

**PHASE III ENVIRONMENTAL SITE
ASSESSMENT**

**OF A PORTION OF THE
SPRINGFIELD TERMINAL RAILWAY PROPERTY
MINERAL ST., SPRINGFIELD, VT**

Prepared for:

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Department of State Buildings
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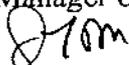
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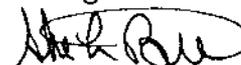
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March 5, 1995

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SPRINGFIELD TERMINAL RAILWAY PROPERTY
MINERAL ST., SPRINGFIELD, VT

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1.0 INTRODUCTION

The site is located on the northern end of Mineral St. in Springfield, VT and has previously been identified as the location of the former coal storage facility for the railway (and is herein referred to as the "site"). This work was conducted based on the results of an earlier investigation which found poly aromatic hydrocarbons (PAH's), which are commonly associated with coal tar, in the soil at the site.

2.0 BACKGROUND INFORMATION

Two environmental site investigations were performed during 1994 that dealt partially with this site. The first was a Phase I ESA, dated July 6, 1994, by Strategic Analytical Systems, Inc. which identified the history of coal storage at the site. Subsequent to the Phase I ESA a Phase II ESA was performed by Strategic Analytical Systems, Inc.. The report for this work was dated Sept. 8, 1994 and it was during this investigation that a soil sample from the coal storage area was found to contain detectable levels of various PAH's. Groundwater samples from two locations downgradient to the coal storage area were analyzed for the presence of PAH's but none were detected. It was the conclusion of the Phase II ESA that, although it was possible, based on the results of the Phase II ESA, to define a range of scenarios for how this contamination may impact the redevelopment of the site, additional investigation was necessary to quantify the extent of the PAH contamination.

Consequently, on Oct. 28, 1993 Strategic Analytical Systems, Inc. was retained by the Vermont Department of State Buildings to conduct a Phase III Environmental Site Investigation of a portion of the Springfield Terminal Railway property. The objective of this study was to determine the extent of the PAH contamination in the soil and/or groundwater of the site, to assess the risk associated with it and to make a recommendation for either treatment or monitoring of it. This report contains the results of this study and addresses all of these areas.

3.0 SCOPE OF WORK PERFORMED

3.1 Installation of Monitoring Wells

The original Phase III Scope of Work for this site anticipated that 6 additional monitoring wells would be necessary to determine the extent of the PAH contamination. The locations of these wells were to be based on information derived from the soil borings which were to be installed prior to the monitoring wells.

On Feb. 9 and 13, 1995 Cushing and Sons Drilling, under the supervision of a geologist from Strategic Analytical Systems, Inc. installed four soil borings and four monitoring wells. As planned, the locations of the monitoring wells were based on information from the four soil borings. In fact, the information gained from the soil borings was not only used to locate the monitoring wells but was used to determine that only four additional monitoring wells were necessary to define the extent of the PAH contamination.

Monitoring wells were installed using a 6" hollow stem auger and soil samples were collected using a 24" split spoon sampler. The sampler was decontaminated between samples and the augers and rig were decontaminated between wells. Monitoring wells were set to a depth 5' below the water table observed during drilling using 2" Sch. 40 PVC screen (.010' slot) and 2" Sch. 40 riser pipe. The annulus of the well was filled with coarse, sorted sand to a depth of 24" below grade and then a 1' bentonite seal was placed from 12" to 24" below grade. Aluminum flush mounted road boxes were grouted in place and approximately 4" of coarse, sorted sand was placed on top of the bentonite seal. The 2" PVC was topped with expandable locking caps.

The locations of the monitoring wells installed during the Phase II ESA (MW-4 and MW-5) and the locations of the additional four wells installed during this study are shown on the Site Plan which is contained in the Appendices of this report.

3.2 Collection of Soil Samples

Soil samples were collected continuously in the four soil borings and in MW-6 (the first of the

four new monitoring wells). The evidence of contamination (black staining and tar odor) was found primarily in the first two to three feet of soil below grade. The only stained soil noted below these depths were two isolated 6" thick layers in MW-6. One layer was found at 4.5' below grade and another was found at 7.0' below grade (just above groundwater). The location of soil samples, as well as soil descriptions and well completion information are shown on the Soil Boring Logs contained in the Appendices of this report.

