Renton Village Cleaners

PHASE II

RUSC DRY CLEANERS

Project Resources Inc.

Project Resources Inc.

February 4, 1998

Mr. Michael Sandorffy
Renton Village Associates
800 5th Avenue, Suite 3700
Seattle, Washington 98104

LIMITED PHASE II SUBSURFACE INVESTIGATION REPORT
Renton Village Cleaners- Renton Village Shopping Center
401-601 South Grady Way
Renton, Washington 98055
PRI Project #80307-02

Dear Mr. Sandorffy:

Project Resources, Inc. (PRI) is pleased to present this *Limited Phase II Subsurface Investigation Report* . This report summarizes the site assessment activities performed at the above referenced site. This limited phase II investigation was contracted on January 15, 1998 and performed on January 27, 1998.

Background

This limited Phase II Subsurface Investigation was performed based on the findings contained in the Phase I Environmental Site Assessment prepared for Renton Village Associates by PRI, dated February 4, 1998. The Phase I site assessment, reports that dry cleaning operations have been performed at the subject site for approximately 38 years. A closed-loop dry cleaning machine is currently in use at the site which utilizes chlorinated solvents. Due to the length of operation of this full service dry cleaning facility, and the known tendency for dry cleaning solvents to migrate through concrete and into the underlying soils over time (i.e. Tetrachloroethylene [PCE]), PRI recommended a limited subsurface investigation to determine if PCE has migrated into the subsurface soils.

500 Fifth Avenue, Suite 1423 New York, New York 10110 Tel 212.730.8600 Fax 212.730.8698
3760 Convoy Street, Suite 230 San Diego, California 92111 Tel 619.505.1000 Fax 619.505.1010

Scope of Work

The scope of this limited subsurface investigation involved:

- The installation of five (5) borings, with soil sampling intervals at three (3) and five (5) feet below ground surface (bgs).
- Analysis of the soil samples by EPA method 8010.
- Preparation of a letter report of the findings of this investigation.

Geology and Hydrogeology

The Renton Village Cleaners is a tenant at the Renton Village Shopping Center located in Renton, King County, Washington. According to the *United States Geological Survey (USGS), Renton Quadrangle, 7.5 Minute Series Topographic Map,* the subject is located at an approximate elevation of 25 feet above mean sea level. There is a gentle downward gradient to the north in the subject area. As documented in the PRI Phase I report, no wetlands or sensitive resources were observed at or adjacent to the subject. The site is located within the Puget Downwarp tectonic province. Typically, the region around the subject consists of Quaternary stream deposits and glacial erratics underlain by steeply dipping Oligocene sandstone, clay, and tuff (volcanic) deposits. Groundwater in the subject area is reported to exist approximately 2-8 feet bgs and flow direction varies seasonally.

FIELD METHODOLOGIES

Site Description

The Renton Village Cleaners is a tenant at the south end of Building C in the Renton Village Shopping Center. The center was constructed circa 1964 in Renton, King County, Washington, with significant renovations completed between 1993 and 1995. Behind the tenant space (east) is an asphalt paved parking lot; a concrete pedestrian walkway is situated at the south entrance to the tenant space (see Figure 1, Soil Boring Location Map).

Soil Sampling Activities

On January 27, 1998, PRI manually installed five (5) borings on the property. Sample locations were determined by the most probable areas of concern (i.e. equipment, boiler room, waste storage). The borings were identified as B1 through B5 (please refer to Figure I). Boring B1 was installed in the asphalt just outside the rear (east) entrance to Renton Village Cleaners. Boring B2 was placed in the concrete walkway just outside the side (south) entrance to Renton Village Cleaners (early building plans indicated this was previously an area of chemical storage). Boring B3 was placed in front of

the dry cleaning machinery. Boring B4 was placed at the rear of the dry cleaning machine in the vicinity of PCE storage. Boring B5 was placed in between the two boilers in the boiler room at the rear of the tenant space. The motivation for sampling in the boiler room is a result of the tendency for PCE to provide a nucleation point for condensation on the outside of the boilers, providing an additional means for contamination.

Prior to beginning each boring and prior to soil sampling, the hand auger and gravity core equipment was decontaminated with a non-hazardous biodegradable detergent (alcanox) and water, following standardized sampling protocols. Because the concrete sidewalk and building slabs and asphalt paving are six to eight inches thick, a concrete coring machine was utilized to expose the underlying soil under the asphalt, sidewalk, and building interior areas. A hand auger device was utilized to remove soil to the sampling depths of three and five feet, where soil samples were collected using a gravity coring device. No fluids, including clean water, or additives were used during probe advancement.

