WESTON[SM]

MANAGERS DESIGNERS/CONSULTANTS

INDOOR DUST SAMPLING SUMMARY

[redacted]

FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE
MILFORD, NEW HAMPSHIRE
November 15, 1994

Prepared for:

U.S. Environmental Protection Agency
Emergency Planning and Response Branch
60 Westview Street
Lexington, Massachusetts 01273

CONTRACT NO. 68-WO-0036

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Region I

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I. INTRODUCTION

The following is a summary of the U.S. Environmental Protection Agency (EPA), Region I, Emergency Planning and Response Branch's (EPRB) and Waste Management Division's (WMD) actions conducted at the Fletchers Paint Works Site (the site). From a period of October 25 to November 15, 1994, members of the Roy F. Weston, Inc., Technical assistance Team (TAT), along with representatives of EPA conducted preliminary home surveys and subsequently indoor dust sampling at a total of eight residences in the vicinity of the site.

Indoor dust sampling was conducted based on the possibility that polychlorinated biphenyls (PCBs) previously detected in residential soil could have been transported into the residences on the soles of shoes and on the bottom of pets' feet. As a result, EPA concluded that a potential existed for PCBs to be present in the indoor house dust of these residences. In an effort to determine whether this potential indoor PCB dust contamination existed and posed a threat to the residents, EPA and TAT performed indoor dust sampling at the eight residences.

II. SITE BACKGROUND

The site is located in Milford, Hillsborough County, New Hampshire (see Figure 1 - Site Location Map). The former manufacturing plant and retail store is located at 39 Elm Street (Route 101A) (the Elm Street site), while the former pigment storage property is located on Mill Street (the Mill Street site). The company operated at these two locations from the early 1950's until 1991. Paints and stains were manufactured, stored, distributed, and sold on site. Prior to its use for paint manufacturing, the Elm Street site was the location of an industrial facility that manufactured baked enamels and lacquers. Both sites are currently included on the EPA's National Priority List (NPL), as the Fletcher's Paint Works and Storage Facility Superfund Site.

Elm Street Site

The Elm Street site is approximately 1.6 acres and consists of one retail outlet and manufacturing building and a gravel parking area. It is bordered by a historical cemetery to the east, the Souhegan River to the north and northeast, Keyes Drive to the west and Elm Street to the south. The surrounding area is a mix of residential and commercial properties. To the west of Keyes Drive is Keyes Field, a municipal recreation area. The Keyes municipal water supply is located at Keyes Field and previously supplied water to the town. As a result of an initial EPA removal preliminary assessment/site investigation (PA/SI) conducted in 1987, EPA identified 863 drums containing a variety of polyaromatic compounds and paint pigments on the site. These drums were subsequently removed from the Elm Street site by EPA in 1988.