Soil samples were bottled in amber glass jars and were sent by overnight courier to Geolabs of Swampscott, MA to be analyzed for the presence of PAH's by EPA Method 8270.

3.3 Collection of Groundwater Samples

On Feb. 23, 1995 groundwater samples were collected from MW-4, MW-6, MW-7 and MW-8. No sample was collected from MW-9 since bedrock was encountered before groundwater. Prior to sampling all wells were purged of three well volumes of water to ensure that samples were representative of ambient conditions. Samples were collected using a single valve plastic bailer, were placed in 1 liter amber glass bottles and were sent by overnight courier to Geolabs of Swampscott, MA for analysis for the presence of PAH's by EPA Method 8270.

4.0 SITE DESCRIPTION

The site consists of approximately .6 acres of land, is irregular in shape and borders Mineral St. on the north and west sides. Topographically it is located on a terrace which is bounded both above and below by steep sided, wooded, hills. The primary present use for the site is as parking space for the employees of the four businesses located in the LaPlante building, which is adjacent to the site on its south. Access to the site is not restricted and, consequently, an additional use of the site appears to be as a thoroughfare for foot traffic to and from local schools, businesses and residences.

5.0 GEOLOGIC AND HYDROGEOLOGIC

The town of Springfield, VT is located in the Black River Valley, approximately 7 miles west from the point where the Black River flows into the Connecticut River. The site is located on

glacio-fluvial deposits of the Black River and the soils in the area are generally fine sandy loams. The depth to bedrock varies over the site from 3' to over 20'. The depth to groundwater also varies across the site from 3.5' upgradient to 9.5' downgradient to the site buildings. Groundwater flow in the area of the site is to the east, subparallel to the flow of the Black River. The bedrock in the area is the Waits River Formation which is a siliceous limestone interbedded, or intergradational with grey muscovite phyllite or schist.

6.0 ANALYTICAL RESULTS

6.1 Soil Results

Soil samples were collected from various depths in all of the new monitoring wells (MW-6 through MW-9). The sampling points were chosen based on observed soil staining in samples collected from the four soil borings and from MW-6, which indicated that contamination was concentrated near the surface but that there were also streaks of stained soil at depths of approximately 5' and at 7'. In addition to the sampling depths described above, MW-1 was sampled at 12' and at 22' (bedrock) and MW-2 was sampled from 16' (bedrock). These samples were taken to determine if dense non-aqueous phase liquids ("DNAPL's") were present. DNAPL's are a broad range of halogenated and non-halogenated hydrocarbons which are heavier than water and one class of DNAPL's is commonly associated with coal tar. Since DNAPL's are heavier than water they are found below the water table (as opposed to lighter compounds which float on top of the water table) and therefore are generally found below the water table sitting on top of the first impermeable layer encountered (i.e. clay or bedrock).

A broad range of poly aromatic hydrocarbons (PAH's) were found in surface samples from MW-6, MW-8 and MW-9. Low levels of two DNAPL's, both phthalates, were found in samples from MW-7 and MW-8. A complete set of analytical results is contained in the appendices of this report. A summary of pertinent results is presented below

*RBC-Industrial
Soil
wg/kg*

Compound	MW-6 Surface	MW-6 4.5'	MW-6 7.5'	MW-6 12'	MW-6 22'	MW-7 Surface	MW-7 3'-5'	MW-7 5-7'	MW-7 bedeck	MW-8 Surface	MW-8 3'-5'	MW-8 5'-7'	MW-9 Surface	VHA
Naphthalene	41,000 1010	ND	ND	ND	ND	ND	ND	ND	ND	5520	ND	ND	ND	20
Fluorene	11	ND	ND	ND	ND	ND	ND	ND	ND	7200	ND	ND	528	
Phenanthrene	1600	ND	ND	ND	ND	ND	ND	ND	ND	20200	ND	ND	1800	
Anthracene	310,000	ND	ND	ND	ND	ND	ND	ND	ND	5920	ND	ND	527	
Fluoranthene	41,000	2420	ND	ND	ND	ND	ND	ND	ND	15300	ND	ND	1390	
Pyrene	31,000	1910	ND	ND	ND	ND	ND	ND	ND	12000	ND	ND	1430	
Benzo(a) Anthracene	1150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1010	0.1
Chrysene	390	1290	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1260	0.2
Benzo(b) Fluoranthene	1120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	944	0.2
Benzo(k) Fluoranthene	39	1100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	945	0.2
Benzo(a) Pyrene	39	1130	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	859	0.2 (MCL)
Di-N-Butylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	547	ND	ND	
Bis(2Ethylhexyl)Phthalate	ND	ND	ND	ND	ND	ND	ND	ND	694	ND	ND	ND	ND	
2-Methylnaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	560	
Acenaphthalene	61,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	558	
Indeno(1,2,3-Cd)Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	557	0.4