The brass soil sampling tubes were capped, labeled and placed into a cooler with ice. At the completion of the sampling activities, the borings were backfilled and compacted with hand tools. A two inch layer of bentonite chips (Hydro-Plug) was added to the backfill, the concrete or asphalt core was replaced, and a patch of quick drying cement (or asphalt patch for B1) was applied to properly close the boring and to reduce the potential for surface materials to enter the subsurface.

Lithology

The lithology encountered during the investigation, for all of the borings, consisted of an unconsolidated, poorly sorted conglomerate of sand and silty sand with basalt and andesite pebbles and cobbles underlain by gray and green colored clays. The soils were generally dry; no groundwater was contacted during our investigation.

Sample Submission

Following appropriate chain of custody and sampling protocols, the samples were submitted to Wy'East Environmental Sciences, Inc., of Portland Oregon for analysis. All soil samples were collected, stored, transported and analyzed in accordance with EPA Sample Collection Codes. A total of ten (10) soil samples were analyzed. Each sample was tested via EPA SW-846 Method 8010 for chlorinated hydrocarbons and specifically PCE.

Chain-of-Custody Procedures

Chain-of-Custody procedures were maintained for all soil samples collected throughout the operation. The chain-of-custody form was completed by the sample collector and routed with the samples through transportation and analyses. Completed chain-of-custody forms were returned to PRI along with the results from the analytical laboratory. These forms are included in Appendix B.

Laboratory Analytical Results

The results of the soil investigation are summarized below in Table I. Results of the soil investigation, as reported by Wy'East Environmental Sciences, Inc., are included in Appendix A.

TABLE I
Soil Sample Results

DEPTH BELOW GROUND SURFACE (+/- 1')	SOIL BORING NUMBER & SAMPLING RESULTS				
	EPA Method 8010				
	B-1	B-2	B-3	B-4	B-5
3' bgs	0.029 PCE	ND	0.011 PCE	ND	0.373 PCE
5' bgs	0.051 PCE ■■	0.006 PCE ■■	0.013 PCE ■■	ND ■■	ND ■■

NOTE: Results Report mg/Kg (ppm) by weight; Detection limit= 0.005 ppm
ND = Not detected (less than detection limit of method).
■■ = Boring terminated
PCE = Tetrachloroethylene

Conclusions

Based on the results of the limited subsurface investigation, detectable concentrations of chlorinated hydrocarbons likely resulting from operation of dry cleaning equipment were found at four of the sampled locations. No groundwater was encountered during this investigation, therefore, impacts to groundwater could not be evaluated.

PRI contacted Steve Robb of the Washington Department of Ecology, Toxics Cleanup, Southwest Regional Office. According to Mr. Robb the Washington State Method A Cleanup Action Level for Tetrachloroethylene in soil is 0.5 ppm. The maximum concentration of PCE detected in the sampled soils was 0.373+/- 0.005 ppm, which is less than the Washington State Method A Cleanup Action Level.

Recommendations

Based on the results of this limited subsurface soil investigation, no further action is recommended for the site. However, PRI recommends the following housekeeping measures be instituted to reduce the potential for future problems relating to the dry cleaning operations conducted onsite:

A) Ensure that the tenant space is properly ventilated, and that proper product and waste handling, storage, and disposal practices are conducted at the site.

B) Installation of an elastomeric sealant resistant to chlorinated solvent (i.e. PCE) penetration on the floor of the tenant space.

Should conditions change in the future, these changes must be addressed separately.

CLOSURE AND LIMITATIONS

PRI's limited evaluation was performed using the degree and skill ordinarily exercised under similar circumstances by reputable environmental specialists and geologists, practicing in this locality. No warranty, expressed or implied, in fact or by law, whether for merchantability, fitness or any particular purpose, or otherwise, is given concerning any of the materials or "services" furnished to the client.

As with most major projects, conditions revealed by past studies not available for our review, excavation or further studies may be in variance with the preliminary findings of this limited near surface soil evaluation.

This summary report is issued with the understanding that it is the responsibility of the owner or his representative to ensure that the information contained herein is brought to the attention of the appropriate regulatory agencies, if required. Additional assessment, including duplication or modification of PRI's limited studies performed at the site, may be required following review of this report by regulatory agencies.

The findings of this preliminary evaluation are valid as of the present date. However, changes in the condition of the property can occur with the passage of time, whether they are due to natural processes or the work of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or a broadening of knowledge. Accordingly, the findings of this preliminary report may be invalidated wholly or partially by changes outside of PRI's control.

Project Team

Surveyed, Sampled and Written by:	Eric Cathcart and Jennifer Richards, Project Engineers
Reviewed by:	L. Joe Boyer, P.E.