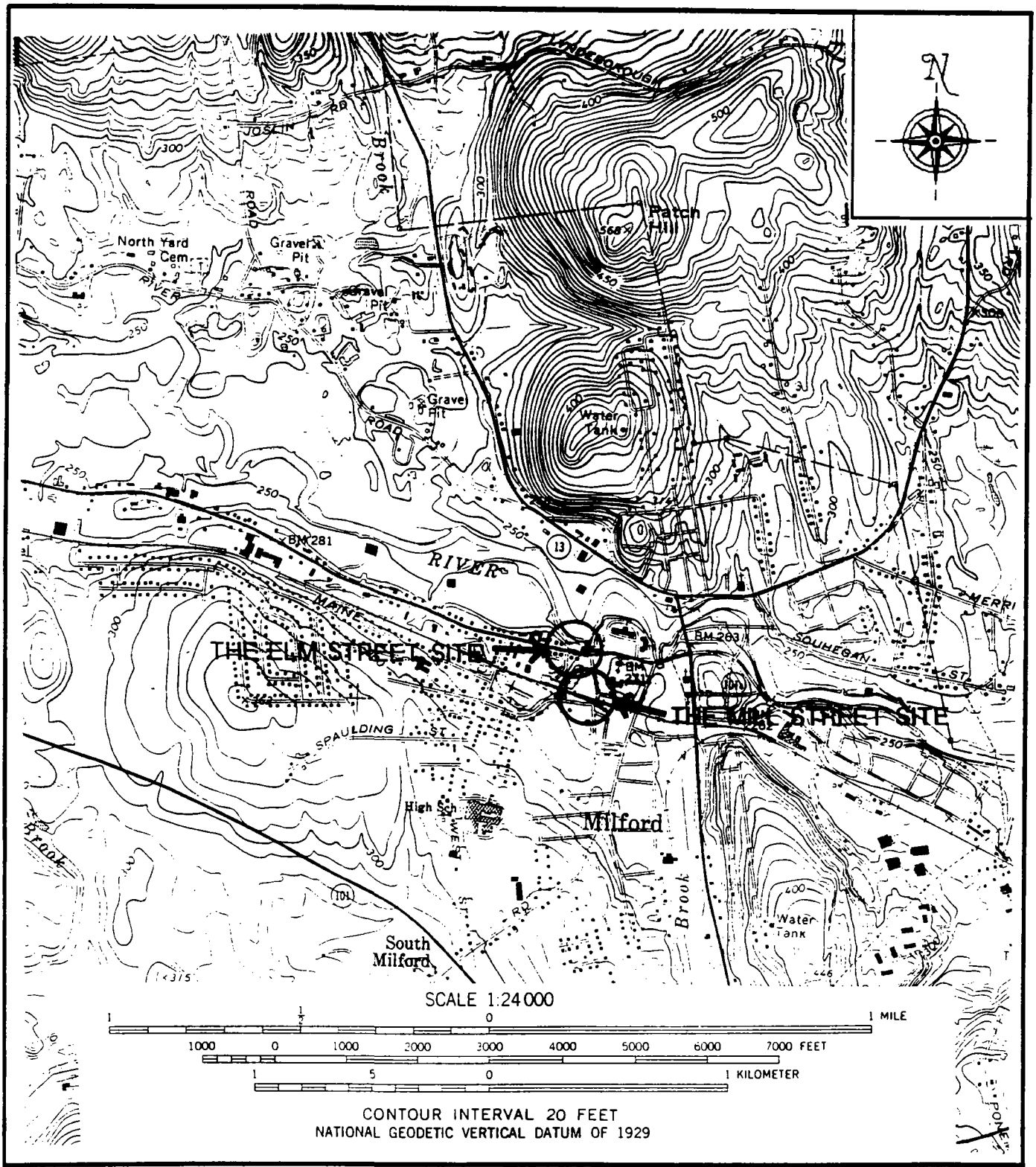

FIGURE 1

SITE LOCATION MAP
FLETCHER PAINT WORKS AND STORAGE FACILITY
ELM STREET AND MILL STREET SITES
MILFORD, NEW HAMPSHIRE
SOURCE: USGS 7.5 MINUTE SERIES TOPOGRAPHIC MAP, MILFORD, NH QUADRANGLE 1985.

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REGION I TECHNICAL ASSISTANCE TEAM

DRAWN BY	DATE	PCS #
RILEY	10/94	1042
APPROVED BY	DATE	TDD #
		01-9410-42

The unpaved parking area at the Elm Street site was also found to contain high levels of PCBs in the soil. EPA placed an 8-inch gravel cap over the parking area prior to the drum removal project.

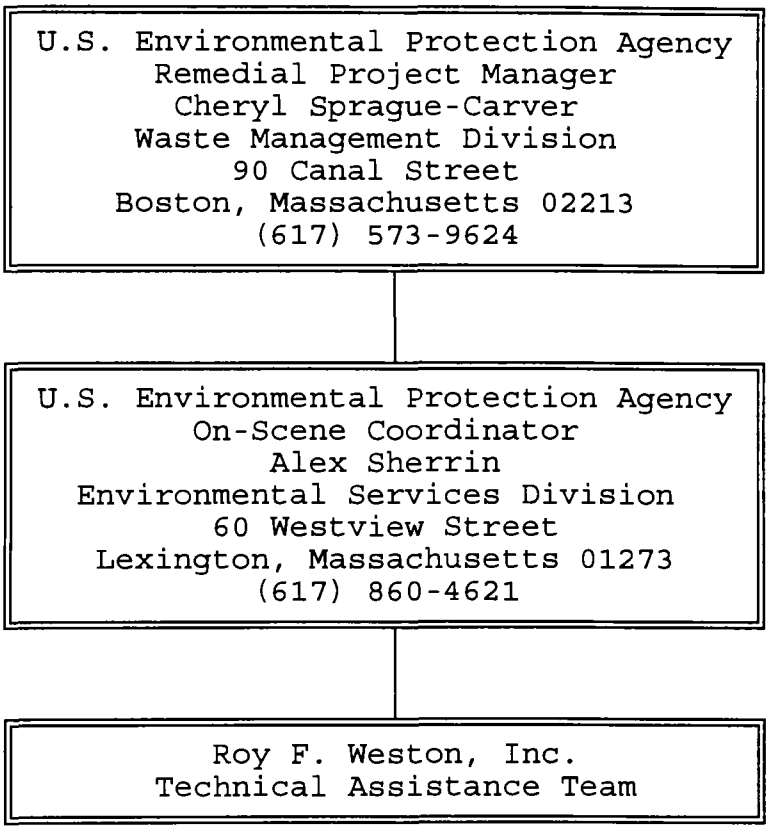
Mill Street Site

The Mill Street site is approximately 0.2 acres. It is bordered by a Boston & Maine Railroad right-of-way to the north, Cottage Street to the east, Mill Street to the south, and the Draper Energy property to the west. In addition, the Hampshire Paper Company is located approximately 300 feet to the northwest. The surrounding area is a mix of commercial and residential properties. As a result of the initial EPA PA/SI conducted in 1987, EPA discovered several hundred bags and dozens of fiberboard drums containing paint pigments in the storage building located on the Mill Street site at that time. EPA also determined that the Mill Street site contained high levels of PCBs in the soil, as well as in core samples collected from the former wooden storage building. In 1988, EPA placed an 8-inch gravel cap over the portions of the site not covered by the storage building. The bags and fiberboard drums of paint pigments were not removed at this time due to the fact that the manufacturing plant was still in operation and the paint pigments were considered process chemicals

In 1992, at the request of the local fire department, EPA conducted a site visit and discovered that bags and fiberboard drums of paint pigments were still present on site. These items were not removed during the previous removal activities due to the fact that the manufacturing plant was still in operation and the paint pigments were considered process chemicals. In 1993, EPA demolished the wooden storage building and removed all of the remaining bags and fiberboard drums.

