TWIN STATE ENVIRONMENTAL CORP.

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Phase (check one)	Type (check one)
☒ Initial Site Investigation	☐ Work Scope
☐ Corrective Action Feasibility Investigation	☒ Technical Report
☐ Corrective Action Plan	☐ PCF Reimbursement Request
☐ Corrective Action Summary Report	☐ General Correspondence
☐ Operations & Monitoring Report	

INITIAL SITE INVESTIGATION

June 21, 1996

Richmond Truck & Auto
Route 2, Box 142
Richmond, VT 05477

SMS Site # 95-1847
UST Facility # 4343189
TSEC #96-017

Facility Owned By:
Matt Tourville
Route 2, Box 142
Richmond, VT
(802)434-2593
Contact: Mr. Matt Tourville

Written By:

Brian R. Wagner
Geochemist

Reviewed By:

John R. Diego
Vice President

1.0 INTRODUCTION

This report has been prepared by Twin State Environmental Corp. (TSEC) under agreement with Matt Tourville, to present the findings of our recent investigation at the above referenced SITE (see SITE Location Map, **Figure 1**). This investigation was initiated as a result of an Underground Storage Tank (UST) closure performed in July 1995.

The facility is presently owned by Matt Tourville. The SITE, as defined during this investigation, is limited to the former UST location and the east and south sides of the garage building. (see Richmond Tax Map # 23, **Figure 2**; and SITE Plan, **Figure 3**).

actually 12 submitted 7 analyzed, and 5 not analyzed due to improper collection

Seven (7) soil borings were advanced to groundwater during this investigation. Groundwater and soil samples were collected and screened with an on-SITE mobile laboratory. Based on mobile laboratory results, a total of six (6) groundwater samples were submitted to ChemServe Environmental Analysts for laboratory analysis. Four (4), one inch monitoring wells were also installed subsequent to the soil borings. Based upon drilling observations and groundwater analytical data, it appears that soils and groundwater proximate to the former UST have been impacted. The SITE is located in a commercially zoned area. Potential receptors include the Winooski River which flows in the vicinity of the southern edge of the property, private water supply wells, and a drainage stream running on the western edge of the property.

2.0 SCOPE OF SERVICES

The objective of this investigation was to delineate the degree and extent of contamination to the subsurface soils and groundwater at the SITE proximate to the aforementioned UST.

The following is a summary of the services performed by TSEC during this investigation:

approved 7-10

- A subsurface investigation that included the advancement of seven (7) soil borings to groundwater using a truck mounted Geoprobe®. Soil samples were collected and screened with a Photoionization Detector (PID) as well as TSEC's mobile laboratory.
- Groundwater samples obtained from the borings were collected and analyzed with TSEC's mobile laboratory. Four (4) of the soil borings were converted to one (1) inch diameter monitoring wells following a phone conversation with Mr. Matt Moran of the State of Vermont, Sites Management Section (SMS). Groundwater from two (2) soil borings, in addition to all four (4) monitoring wells, were submitted to ChemServe Environmental Analysts in Milford, NH for analysis of VOCs via EPA Method 8020.

approved 2-4 MWs

- A elevation survey of the monitoring wells and collection of groundwater levels after installation of the monitoring wells.

GW from MW-6 sent + analyzed twice!

- Potential receptors and Wellhead Protection Areas (WHPA) were identified.
- A summary report of the above-mentioned scope of work was prepared.

3.0 SITE LOCATION AND DESCRIPTION

SITE Owner:	Matt Tourville
Leased by:	Not Applicable
Address:	Route 2, Box 124 Richmond, VT 05477
Map #:	Map 23
Lot #:	081 Map 23
Size:	~ 33,000 square feet
Zoning:	Commercial
Utilities:	Water - municipal connection
	Sewer - municipal connection
	Electricity - overhead connection
Structures:	Automotive garage

The SITE is located on the northern side of Route 2 approximately 0.5 miles west of the center of Richmond, in Chittenden County, Vermont. Richmond Truck and Auto was an automotive garage with retail gasoline sales.

4.0 REGIONAL SURVEY

Municipal water and sewer connections are available at and around the SITE. There are no known municipal water supply wells within a 0.5 mile radius of the SITE. There are twenty-one (21) private supply wells within a 0.5 mile radius of the SITE. Precipitation on and surrounding the SITE is managed via sheet flow and percolation to the subsurface. No storm drain systems were observed on the SITE.

The area development near the SITE is predominantly residential and commercial. The property encompassing the SITE to the north, east, and west is the River View Cemetery. The property across Route 2 to the south is an agricultural field that extends to the Winooski River. Also proximate to the SITE is a former landfill, adjacent to the cemetery.

The local topography is relatively flat and located within the alluvial terrace of the Winooski River. The SITE itself is located within the boundaries of the 100 year flood plain. The regional topography comprises rolling hills that trend toward the Winooski River. The Winooski River is located approximately 1000 feet to the south of the SITE.

5.0 SITE HISTORY

The SITE has apparently operated as an automotive garage and retail gasoline station facility for at least 20 years prior to August 1987. In August 1987 the underground storage tanks were

emptied and the gasoline pumps were removed. The SITE has operated solely as an automotive garage since August 1987. The USTs were removed from the ground during July 1995.

6.0 SUBSURFACE INVESTIGATION

This subsurface exploration program was developed to gather data to provide a more detailed understanding of the hydrogeology and contaminant distribution previously identified on SITE. A SITE specific Health & Safety Plan was developed for SITE activities and is presented as **Appendix C**.

6.1 Soil Probing

Seven (7) soil borings were advanced on March 7, 1996 using a truck mounted Geoprobe. The borings were advanced in the following locations and depicted on the SITE plan , **Figure 3.** Boring logs are contained in **Appendix A** of the report.

- SB-1 was located in the former UST area. The boring was advanced to 11.5' bgs with continuous soil samples taken every four (4) feet. Groundwater was encountered at approximately 7' bgs. Soil and groundwater samples were collected for analysis of VOC's and TPH by TSEC's mobile laboratory. A one (1) inch diameter PVC monitoring well (MW-1) was installed in this boring.
- SB-2 was located west of SB-1. The boring was advanced to 8' bgs with a soil sample taken from 4-8' bgs. Groundwater was encountered at approximately 7-8'. The soil and groundwater sample were collected for analysis of VOC's and TPH by TSEC's mobile laboratory.
- SB-3 was located south of SB-1. The boring was advanced to 12' bgs. Groundwater was encountered at approximately 7' bgs. Soil and groundwater samples were collected for analysis of VOC's and TPH by TSEC's mobile laboratory. A one (1) inch diameter PVC monitoring well (MW-3) was installed in this boring.
- SB-4 was located east of SB-3. The boring was advanced to 12' (bgs). Groundwater was encountered at approximately 7' bgs. Soil and groundwater samples were collected for analysis of VOCs and TPH by TSEC's Mobile Laboratory. A one (1) inch diameter PVC monitoring well (MW-4) was installed in this boring.
- SB-5 was located south of SB-1. The boring was advanced to 12' bgs. Groundwater was encountered at approximately 6' bgs. Soil and groundwater samples were collected for analysis of VOC's and TPH by TSEC's mobile laboratory. A one (1) inch PVC monitoring well (MW-5) was installed in this boring.
- SB-6 was located northeast of SB-1. The boring was advanced to 12.5' bgs. Groundwater was encountered at approximately 7' bgs. Soil and groundwater samples were collected for analysis of VOC's and TPH by TSEC's mobile laboratory. A one (1) inch PVC monitoring well (MW-6) was installed in this boring.

- SB-7 was located southeast of SB-1. The boring was advanced to 8 bgs. Groundwater was encountered at approximately 7' bgs. Soil and groundwater samples were collected for analysis of VOC's and TPH by TSEC's mobile laboratory.

Soil borings SB-2 and SB-7 were backfilled with bentonite after the samples were collected.

The monitoring wells consisted of 1.0 inch inside diameter, 0.010 slot PVC screen with flush threaded PVC riser. The well screen was covered with a silt sock prior to installation. The annulus surrounding the well was filled with sand to approximately six (6) inches bgs. A bentonite seal to grade was placed on top of the sand pack. The wells were finished with a cemented two (2) inch flush mounted road box and capped with a one (1) inch PVC slip cap. The well logs are presented in **Appendix A.**

6.2 SITE Survey

A Topcon AT-G6 auto level was used to perform a level elevation survey to obtain top of PVC riser elevations necessary to calculate water table elevations. A temporary benchmark (100.00') was established at the Richmond Truck & Auto building between the westernmost garage bay and the doorway entrance proximate to the former UST cavity (see **Figure 3**). The SITE sketch **(Figure 2)** was prepared from a field measurements and uses an approximate scale of 1" to 10'.