Closing

The opportunity to provide you with consulting services is appreciated. Should you have any questions or if we can be of further assistance, please do not hesitate to contact the undersigned at (619) 505-1000.

Respectfully,
PROJECT RESOURCES, INC.

Eric M. Cathcart
Project Engineer

Figures Figure 1 - Soil Point Location Map

Appendices Appendix A - Analytical Report
Appendix B - Chain of Custody
Appendix C - Site Photographs

APPENDIX A
ANALYTICAL REPORT

Wy'East Environmental Sciences, Inc.

LABORATORY REPORT

Project Resources
3760 Comvoy St
Suite 230
San Diego CA 92111

PROJECT NAME/SITE:	Renton Village Cleaner	**REPORT NUMBER:**	21172
PROJECT NUMBER:		**REPORT DATE:**	2-2-98
EXTRACTION DATE:	1-30-98	**PAGES:**	1 o 1

EPA 8010
Analyte: Tetrachoroethylne and Trichoroethylne in soil quantification

Field ID	Lab ID	Trichloroethene mg/Kg(ppm)	Tetrachloroethene mg/Kg(ppm)	Surrogate Recovery (%)
B1 3'	39066	**0.01**	**0.029**	**86**
B1 5'	39067	**0.03**	**0.051**	**77**
B2 3'	39068	**ND**	**ND**	**75**
B2 5'	39069	**ND**	**0.006**	**76**
B3 3'	39070	**0.01**	**0.011**	**80**
B3 5'	39071	**ND**	**0.013**	**91**
B4 3'	39072	**0.01**	**ND**	**74**
B4 5'	39073	**ND**	**ND**	**78**
B5 3'	39074	**0.02**	**0.373**	**79**
B5 5'	39075	**ND**	**ND**	**74**
BLANK	-	ND	ND	-
Detection Limit	-	0.01	0.005	-

Surrogate is p-Bromofluorobenzene
ND = Not Detected (below reporting limit or detection limit)

APPENDIX B
CHAIN OF CUSTODY

Report Number: _____

Wy'East
Environmental Sciences, Inc.