Between November 1991 to December 1993, EPA's WMD collected soil samples from residential properties surrounding both of the sites and identified levels of total PCB contamination ranging from not detected (ND) to 42 parts per million (ppm). In addition, The State of New Hampshire Department of Environmental Services conducted surface soil sampling at residential properties for the EPA during this period. Sample results identified levels of total PCB concentrations up to 86 ppm at one of the properties. Based on the possibility that the PCBs detected in residential soil could have been transported into the residences on the soles of shoes and on the bottom of pets' feet, EPA concluded that the potential existed for PCBs to be present in the indoor house dust of these residences. In September 1994, in an effort to determine whether this potential indoor PCB dust contamination existed and posed a threat to the residents, the WMD requested that the EPA EPRB perform an indoor dust survey at eight residences in the proximity of both the Elm Street and Mill Street sites.

III. PROJECT ORGANIZATION



IV. SITE CHRONOLOGY

October 25, 1994

1430 EPA Remedial Project Manager (RPM) Cheryl Sprague-Carver, EPA On-Scene Coordinator (OSC) Alex Sherrin and TAT member Dawn Riley arrived at the [redacted] residence to conduct a home survey, determine the total area of the residence, select sample station locations, and draw the existing floor plan (see Appendix A - Home Survey Documentation).

1630 On-site activities were completed; EPA and TAT departed the residence.

November 15, 1994

1400 RPM Sprague, OSC Sherrin, and TAT member Riley arrived at [redacted] to perform dust sampling activities. TAT member Riley collected vacuum dust samples (see Appendix B - Sample Location Map) and photodocumented the residence (see Appendix C - Photodocumentation Log).

1500 Upon completion of sampling activities and Chain-of-Custody Documentation (see Appendix D - Chain-of-Custody Documentation); EPA and TAT personnel departed the residence.

V. PRELIMINARY FINDINGS

Vacuum sample analytical data indicate that no PCB-contaminated household dust above EPA's PCB cleanup level of 10 ug/100cm^2 existed at the sample location.

See Appendix E, Table 2 Summary of Vacuum Dust PCB Results for details.

It should be noted that in the future, EPA is planning to perform a human health risk assessment on the residential exposure to the household dust.

Appendix A

Home Survey Documentation

HOME SURVEY **SITE ID#** [redacted]

Appointment Date & Time: 10/25/94 Interviewer(s): [illegible]

Do you own, rent, or lease your home?

Homeowner		Alternate Contact	
Name:	[redacted]	Name:	
Address:	[redacted]	Phone:	(H)
			(W)
Phone:	(H) [redacted]		
	(W)		

1) Number of Occupants		Names	Ages
Adults	2	[redacted]	[redacted]
Children			
Pets	2	cat + dog	

Do other children frequently visit your residence? How many?

2) How long have you lived at your current residence?

1½

3) What year was this house built? (oldest part)

[illegible]

4) What type of home do you live in? (ie: wood, brick, mobile home)

Wood + brick

5) Has any part of your house been repainted, sanded, chemically or heat stripped, or otherwise refinished within the last year?

[illegible]

HOME SURVEY **SITE ID#** [redacted]

6) Does your child attend a daycare or preschool or babysitter (secondary residence)?

N/A

7) How many hours a day on the average do the children play outdoors?

N/A

8A) Caregiver Summary Data:

	PRIMARY CAREGIVER		OTHER PARENT		OTHER ADULT	
INDUSTRIES	Y/N	BEGIN/END DATES	Y/N	BEGIN/END DATES	Y/N	BEGIN/END DATES
painting	Y	for past 30 years inside + outside of houses				
building demolition	N					
oil refinery	N					
sand blasting	N					
auto body work	N					
chemical plant	N					

electronics N
locksmith for the last 25 years

8B) Have you or anyone living at your residence worked at the Fletcher's Paint Works in the past?

N

8C) Have you or anyone living at your residence spent anytime, past or present, at the Fletcher's Paint Works Site?

N

HOME SURVEY **SITE ID#** [redacted]

9) Number of Floors 2

Is there a basement present? [ ] Yes [✓] No

Is it a living space? [ ] Yes [ ] No

Approximate Dimensions ff x _____

Other: _____

_____

Is there an attic present? [ ] Yes [✓] No

Is it a living space? [ ] Yes [ ] No

Approximate Dimensions ff x _____

Other: _____

_____

10) List areas where Asbestos Containing Materials (ACMs) may be/are present and describe their condition:

No

_____

_____

_____

_____

11) Describe type and general operation of air heating/cooling system:

unknown forced hot water

_____

_____

_____

12) Which entrance to the house is used most often?