7.0 SOIL SAMPLING ACTIVITIES

7.1 Field Screening Results

Soil samples were field screened using both a PID and TSEC's mobile laboratory. During TSEC's March 1996 site investigation, the highest concentration of petroleum contamination was found in SB-3 (4-8 ft bgs) at a concentration of 756 parts-per-million volume (ppmv) using the field PID. The mobile laboratory results for this sample was reported at 250,000 ug/kg (ppb). SB-3 was located south of the former underground storage tank area (UST). Groundwater samples collected from the borings were also analyzed with TSEC's mobile laboratory for VOCs and TPH. The highest concentration of petroleum contamination in groundwater detected by TSEC's mobile laboratory was 77,000 ug/l in SB-3. A summary of field screening results are presented in **Table 2**.

8.0 GROUNDWATER SAMPLING ACTIVITIES

Six (6) groundwater samples, collected from each soil boring, were submitted to ChemServe Environmental Analysts in Milford, NH for analysis of VOCs via EPA Method 8020. Samples collected on March 7, 1996 from MW-1(SB-1), MW-3(SB-3), MW-5(SB-5), and MW-6(SB-6) were not analyzed due to air bubbles in the sample vials upon receipt at the laboratory, possibly caused by the high silt content in the groundwater. These wells were sampled on March 12, 1996 and labeled MW-1, MW-3, MW-5, and MW-6. BTEX concentrations ranged from 7 ug/l (ppb) in SB-4 to 5630 ug/l in MW-3. MW-3 is located south of the former UST. There were no

reportable BTEX concentrations in SB-2, MW-6, and MW-5. MTBE was not detected in any of the samples submitted. The laboratory reports can be found in **Appendix B.**

8.1 Water Table Elevation and SITE Hydrogeology

The depth to groundwater in each monitoring well was measured with a Solinst depth to fluid meter on April 12, 1996. Groundwater measured from the four (4) monitoring wells ranged from 5.07 feet bgs to 7.13 feet bgs in MW-5 and MW-1 respectively. A summary of groundwater elevations is presented in **Table 1**.

Groundwater elevations are relatively flat across the SITE, but groundwater appears to flow to the southwest toward the Winooski River. Due to the flat groundwater elevations, a hydraulic gradient could not be calculated.

8.2 Laboratory Data Validation

All laboratory data was evaluated for the following parameters prior to acceptance in this report:

- correct sample ID's
- analysis date within method specified holding time
- correct reporting units
- evaluation of Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recovery values
- evaluation of Percent Relative Difference (%RPD) between the MS and MSD
- evaluation of surrogate recoveries where applicable

9.0 POTENTIAL RECEPTORS

Based on the analytical data collected from the SITE, it appears that both soil and groundwater has been impacted by petroleum contamination relating to the former UST. Proximate groundwater receptors include the Winooski River and a small drainage stream on the western edge of the property which flows directly to the Winooski River. Additionally, there are approximately twenty-one (21) private water supply wells within a 0.5 mile radius identified during the tank removal. Twelve (12) of the private wells are located up gradient from the SITE are not considered a risk for impact. The remaining private wells are located cross-gradient to the SITE.

10.0 CONCLUSIONS AND INTERPRETATIONS

- Groundwater appears to flow to the southwest toward the Winooski River. Due to the relatively flat groundwater elevations, a hydraulic gradient could not be calculated.

- Soil and groundwater on the SITE have been impacted with petroleum related contamination.

- TSEC recommends the installation of at least one (1) down gradient monitoring well (across Route 2) to access groundwater quality down gradient from well MW-3.

- TSEC recommends a quarterly groundwater monitoring program of all existing wells and any subsequent wells installed.

TABLES

TABLE 1

Groundwater Elevation Data
Richmond Truck and Auto Garage, Richmond, Vermont
April 12, 1996

Well Location	TOC Elevation	Depth to Water Level	Water Level Elevation
MW-1	91.17	7.15	84.02
MW-3	90.99	7.13	83.86
MW-5	89.27	5.07	84.2
MW-6	90.23	6.1	84.13

notes:
Elevation data are referenced to a Temporary Benchmark (TMB) located on site and are in units of feet.
Measurements recorded are referenced to a marking on top of PVC riser for each well.
Depth to fluid measurements were taken with a Solonist water level meter.

bw:\projects\96017\gwet1.wb1

SB-1, SB-3, SB-5, and SB-6 were cancelled for Chemserve

TABLE 2

Field Screening Data
Richmond Truck andAuto Garage, Richmond, VT
March 7, 1996

→ what are concentrations of specific compounds (?)

Location	Matrix	PID Results (ppmv)	Total BTEX (ug/kg)	V-TPH* (ug/kg)
SB-1 (0-4')	soil	7	na	na
SB-1 (8')	soil	8	na	na
SB-1 (12')	soil	<0.1	<26	<26
SB-2 (8')	soil	<0.1	<20	<20
SB-3 (8')	soil	756	125,000	250,000
SB-4 (8')	soil	<0.1	<24	<24
SB-5 (8')	soil	<0.1	<20	<20
SB-6 (8')	soil	<0.1	<22	<22
SB-7 (8')	soil	<0.1	<26	<26

Chemserve

Location	Matrix	PID Results (ppmv)	Total BTEX (ug/l)	V-TPH* (ug/l)	
SB-1	water	na	**550**	**860**	ND - BTEX/MTBE
SB-2	water	na	<10	<10	
SB-3	water	na	**32,200**	**77,000**	7ppb BTEX / ND - MTBE
SB-4	water	na	<10	<10	
SB-5	water	na	<10	<10	ND BTEX / MTBE - 3/8 + 3/17
SB-6	water	na	<10	<10	
SB-7	water	na	<10	<10	

?

notes:

V-TPH - Total Chromatographic area of headspace analysis quantitated to the response factor of Toluene.
E-TPH - Extractable Petroleum Hydrocarbons by modified CA LUFT 8015. Results are quantitated to the response factor of di.
PID readings taken with a Thermo Environmental Instruments Model 580 B Photoionization detector.
na - sample not analyzed for specified parameter