Research & Laboratory Servic

CHAIN OF CUSTODY

2415 SE 11th Ave. • Portland, Oregon 97214 • (503) 231-9320 • FAX (503) 231-93

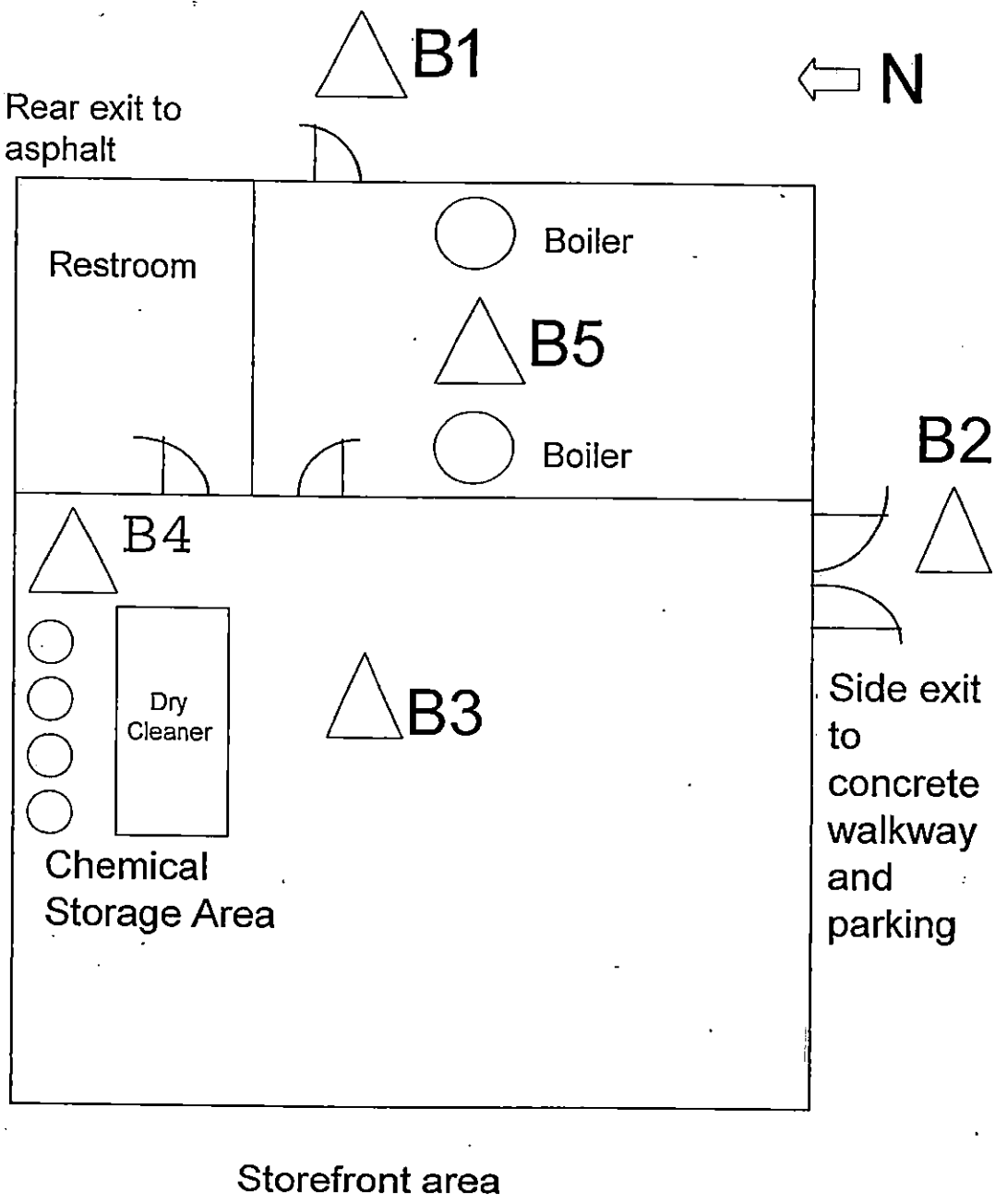
PROJECT #	PROJECT NAME / SITE: Renton Village Cleaners	STATE: Renton, Washington	PURCHASE ORDER # ask for Gina call office for number
COMPANY: Project Resources Inc	REPORT ATTENTION: Eric Cathcart / Jennifer Richards	PHONE NUMBER: (619) 505-1000	FAX NUMBER: (619) 505-1010
SAMPLES COLLECTED BY: Eric Cathcart & Jennifer Richards	DATE(S) COLLECTED: 1/27/98	TIME(S) COLLECTED: 7-11 pm	SAMPLES CHILLED TO 4° C? [redacted]
PRESERVATIVE USED? (HCl, etc.): none			Regular ☐ 3-5 Days ☒

FIELD ID	MEDIA	CONTAINER	VOLUME ETC	ANALYSIS REQUIRED	LAB ID
B1 3'	soil	brass cylinder		EPA Method 8010	
B1 5'	↓	↓		↓	
B2 3'					
B2 5'					
B3 3'					
B3 5'					
B4 3'					
B4 5'					
B5 3'					
B5 5'	↓	↓		↓	

RELINQUISHED BY: Eric Cathcart & Jennifer Richards	DATE / TIME: 9 am 1/28/98	RECEIVED BY	DATE / TIME
RELINQUISHED BY	DATE / TIME	RECEIVED BY LAB	DATE / TIME
REMARKS		SHIPPED BY	

WyEast will return white copy to client with laboratory report and keep yellow copy for files. Client keeps pink copy.