Front door

[redacted] still being redone - no
still being redone) vacancies

HOME SURVEY **SITE ID#** [redacted]

13) Room Layout and Dimensions

- Sketch plan of room layout for each floor on attached sheet

- List names, dimensions, type of foot traffic and frequency of cleaning for each room:

Room Name	Dimensions (ft. x ft.)	Type of Floor Surface (ie, wood, carpeted, tiled, etc.)
Entry-ways		
E1	± x 9 1/2	linoleum + throw rug
E2		
E3		
Living room	17 x 15	rug on wood
Kitchen	19 1/2 x 15	linoleum
~~Children's~~ Bedrooms		
C1	11 x 12	carpet
daughter C2	12 x 11	carpet on floor
C3		
T V room	15 x 9	
bathroom	5 1/2 x 4	linoleum
T V room 2	13 x 14 1/2	wood + carpet
hallway	± 8 x 3	

C1 10 x 14 WOOD CARPET

C3 11.9 x 15 WOOD CARPET

HOME SURVEY **SITE ID#** [redacted]

To the best of my knowledge, the information contained in this document is true.

_____

Print Name(s)

[redacted]

Resident(s) Signature [redacted] Date

HOME SURVEY **SITE ID#** [redacted]

FLETCHER PAINT

WESTON

SHEET 1 of 3

CLIENT/SUBJECT EPA/TAT W.O. NO.

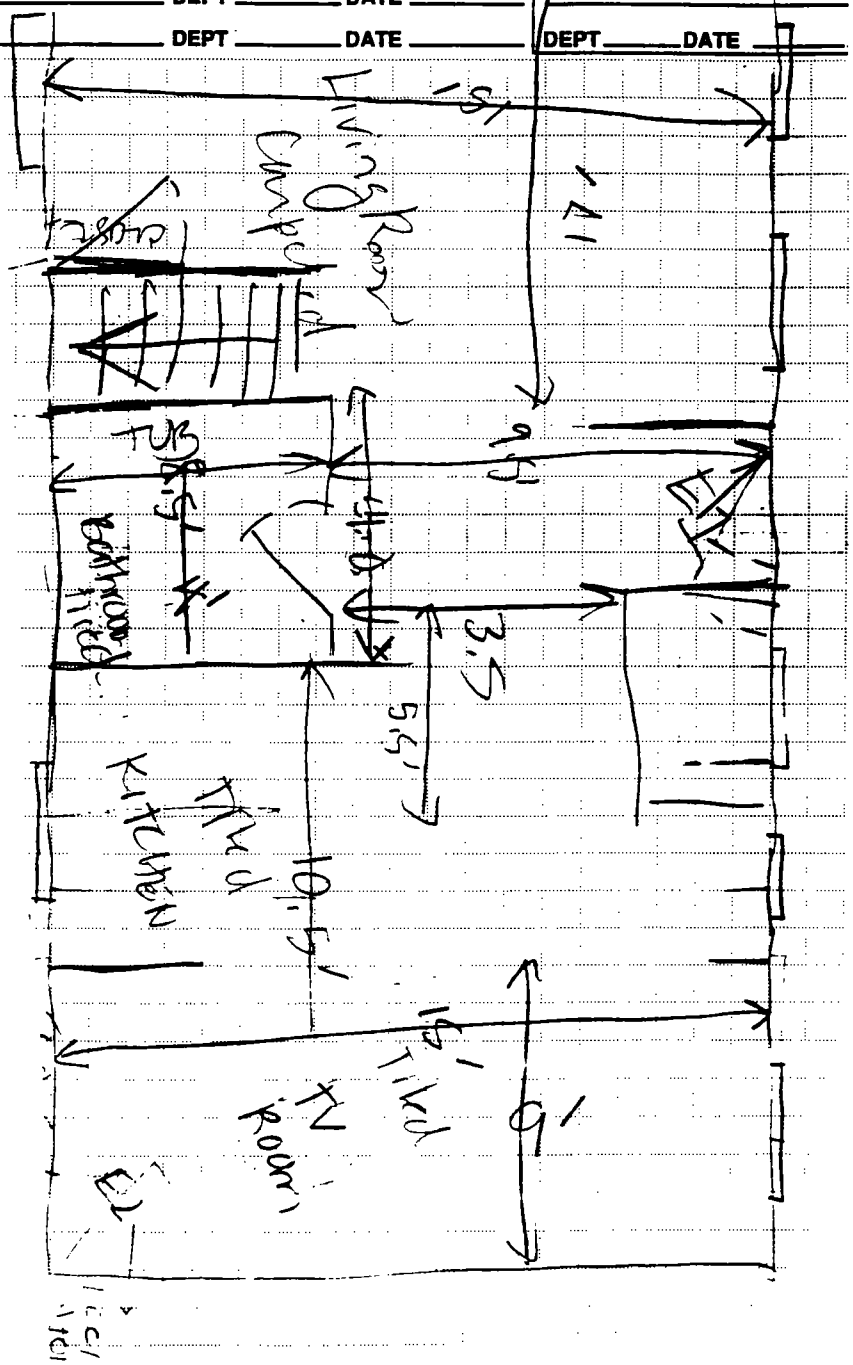
TASK DESCRIPTION [redacted] TASK NO.

PREPARED BY D. Rike DEPT DATE APPROVED BY

MATH CHECK BY DEPT DATE

METHOD REV. BY DEPT DATE DEPT DATE

First Floor



Vxx = Vacuum Sample

xx = Consecutive Numbering Convention to Differentiate Sample Station Locations

HOME SURVEY **SITE ID#** [redacted]

FLETCHER SPAIN

WESTON

SHEET 2 of 3

Second Floor

CLIENT/SUBJECT EPA/FAT W.O. NO.