– Also: – Chemserve H_2O

MW1 - 84 ppb BTEX
MW3 - 5630 ppb BTEX
benzene - 30 ppb
xylenes - 4,500 ppb

MW-5 - ND

MW-6 - ND

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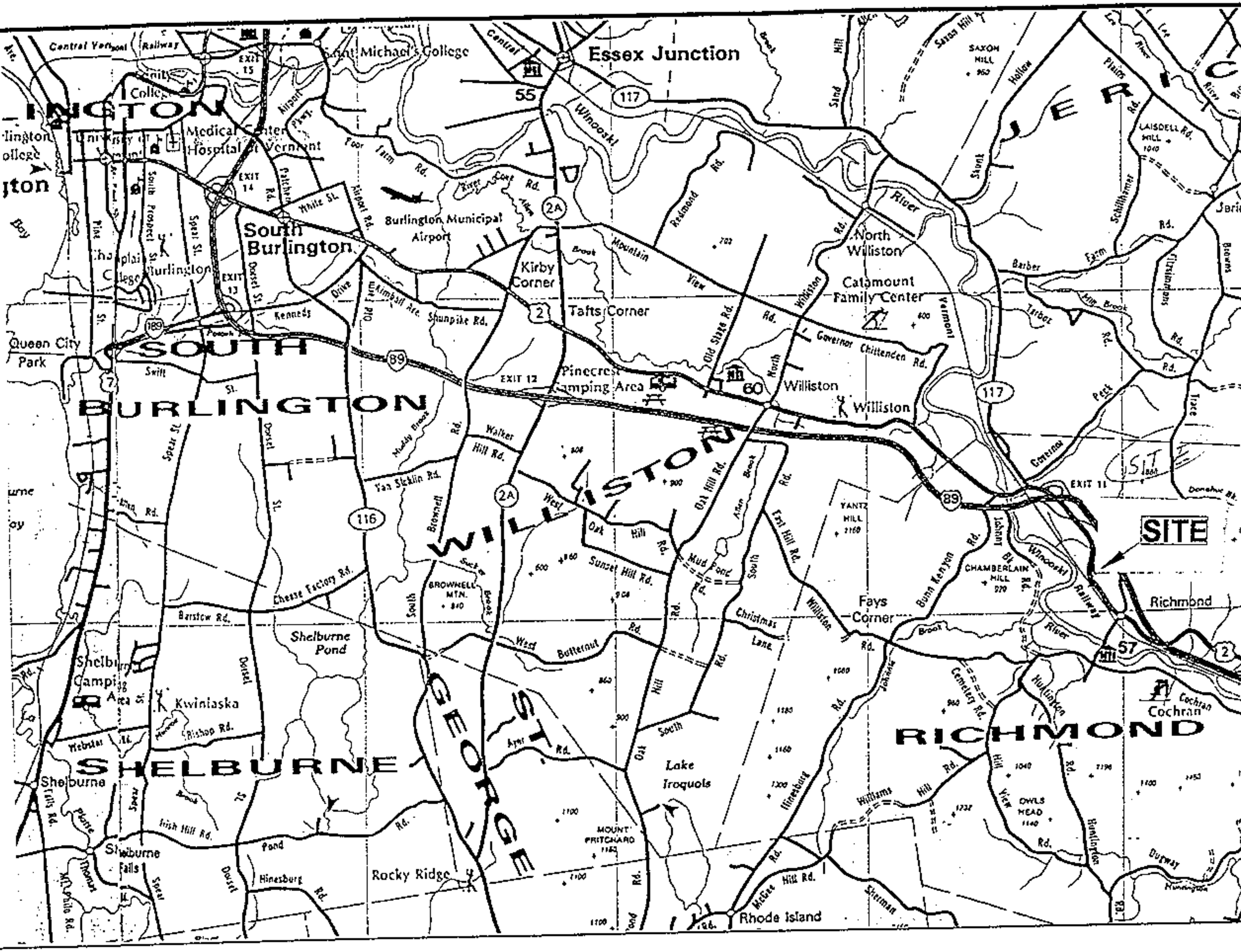
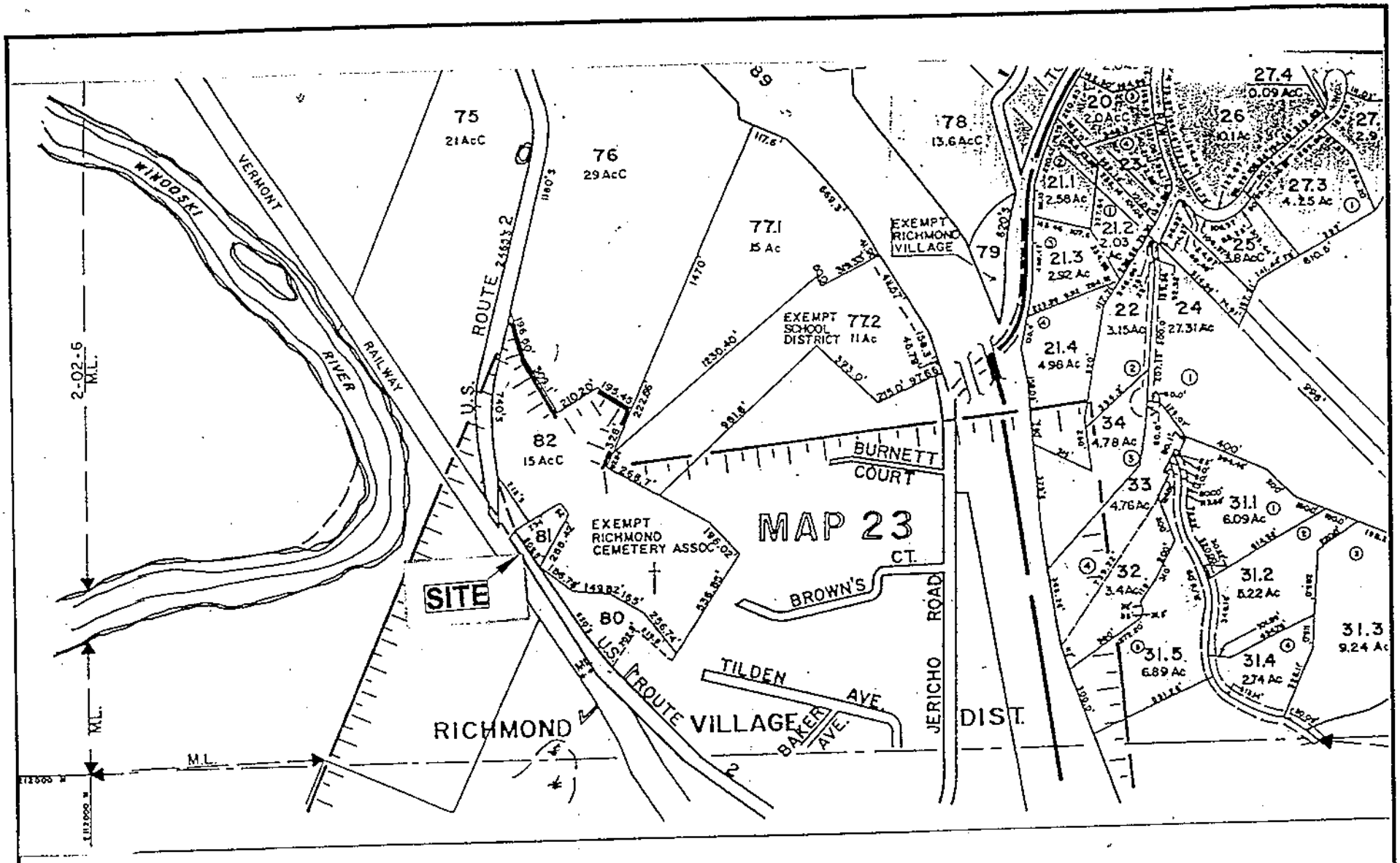
FIGURES



N

Project No: 96017	Designed By: kjb Checked By: Approved By: Drawn By: Scale: as shown Date: 06/4/96	TWIN STATE ENVIRONMENTAL CORP. 1A Huntington Rd. P.O. Box 719 Richmond, Vermont (802) 434-3350	FIGURE 1 SITE LOCATION MAP Richmond Truck & Auto Richmond, Vermont



PRODUCED IN 1982 BY

GORDON E. AINSWORTH & ASSOCIATES, INC.

REVISED & REPRINTED BY

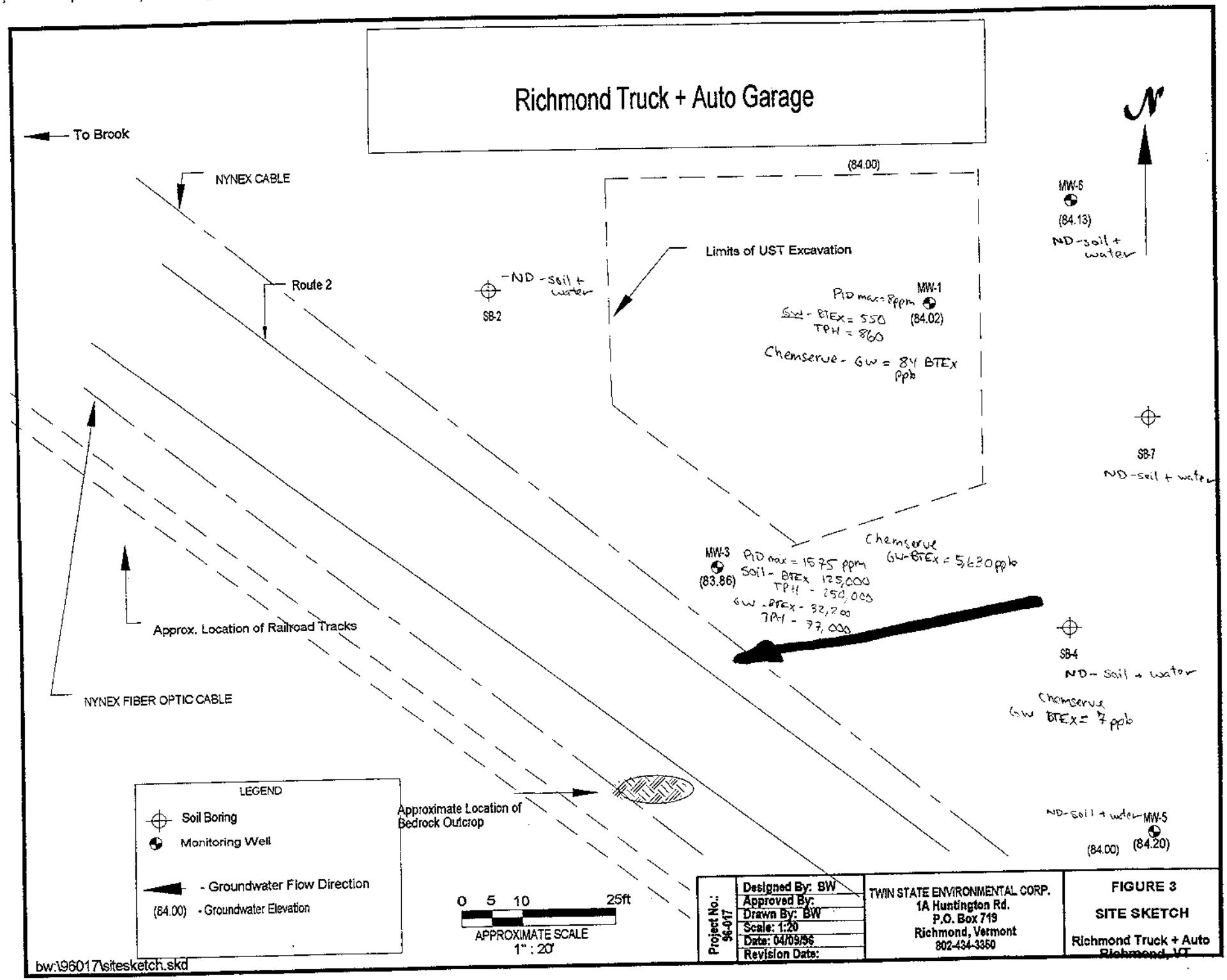
CARTOGRAPHIC ASSOCIATES, INC.
LITTLETON, NH 03561