APPENDIX C
PHOTOGRAPHS

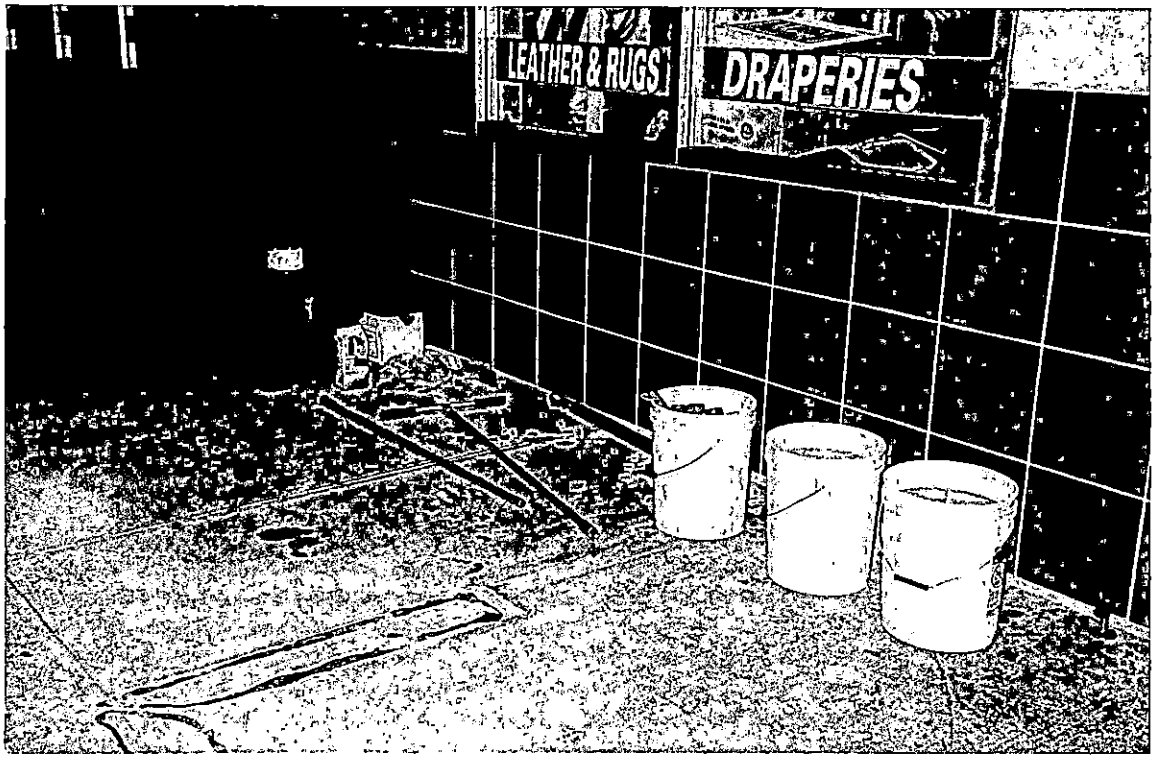


PROJECT RESOURCES, INC.

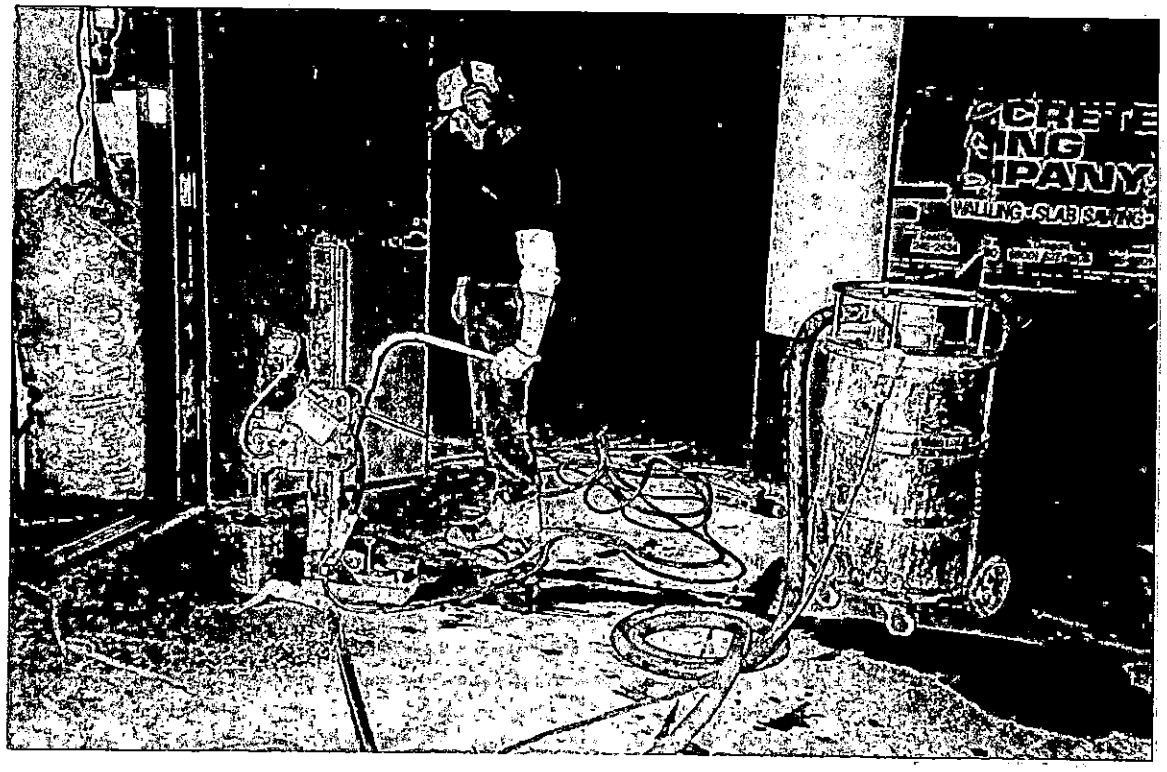
Figure I
Soil Boring Location Map

Renton Village Cleaners- Renton Village Shopping Center
401-601 South Grady Way
Renton, Washington 98055
PRI Project #80307-02