TASK DESCRIPTION [redacted] TASK NO.

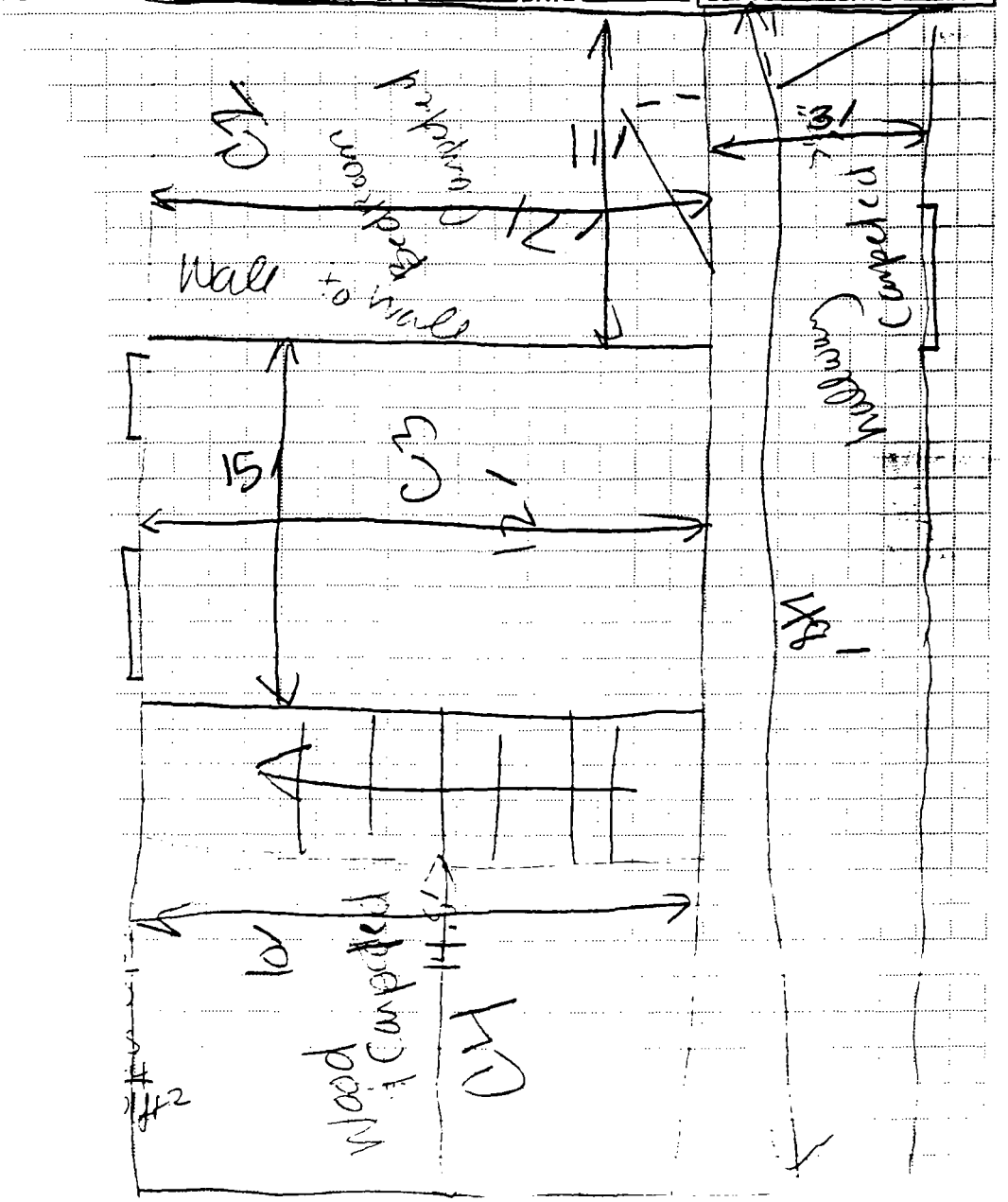
PREPARED BY D. Riley DEPT DATE

MATH CHECK BY DEPT DATE

METHOD REV. BY DEPT DATE

APPROVED BY

DEPT DATE



Vxx = Vacuum Sample

xx = Consecutive Numbering Convention to Differentiate Sample Station Locations

HOME SURVEY **SITE ID#** [redacted]

FLOOR PLAN SKETCH

Second Floor (CONT'D)