3.9

ND stands for non-detect and means that the compound referred to was either not present in the sample or the concentration was below the Minimum Detectable Limit ("MDL"). The MDL is a is the lowest concentration that can be detected and is a function of the analytical procedures equipment used. The MDL should not be confused with the Maximum Contaminant Limit ("MCL") or with other statutory contaminant limits for soil or groundwater. The MCL reflects what the EPA views as acceptable levels of compounds in drinking water. The MDL merely reflects the sensitivity of the analytical procedure and equipment.

6.2 Groundwater Results

Groundwater samples were collected from MW-4, MW-6, MW-7 and MW-8. Bedrock was encountered in MW-9 prior to encountering groundwater.

All of the analytical results are contained in the Appendices of this report. Low levels of PAH's were found in groundwater samples from MW-4 and MW-7. The samples from MW-6 and MW-8 (which are adjacent to MW-4 and MW-7) did not contain detectable levels of PAH's.

7.0 RISK ASSESSMENT

The Health Risk Assessment portion of the study was prepared in accordance with the protocol

for Health Risk Assessments as described in the EPA Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual (doc. #PB90-1555581, December 1989). This protocol breaks the Risk Assessment into three components: the Exposure Assessment, the Toxicity Assessment and the Risk Characterization. When it is complete the Health Risk Assessment (which assess risk to human health as opposed to an ecological risk assessment) is the basis for defining remediation goals for the site in question.

7.1 EXPOSURE ASSESSMENT

The exposure assessment consists of three components. Each of these is discussed in its own section below.

7.1.1 Characterization of the Exposure Setting

Physical Setting

The site is located in a residential and commercial portion of Springfield, VT. There are no engineering controls which limit access to the site and there is evidence of foot traffic from the adjacent residential area through the site. The climate in the area is such that the site may have a snow cover for up to four months out of the year. Due to the hillside location and the shallow bedrock of the site its water table is generally shallow year round. There are springs both above and below the site which appear to flow year round. Surface runoff from the site is collected in town storm sewers which border Mineral St.

Potentially Exposed Populations

Three populations have been identified which may potentially be exposed to the soil contamination in question in this report. They are: present and future office staff, children in onsite daycare and groundskeepers/janitorial staff.

7.1.2 Identification of Exposure Pathways

Since none of the contaminants identified are volatile and since there is only marginal impact to groundwater the only potential Exposure Pathways for any of the three populations identified

above are through direct contact with contaminated soils. This could occur through either incidental ingestion of outdoor soil/ indoor dust or through direct dermal contact with the soil. The specific Exposure Pathway for each population is discussed below.

Present and Future Office Staff: The potential Exposure Pathway for this population exists through incidental ingestion of both outdoor soil and indoor dust. It is unlikely that this population would have the opportunity for regular dermal contact with the soil. The Standard Default Exposure Factor (the average amount of soil or dust ingested) recommended by the USEPA (OSWER Directive 9285.6-03) for this form of exposure is 50 mg of soil per day for adults in a commercial/ industrial setting

Children in Onsite Daycare: Potential for exposure for this population is through both incidental ingestion of soil/dust or through dermal contact with contaminated soils. Standard Default Exposure Factors for incidental ingestion of soil or dust by children in a residential setting is 200 mg per day. There is no Default Exposure Factor for children in an a commercial/industrial setting and so the residential factor has been used in this study. Site specific exposure factors for dermal contact were calculated for this study and the variables and assumptions are explained in the Risk Characterization below.

Groundskeepers

Potential for exposure for this population is through both incidental ingestion of soil/dust or through dermal contact with contaminated soils. The Standard Default Exposure Factors for incidental ingestion of soil or dust by an adult in an commercial/industrial setting has been used for this population. Site specific exposure factors for dermal contact were calculated for this study and the variables and assumptions are explained in the Risk Characterization below.

