

JAN 27 1994

Environmental Services of America, Inc.



Tri-S Division

205 Main Street
P.O. Box 1760
Brattleboro, VT 05302
Phone: (802) 254-3677
1-800-359-3677
Fax: (802) 254-7630

January 26, 1994

Chuck Schwer
VT DEC SMS HMMD
103 South Main St/West Bldg
Waterbury, VT 05671-0404

RE: Environmental Site Investigation Report for Quebecor Printing Book Press
Putney Road, Brattleboro, VT, DEC Site #93-1461

Dear Mr. Schwer:

Please find enclosed our completed report of the above referenced site for your review.

Should you have any questions please call me at 254-3677.

Sincerely,
ENSA TRI-S, Inc. Environmental Consulting Division

A handwritten signature in black ink, appearing to read "Bruce Tease". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Bruce Tease, Ph.D.
Project Manager

Enclosure

BET:dn

\\391\schw3.let

Offices Nationwide

Newark, NJ - Baltimore, MD - Royersford, PA - Philadelphia, PA
New Orleans, LA - Syracuse, NY - Hartford, CT - Brattleboro, VT
Chicago, IL - Los Angeles, CA

JAN 24 1994

Environmental Services of America, Inc.



Tri-S Division

205 Main Street
P.O. Box 1760
Brattleboro, VT 05302
Phone: (802) 254-3677
1-800-359-3677
Fax: (802) 254-7630

January 21, 1994

Quebecor Printing Book Press
Attn: Glen Call
Putney Road
Brattleboro, VT 05301

RE: Environmental Site Investigation Report for Quebecor Printing Book Press
Putney Road, Brattleboro, VT DEC File #93-1461

Dear: Mr. Call:

Enclosed please find the above-referenced report for your review. Also enclosed you will find 2 forms requiring your signature upon approval of this report. Please sign one form and return it to us in the self addressed, stamped envelope provided for your convenience. The second copy is for your records.

As soon as we receive this form, a copy of the above-referenced report will be mailed to the recipients noted on the form.

Should you have any questions please call me at 254-3677.

Sincerely,
ENSA TRI-S, Inc. Environmental Consulting Division

Bruce Tease, Ph.D.
Senior Environmental Scientist

Enclosures

cc: Chuck Schwer, Supervisor State of Vermont DEC

BET:dn

\\391\call.let

Offices Nationwide

Newark, NJ - Baltimore, MD - Royersford, PA - Philadelphia, PA
New Orleans, LA - Syracuse, NY - Hartford, CT - Brattleboro, VT
Chicago, IL - Los Angeles, CA

**Environmental Site Investigation Report
for
Quebecor Printing Book Press
Putney Road
Brattleboro, Vermont
DEC Site # 93-1461**

for

Quebecor Printing Book Press
P.O. Box 8282
Brattleboro, VT 05304

prepared by

Environmental Services of America, Inc.
TRI-S Environmental Consulting Division
205 Main Street
Brattleboro, VT 05301

January 21, 1994

EXECUTIVE SUMMARY

Pursuant to a letter prepared by the Sites Management Section (SMS) of the Vermont Department of Environmental Protection (VT DEC) and dated November 23, 1993, subsurface investigations were conducted at the Quebecor Printing Book Press located off of Putney Road in Brattleboro, VT.

On December 22, 1993, a total of eight (8) soil borings were advanced in and immediately surrounding the former tank pits of a 500 gallon Naphtha underground storage tank and a 1000 gallon gasoline underground storage tank. Continuous split spoon soil sampling was performed for each boring. Field screening of the soil samples revealed the absence of volatile organic compounds. No groundwater was encountered. A nearby on-site groundwater monitoring well (approximately 70 feet in depth) was gauged at the time of the subsurface work. Groundwater was present at approximately 64 feet below the ground surface.

Since VOCs were not detected following field screening of the split spoon samples, the borings were limited to a maximum depth of 10 feet, as directed by the SMS. Two soil samples were collected at the limit of excavation from the soil borings advanced within the former tank pits, and analyzed via EPA Method 8020 plus MTBE and via EPA Method 8270 (PAHs only). Analytical results indicated the absence of compounds tested for.

Table of Contents

I. INTRODUCTION - 1 -

II. SETTING AND LAYOUT - 2 -

III. SAMPLING METHODOLOGY - 3 -

IV. RESULTS - 3 -

V. INITIAL RISK EVALUATION - 4 -

VI. CONCLUSIONS AND RECOMMENDATIONS - 4 -

APPENDICES

- Appendix A Site Location Map
- Appendix B Site Sketch
- Appendix C Soil Boring Logs
- Appendix D Analytical Laboratory Reports
- Appendix E Photographs

I. INTRODUCTION

In September of 1992, five underground storage tanks (USTs) were excavated at the site of the Quebecor Printing Book Press located off of Putney Road in Brattleboro, VT. A subsurface assessment report prepared by Peter Young's Environmental Services indicated the following tanks were removed from the site:

- 10,000 gallon diesel UST
- 500 gallon Naphtha UST
- 275 gallon Kerosene UST
- 1000 gallon alcohol UST
- 1000 gallon gasoline UST

Soils collected beneath the excavated USTs were screened using a photoionization detector. Screening indicated that a release of product occurred from the Naphtha and gasoline USTs. No groundwater was encountered during the excavation and excavated soils were returned to the tank pits.