Project No: 96017	
Designed By: kjb	
Checked By:	
Approved By:	
Drawn By:	
Scale: as shown	
Date: 06/4/96	

TWIN STATE ENVIRONMENTAL CORP.
1A Huntington Rd.
P.O. Box 719
Richmond, Vermont
(802) 434-3350

FIGURE 2
TAX MAP

Richmond Truck & Auto
Richmond, Vermont


Richmond Truck + Auto Garage
To Brook
NYNEX CABLE
Route 2
(84.00)
Limits of UST Excavation
MW-6
(84.13)
ND - soil + water
N
SB-2
ND - soil + water
MW-1
PID max = 8ppm
Gw - BTEX = 550
TPH = 860
(84.02)
Chemserve - Gw = 84 BTEX ppb
SB-7
ND - soil + water
MW-3
(83.86)
PID max = 1575 ppm
Soil - BTEX 125,000
TPH - 250,000
Gw - BTEX - 32,700
TPH - 77,000
Chemserve
Gw-BTEX = 5630 ppb
SB-4
ND - Soil + water
Chemserve
Gw BTEX = 7 ppb
Approx. Location of Railroad Tracks
NYNEX FIBER OPTIC CABLE
Approximate Location of Bedrock Outcrop
ND - soil + water
MW-5
(84.00)
(84.20)
LEGEND
Soil Boring
Monitoring Well
- Groundwater Flow Direction
(84.00) - Groundwater Elevation
0 5 10 25ft
APPROXIMATE SCALE
1" : 20'
Project No.: 96-017
Designed By: BW
Approved By:
Drawn By: BW
Scale: 1:20
Date: 04/09/96
Revision Date:
TWIN STATE ENVIRONMENTAL CORP.
1A Huntington Rd.
P.O. Box 719
Richmond, Vermont
802-434-3350
FIGURE 3
SITE SKETCH
Richmond Truck + Auto
Richmond, VT
bw:196017\sitesketch.skd

APPENDIX A

TWIN STATE ENVIRONMENTAL CORP.

MONITORING WELL/SOIL BORING LOG

WELL/BORING NO.: MW-1
PROJECT NAME: Richmond Truck & Auto
PROJECT NO.: 96017
INSTALL DATE: 7MAR 96
TSEC REP.: M. Dunn
DRILLING CO.: TSEC
DRILLING METHOD: GEOPROBE
SAMPLING METHOD: MACRO BORE

DEPTH OF WELL: 11.5' DEPTH OF BORING: 12.0'
DEPTH TO WATER: 7.35'
SCREEN DIA.: 1" DEPTH: 11.5' - 11.0'
SCREEN TYPE/SIZE: .010 slot sch 40 PVC 1" dia
RISER TYPE: sch 40 PVC riser
RISER DIA.: 1" DEPTH: 1.5' - 0'
GUARD TYPE: Road box
RISER CAP: N/A

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES
1–2	Road Box & Riser 1.0'-1.5' Bentonite seal	0-4	7ppm	Rec, 30"	Fill - widely graded gravel with sand, Brown
3–7	Filter sand pack, 1" Dia screen, 11.5-1.5 .010 slot PVC screen	4-8	8ppm	Rec 30"	Fill - widely graded gravel with sand, Brown, Black gasoline odor
8–11		8-12	0ppm	Rec 32"	Narrowly graded fine sand trace silt, Brown
12	Bentonite seal 11.5'-12.0'				Bottom of Boring 12.0'
13–25					

LEGEND: CEMENT GROUT; NATIVE BACKFILL; BENTONITE SEAL; SAND PACK; WELL SCREEN; RISER PIPE; HS HEAD SPACE; WATER LEVEL (APPROX)

GRANULAR SOILS	
BLOWS/FT	DENSITY
0-4	V.LOOSE
4-10	LOOSE
10-30	M.DENSE
30-50	DENSE
>50	V.DENSE

COHESIVE SOILS	
BLOWS/FT	DENSITY
<2	V.SOFT
2-4	SOFT
4-8	M.STIFF
8-15	STIFF
15-30	V.STIFF
>30	HARD

PROPORTIONS USED	
TRACE	0-10%
LITTLE	10-20%
SOME	20-35%
AND	35-50%

NOTES: Former UST Location

TWIN STATE ENVIRONMENTAL CORP.

MONITORING WELL/SOIL BORING LOG

WELL/BORING NO.: SB-2	DEPTH OF WELL: DEPTH OF BORING:
PROJECT NAME: Richmond Truck & Auto	DEPTH TO WATER:
PROJECT NO.: 96017	SCREEN DIA.: DEPTH:
INSTALL DATE: 7 MAR 96	SCREEN TYPE/SIZE: NO WELL INSTALLED
TSEC REP.: M. DUNN	RISER TYPE:
DRILLING CO.: TSEC	RISER DIA.: DEPTH:
DRILLING METHOD: GEOPROBE	GUARD TYPE:
SAMPLING METHOD: MACROBORE	RISER CAP:

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES
1–25	No well installed ▽	0-4	0 ppm	36"	narrowly graded fine sand with silt, Brown
		4-8	0ppm	36"	narrowly graded fine sand with silt, Brown

LEGEND

- CEMENT GROUT
- NATIVE BACKFILL
- BENTONITE SEAL
- SAND PACK
- WELL SCREEN
- RISER PIPE
- HS HEAD SPACE
- WATER LEVEL (APPROX)

GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY		
0-4	V.LOOSE	<2	V.SOFT	TRACE	0-10%
4-10	LOOSE	2-4	SOFT	LITTLE	10-20%
10-30	M.DENSE	4-8	M.STIFF	SOME	20-35%
30-50	DENSE	8-15	STIFF	AND	35-50%
>50	V.DENSE	15-30	V.STIFF		
		>30	HARD		

NOTES: IN Front of Garage Door

TWIN STATE ENVIRONMENTAL CORP.
MONITORING WELL/SOIL BORING LOG

WELL/BORING NO.: MW-3	DEPTH OF WELL: 11.5' DEPTH OF BORING: 12.0'
PROJECT NAME: Richmond Truck and Auto	DEPTH TO WATER: 7.32'
PROJECT NO.: 96017	SCREEN DIA.: 1" DEPTH: 11.5' - 1.5'
INSTALL DATE: 7MAR96	SCREEN TYPE/SIZE: .010 Slots Sch 40 PVC
TSEC REP.: M. DUNN	RISER TYPE: Sch 40 PVC
DRILLING CO.: TSEC	RISER DIA.: 1" DEPTH: 1.5' - 0'
DRILLING METHOD: GEOPROBE	GUARD TYPE: ROAD BOX
SAMPLING METHOD: MACROBORE	RISER CAP: N/A

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES
1–12	Road box; Bentonite Surface Seal 1.5'-1.0'; Filter sand Pack, .010 PVC Slots, Sch 40 11.5'-1.5'; Bentonite seal 11.5'-12.0'	0'-4'	≈ 50 PPM	24"	Narrowly graded fine sand with silt, Brown
		4'-8'	756 PPM	24"	Narrowly graded silty sand Brown
		8'-12'	1575 PPM	≈ 24"	Narrowly graded silty sand Brown
					Bottom of Boring 12.0'

LEGEND: CEMENT GROUT; NATIVE BACKFILL; BENTONITE SEAL; SAND PACK; WELL SCREEN; RISER PIPE; HS HEAD SPACE; WATER LEVEL (APPROX)

GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY		
0-4	V.LOOSE	<2	V.SOFT	TRACE	0-10%
4-10	LOOSE	2-4	SOFT	LITTLE	10-20%
10-30	M.DENSE	4-8	M.STIFF	SOME	20-35%
30-50	DENSE	8-15	STIFF	AND	35-50%
>50	V.DENSE	15-30	V.STIFF		
		>30	HARD		

NOTES: Former Pump Island location (Per owner)

TWIN STATE ENVIRONMENTAL CORP.