7.1.3 Quantification of Exposure

The following general equation is used to calculate the Chronic Daily Intake ("CDI") or amount of contaminant ingested daily over the term of exposure.

Exposure Concentration x Intake Variables = Chronic Daily Intake

For each type of exposure pathway there are a unique set of Intake Variables. Exposure concentration in this study is based on the soil analysis discussed in Section 6.1 above.

CDI's were calculated for each contaminant and are functions of the population and the exposure pathway. The units for each of the CDI's presented below are 10^{-6} mg/kg/day.

	Pop. 1	Pop. 2 Ingestion	Pop. 2 Contact	Pop. 3 Ingestion	Pop.3 Contact
Naphthalene	20.2 4.34	20.2	.12	11.98 4.34	.05
Fluoranthene	20.2 11.98	55.9	.33	11.98	.14
Benzo(a) Anthracene	.9	4.2	.02	.9	.01
Chrysene	1.1	4.71	.03	1.1	.01
Benzo(b) Fluoranthene	.88	4.09	.02	.88	.01
Benzo(k) Fluoranthene	.86	4.02	.02	.86	.01
Benzo(a) Pyrene	.89	4.13	.02	.89	.01
2-Methyl naphthalene	.44	2.05	.01	.44	.005
Acenaphthalene	.44	2.04	.01	.44	.005
Indeno(1,2,3-cd) pyrene	.44	2.03	.01	.44	.005

7.2 TOXICITY ASSESSMENT

7.2.1 Compound Specific Toxicity Information

- mathematical equations
- exposure assumption
- calculations

Currently the only PAH which is listed in either Integrated Risk Information System ("IRIS") or Health Effects Assessment Summary Tables ("HEAST"), the two EPA toxicology databases of choice, is Benzo(a)pyrene. The oral slope factor listed in IRIS (updated in Oct. 1994) is 7.3 and the inhaled slope factor listed in HEAST (updated in March, 1994) is 6.1.

Slope factors are empirically derived and relate incidence of cancer in control groups to that groups exposure to the chemical in question. The slope factor is an upperbound relationship representing a conservative interpretation of the data.

7.3 RISK CHARACTERIZATION

Since no toxicity information is available through IRIS or HEAST for carcinogenic PAH's besides benzo(a)pyrene it has been the policy of EPA until recently to consider all of the carcinogenic PAH's as benzo(a)pyrene for the purposes of site Risk Characterization. By making this assumption a conservative estimate of remediation goals is generated. This method of calculating contamination associated risk has been adopted in this study.

Risk is calculated using the simple formula

$$\text{Chronic Daily Intake ("CDI")} \times \text{Slope Factor ("SF")} = \text{Risk}$$

The risk represents an estimate of the number of people within a given population who may develop cancer as a result of chronic exposure to the contamination in question through the exposure pathways identified.

As an example, the risk associated with exposure by incidental ingestion/ inhalation to the PAH concentrations found in the surface soil sample from MW-3 (total carcinogenic PAH concentration = 20.82 ppm) for each population are calculated below:

Population 1 and 3:

$$(54.38 \times 10^{-6}) \times 7.2 = 3.91 \times 10^{-4}$$

or, in other words, under the set of assumptions used in this report, it is likely that 3.9 out of 10,000 people from Populations 1 and 3 will develop some form of cancer as the result of exposure to PAH's at this site if the current situation is not changed.

The Vermont Agency of Natural Resources, Department of Environmental Conservation considers 1×10^{-6} as the acceptable level of risk associated with contamination in soil. Clearly the risk associated with exposure to the contaminated soil in the area of MW-3 exceeds the Vermont DEC acceptable level of risk.

8.0 PRELIMINARY REMEDIATION GOALS

Remediation goals are calculated using the following formula:

Remediation Goal (PAH concentration in soil) = Risk/(slope factor x (CDI/concentration))

The remediation goal for adults in a commercial/industrial scenario is **177 ppb of carcinogenic PAH's**. The remediation goal for children in a residential setting is **38 ppb of cumulative carcinogenic PAH's**. As discussed above both of these goals are based on conservative estimates of risk and assume extended periods of exposure to contaminated soil through inhalation/ingestion and direct contact. Different physical settings and/or exposure pathways would have different remediation goals.