On September 22, 1993, a letter from the SMS of the VT DEC was issued to the property owner, KPC Corporation of Keene, NH, requesting some additional work to ascertain the severity of contamination from the above noted release incidents. Quebecor Printing Book Press leases the site from the KPC Corporation. The following tasks were requested by the SMS:

- *Further define the degree and extent of contamination to the soil.*
- *Determine the degree and extent of contamination, if any, to groundwater. If soil is found to contain evidence of contamination at the water table, then a sufficient number of monitoring wells should be installed in locations which will adequately define the severity of contamination at the site. All groundwater samples taken should be analyzed using EPA Methods 8240 and 8270.*
- *Perform an assessment of the site to determine the potential for sensitive receptors to be impacted by the contamination.*
- *Determine the need for a long term treatment and/or monitoring plan which addresses the contamination present at the site.*
- *Submit to the SMS a summary report which outlines the work performed as well as providing conclusions and recommendations. Included should be detailed well logs, analytical data, site map, area map, and a groundwater contour map.*

TRI-S, Inc. Environmental Consulting of Brattleboro, VT (now known as Environmental Services of America - TRI-S Environmental Consulting Division (ENSA-TEC) was contracted by Quebecor Printing Book Press to prepare a Work Plan with cost estimates for the work requested by the SMS.

On November 12, 1993, a Work Plan was prepared that proposed advancing six (6) soil borings to a depth of 30-35 feet below the ground surface in the vicinity of the former UST pits. Up to three (3) monitoring wells were proposed to be installed if groundwater was encountered during the advancement of the soil borings. Additional services were proposed that addressed the remaining SMS tasks.

Following a review of the above noted Work Plan, the SMS approved the proposed work with the following modification:

If no contamination is measured during the screening of continuous split spoon samples in the first ten feet within these two excavations (two former UST pits), then the SMS does not believe that these borings need to be further advanced. Soil samples should then be collected for lab analysis. If this occurs the other borings should be advanced following the same method as above. If contamination has migrated to the water table, then this work plan should be followed.

The SMS expressed concern regarding the presence of stockpiled contaminated soils. Confusion about the existence of stockpiled soils appears to have originated based on information presented in the Work Plan. As stated earlier, all soils excavated during the removal of the five USTs were returned to the tank pits. No contaminated soil is stockpiled on-site to our knowledge.

II. Setting and Layout

The five USTs were located in the southeastern portion of the subject property. The tanks were specifically located along a stretch of chain link fence that runs parallel to a railroad spur that is connected to the Boston & Maine line located east of the site. South of the railroad track is Suburban Propane. The Connecticut River is located approximately 500 feet southeast of the subject area. The C & S Wholesale Grocers' shipping and receiving facility and an industrial park are located north of the subject property. Commercial businesses are located along Putney Road (aka Route 5) which runs north and south approximately 1000 feet west of the subject area. A Site Location Map and Site Sketch are provided in Appendices A and B, respectively.

III. SAMPLING METHODOLOGY

On December 22, 1993, a total of eight (8) soil borings were advanced in and immediately surrounding the former tank pits of the 500 gallon Naphtha UST and the 1000 gallon gasoline UST by T&K Drilling of Troy, NH and Con-Tec, Inc. of Concord, NH under the supervision of ENSA-TEC. Continuous split spoon soil sampling was performed for each boring. The presence of overhead electrical lines directly above the former Naphtha UST area necessitated the use of a short masted drill rig. Clearance of at least 10 feet was achieved between the top of the mast and the electrical lines. A standard mast drill rig was used simultaneously to advance the soil borings for the gasoline UST.

The first soil boring at each UST area was installed within the former tank pit area. In each case, the location of the tank pit was identified based on a site map showing the location of the former USTs. The area was further delineated based on broken pavement and the slight depression created as a result of the UST removals. Glen Call of the Quebecor Printing Book Press was also on site to confirm the location of the USTs. Three additional borings were advanced in areas immediately surrounding the tank pit areas. One boring in the vicinity of the gasoline UST was advanced to 22 feet to determine if groundwater was present at depths beyond the 10 foot limit of the other soil borings.

Split spoon soil samples were collected in plastic zip lock bags and field screened for volatile organic compounds (VOCs) using a Thermo Environmental Instruments, Inc. Organic Vapor Meter Model 580B (OVM) calibrated with a 250 ppm Isobutylene span gas. All samples were stored at temperatures above freezing before screening. Soil Boring Logs are presented in Appendix C. The soil boring locations are shown on the Site Sketch presented in Appendix B.

Two soil samples were collected, at the limit of excavation from the soil borings advanced within the former tank pits, and analyzed via EPA Method 8020 plus MTBE and via EPA Method 8270 (PAH only).

IV. RESULTS

Field screening of the split spoon soil samples revealed the absence of VOCs. No groundwater was encountered at the maximum limit of soil boring GA-3, which was 22 feet. A nearby on-site groundwater monitoring well (approximately 70 feet in depth) was gauged at the time of the subsurface work. Groundwater was present at approximately 64 feet below the ground surface.

Refusal was encountered in three of the borings advanced along the fence line near the gasoline UST. This was interpreted to be the concrete tank pad which appeared to be contiguous for both the gasoline and diesel USTs.

Soils encountered during the soil borings advanced at the former Naphtha UST area consisted predominantly of fine to coarse grained sand and gravel. Soils at the former gasoline UST area consisted primarily of fine to medium silty brown sand.

Since VOCs were not detected following field screening of the split spoon samples, the borings were limited to a maximum depth of 10 feet, as directed by the SMS.

Laboratory analysis of the soil samples collected at the limit of the two soil borings, advanced within the tank pit areas, revealed the absence of the compounds tested for.

V. Initial Risk Evaluation

The nearest sensitive human receptor would be workers at the subject property and the downgradient Suburban Propane site. Residential development is not located in the vicinity of the subject area and no groundwater drinking wells are known to exist that could be affected by this release incident. The subject area is serviced by municipal drinking water and sewer services. The nearest sensitive environmental receptor would be the Connecticut River.

Since groundwater does not appear to exist at depths that could possibly serve to transport the previously detected petroleum related contaminants, the potential for long range migration of these compounds is considered to be very low. Given the absence of VOCs detected during the recent subsurface investigations, a risk to the health and safety of potential sensitive receptors does not appear to exist at this time.

VI. CONCLUSIONS AND RECOMMENDATIONS

ENSA-TEC's conclusions and recommendations are based on the premise that all information obtained during the environmental investigations is accurate. It should also be noted that conditions may change with time that require reevaluation of certain conclusions and recommendations made regarding the subject property.

