	0.050	N.D.
1,4-Dichlorobenzene	0.050	N.D.
1,1-Dichloroethane	0.050	N.D.
1,2-Dichloroethane	0.050	N.D.
1,1-Dichloroethene	0.050	N.D.
cis 1,2-Dichloroethene	0.050	N.D.
trans 1,2-Dichloroethene	0.050	N.D.
1,2-Dichloropropane	0.050	N.D.
cis-1,3-Dichloropropene	0.050	N.D.
trans-1,3-Dichloropropene	0.050	N.D.
Methylene chloride	0.50	N.D.
1,1,2,2-Tetrachloroethane	0.050	N.D.
Tetrachloroethene	0.050	N.D.
1,1,1-Trichloroethane	0.050	N.D.
1,1,2-Trichloroethane	0.050	N.D.
Trichloroethene	0.050	N.D.
Trichlorofluoromethane	0.050	N.D.
Vinyl chloride	0.050	N.D.

4-Bromofluorobenzene Surrogate Recovery, %: 128
Surrogate Recovery Control Limits are 32 - 148 %.
The results reported above are on a dry weight basis.
Analytes reported as N.D. were not detected above the stated Reporting Limit.

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Sound Environmental & Safety	Client Project ID: Daniel's Issaquah, #24-01-01	Analyst:	R. Hager
1827 210th Court NE	Sample Matrix: Soil		F. Shino
Redmond, WA 98053	Analysis Method: EPA 8010		
Attention: Paul Schmidt	Units: mg/kg (ppm)	Analyzed:	Jan 26, 1995
	QC Sample #: B501282-03	Reported:	Jan 27, 1995

MATRIX SPIKE QUALITY CONTROL DATA REPORT

ANALYTE	1,1-DCE	TCE	Chloro-Benzene
Sample Result:	N.D.	N.D.	N.D.
Spike Conc. Added:	1.38	1.38	1.38
Spike Result:	0.80	0.96	1.01
Spike % Recovery:	58%	70%	73%
Spike Dup. Result:	0.79	0.94	1.02
Spike Duplicate % Recovery:	57%	68%	74%
Upper Control Limit %:	115	102	113
Lower Control Limit %:	31	46	54
Relative % Difference:	1.3%	2.1%	1.0%
Maximum RPD:	20	21	22

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$$\text{\% Recovery:} \quad \frac{\text{Spike Result - Sample Result}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference:} \quad \frac{\text{Spike Result - Spike Dup. Result}}{\text{(Spike Result + Spike Dup. Result) / 2}} \times 100$$

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15055 S.W. Sequoia Parkway, Suite 110, Portland, OR 97224-7155 (503) 624-9800 FAX 684-3782

CHAIN OF CUSTODY REPORT

CLIENT: Sound Environmental & Safety/Daniel's

ADDRESS: 1827-210th Court NE
Redmond, WA 98053-4211

PHONE: 206-868-6292 FAX: 206-868-4474

PROJECT NAME: Daniel's - Issaquah

PROJECT NUMBER: 24-01-01

SAMPLED BY: Paul Schmidt

REPORT TO: Paul Schmidt

BILLING TO: Same

P.O. NUMBER:

NCA QUOTE #:

SAME DAY RUSH (+150%)	
NEXT BUSINESS DAY RUSH (+100%)	✓
2 BUSINESS DAY RUSH (+80%)	
3 BUSINESS DAY RUSH (+60%)	
5 BUSINESS DAY RUSH (+40%)	
10 BUSINESS DAY STANDARD (LIST PRICE)	
5 BUS. DAY HYDROCARBONS (LIST PRICE)	

SAMPLE IDENTIFICATION: (NUMBER OR DESCRIPTION)	SAMPLING DATE / TIME	MATRIX (W,S,O)	# OF CONT.	Analysis Request: EPA-8010	COMMENTS & PRESERVATIVES USED	NORTH CREEK SAMPLE NUMBER
1. GP-1 @ 5-7'	1-25/1340	S	1	✓		B501282-01
2. GP-2 @ 5-7'	1-25/1430	S	1	✓		-02
3. GP-3 @ 5-7'	1-25/1510	S	1	✓		-03
4.						
5.						
6.						
7.						
8.						
9.						
10.						

RELINQUISHED BY: Paul Schmidt DATE: 1-26-95
FIRM: SE&S TIME: 0930

RECEIVED BY: Al Christ DATE: 1/26/95
FIRM: BUCKY'S TIME: 9:15

RELINQUISHED BY: DATE:
FIRM: TIME:

RECEIVED BY: DATE:
FIRM: TIME:

ADDITIONAL REMARKS:

PAGE 1 OF 1