9.0 CONCLUSIONS

Based on the information collected during this study, and in earlier studies, it is clear that the soil in the a coal storage area of the site has been contaminated with poly aromatic hydrocarbons resulting from extended coal storage at the site. The volume of contaminated soil is estimated to be approximately 1400 yds.³. Due to the physical condition of the site and the chemical characteristics of the contaminants the potential exposure pathways for the "at-risk" populations are through incidental ingestion/inhalation of soil/dust or through direct dermal contact with contaminated soil. The PAH concentrations in the surface soil over a portion of the site are high enough to represent an unacceptable level of risk to human health.

The groundwater of the site has been marginally impacted; the groundwater of adjacent sites has not been impacted by the PAH contamination in the soil of the site.

10.0 RECOMMENDATIONS

Remedial action should be implemented to reduce PAH concentrations in site soils and groundwater to acceptable levels.

10.1 Preliminary Remedial Action Plan

The technologies currently being employed to treat PAH contaminated soils include physical processes (thermal destruction, thermal desorption, supercritical fluid extraction), chemical processes (solvent extraction) and biological processes (slurry reactors, solid phase). The feasibility of each of these technologies is a function of a number of variables which include the volume and type of contaminated media, the physical setting of the site, the desired rate of contaminant reduction, cost and others. Based on the given set of characteristics for this site it is the opinion of Strategic Analytical Systems, Inc. that the most feasible technology for this site is monitored small scale active bioremediation. The characteristics considered were the moderate volume of contaminated soil involved, the low threat to offsite potential receptors, the lack of groundwater impact and the apparent ease with which engineering controls could be employed to limit access to the contamination.

In theory a small scale active bioremediation system consists of a subsurface grid of slotted 2" and 4" PVC piping in combination with a surface facility containing pumps and blowers. The system's objective is to deliver air, water and nutrients necessary to augment the natural decay of the soil contaminants. Occasionally, if degradation is not occurring at a sufficient rate, non-indigenous microbes, chosen for their affinity to specific compounds, may be introduced into the subsurface through this same grid.

To ensure against human exposure the area of contaminated soil is covered with a double layer of

6 mil poly and a layer of clean soil. At this site the layer of clean soil will, in turn, be paved for parking. Soil sampling ports are then installed through the overburden and poly barrier. The ports will be constructed with flush mounted aluminum locking road boxes to limit access.

Prior to implementation of the system a remediation schedule and remediation goals are determined. The performance of the system is monitored by comparison of results of soil and groundwater analysis to the remediation goals and schedule.

10.2 EXPECTED RESULTS OF IMPLEMENTING PROPOSED REMEDIATION PLAN

In the opinion of Strategic Analytical Systems, Inc. implementation of the Remedial Action Plan described above would essentially eliminate the health risks (i.e. incidence of cancer due to incidental ingestion/inhalation or direct dermal contact) associated with the PAH contaminated soil discussed herein. In the near term, risk reduction will be due almost exclusively to the elimination of exposure pathways through the use of engineering controls (i.e. covering the contaminated soil with layers of plastic, clean fill and pavement). Long term risk reduction will be accomplished by reducing PAH concentrations through the use of the soil remediation system described above.