MONITORING WELL/SOIL BORING LOG

WELL/BORING NO.: SB - 4	DEPTH OF WELL: DEPTH OF BORING:
PROJECT NAME: Richmond Truck & Auto	DEPTH TO WATER:
PROJECT NO.: 96017	SCREEN DIA.: DEPTH:
INSTALL DATE: 7 MAR 96	SCREEN TYPE/SIZE: NO WELL INSTALLED
TSEC REP.: M. DUNN	RISER TYPE:
DRILLING CO.: TSEC	RISER DIA.: DEPTH:
DRILLING METHOD: Geoprobe	GUARD TYPE:
SAMPLING METHOD: Macrobore	RISER CAP:

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES
1–4	NO WELL INSTALLED	0-4	0ppm	36"	Narrowly graded fine sand with silt, Brown.
5–8		4-8	0ppm	36"	Narrowly graded fine sand with silt
9–12		8-12	0ppm	30"	Narrowly graded fine sand with silt Bottom of Boring 12.0'
13–25					

LEGEND

- CEMENT GROUT
- NATIVE BACKFILL
- BENTONITE SEAL
- SAND PACK
- WELL SCREEN
- RISER PIPE
- HS HEAD SPACE
- WATER LEVEL (APPROX)

GRANULAR SOILS	
BLOWS/FT	DENSITY
0-4	V.LOOSE
4-10	LOOSE
10-30	M.DENSE
30-50	DENSE
>50	V.DENSE

COHESIVE SOILS	
BLOWS/FT	DENSITY
<2	V.SOFT
2-4	SOFT
4-8	M.STIFF
8-15	STIFF
15-30	V.STIFF
>30	HARD

PROPORTIONS USED	
TRACE	0-10%
LITTLE	10-20%
SOME	20-35%
AND	35-50%

NOTES: West edge of property near RT 2 Between MW3 & MW5 close to Edge of Highway

TWIN STATE ENVIRONMENTAL CORP.

MONITORING WELL/SOIL BORING LOG

WELL/BORING NO.: MW-5
DEPTH OF WELL: 11.5 DEPTH OF BORING: 12.0
PROJECT NAME: Richmond Truck and Auto
DEPTH TO WATER: 5.42'
PROJECT NO.: 96017
SCREEN DIA.: 1" DEPTH: 11.5-1.5
INSTALL DATE: 7MAR 96
SCREEN TYPE/SIZE: .010 Slots Sch 40 PVC Screen
TSEC REP.: M. DUNN
RISER TYPE: Sch 40 PVC riser
DRILLING CO.: TSEC
RISER DIA.: 1" DEPTH: 1.5-0'
DRILLING METHOD: Geoprobe
GUARD TYPE: Roadbox
SAMPLING METHOD: Macrobore
RISER CAP: N/A

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES
1-2	Roadbox; Bentonite Surface Seal 1.5-1.0'; Filter Pack Sand; .010 Slots Sch40 PVC screen 11.5-1.5'; Bentonite Seal 12.0-11.5'	0-4	0ppm	36"	Narrowly graded Silty Sand Brown
5-6		4-8	0ppm	36"	Narrowly graded silty sand Brown
9-10		8-12	0ppm	36"	Narrowly graded silty sand Brown Bottom of Boring 12.0'

LEGEND: CEMENT GROUT; NATIVE BACKFILL; BENTONITE SEAL; SAND PACK; WELL SCREEN; RISER PIPE; HS HEAD SPACE; WATER LEVEL (APPROX)

GRANULAR SOILS	
BLOWS/FT	DENSITY
0-4	V.LOOSE
4-10	LOOSE
10-30	M.DENSE
30-50	DENSE
>50	V.DENSE

COHESIVE SOILS	
BLOWS/FT	DENSITY
<2	V.SOFT
2-4	SOFT
4-8	M.STIFF
8-15	STIFF
15-30	V.STIFF
>30	HARD

PROPORTIONS USED	
TRACE	0-10%
LITTLE	10-20%
SOME	20-35%
AND	35-50%

NOTES: west edge of property south of SB-4.

TWIN STATE ENVIRONMENTAL CORP.

MONITORING WELL/SOIL BORING LOG

WELL/BORING NO.: MW-6
PROJECT NAME: Richmond Truck and Auto
PROJECT NO.: 96017
INSTALL DATE: 7 MAR 96
TSEC REP.: M. DUNN
DRILLING CO.: TSEC
DRILLING METHOD: Geoprobe
SAMPLING METHOD: Macrobore

DEPTH OF WELL: 11.5 DEPTH OF BORING: 12.0
DEPTH TO WATER: 6.3'
SCREEN DIA.: 1.0" DEPTH: 11.5 - 1.5'
SCREEN TYPE/SIZE: .010 slots sch 40 PVC
RISER TYPE: Sch 40 PVC
RISER DIA.: 1" DEPTH: 1.5 - 0'
GUARD TYPE: Road box
RISER CAP: N/A

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES
1–12	Roadbox; Bentonite Surface Seal 1.5-1.0'; Filter Pack Sand .010slots sch 40 PVC Screen 11.5-1.5'; Bentonite Seal 12.0 - 11.5'	0-4	0ppm	36"	Narrowly graded Silty Sand Brown
		4-8	0ppm	36"	Narrowly graded silty sand Brown
		8-12	0ppm	36"	Narrowly graded silty sand Brown
					Bottom of Boring 12.0'

LEGEND: CEMENT GROUT; NATIVE BACKFILL; BENTONITE SEAL; SAND PACK; WELL SCREEN; RISER PIPE; HS HEAD SPACE; WATER LEVEL (APPROX)

GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY		
0-4	V.LOOSE	<2	V.SOFT	TRACE	0-10%
4-10	LOOSE	2-4	SOFT	LITTLE	10-20%
10-30	M.DENSE	4-8	M.STIFF	SOME	20-35%
30-50	DENSE	8-15	STIFF	AND	35-50%
>50	V.DENSE	15-30	V.STIFF		
		>30	HARD		

NOTES: South of UST cavity Topography down slope of Former UST cavity, next to wetland.

TWIN STATE ENVIRONMENTAL CORP.
MONITORING WELL/SOIL BORING LOG

WELL/BORING NO.: SB-7	DEPTH OF WELL: DEPTH OF BORING:
PROJECT NAME: Richmond Truck and Auto	DEPTH TO WATER:
PROJECT NO.: 96017	SCREEN DIA.: DEPTH:
INSTALL DATE: 7MAR96	SCREEN TYPE/SIZE: NO WELL INSTALLED
TSEC REP.: M. DUNN	RISER TYPE:
DRILLING CO.: TSEC	RISER DIA.: DEPTH:
DRILLING METHOD: GEOPROBE	GUARD TYPE:
SAMPLING METHOD: MACRO BORE	RISER CAP:

DEPTH IN FEET	WELL PROFILE	SAMPLE DEPTH (FT)	PID (PPMV)	BLOWS/6" AND RECOVERY	SOIL DESCRIPTION AND NOTES
1–25	NO WELL INSTALLED	0-4	0ppm	34"	Narrowly graded Silty Sand Brown
		4-8	0ppm	37"	Narrowly Graded Silty Sand Brown
					Bottom of Boring 8'

LEGEND: CEMENT GROUT; NATIVE BACKFILL; BENTONITE SEAL; SAND PACK; WELL SCREEN; RISER PIPE; HS HEAD SPACE; WATER LEVEL (APPROX)

GRANULAR SOILS		COHESIVE SOILS		PROPORTIONS USED	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY		
0-4	V.LOOSE	<2	V.SOFT	TRACE	0-10%
4-10	LOOSE	2-4	SOFT	LITTLE	10-20%
10-30	M.DENSE	4-8	M.STIFF	SOME	20-35%
30-50	DENSE	8-15	STIFF	AND	35-50%
>50	V.DENSE	15-30	V.STIFF		
		>30	HARD		

NOTES: Next to wetland South edge of Property. Topography down slope of UST Cavity Next to wetland.