Conclusions

No VOCs were detected in the split spoon soil samples collected within the limit of drilling performed in and around the former Naphtha and gasoline UST areas.

Analytical testing of the soil samples, collected at the limit of drilling within the former UST pits, revealed the absence of the compounds tested for.

Groundwater was not encountered during the subsurface investigations. Gauging of a nearby on-site monitoring well indicated the presence of groundwater at approximately 64 feet below the ground surface.

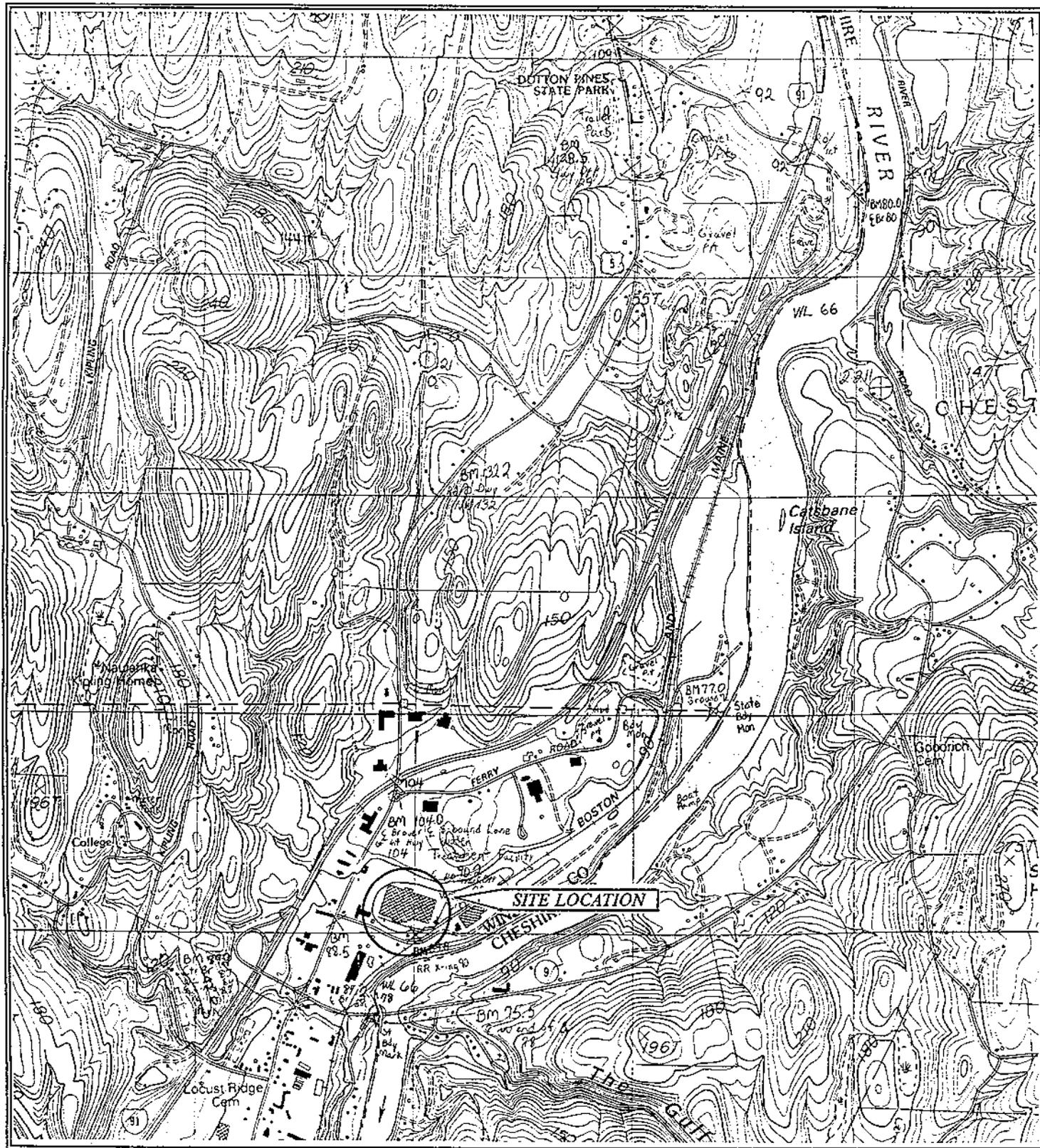
Based on the absence of contamination detected by the recent subsurface work, the industrial and commercial nature of the subject area, and the absence of sensitive human and/or environmental receptors in the immediate vicinity of the subject area, the past release incidents of Naphtha and gasoline are not considered to pose a significant risk to the public health and safety or the environment at this time.

Recommendations

ENSA-TEC has no recommendations for further work at the subject property.

ENSA-TEC recommends that the SMS consider initiating the process for closure at the subject property.