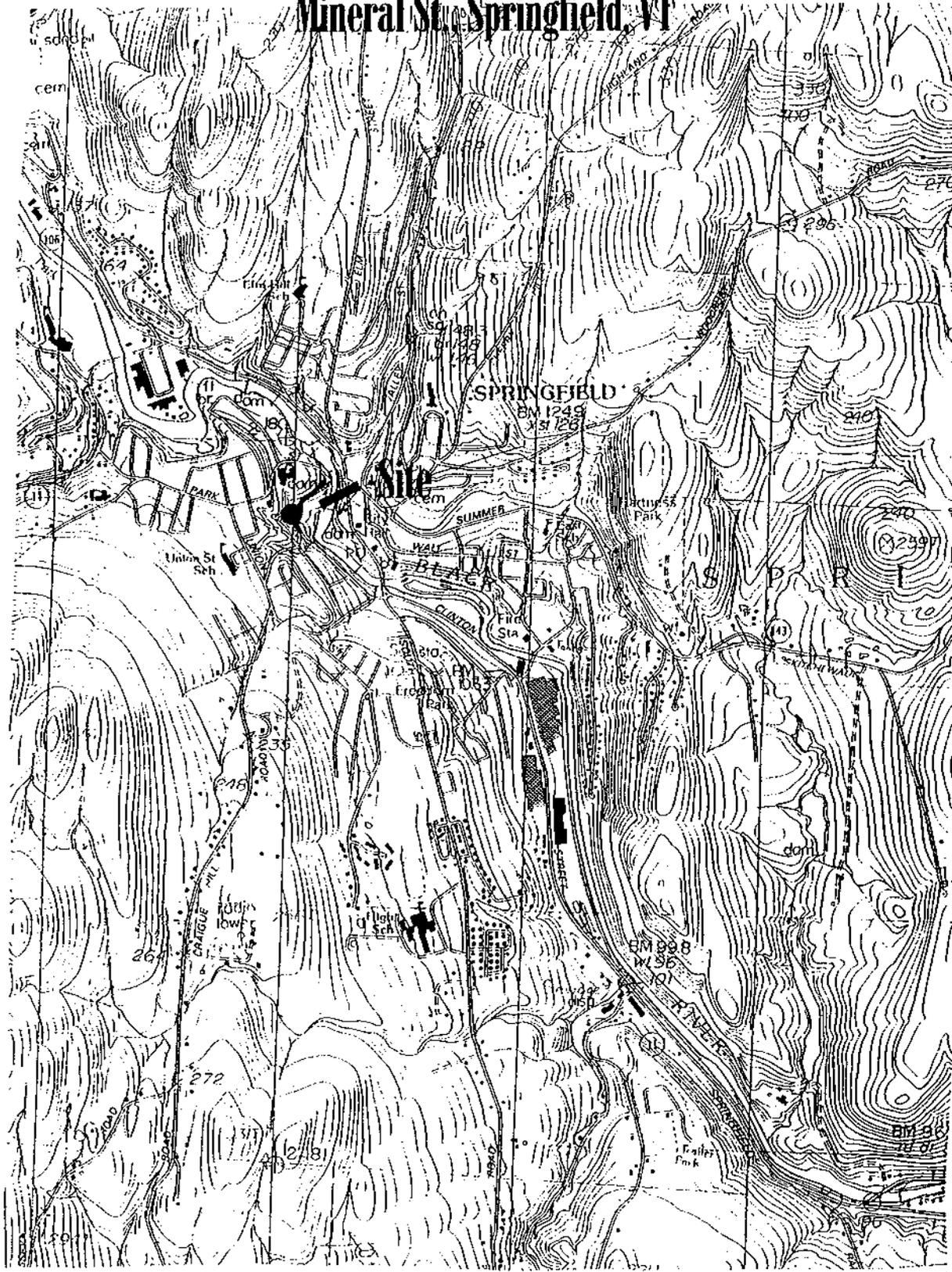
11.0 LIMITATIONS

The findings set forth in this report are strictly limited in time and scope to the date of evaluation. The conclusions presented are based solely on the services described herein, and not on the scientific tasks or procedures beyond the scope of agreed upon services.

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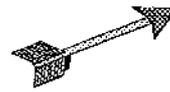
SPRINGFIELD TERMINAL RAILWAY

Mineral St., Springfield, VT



Laplane Building

N



Boundary of STR Property



A

MW-14

MW-6

MW-4

MW-7

Mineral St.

MW-8

MW-5

Lohutko Property

MW-1

MW-9

A'

STRATEGIC ANALYTICAL SYSTEMS, INC.

SITE PLAN

SPRINGFIELD TERMINAL RAILWAY SITE,
Mineral St., Springfield, VT

1" = 50'

SLB

STRATEGIC ANALYTICAL SYSTEMS, INC.

BORING LOG

PROJECT:	Springfield Terminal Railway	Hole Diameter:	6.0"
LOCATION:	Mineral St., Springfield, VT	Screen Diameter:	2.0'
DATE DRILLED:	Feb. 9, 1995	Casing Diameter:	2.0'
WELL NUMBER:	MW-6	Slot Size:	.020"
Drilling Company:	Cushing and Sons	Total Depth:	22'
Driller:	Smith	Screen Length:	10'
Drilling Method:	Hollow Stem Auger	Casing Length:	11'
Logged By:	Brackett	Type:	2'Sch. 40 PVC

DEPTH (feet)	Well Materials	Well Schematic	Blows/6" OVM Readings	Lithology Notes (texture, color, size)	
0			Roadbox		0
				Gravel Fill	
				Bentonite Seal	
				Black, stained loamy sand	
2.5					2.5
			9,5,6		
			10,12,9	Brown, Fine Sand	
5					5
			6,6,11	Brown sand with 6"	
7.5				stained layer at 7.5'	7.5
10					10
			6, 100	Coarse grey sand	
12.5					12.5
15					15
				Total well depth 22'	
				no samples 12' through 22'	

STRATEGIC ANALYTICAL SYSTEMS, INC.