1. Renton Village Cleaners was the location of the limited Phase II subsurface investigation

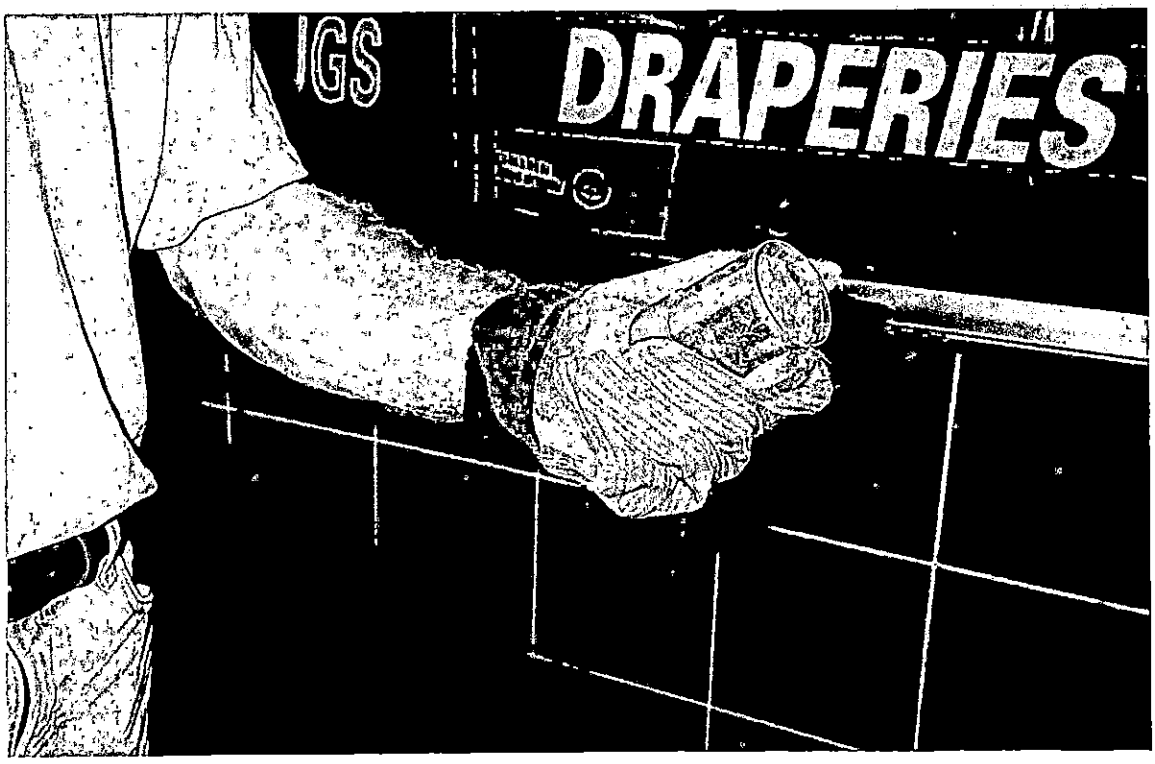


2. View of the decontamination station set up at the side (south) entrance to the cleaners



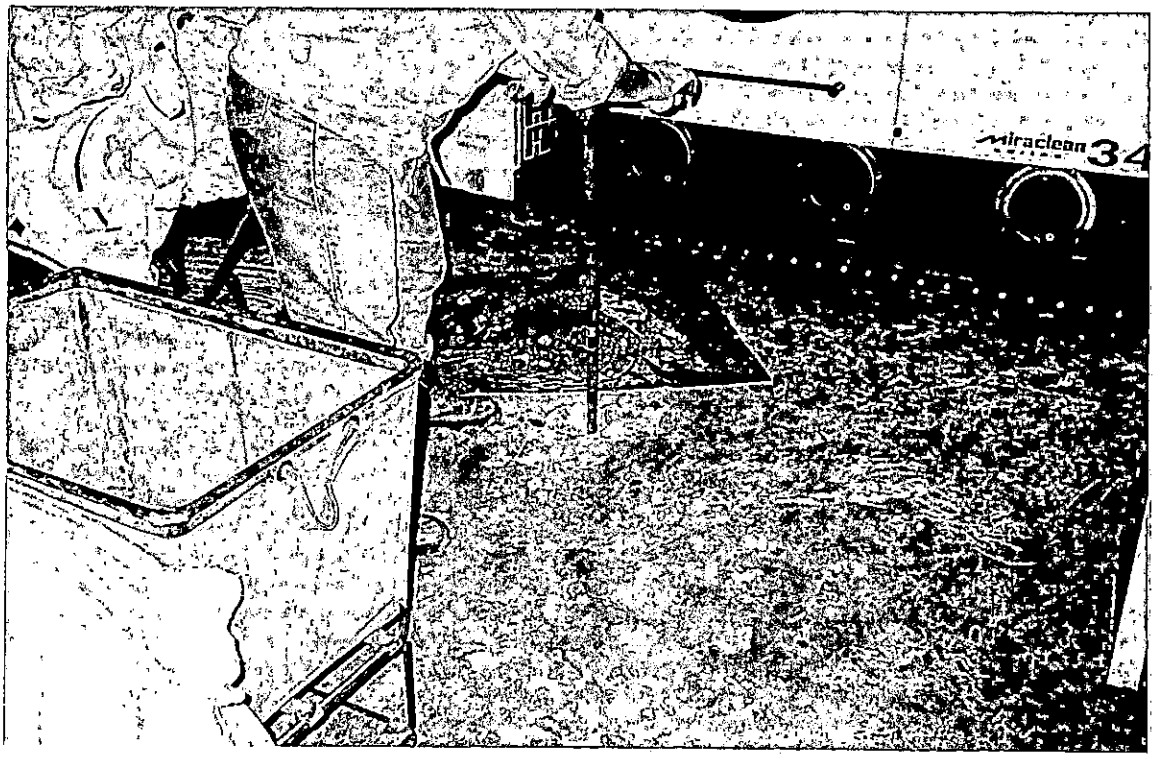
3. View of the concrete core being drilled at the side (south) entrance to the cleaners

4. A hand auger was used to remove dirt from boring B2, located in the asphalt at the rear (east) door