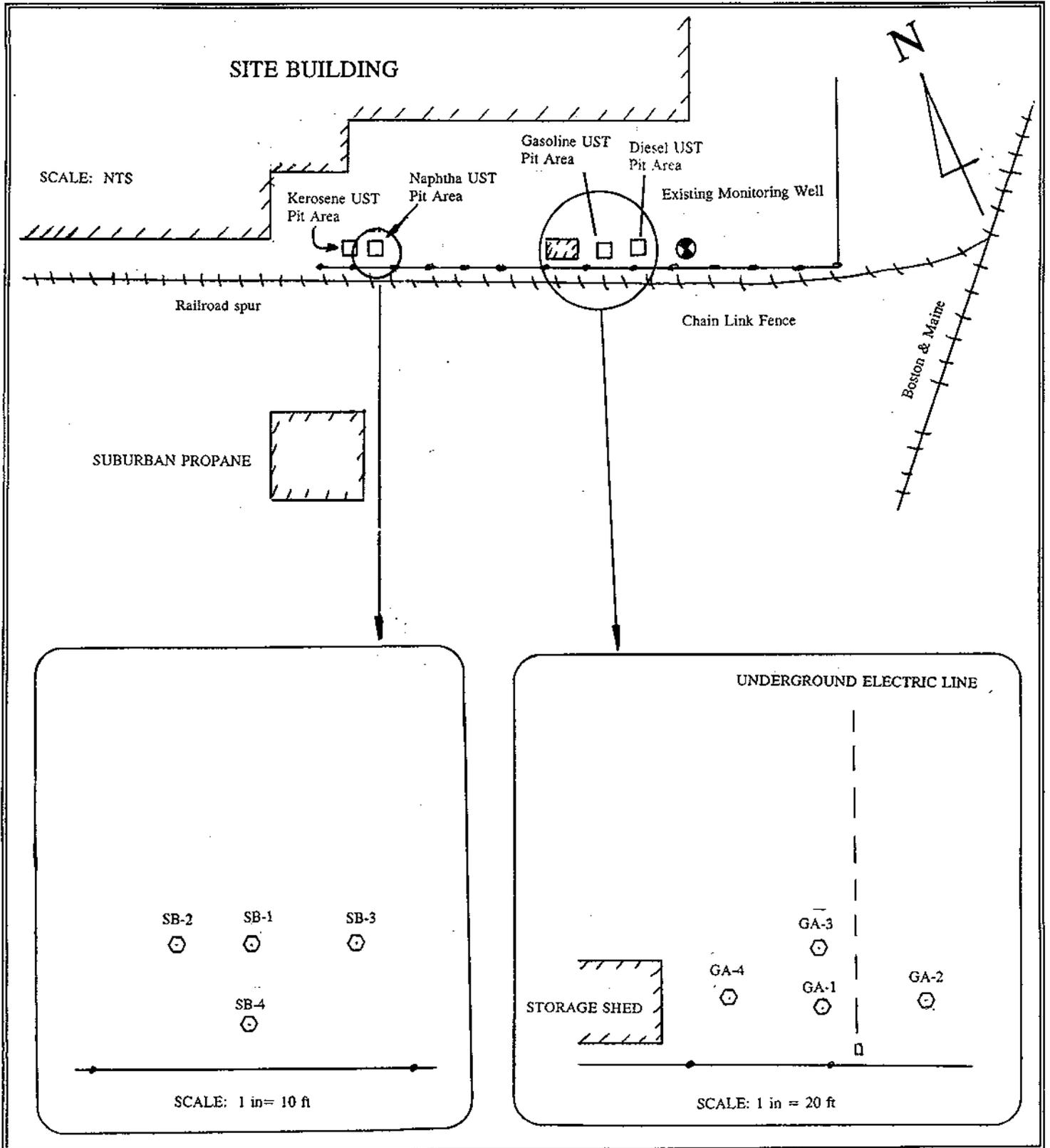
Appendix A
Site Location Map



Site Location Map	Quebecor Printing Book Press Putney Road Brattleboro, Vermont	Newfane, VT-NH Topographic Quadrangle Map 1:25,000 metric 1984
-------------------	---	---

Appendix B

Site Sketch



Site Sketch Map	Quebecor Printing Book Press Putney Road Brattleboro, Vermont	As Shown
-----------------	---	----------

Appendix C
Soil Boring Logs

**TRI-S, INC. ENVIRONMENTAL CONSULTING
SOIL BORING/MONITORING WELL LOG**

Project #: <u>391</u> Date: <u>12/22/93</u> Project Name: <u>Book Press</u> Location: <u>Brattleboro, VT</u> Driller: <u>Con-Tec</u> TEC Personnel: <u>BET</u> Boring/Well #: <u>SB-1</u> Sheet <u>1</u> of <u>1</u>	SITE LOCUS
---	-------------------

Depth	Blow Counts				Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram
	0-6	6-12	12-18	18-24				
0-2	3	5	5	4	12	0.0	medium-coarse sand & gravel	
2-4	4	5	10	17	12	0.0	medium-coarse sand & gravel	
4-6	18	13	20	23	12	0.0	medium-coarse sand & gravel	
6-8	17	13	15	13	12	0.0	coarse grained sand	
8-10	7	9	10	15	16	0.0	coarse grained sand	

Drilling Method: _____ Total Well Depth: _____ Groundwater Depth: _____ PVC elevation: _____	Screen Diameter: _____ Length: _____ Riser Diameter: _____ Length: _____ Slot Size: _____ Ground Elevation: _____
---	--

- Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
 2. ND indicates Non-Detectable contaminant concentrations as read by the OVM.
 3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
 4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
 5. HSA = Hollow Stem Auger, AR = Air Rotary

**TRI-S, INC. ENVIRONMENTAL CONSULTING
SOIL BORING/MONITORING WELL LOG**

Project #: <u>391</u> Date: <u>12/22/93</u> Project Name: <u>Book Press</u> Location: <u>Brattleboro, VT</u> Driller: <u>Con-Tec</u> TEC Personnel: <u>BET</u> Boring/Well #: <u>SB-2</u> Sheet <u>1</u> of <u>1</u>	SITE LOCUS
---	-------------------

Depth	Blow Counts				Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram
	0-6	6-12	12-18	18-24				
0-2	4	4	4	5	12	0.0	6" medium grained brown sand & light gravel 6" fine grained brown sand	
2-4	6	8	14	22	16	0.0	10" fine grained brown sand 6" sand & gravel	
4-6	24	26	30	28	16	0.0	sand & large gravel	
6-8	3	8	19	11		0.0	sand & large gravel	
8-10	11	15	19	20		0.0	sand & large gravel	

Drilling Method: _____ Total Well Depth: _____ Groundwater Depth: _____ PVC elevation: _____	Screen Diameter: _____ Length: _____ Riser Diameter: _____ Length: _____ Slot Size: _____ Ground Elevation: _____
---	--

- Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
 2. ND indicates Non-Detectable contaminant concentrations as read by the OVM.
 3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
 4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
 5. HSA = Hollow Stem Auger, AR = Air Rotary

**TRI-S, INC. ENVIRONMENTAL CONSULTING
SOIL BORING/MONITORING WELL LOG**

Project #: <u>391</u> Date: <u>12/22/93</u> Project Name: <u>Book Press</u> Location: <u>Brattleboro, VT</u> Driller: <u>Con-Tec</u> TEC Personnel: <u>BET</u> Boring/Well #: <u>SB-3</u> Sheet <u>1</u> of <u>1</u>	SITE LOCUS
---	-------------------

Depth	Blow Counts				Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram
	0-6	6-12	12-18	18-24				
0-2	3	5	3	3	8	0.0	brown sand, some gravel	
2-4	1	3	4	3	3	0.0	brown sand, some gravel	
4-6	3	3	3	7		0.0	no sample	
6-8	13	14	17	16	12	0.0	brown sand & gravel	
8-10	11	12	16	18	18	0.0	16" medium grained sand 2" fine grained brown sand	

Drilling Method: _____ Total Well Depth: _____ Groundwater Depth: _____ PVC elevation: _____	Screen Diameter: _____ Length: _____ Riser Diameter: _____ Length: _____ Slot Size: _____ Ground Elevation: _____
---	--

- Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
 2. ND indicates Non-Detectable contaminant concentrations as read by the OVM.
 3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
 4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
 5. HSA = Hollow Stem Auger, AR = Air Rotary

TRI-S, INC. ENVIRONMENTAL CONSULTING
SOIL BORING/MONITORING WELL LOG

Project #: <u>391</u> Date: <u>12/22/93</u> Project Name: <u>Book Press</u> Location: <u>Brattleboro, VT</u> Driller: <u>Con-Tec</u> TEC Personnel: <u>BET</u> Boring/Well #: <u>SB-4</u> Sheet <u>1</u> of <u>1</u>	SITE LOCUS
---	-------------------

Depth	Blow Counts				Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram
	0-6	6-12	12-18	18-24				
0-2	4	3	3	2	3	0.0	sand & gravel	
2-4	2	3	27	5	10	0.0	sand & silt, light gravel	
4-6	3	3	3	3	5	0.0	sand & light gravel	
6-8	1	2	2	2	6	0.0	sand & light gravel	
8-10	1	2	1	2	6	0.0	medium grained sand	

Drilling Method: _____ Total Well Depth: _____ Groundwater Depth: _____ PVC elevation: _____	Screen Diameter: _____ Length: _____ Riser Diameter: _____ Length: _____ Slot Size: _____ Ground Elevation: _____
---	--

Notes:

1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
2. ND indicates Non-Detectable contaminant concentrations as read by the OVM.
3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
5. HSA = Hollow Stem Auger, AR = Air Rotary

TRI-S, INC. ENVIRONMENTAL CONSULTING
SOIL BORING/MONITORING WELL LOG

Project #: <u>391</u> Date: <u>12/22/93</u> Project Name: <u>Book Press</u> Location: <u>Brattleboro, VT</u> Driller: <u>T&K Drilling</u> TEC Personnel: <u>PSR</u> Boring/Well #: <u>GA-1</u> Sheet <u>1</u> of <u>1</u>					SITE LOCUS				
Depth	Blow Counts				Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram	
	0-6	6-12	12-18	18-24					
0-2	7	5	5	4	10	0.0	fine to medium grain silty brown sand		
2-4	3	1	1	4	1	0.0	fine to medium grain silty brown sand		
4-6	1	1	1	1	5	0.0	fine to medium grain silty brown sand		
6-8	1	1	1	3	12	0.0	fine silty brown sand, moist		
8-10	1	1	1	30	70	0.0	fine silty brown sand with more silt than above		
							refusal @ 10' - possible concrete pad		
Drilling Method: _____ Total Well Depth: _____ Groundwater Depth: _____ PVC elevation: _____					Screen Diameter: _____ Length: _____ Riser Diameter: _____ Length: _____ Slot Size: _____ Ground Elevation: _____				

- Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
 2. ND indicates Non-Detectable contaminant concentrations as read by the OVM.
 3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
 4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
 5. HSA = Hollow Stem Auger, AR = Air Rotary

**TRI-S, INC. ENVIRONMENTAL CONSULTING
SOIL BORING/MONITORING WELL LOG**

Project #: <u>391</u> Date: <u>12/22/93</u> Project Name: <u>Book Press</u> Location: <u>Brattleboro, VT</u> Driller: <u>T&K Drilling</u> TEC Personnel: <u>PSR</u> Boring/Well #: <u>GA-2</u> Sheet <u>1</u> of <u>1</u>	SITE LOCUS
--	-------------------

Depth	Blow Counts				Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram
	0-6	6-12	12-18	18-24				
0-2	12	9	7	8	12	0.0	fine to medium grain silty brown sand with trace of gravel	
2-4	5	3	3	3	0			
4-6	4	2	2	2	1.5	0.0	fine grain silty brown sand	
6-8	2	2	2	1	.5	0.0	moist & more silt in fine grain silty brown sand	
8-10	1	1	1	1	3	0.0	more silt in fine grain silty brown sand	
							refusal @ 10' - possible concrete pad	

Drilling Method: _____ Total Well Depth: _____ Groundwater Depth: _____ PVC elevation: _____	Screen Diameter: _____ Length: _____ Riser Diameter: _____ Length: _____ Slot Size: _____ Ground Elevation: _____
---	--

- Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
 2. ND indicates Non-Detectable contaminant concentrations as read by the OVM.
 3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
 4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
 5. HSA = Hollow Stem Auger, AR = Air Rotary