BORING LOG

PROJECT:	Springfield Terminal Railway	Hole Diameter:	6.0"
LOCATION:	Mineral St., Springfield, VT	Screen Diameter:	2.0'
DATE DRILLED:	Feb. 13, 1995	Casing Diameter:	2.0'
WELL NUMBER:	MW-7	Slot Size:	.020"
Drilling Company:	Cushing and Sons	Total Depth:	16'
Driller:	Smith	Screen Length:	10'
Drilling Method:	Hollow Stem Auger	Casing Length:	5'
Logged By:	Brackett	Type:	2'Sch. 40 PVC

DEPTH (feet)	Well Materials	Well Schematic	Blows/6" OVM Readings	Lithology Notes (texture, color, size)	
0			Roadbox		0
				Gravel Fill	
				Bentonite Seal	
				Black, stained loamy sand	
2.5					2.5
			9,8,10	Brown, Fine Sand	
5					5
			4,6,8	Brown Fine Sand	
7.5					7.5
10					10
12.5					12.5
15					15
			15,100	Total well depth 16'	

STRATEGIC ANALYTICAL SYSTEMS, INC.

BORING LOG

PROJECT:	Springfield Terminal Railway	Hole Diameter:	6.0"
LOCATION:	Mineral St., Springfield, VT	Screen Diameter:	2.0'
DATE DRILLED:	Feb. 13, 1995	Casing Diameter:	2.0'
WELL NUMBER:	MW-8	Slot Size:	.020"
Drilling Company:	Cushing and Sons	Total Depth:	12'
Driller:	Smith	Screen Length:	9'
Drilling Method:	Hollow Stem Auger	Casing Length:	2.5'
Logged By:	Brackett	Type:	2'Sch. 40 PVC

DEPTH (feet)	Well Materials	Well Schematic	Blows/6" OVM Readings	Lithology Notes (texture, color, size)	
0			Roadbox		0
				Gravel Fill	
			Bentonite Seal		
				Black, stained loamy sand	
2.5					2.5
			7,8,10	Brown, Fine to Medium Sand	
5					5
			8,5,6	Grey, Medium Sand	
7.5					7.5
10					10
12.5				Total Well Depth 12'	12.5
15					15

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME:	STRATEGIC ANALYTICAL	PROJECT NUMBER:	1199-95
SAMPLE TYPE:	WATER	DATE EXTRACTED:	02/28/95
SAMPLE DATE:	02/23/95	REPORT DATE:	03/03/95
DATE RECEIVED:	02/24/95	COLLECTED BY:	CLIENT

SAMPLE NUMBER:	31769	31770
SAMPLE LOCATION:	MW-4	MW-6

PARAMETER	RESULTS (µg/L)	MDL (µg/L)
Phenol	ND	10
Bis (2-Chloroethyl) Ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
1-2 Dichlorobenzene	ND	10
2-Methylphenol	ND	10
2,2-oxybis (1-Chloropropane)	ND	10
4-Methylphenol	ND	10
N-Nitroso-Di-N-Propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	10
2,4-Dimethylphenol	ND	10
Benzoic Acid	ND	50
Bis (2-Chloroethoxy) Methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	33.1	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-Methylphenol	ND	10
2-Methylnaphthalene	12.1	10
Hexachlorocyclopentadiene	ND	10
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
Carbazole	ND	10
Benzyl Alcohol	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	26.3	10
4-Chlorophenyl-Phenylether	ND	10

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME: STRATEGIC ANALYTICAL
SAMPLE TYPE: WATER
SAMPLE DATE: 02/23/95
DATE RECEIVED: 02/24/95