WESTON

SHEET 2 of 3

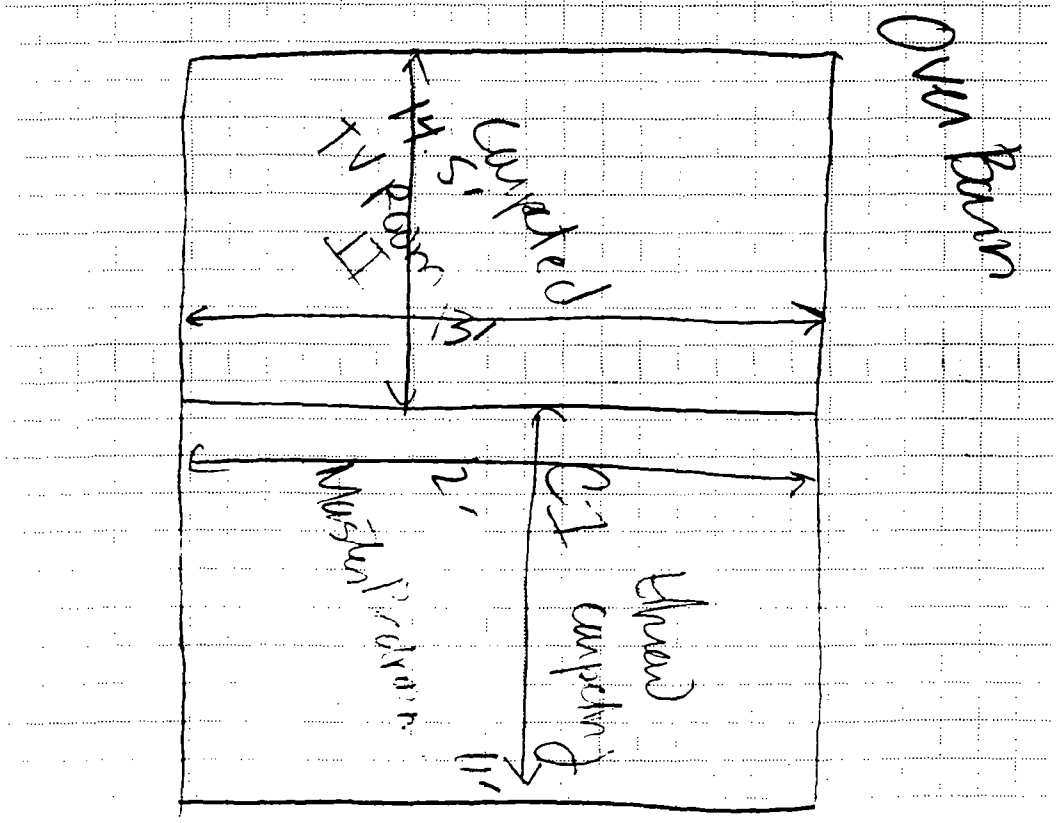
CLIENT/SUBJECT EPA ITAT W.O. NO. _____

TASK DESCRIPTION [redacted] K NO. _____

PREPARED BY _____ DEPT _____ DATE _____ APPROVED BY

MATH CHECK BY _____ DEPT _____ DATE _____

METHOD REV. BY _____ DEPT _____ DATE _____ DEPT _____ DATE _____

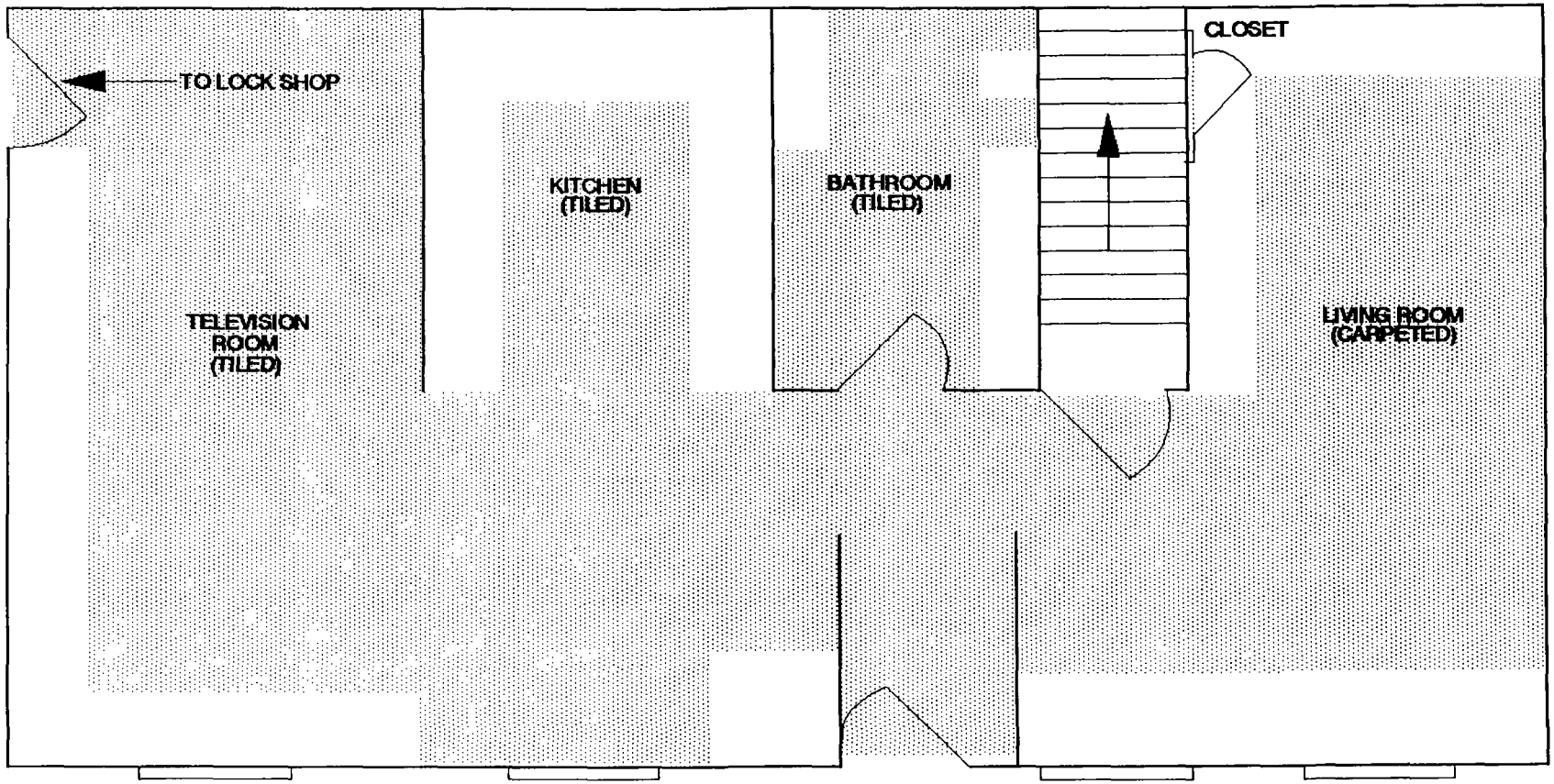


Vxx = Vacuum Sample

xx = Consecutive Numbering Convention to Differentiate Sample Station Locations

Appendix B

Sample Location Map



LEGEND

= AREA SAMPLED

FIGURE 2
SAMPLE LOCATION MAP
[redacted]
INDOOR DUST SURVEY
FLETCHER'S PAINT WORKS AND
STORAGE FACILITY SUPERFUND SITE
MILFORD, NEW HAMPSHIRE

NOT TO SCALE

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REGION I TECHNICAL ASSISTANCE TEAM

DRAWN BY RILEY	DATE 11/94	PCS # 1042
APPROVED BY	DATE 2/95	TDD # 01-94-1042

Appendix C

Photodocumentation Log

PHOTOGRAPHY LOG SHEET