APPENDIX B

ChemServe
ENVIRONMENTAL ANALYSTS

317 Elm Street
Milford, N.H. 03055
(603) 673-5440
FAX (603) 673-0366

March 26, 1996

Mr. John Diego
Twin State Environmental
Commercial Park 1A Huntington Rd
P O Box 719
Richmond VT 05477

Job Name	**:**	**Richmond Truck & Auto**	**Laboratory #**	**:**	**C12-96-05**
Job #	**:**	**96-017**	**Purchase Order #**	**:**	**N/A**
Location	**:**	**Richmond, VT**	**Control #**	**:**	**14897 & 17014**

Dear Mr. Diego,

Enclosed please find the laboratory results for the above referenced samples which were received by the Chemserve sample custodian, under chain of custody control number 14897 & 17014 on March 12 & 13, 1996. Samples were collected by Rod Lindsay on March 7, 8 & 12, 1996. Samples SB-1, SB-3, SB-5 and SB-6 were canceled per Chris Covell on March 12, 1996 due to air bubbles in the vials.

Any abnormalities to the samples would be noted on the enclosed chain of custody document or laboratory report form. Chemserve follows protocols for analysis corresponding to the methods referenced unless a modification is noted. Unless otherwise stated, all holding times, preservation techniques and container types are analogous with those outlined by the U.S. EPA.

A formal quality assurance/quality control QA/QC program is maintained and updated by Chemserve on a routine basis. This QA/QC manual is available upon request.

This report is not valid without a completed Chemserve chain of custody with the corresponding control number, attached.

If you have questions or concerns regarding this analysis, please feel free to contact me.

Sincerely,

Jay W. Chrystal
President/Laboratory Director

Enclosures

CHEMSERVE COMPANY OFFICIAL SEAL STATE CERTIFIED

ChemServe
ENVIRONMENTAL ANALYSIS

VOLATILE ORGANIC ANALYSIS
EPA METHOD 8020

CUSTOMER: TWIN STATE ENVIRONMENTAL CORP

LAB#: C12-96-05

SAMPLE LOCATION: RICHMOND TRUCK & AUTO RICHMOND, VT

JOB#: 96-017

SAMPLE IDENTITY: SB-2

CONTROL#: 14897 + 17014

DATE SAMPLED: 03/07/96

DATE REC'D: 03/12/96

DATE ANALYZED: 03/20/96

MATRIX: LIQUID

PERCENT MOISTURE: N/A

COMPOUND	**CONCENTRATION** (UG/L)	**DETECTION LIMIT MULTIPLIER:** (UG/L) X 1
BENZENE	BDL	1
METHYL-TERTIARY-BUTYL ETHER	BDL	1
TOLUENE	BDL	1
ETHYLBENZENE	BDL	1
TOTAL XYLENES	BDL	1

BDL=BELOW DETECTION LIMIT

ANALYZED BY: DM

ChemServe
ENVIRONMENTAL ANALYSTS

VOLATILE ORGANIC ANALYSIS
EPA METHOD 8020

CUSTOMER: TWIN STATE ENVIRONMENTAL CORP

LAB#: C12-96-05

SAMPLE LOCATION: RICHMOND TRUCK & AUTO RICHMOND, VT

JOB#: 96-017

SAMPLE IDENTITY: SB-4

CONTROL#: 14897 + 17014

DATE SAMPLED: 03/07/96

DATE REC'D: 03/12/96

DATE ANALYZED: 03/20/96

MATRIX: LIQUID

PERCENT MOISTURE: N/A

COMPOUND	CONCENTRATION (UG/L)	DETECTION LIMIT MULTIPLIER: (UG/L) X 1
BENZENE	BDL	1
METHYL-TERTIARY-BUTYL ETHER	BDL	1
TOLUENE	BDL	1
ETHYLBENZENE	2	1
TOTAL XYLENES	5	1

BDL=BELOW DETECTION LIMIT

ANALYZED BY: DM

ChemServe
ENVIRONMENTAL ANALYSTS

VOLATILE ORGANIC ANALYSIS
EPA METHOD 8020

CUSTOMER: TWIN STATE ENVIRONMENTAL CORP

LAB#: C12-96-05

SAMPLE LOCATION: RICHMOND TRUCK & AUTO RICHMOND, VT

JOB#: 96-017

SAMPLE IDENTITY: MW-6

CONTROL#: 14897 + 17014

DATE SAMPLED: 03/08/96

DATE REC'D: 03/12/96

DATE ANALYZED: 03/20/96

MATRIX: LIQUID

PERCENT MOISTURE: N/A

COMPOUND	CONCENTRATION (UG/L)	DETECTION LIMIT MULTIPLIER: (UG/L) X 1
BENZENE	BDL	1
METHYL-TERTIARY-BUTYL ETHER	BDL	1
TOLUENE	BDL	1
ETHYLBENZENE	BDL	1
TOTAL XYLENES	BDL	1

BDL = BELOW DETECTION LIMIT

ANALYZED BY: DM

ChemServe
ENVIRONMENTAL ANALYSTS

VOLATILE ORGANIC ANALYSIS
EPA METHOD 8020

CUSTOMER: TWIN STATE ENVIRONMENTAL CORP

LAB#: C12-96-05

SAMPLE LOCATION: RICHMOND TRUCK & AUTO RICHMOND, VT

JOB#: 96-017

SAMPLE IDENTITY: MW-1

CONTROL#: 14897 + 17014

DATE SAMPLED: 03/12/96

DATE REC'D: 03/13/96

DATE ANALYZED: 03/20/96

MATRIX: LIQUID

PERCENT MOISTURE: N/A

COMPOUND	CONCENTRATION (UG/L)	DETECTION LIMIT MULTIPLIER: (UG/L) X 1
BENZENE	BDL	1
METHYL-TERTIARY-BUTYL ETHER	BDL	1
TOLUENE	4	1
ETHYLBENZENE	20	1
TOTAL XYLENES	60	1

BDL = BELOW DETECTION LIMIT

ANALYZED BY: DM

ChemServe
ENVIRONMENTAL ANALYSTS

VOLATILE ORGANIC ANALYSIS
EPA METHOD 8020

CUSTOMER: TWIN STATE ENVIRONMENTAL CORP

LAB#: C12-96-05

SAMPLE LOCATION: RICHMOND TRUCK & AUTO RICHMOND, VT

JOB#: 96-017

SAMPLE IDENTITY: MW-3

CONTROL#: 14897 + 17014

DATE SAMPLED: 03/12/96

DATE REC'D: 03/13/96

DATE ANALYZED: 03/20/96

MATRIX: LIQUID

PERCENT MOISTURE: N/A

COMPOUND	CONCENTRATION (UG/L)	DETECTION LIMIT MULTIPLIER: (UG/L) X 10
BENZENE	30	1
METHYL-TERTIARY-BUTYL ETHER	BDL	1
TOLUENE	800	1
ETHYLBENZENE	300	1
TOTAL XYLENES	4,500	1

BDL=BELOW DETECTION LIMIT

ANALYZED BY: DM

ChemServe
ENVIRONMENTAL ANALYSTS

VOLATILE ORGANIC ANALYSIS
EPA METHOD 8020

CUSTOMER: TWIN STATE ENVIRONMENTAL CORP

LAB#: C12-96-05

SAMPLE LOCATION: RICHMOND TRUCK & AUTO RICHMOND, VT

JOB#: 96-017

SAMPLE IDENTITY: MW-5

CONTROL#: 14897 + 17014

DATE SAMPLED: 03/12/96

DATE REC'D: 03/13/96

DATE ANALYZED: 03/20/96

MATRIX: LIQUID

PERCENT MOISTURE: N/A

COMPOUND	CONCENTRATION (UG/L)	DETECTION LIMIT MULTIPLIER: (UG/L) X 1
BENZENE	BDL	1
METHYL-TERTIARY-BUTYL ETHER	BDL	1
TOLUENE	BDL	1
ETHYLBENZENE	BDL	1
TOTAL XYLENES	BDL	1

BDL = BELOW DETECTION LIMIT

ANALYZED BY: DM

ChemServe
ENVIRONMENTAL ANALYSTS

VOLATILE ORGANIC ANALYSIS
EPA METHOD 8020

CUSTOMER: TWIN STATE ENVIRONMENTAL CORP

LAB#: C12-96-05

SAMPLE LOCATION: RICHMOND TRUCK & AUTO RICHMOND, VT

JOB#: 96-017

SAMPLE IDENTITY: MW-6

CONTROL#: 14897 + 17014

DATE SAMPLED: 03/12/96

DATE REC'D: 03/13/96

DATE ANALYZED: 03/20/96

MATRIX: LIQUID

PERCENT MOISTURE: N/A

COMPOUND	CONCENTRATION (UG/L)	DETECTION LIMIT MULTIPLIER: (UG/L) X 1
BENZENE	BDL	1
METHYL-TERTIARY-BUTYL ETHER	BDL	1
TOLUENE	BDL	1
ETHYLBENZENE	BDL	1
TOTAL XYLENES	BDL	1

BDL=BELOW DETECTION LIMIT

ANALYZED BY: DM

ChemServe
ENVIRONMENTAL ANALYSIS

TWIN STATE ENVIRONMENTAL CORP.