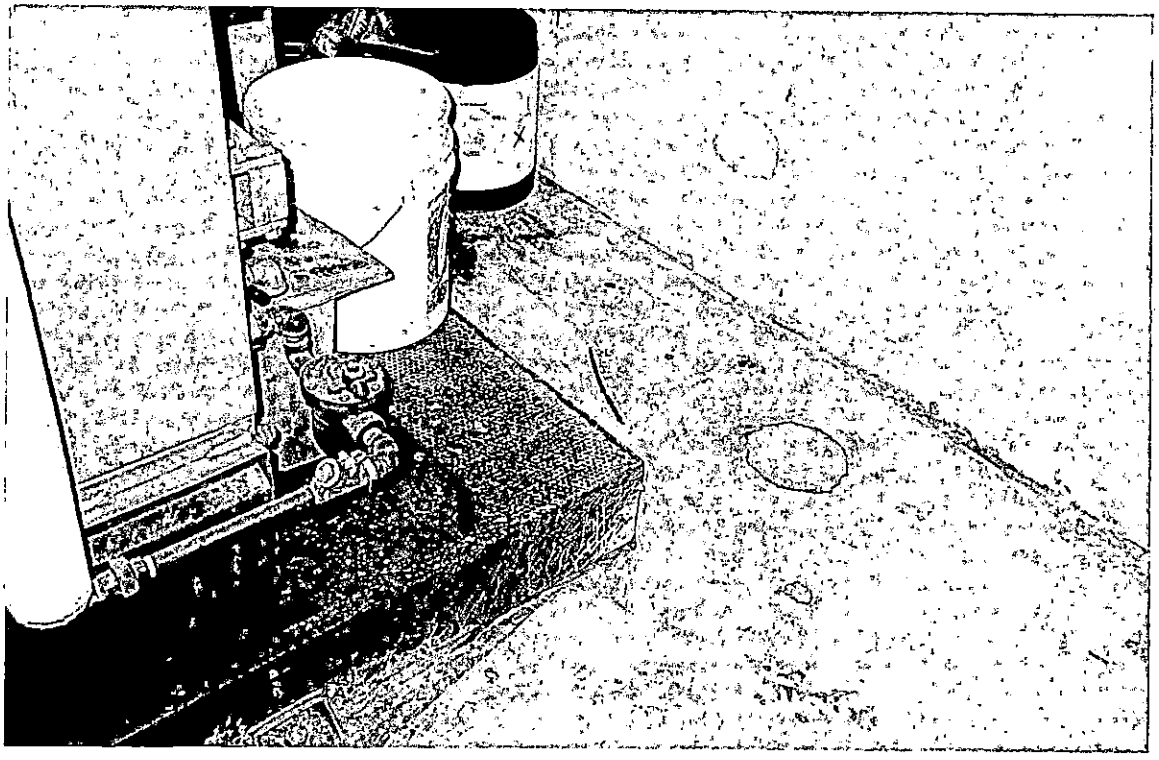


5. Soil samples at three (3) and five (5) feet were removed and chilled for analysis

6. Boring B2 was installed outside the side (south) entrance and is shown here after new concrete was added to seal the hole. Bentonite chips were added to the core to provide an adequate seal between the concrete and the soil. The dry cleaning machine is seen in the background.