Fletcher's Paint Works and Storage Facility Superfund Site
Milford, New Hampshire

SCENE: Kitchen area
FRAME NUMBER: 26 **DATE:** 11/15/94 **TIME:** 1440 **SKY CONDITION:** NA
PHOTO BY: D. Riley **WITNESS(ES):** OSC Sherrin & RPM Sprague
CAMERA: Minolta **SETTING:** Automatic **FILM TYPE:** 35 mm **FILM ROLL:** 02120

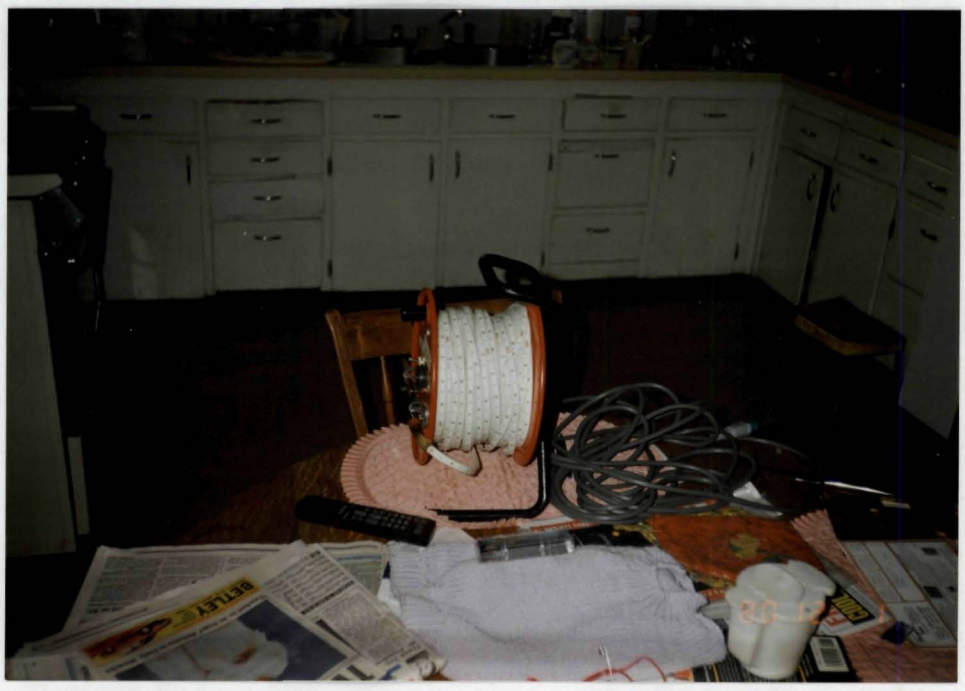
SCENE: Front Entry
FRAME NUMBER: 27 **DATE:** 11/15/94 **TIME:** 1440 **SKY CONDITION:** NA
PHOTO BY: D. Riley **WITNESS(ES):** OSC Sherrin & RPM Sprague
CAMERA: Minolta **SETTING:** Automatic **FILM TYPE:** 35 mm **FILM ROLL:** 02120

[redacted]

PHOTOGRAPHY LOG SHEET

Fletcher's Paint Works and Storage Facility Superfund Site
Milford, New Hampshire

SCENE: Den Area
FRAME NUMBER: 24 **DATE:** 11/15/94 **TIME:** 1435 **SKY CONDITION:** NA
PHOTO BY: D. Riley **WITNESS(ES):** OSC Sherrin & RPM Sprague
CAMERA: Minolta **SETTING:** Automatic **FILM TYPE:** 35 mm **FILM ROLL:** 02120