**TRI-S, INC. ENVIRONMENTAL CONSULTING
SOIL BORING/MONITORING WELL LOG**

Project #: <u>391</u> Date: <u>12/22/93</u> Project Name: <u>Book Press</u> Location: <u>Brattleboro, VT</u> Driller: <u>T&K Drilling</u> TEC Personnel: <u>PSR</u> Boring/Well #: <u>GA-3</u> Sheet <u>1</u> of <u>1</u>					SITE LOCUS				
Depth	Blow Counts				Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram	
	0-6	6-12	12-18	18-24					
0-2	12	12	5	6	13	0.0	fine to medium silty brown sand		
2-4	6	5	4	6	12	0.0	fine to medium silty brown sand		
4-6	3	4	4	7	10	0.0	fine to medium silty brown sand		
6-8	8	11	5	3	6	0.0	fine to medium silty brown sand with trace of gravel		
8-10	3	3	4	6	4	0.0	fine silty brown sand		
15-17	12	13	11	10	10	0.0	coarse silty brown sand		
20-22	5	8	9	11	24	0.0	coarse sand		
Drilling Method: _____ Total Well Depth: _____ Groundwater Depth: _____ PVC elevation: _____					Screen Diameter: _____ Length: _____ Riser Diameter: _____ Length: _____ Slot Size: _____ Ground Elevation: _____				

- Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
 2. ND indicates Non-Detectable contaminant concentrations as read by the OVM.
 3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
 4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
 5. HSA = Hollow Stem Auger, AR = Air Rotary

**TRI-S, INC. ENVIRONMENTAL CONSULTING
SOIL BORING/MONITORING WELL LOG**

Project #: <u>391</u> Date: <u>12/22/93</u> Project Name: <u>Book Press</u> Location: <u>Brattleboro, VT</u> Driller: <u>T&K Drilling</u> TEC Personnel: <u>PSR</u> Boring/Well #: <u>GA-4</u> Sheet <u>1</u> of <u>1</u>						<u>SITE LOCUS</u>		
Depth	Blow Counts				Rec. (in.)	OVM (ppm)	Soil Characterization	As Built Diagram
	0-6	6-12	12-18	18-24				
0-2	12	7	5	2	0			
2-4	3	4	4	4	0.5	0.0	medium grain silty brown sand	
4-6	3	3	4	5	0.0			
6-8	2	2	2	1	6	0.0	fine to medium grain silty brown sand	
8-10	3	4	3	6	2	0.0	fine grain silty brown sand	
							refusal @ 10' - possible concrete pad	
Drilling Method: _____ Total Well Depth: _____ Groundwater Depth: _____ PVC elevation: _____						Screen Diameter: _____ Length: _____ Riser Diameter: _____ Length: _____ Slot Size: _____ Ground Elevation: _____		

- Notes:
1. Split spoon soil samples are screened for organic vapors via headspace method using a Thermo Environmental Instruments Inc. Organic Vapor Meter Model 580B.
 2. ND indicates Non-Detectable contaminant concentrations as read by the OVM.
 3. Samples are collected using a Split Spoon Sampler unless otherwise indicated.
 4. Split Spoon Sampler has a 2" diameter and is driven using a 140 lb. hammer falling 30 inches.
 5. HSA = Hollow Stem Auger, AR = Air Rotary

Appendix D
Analytical Laboratory Reports



RECEIVED JAN 10 1994

ANALYTICAL DATA

SUMMARY

Report Date: 01/05/94

Account: TRI-S Environmental Consulting
Address: P.O. Box 1760
Brattleboro, VT 05302
802-254-3677

Project Manager: 391
Project Name: Book Press (12-23-93)
Project No.: BET

Sample Information:

<u>Laboratory ID.</u>	<u>Client/Field ID.</u>	<u>Laboratory ID.</u>	<u>Client/Field ID.</u>
33577326-001	SB-1-122293-391	33577326-003	QC Report - Soil
33577326-002	GA-3-122293-391		

Reviewed by

Stephen DiMattei
Quality Assurance Officer

Lab Certifications

EPA ID: No. MA059
Massachusetts: No. MA059
Maine: Reciprocity
Rhode Island: 87
South Carolina: 88011

Florida(DEP): QA Plan No. 900437G
Florida(HRS): E87290
Connecticut: No. PH0515
New York: ELAP No. 11116
New Hampshire: No. 2041



Matrix Analytical, Inc.
 106 South Street
 Hopkinton, MA 01748-2295
 1 (800) 362-8749

RECEIVED JAN 10 1994
 FINAL REPORT

Client Information

Account:	TRI-S Environmental Consulting	Project Name:	Book Press (12-23-93)
Address:	P.O. Box 1760	Project Number:	BET
	Brattleboro, VT 05302	Project Manager:	391
		Sampler Name:	TRI-S Environmental Consult.

Sample Information

Lab ID:	33577326-001	Date Sampled:	12/22/93 09:30
Client ID:	SB-1-122293-391	Date Received:	12/23/93 : 0
Matrix:	Soil	Date Reported:	01/05/94

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
<u>VOLATILE ORGANICS</u>						
Benzene	ND	ug/kg	1	8020	kp	01/04/94
Chlorobenzene	ND	ug/kg	5	8020	kp	01/04/94
1,2-Dichlorobenzene	ND	ug/kg	5	8020	kp	01/04/94
1,3-Dichlorobenzene	ND	ug/kg	5	8020	kp	01/04/94
1,4-Dichlorobenzene	ND	ug/kg	5	8020	kp	01/04/94
Ethylbenzene	ND	ug/kg	5	8020	kp	01/04/94
MTBE	ND	ug/kg	5	8020	kp	01/04/94
Toluene	ND	ug/kg	5	8020	kp	01/04/94
Xylene	ND	ug/kg	5	8020	kp	01/04/94
<u>Surrogate Studies - Volatiles</u>						
Bromofluorobenzene (602/8020)	93	Percent			kp	01/04/94
<u>PAH (Low Level)</u>						
Extraction Date:	12/27/93				cv	
Acenaphthene	ND	ug/l	5	8270	db	12/28/93
Acenaphthylene	ND	ug/l	5	8270	db	12/28/93
Anthracene	ND	ug/l	5	8270	db	12/28/93
Benzo (a) Anthracene	ND	ug/l	5	8270	db	12/28/93
Benzo (a) Pyrene	ND	ug/l	5	8270	db	12/28/93
Benzo (b) Fluoranthene	ND	ug/l	5	8270	db	12/28/93
Benzo (j) Fluoroanthene	ND	ug/l	5	8270	db	12/28/93
Benzo (k) Fluoroanthene	ND	ug/l	5	8270	db	12/28/93
Benzo (g,h,i) Perylene	ND	ug/l	10	8270	db	12/28/93
Chrysene	ND	ug/l	5	8270	db	12/28/93