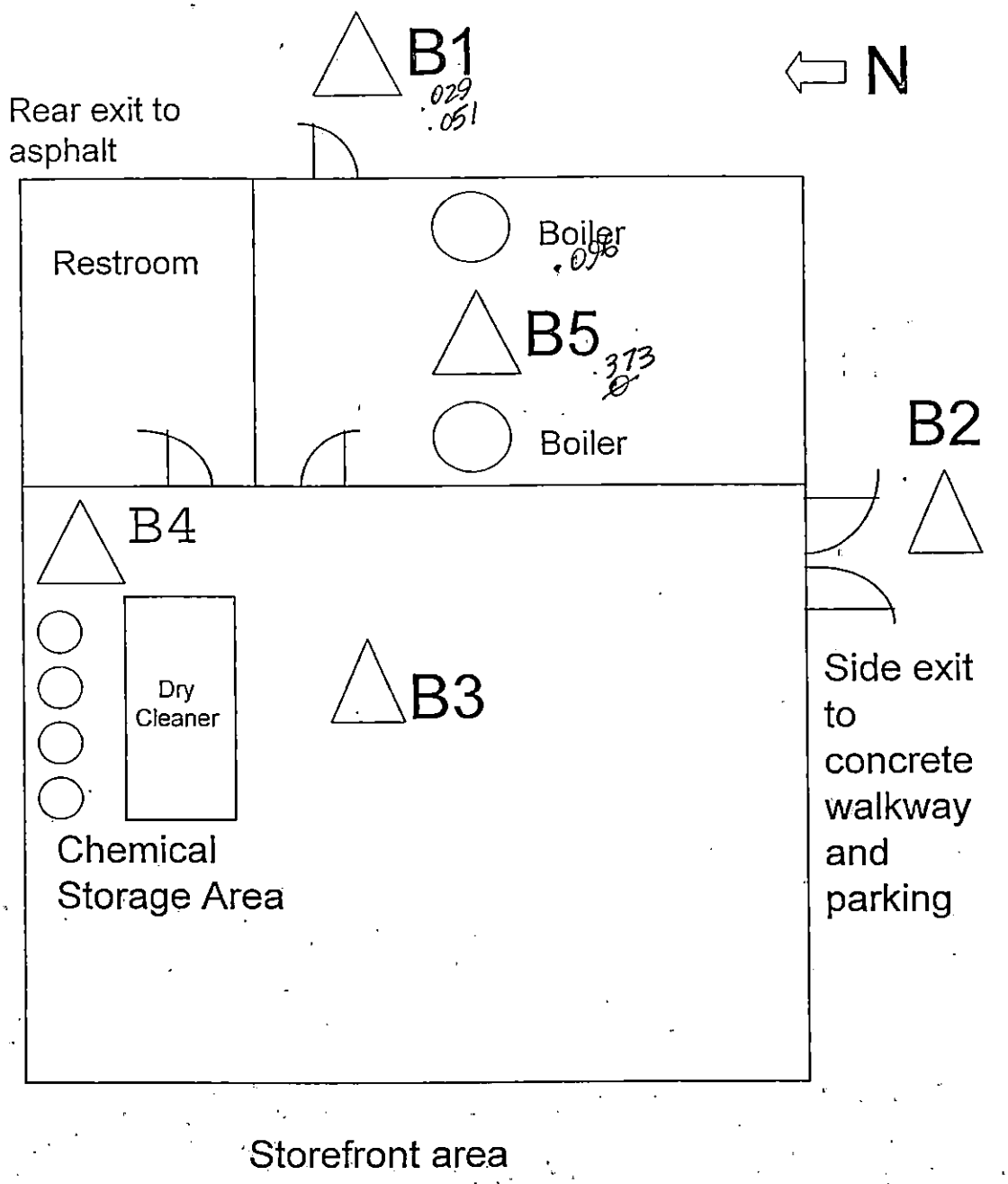
7. Boring B3 was installed in front of the dry cleaning machine



8. Boring B4 was installed behind the dry cleaning machine, adjacent to a chemical storage area

9. Boring B5 was installed between the two boilers in the boiler room

TCE



PROJECT RESOURCES, INC.

Figure I
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Renton, Washington 98055
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