SCENE: Kitchen Area
FRAME NUMBER: 25 **DATE:** 11/15/94 **TIME:** 1435 **SKY CONDITION:** NA
PHOTO BY: D. Riley **WITNESS(ES):** OSC Sherrin & RPM Sprague
CAMERA: Minolta **SETTING:** Automatic **FILM TYPE:** 35 mm **FILM ROLL:** 02120

[redacted]

PHOTOGRAPHY LOG SHEET

Fletcher's Paint Works and Storage Facility Superfund Site
Milford, New Hampshire

SCENE: Kitchen Area
FRAME NUMBER: 22 **DATE:** 11/15/94 **TIME:** 1430 **SKY CONDITION:** NA
PHOTO BY: D. Riley **WITNESS(ES):** OSC Sherrin & RPM Sprague
CAMERA: Minolta **SETTING:** Automatic **FILM TYPE:** 35 mm **FILM ROLL:** 02120

SCENE: Den Area
FRAME NUMBER: 23 **DATE:** 11/15/94 **TIME:** 1430 **SKY CONDITION:** NA
PHOTO BY: D. Riley **WITNESS(ES):** OSC Sherrin & RPM Sprague
CAMERA: Minolta **SETTING:** Automatic **FILM TYPE:** 35 mm **FILM ROLL:** 02120

[redacted]

PHOTOGRAPHY LOG SHEET

Fletcher's Paint Works and Storage Facility Superfund Site
Milford, New Hampshire

SCENE: Living Room
FRAME NUMBER: 28 **DATE:** 11/15/94 **TIME:** 1440 **SKY CONDITION:** NA
PHOTO BY: D. Riley **WITNESS(ES):** OSC Sherrin & RPM Sprague
CAMERA: Minolta **SETTING:** Automatic **FILM TYPE:** 35 mm **FILM ROLL:** 02120

[redacted]

Appendix D

Chain-of-Custody Documentation

[illegible] of E[illegible] [illegible] Boston, Massachusetts [illegible]203

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME	NO. OF CONTAINERS	Analytical: TDD# 01-9411-LX PCS# 0408	REMARKS
D1	Fletchers Paint Works Indoor Dust Survey	32 oz glass	PCB's	• indoor dust samples no preservative • Blanks (sand) no preservative • performance evaluation samples no preservative

SAMPLERS: (Signature) [signature] TDD #: 01-94-1042 PCS# 1042

SAMPLES NOT PERTINENT TO THIS REPORT HAVE BEEN REMOVED.

STA. NO	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCB's	REMARKS
—	11/15	1457		X	[redacted]		X	72706
—	11/15	1715		X	Equipment Blank	1	X	72961
—	11/15	1630		X	Field Blank	8 oz glass 1	X	72952
—	N/A	N/A		X	TT03784	2 oz glass 1	X	Performance Evalu. Sample N/A
—	N/A	N/A		X	TT04348	8 oz glass 1	X	Perf. Eval. Sample N/A

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	11/16/94 1005				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
		FedEx Airbill # 2498019064			
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	11/17/94 9:45	Shipped to: Ceimic 10 Dean Knauss Dr. Narragansett, R.I. 02882 (401) 782-8900	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

Appendix E

Sample Results

TABLE 1

Concentrations of PCBs in Vacuum Dust Reported as Dust Concentrations in ug/kg November 15, 1994.

[redacted]

Sample Number	CS7
Aroclor 1016	UJ
Aroclor 1221	UJ
Aroclor 1232	UJ
Aroclor 1242	UJ
Aroclor 1248	140 J
Aroclor 1254	300 J
Aroclor 1260	UJ
Total PCBs	440 J

Notes:

Ug/kg = microgram per kilogram.

J = The associated numerical value is an estimated quantity because the reported concentrations were less than the required detection limits or quality control criteria were not met.

UJ = The material was annlyzed but not detected. The reported detection limit is estimated because all quality control criteria were not met.

TABLE 2

Summary of Vacuum Dust PCB Results Reported as Loading Rates November 15, 1994

[redacted]

Sample Number	CS7
Total Area of the Living Space (ft^2)	619.5
Area Sampled (ft^2)	411.07
Sample Weight (g)	111.1
Total PCBs ($ug/100cm^2$)	*0.012*

Notes:
ft^2 = square feet
g = grams
$ug/100cm^2$ = micrograms per 100 square centimeters

CONVERSION CALCULATIONS

These conversion calculations are used to convert ug/kg reported from the laboratory to ug/100cm^2 in order to compare the sample results to the technology based cleanup objective of 10 ug/100cm^2 for PCBs.

$$\text{L.R.} = \text{sample result ug/kg} \times \frac{1\text{ kg}}{1{,}000\text{ g}} \times \frac{\text{sample weight in g}}{\text{ft}^2\text{ area sampled}} \times \frac{\text{ft}^2}{929.03\text{ cm}^2} \times 100$$

L.R. = Contaminant Loading Rate in ug/100cm^2

Notes:
1) ug/100cm^2 = micrograms per 100 square centimeters
2) ug = micrograms
3) kg = kilograms
4) g = grams
5) ft^2 = square feet
6) cm^2 = square centimeters