Matrix Analytical, Inc.
 106 South Street
 Hopkinton, MA 01748-2295
 1 (800) 362-8749

RECEIVED JAN 10 1994

F I N A L R E P O R T

Client Information

Account: TRI-S Environmental Consulting
 Address: P.O. Box 1760
 Brattleboro, VT 05302

Project Name: Book Press (12-23-93)
 Project Number: BET
 Project Manager: 391
 Sampler Name: TRI-S Environmental Consult.

Sample Information

Lab ID: 33577326-001
 Client ID: SB-1-122293-391
 Matrix: Soil

Date Sampled: 12/22/93 09:30
 Date Received: 12/23/93 : 0
 Date Reported: 01/05/94

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
PAH (Low Level)						
Dibenzo (a,h) Acridine	ND	ug/l	5	8270	db	12/28/93
Dibenzo (a,j) Acridine	ND	ug/l	5	8270	db	12/28/93
Dibenzo (a,h) Anthracene	ND	ug/l	10	8270	db	12/28/93
7H-Dibenzo (c,g) Carbazole	ND	ug/l	5	8270	db	12/28/93
Dibenzo (a,e) Pyrene	ND	ug/l	10	8270	db	12/28/93
Dibenzo (a,i) Pyrene	ND	ug/l	10	8270	db	12/28/93
Dibenzo (a,h) Pyrene	ND	ug/l	10	8270	db	12/28/93
Fluoranthene	ND	ug/l	5	8270	db	12/28/93
Fluorene	ND	ug/l	5	8270	db	12/28/93
Indeno (1,2,3-cd) Pyrene	ND	ug/l	10	8270	db	12/28/93
2-Methyl Naphthalene	ND	ug/l	5	8270	db	12/28/93
3-Methylcholanthrene	ND	ug/l	5	8270	db	12/28/93
1-Methyl Naphthalene	ND	ug/l	5	8270	db	12/28/93
Naphthalene	ND	ug/l	5	8270	db	12/28/93
Phenanthrene	ND	ug/l	5	8270	db	12/28/93
Pyrene	ND	ug/l	5	8270	db	12/28/93
Surrogate Studies - Base Neutrals						
2-Fluorobiphenyl	84	Percent			db	12/28/93
Nitrobenzene-D5	68	Percent			db	12/28/93
p-Terphenyl-D14	101	Percent			db	12/28/93



Matrix Analytical, Inc.
106 South Street
Hopkinton, MA 01748-2295
1 (800) 362-8749

RECEIVED JAN 10 1994

FINAL REPORT

Client Information

Account: TRI-S Environmental Consulting
Address: P.O. Box 1760
Brattleboro, VT 05302

Project Name: Book Press (12-23-93)
Project Number: BET
Project Manager: 391
Sampler Name: TRI-S Environmental Consult.

Sample Information

Lab ID: 33577326-002
Client ID: GA-3-122293-391
Matrix: Soil

Date Sampled: 12/22/93 10:00
Date Received: 12/23/93 : 0
Date Reported: 01/05/94

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
<u>VOLATILE ORGANICS</u>						
Benzene	ND	ug/kg	1	8020	kp	01/04/94
Chlorobenzene	ND	ug/kg	5	8020	kp	01/04/94
1,2-Dichlorobenzene	ND	ug/kg	5	8020	kp	01/04/94
1,3-Dichlorobenzene	ND	ug/kg	5	8020	kp	01/04/94
1,4-Dichlorobenzene	ND	ug/kg	5	8020	kp	01/04/94
Ethylbenzene	ND	ug/kg	5	8020	kp	01/04/94
MTBE	ND	ug/kg	5	8020	kp	01/04/94
Toluene	ND	ug/kg	5	8020	kp	01/04/94
Xylene	ND	ug/kg	5	8020	kp	01/04/94
<u>Surrogate Studies - Volatiles</u>						
Bromofluorobenzene (602/8020)	75	Percent			kp	01/04/94
<u>PAH (Low Level)</u>						
Extraction Date:	12/27/93				cv	
Acenaphthene	ND	ug/l	5	8270	ss	12/28/93
Acenaphthylene	ND	ug/l	5	8270	ss	12/28/93
Anthracene	ND	ug/l	5	8270	ss	12/28/93
Benzo (a) Anthracene	ND	ug/l	5	8270	ss	12/28/93
Benzo (a) Pyrene	ND	ug/l	5	8270	ss	12/28/93
Benzo (b) Fluoranthene	ND	ug/l	5	8270	ss	12/28/93
Benzo (j) Fluoroanthene	ND	ug/l	5	8270	ss	12/28/93
Benzo (k) Fluoranthene	ND	ug/l	5	8270	ss	12/28/93
Benzo (g,h,i) Perylene	ND	ug/l	10	8270	ss	12/28/93
Chrysene	ND	ug/l	5	8270	ss	12/28/93



Matrix Analytical, Inc.
106 South Street
Hopkinton, MA 01748-2295
1 (800) 362-8749

FINAL REPORT

Client Information

Account: TRI-S Environmental Consulting
Address: P.O. Box 1760
Brattleboro, VT 05302

Project Name: Book Press (12-23-93)
Project Number: BET
Project Manager: 391
Sampler Name: TRI-S Environmental Consult.