JOB NAME : RICHMOND TRUCK & AUTO

JOB # : 96-017
LOCATION : RICHMOND, VT

LABORATORY # : C12-96-05
CONTROL # : 14897 & 17014
DATE SAMPLED : 03/07/96, 03/08/96 & 03/12/96

QUALITY CONTROL STATEMENT

All samples analyzed by Chemserve are subjected to quality standards. These standards are either as stringent or more stringent than those established under 40 CFR Part 136, state certification programs, and corresponding methodologies. Chemserve has a written QA/QC Procedures Manual which outlines these standards, and is available, upon request, for your reference. The enclosed written report and validation summaries have complied with the established quality guidelines with the exception of any deviations already noted within the report.

Certification:

I certify that I have reviewed the above referenced analytical data and written report, and I have found this report within compliance with the procedures outlined in the Chemserve QA/QC Procedures Manual.

Certified by: Linda Carleton
Linda Carleton, QA/QC Administrator

qaqcstmt/Revised 02/28/96

ChemServe
ENVIRONMENTAL ANALYSTS

SPIKE RECOVERY FORM
EPA METHOD 8020

CUSTOMER: TWIN STATE ENVIRONMENTAL CORP

LAB#: C12-96-05

SAMPLE LOCATION: RICHMOND TRUCK & AUTO RICHMOND, VT

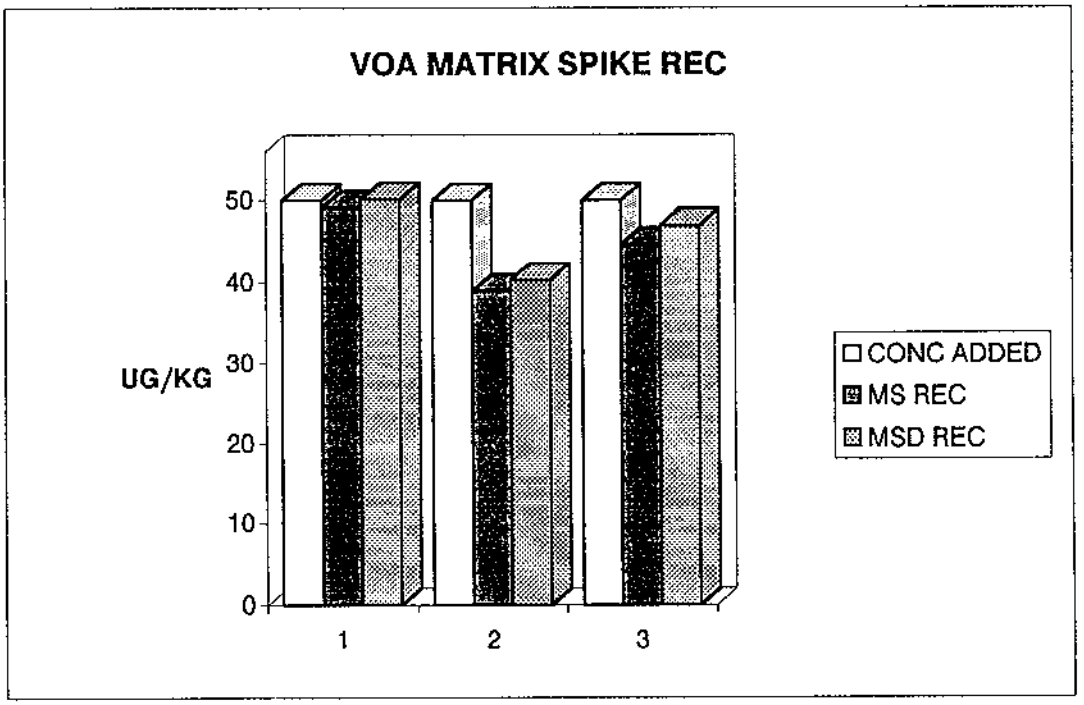
JOB#: 96-017

SAMPLE IDENTITY: QC SPIKES / 14897

CONTROL#: 14897 + 17014

DATE ANALYZED: 03/20/96

COMPOUND	CONC ADDED (UG/L)	AMT REC (UG/L)	DUP AMT REC (UG/L)	%REC	DUP % REC	%DIFF
BENZENE	50	49.11	50.12	98%	100%	2%
TOLUENE	50	38.97	40.31	78%	81%	3%
CHLOROBENZENE	50	44.68	46.85	89%	94%	4%



CONTROL LIMITS +,- 25%

APPENDIX C

SITE SPECIFIC HEALTH AND SAFETY PLAN

SITE NAME: Richmond Truck & Auto **TSEC PROJECT NO.: 96-017**

SITE LOCATION: Route 2 - Richmond, Vermont

SITE OWNER: Matt Tourville

SITE CONTACT: Matt Tourville

TSEC PROJECT MANAGER: John Diego

SITE DESCRIPTION AND HISTORY:
The site is located on Rt. just north of Richmond center. The facility has operated as an auto repair shop for a number of years. A gasoline UST was removed from the SITE in July 1995. This Health and Safety (HASP) is written to address field activities related to the Initial SITE Investigation.

PROJECT ACTIVITIES:
Activities which are expected to be conducted in conjunction with this project, and are therefore addressed in this HASP are summarized as follows:

1. Probe subsurface with Geoprobe®;
2. Screen soils for the presence of contamination;
3. Collect soil and groundwater samples for lab analysis;
4. Install monitoring wells; and
5. Implement the provisions of this HASP.

SITE HEALTH AND SAFETY INFORMATION:
Anticipated site hazards include:

1. The potential for chemical exposure via inhalation and absorption; and,
2. General safety hazards associated with probing and heavy equipment use, including underground and overhead hazards.

SPECIFIC SUBSTANCES OF CONCERN:

Chemical	PEL TLV	IDLH	Symptoms of Overexposure
Gasoline	300 ppm 8hr TWA	----	Irritation of throat, skin, respiratory system
Benzene	1 ppm 8hr TWA	2,000ppm	Headache, nausea, fatigue
Ethyl benzene	100 ppm TWA	2,000ppm	Eye irritant, headache
Toluene	100ppm 8hr TWA	2,000ppm	Fatigue, weakness, confusion
Xylenes	100ppm 8hr TWA	10,000ppm	Dizziness, fatigue, excitement
Petroleum Distillates	400ppm 8hr TWA	10,000ppm	Dizziness, drowsiness, headache, nausea, eyes/nose/throat irritant

SITE PERSONNEL PROTECTION REQUIREMENTS:

TASK	ANTICIPATED PPE	SPECIAL REQUIREMENTS
Soil Screening		Gloves and steel toed boots required.
H2O Sampling	Modified D	Overhead hazards warrant head protection.
Probing		
Site Monitoring and Decon	D	

MONITORING REQUIREMENTS:

Level of PPE	Method	Frequency	Action Level
D	Organic Vapor Meter (OVM)	Continual or every 15 minutes	0 - 100 ppmv
C	OVM	Continual in the breathing zone	100 - 750 ppmv

* Sustained readings of 100 ppmv detected in the breathing zone for a period of one minute or more will require upgrading PPE from Level D to Level C.

CONTINGENCIES:

In the event of an emergency the Site Safety Officer (SSO) shall be notified and appraised of the situation. It will be the SSO's responsibility to provide further direction to the SITE team and to initiate the emergency notifications.

DECONTAMINATION MEASURES:

All solid wastes generated throughout the implementation of this project such as disposable PPE will be disposed of in an on-SITE receptacle (i.e. dumpster) for ultimate disposal as a non-regulated solid waste.

Decontamination of probing equipment will be performed with a steam jenny. All wash water will be discharged directly to the ground surface.