Sample Information

Lab ID: 33577326-002
Client ID: GA-3-122293-391
Matrix: Soil

Date Sampled: 12/22/93 10:00
Date Received: 12/23/93 :0
Date Reported: 01/05/94

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
PAH (Low Level)						
Dibenzo (a,h) Acridine	ND	ug/l	5	8270	ss	12/28/93
Dibenzo (a,j) Acridine	ND	ug/l	5	8270	ss	12/28/93
Dibenzo (a,h) Anthracene	ND	ug/l	10	8270	ss	12/28/93
7H-Dibenzo (c,g) Carbazole	ND	ug/l	5	8270	ss	12/28/93
Dibenzo (a,e) Pyrene	ND	ug/l	10	8270	ss	12/28/93
Dibenzo (a,i) Pyrene	ND	ug/l	10	8270	ss	12/28/93
Dibenzo (a,h) Pyrene	ND	ug/l	10	8270	ss	12/28/93
Fluoranthene	ND	ug/l	5	8270	ss	12/28/93
Fluorene	ND	ug/l	5	8270	ss	12/28/93
Indeno (1,2,3-cd) Pyrene	ND	ug/l	10	8270	ss	12/28/93
2-Methyl Naphthalene	ND	ug/l	5	8270	ss	12/28/93
3-Methylcholanthrene	ND	ug/l	5	8270	ss	12/28/93
1-Methyl Naphthalene	ND	ug/l	5	8270	ss	12/28/93
Naphthalene	ND	ug/l	5	8270	ss	12/28/93
Phenanthrene	ND	ug/l	5	8270	ss	12/28/93
Pyrene	ND	ug/l	5	8270	ss	12/28/93
Surrogate Studies - Base Neutrals						
2-Fluorobiphenyl	111	Percent			ss	12/28/93
Nitrobenzene-D5	84	Percent			ss	12/28/93
p-Terphenyl-D14	135	Percent			ss	12/28/93



Matrix Analytical, Inc.
 106 South Street
 Hopkinton, MA 01748-2295
 1 (800) 362-8749

RECEIVED JAN 10 1994

F I N A L R E P O R T

Client Information

Account:	TRI-S Environmental Consulting	Project Name:	Book Press (12-23-93)
Address:	P.O. Box 1760	Project Number:	BET
	Brattleboro, VT 05302	Project Manager:	391
		Sampler Name:	

Sample Information

Lab ID:	33577326-003	Date Sampled:	12/22/93 :
Client ID:	QC Report -Soil	Date Received:	12/23/93 : 0
Matrix:	Soil	Date Reported:	01/05/94

Analytical Parameter	Result	Unit	Detection Limit	Method No.	Analyst	Date Analyzed
----------------------	--------	------	-----------------	------------	---------	---------------

METHOD BLANK - VOLATILES

Method Blank	ND	ug/l		8020/602		
--------------	----	------	--	----------	--	--

METHOD BLANK - SEMIVOLATILES

Method Blank	ND	ug/l		8270		
--------------	----	------	--	------	--	--

METHOD SUMMARIES

Acid/Base Neutral analysis is performed using H/P 5970 GC/MS systems with autosampler. Analysis is performed with J&W megabore column. Tuning is based on DFTPP criteria. Procedural guidelines described in SW846 are used for all analysis. Data reduction is accomplished using H/P RTE 1000 computer systems.

Volatile organic analysis is performed using Volatile organic analysis is performed using 5995 or 5970 GC/MS, Tekmar purge and trap, and ALS autosampler. Chromatography incorporates packed and megabore columns. Data reduction is performed on RTE 1000 and ChemStation systems. Tuning is based on BFB standards. Procedural guidelines follow EPA 624 or SW846 for all analyses. Aromatic volatiles listed in VOA 8020 are analyzed using GC/MS systems.

METHOD REFERENCES

1. Test Methods For Evaluating Solid Waste: Physical Chemical Methods. EPA SW 846. November 1986.
2. Methods For Chemical Analysis of Water and Wastes. EPA 600/4-79-200. Revised March 1983.
3. Standard Methods For Examination of Water and Wastewater. APHA-AWWA-WACF., 16th Edition. 1985.

COMPANY NAME: TRI-S ENVIRONMENTAL CONSULTING				ANALYSES REQUESTED										Total # of S O T T L E S
ADDRESS: P.O. BOX 1760 (205 MAIN STREET)														
BRATTLEBORO VERMONT 05302														
PROJECT NAME: BOOK PRESS		NO.: 391												
PROJECT MANAGER: BET		PHONE: 1-802-254-3677		COMMENTS OR NOTES										
SAMPLER(S) NAME: BET + PSR														
LAB ID (LAB USE ONLY)	CLIENT SAMPLE ID	TYPE*	COLLECTION DATE / TIME	8020	8270 (PAH ONLY)									
	SB-1-122293-391	S	12/22/93 9:30	1	1									2
	GA-3-122293-391	S	12/22/93 10:00	1	1									2
TOTAL												4		
*TYPE: W = water; GW = groundwater; DW = drinking water; SW = surface water; S = soil; SED = sediment; SL = sludge; DS = drum sample; O = oil; WI = wipe; X = other (please describe)				SPECIAL INSTRUCTIONS / NOTES: PO # 2042										

RECEIVED JAN 1 1994

MATRIX ANALYTICAL USE ONLY	RELINQUISHED BY	RECEIVED BY	DATE	TIME	COMMENTS
NOTES:	<i>David C. Beck</i>	<i>Hal Wynn</i>	12/23	12:30	
	<i>Hal Wynn</i>	<i>Kamona Cherry</i>	12/23		
PROJECT PRICE QUOTE NO.:		MATRIX ANALYTICAL, INC. 108 South Street Hopkinton, MA 01748 (800) 382-8748			
					33577326-001
					PAGE 1 OF 1

Appendix E
Photographs



1. A view looking south of the former Naphtha UST pit area.



2. A view looking southeast of the gasoline UST pit area.