SITE CONTROL:

Control of the work SITE will be maintained with construction tape, traffic cones, and/or physical barriers.

EMERGENCY EQUIPMENT:

Fire extinguisher, first aid kit, and eye wash station. An emergency eye wash station may involve using clean water obtained from gallon containers brought to the site.

EMERGENCY PHONE NUMBERS:

	PHONE NUMBER	CONTACT
AMBULANCE	**434-2124**	**Richmond**
POLICE	**434-2153**	**Richmond**
HOSPITAL	**656-2434**	**Fletcher Allen Hospital (Burlington)**
FIRE DEPT	**434-2166**	**Richmond**
POISON CONTROL	**658-3456**	**Burlington Vermont Poison Center**
TSEC PROJECT MANAGER	**434-3350**	**John Diego**
TSEC SSO	**434-3350**	**Maria Dunn**
SITE CONTACT	**434-2593**	**Matt Tourville**

DIRECTIONS TO HOSPITAL: (Fletcher Allen Hospital, Burlington) exit SITE right onto Rt. 2 North. Exit right onto Rt. 89 North. Follow Rt. 89 to Exit 14W, Burlington. Make right at first traffic light onto Colchester Ave. Hospital is on left.

INDIVIDUALS COVERED BY THIS PLAN (NOTE: Only subcontractors who provide documentation of having successfully completed an appropriate OSHA training course will be covered by this Health and Safety Plan !):

INDIVIDUAL	RESPONSIBILITIES	LEVEL OF H&S TRAINING
Maria Dunn TSEC	SSO	B
Rod Lindsay TSEC	Alternate SSO	B
Brian Wagner TSEC	Mobile Lab Chemist	B

Plan prepared by Maria C. Dunn Date 06 MAR 96
Signature

Plan approvals Maria C. Dunn Date 06 MAR 96
Site Safety Officer

06 MAR 96
Date
Project Manager

C12-96-05 3/22/96
CONTROL NO. 14897 + 1404 3/26/96

ChemServe ENVIRONMENTAL ANALYSIS

317 Elm Street
Milford, NH 03055
(603) 673-5440
FAX (603) 673-0366

CHAIN OF CUSTODY

(A) CUSTOMER INFORMATION

CUSTOMER: Twin State Env. Corp.
ADDRESS: 1a Huntington Rd. Richmond VT 05477
TELEPHONE: 802 434-3350
CONTACT PERSON: John Diego
P.O. NUMBER:

(B) PROJECT INFORMATION

JOB NAME: Richmond Truck & Auto
JOB NUMBER: 96-017
LOCATION: Richmond, VT
TELEPHONE:
CONTACT PERSON: (PRINT)

(C) SAMPLE INFORMATION

TURNAROUND TIME: (CIRCLE ONE)

(STANDARD) RUSH

RUSH T.A.T. _____ (Check with lab)

(D) STATION #	(E) SAMPLE IDENTIFICATION & LOCATION	(F) DATE COLLECTED	(G) TIME COLLECTED	(H) SAMPLE TYPE GRAB	(H) SAMPLE TYPE COMP	(I) MATRIX SOLID (S) LIQUID (L) COMBINED (C) HAZARD (H)	(J) # OF CONTAINERS	(K) CONTAINER & PRESERVATIVE Vial / HCL	(L) ANALYSIS
	SB-1	3/7	1400	✓		L	2	✓	8020
	SB-2	3/7	1345	✓		L	2	✓	8020
	SB-3	3/7	1410	✓		L	2	✓	8020
	SB-4	3/7	1440	✓		L	2	✓	8020
	SB-5	3/7	1545	✓		L	2	✓	8020
	SB-6	3/7	1645	✓		L	2	✓	8020
	~~SB-6~~ MW-6 Recall	3/8	1215	✓		L	2	✓	8020

(M) CUSTODY

(PRINT NAME) SAMPLER: Rod Landsmith	SIGNATURE:	MILITARY DATE/TIME: 3-07-96 1700
RELINQUISHED:		MILITARY DATE/TIME: 3.11.96 0845
RECEIVED:		MILITARY DATE/TIME:
RELINQUISHED:		MILITARY DATE/TIME:
RECEIVED FOR LABORATORY:		MILITARY DATE/TIME: 3-12-96 1400

LAB USE ONLY

Air bubble in SB-2 one vial
SB-1 both vials
SB-5 one vial
SB-6 both vials
SB-3 both vials

A B C D E F G H I J K L M

CB-96-005 3/22/96
CONTROL NO. 17014 & 14897 3/26/96

ChemServe ENVIRONMENTAL ANALYSTS

317 Elm Street
Milford, NH 03055
(603) 673-5440
FAX (603) 673-0366

CHAIN OF CUSTODY

(A) CUSTOMER INFORMATION

CUSTOMER: Twin State Env. Corp.
ADDRESS: 1A Huntington Rd. Richmond, VT 05477
TELEPHONE: 802 434 3350
CONTACT PERSON: Chris Covel
P.O. NUMBER:

(B) PROJECT INFORMATION

JOB NAME: Richmond T&A
JOB NUMBER: 96-017
LOCATION: Richmond, VT
TELEPHONE:
CONTACT PERSON: (PRINT)

(C) SAMPLE INFORMATION

TURNAROUND TIME: (CIRCLE ONE)

STANDARD (RUSH)

RUSH T.A.T. report w/ 14897 (Check with lab)

(D) STATION #	(E) SAMPLE IDENTIFICATION & LOCATION	(F) DATE COLLECTED	(G) TIME COLLECTED	(H) SAMPLE TYPE GRAB	(H) SAMPLE TYPE COMP	(I) MATRIX SOLID (S) LIQUID (L) COMBINED (C) HAZARD (H)	(J) # OF CONTAINERS	(K) CONTAINER & PRESERVATIVE 40ml / HCL	(L) ANALYSIS
	mw-1	3/12	1622	✓		L	2	✓	8020
	mw-3	3/12	1636	✓		L	2	✓	8020
	mw-5	3/12	1540	✓		L	2	✓	8020
	mw-6	3/12	1504	✓		L	2	✓	8020

(M) CUSTODY

(PRINT NAME) SAMPLER: Rod Lindsay SIGNATURE:	MILITARY DATE/TIME:	3.12.96 1600
RELINQUISHED:	MILITARY DATE/TIME:	3.12.96 1730
RECEIVED:	MILITARY DATE/TIME:	
RELINQUISHED:	MILITARY DATE/TIME:	
RECEIVED FOR LABORATORY:	MILITARY DATE/TIME:	3/13/96 1130

LAB USE ONLY

replacement of samples COC # 14897

The State of New Hampshire
Department of Environmental Services

CERTIFICATE OF APPROVAL
Drinking Water Analysis

Issued to
Chemserve, Inc.

Located at
Elm Street, Milford, NH

Under the provisions of the Regulations in Env-C300 for the following analyses:

FULL CERTIFICATION: Total Coliform by Membrane Filtration, Fecal Coliform by Membrane Filtration, Colilert-MPN, Metals by Graphite Furnace, Metals by ICP, Mercury, Nitrate-N, Fluoride, Nitrite-N, Turbidity, Total Filterable Residue, Calcium, pH, Alkalinity, Corrosivity, Sodium, Sulfate, Trihalomethanes, Volatile Organics, Vinyl Chloride, and EDB.

PROVISIONAL CERTIFICATION: Total Cyanide.

REPLACES CERTIFICATE #100895-A

CERTIFICATE NUMBER: 100895-C

DATE OF ISSUE: December 19, 1995

Charles M Myers
Certifying Officer

EXPIRATION DATE: December 2, 1996

The State of New Hampshire
Department of Environmental Services

CERTIFICATE OF APPROVAL
Wastewater Analysis

Issued to
Chemserve, Inc.

Located at
Elm Street, Milford, NH

Under the provisions of the Regulations in Env-C300 for the following analyses:

FULL CERTIFICATION: Total Coliform by Membrane Filtration, Fecal Coliform by Membrane Filtration, ICP Metals, Metals by Graphite Furnace, Mercury, pH, TDS, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Sulfate, Ammonia, Nitrate-N, Orthophosphate, TKN, Total Phosphorus, COD, BOD, Total Cyanide, Non-Filterable Residue, Oil & Grease, Total Phenolics, PCBs in Water, PCBs in Oil, Pesticides, and Volatile Organics.

PROVISIONAL CERTIFICATION: None.

CERTIFICATE NUMBER: 100895-B

DATE OF ISSUE: December 3, 1995

Charles M Myers
Certifying Officer

EXPIRATION DATE: December 2, 1996