PROJECT NUMBER: 1199-95
DATE EXTRACTED: 02/28/95
REPORT DATE: 03/03/95
COLLECTED BY: CLIENT

SAMPLE NUMBER: 31769 31770
SAMPLE LOCATION: MW-4 MW-6

PARAMETER	RESULTS (µg/L)	MDL (µg/L)
Phenol	ND	10
Bis (2-Chloroethyl) Ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
1-2 Dichlorobenzene	ND	10
2-Methylphenol	ND	10
2,2-oxybis(1-Chloropropane)	ND	10
4-Methylphenol	ND	10
N-Nitroso-Di-N-Propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	10
2,4-Dimethylphenol	ND	10
Benzoic Acid	ND	50
Bis (2-Chloroethoxy) Methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	33.1	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-Methylphenol	ND	10
2-Methylnaphthalene	12.1	10
Hexachlorocyclopentadiene	ND	10
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
Carbazole	ND	10
Benzyl Alcohol	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	26.3	10
4-Chlorophenyl-Phenylether	ND	10

VHA
DO P/B

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SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL
SAMPLE TYPE: WATER
SAMPLE DATE: 02/23/95
DATE RECEIVED: 02/24/95

PROJECT NUMBER: 1199-95
DATE EXTRACTED: 02/28/95
REPORT DATE: 03/03/95
COLLECTED BY: CLIENT

SAMPLE NUMBER: 31769 31770
SAMPLE LOCATION: MW-4 MW-6

PARAMETER	RESULTS (µg/L)		MDL (µg/L)
Fluorene	ND	ND	10
4-Nitroaniline	ND	ND	50
4,6-Dinitro-2-Methylphenol	ND	ND	50
N-Nitrosodiphenylamine	ND	ND	10
4-Bromophenyl-Phenylether	ND	ND	10
Hexachlorobenzene	ND	ND	10
Pentachlorophenol	ND	ND	50
Phenanthrene	ND	ND	10
Anthracene	ND	ND	10
Di-N-Butylphthalate	ND	ND	10
Fluoranthene	ND	ND	10
Pyrene	ND	ND	10
Butylbenzylphthalate	ND	ND	10
3,3'-Dichlorobenzidine	ND	ND	10
Benzo (A) Anthracene	ND	ND	10
Chrysene	ND	ND	10
Bis (2-Ethylhexyl) Phthalate	ND	ND	10
Di-N-Octylphthalate	ND	ND	10
Benzo (B) Fluoranthene	ND	ND	10
Benzo (K) Fluoranthene	ND	ND	10
Benzo (A) Pyrene	ND	ND	10
Indeno (1,2,3-Cd) Pyrene	ND	ND	10
Benzo (G, H, I) Perylene	ND	ND	10
Dibenz (A, H) Anthracene	ND	ND	10

ND = NOT DETECTED

ANALYSIS DATE: 03/01/95

Method Reference:

EPA Method

8270⁽¹⁾

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
SW-846.

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME:	STRATEGIC ANALYTICAL	PROJECT NUMBER:	1199-95
SAMPLE TYPE:	WATER	DATE EXTRACTED:	02/28/95
SAMPLE DATE:	02/23/95	REPORT DATE:	03/03/95
DATE RECEIVED:	02/24/95	COLLECTED BY:	CLIENT

SAMPLE NUMBER: 31771
SAMPLE LOCATION: MW-7

PARAMETER	RESULTS (µg/L)	MDL (µg/L)
Phenol	ND	10
Bis (2-Chloroethyl) Ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
1-2 Dichlorobenzene	ND	10
2-Methylphenol	ND	10
2,2-oxybis(1-Chloropropane)	ND	10
4-Methylphenol	ND	10
N-Nitroso-Di-N-Propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	10
2,4-Dimethylphenol	ND	10
Benzoic Acid	ND	50
Bis (2-Chloroethoxy) Methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	12.9	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-Methylphenol	ND	10
2-Methylnaphthalene	16.0	10
Hexachlorocyclopentadiene	ND	10
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	50
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
Carbazole	ND	10
Benzyl Alcohol	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	50
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	50
4-Nitrophenol	ND	50
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	51.4	10
4-Chlorophenyl-Phenylether	ND	10

VHA
20 ppb

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SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL
SAMPLE TYPE: WATER
SAMPLE DATE: 02/23/95
DATE RECEIVED: 02/24/95

PROJECT NUMBER: 1199-95
DATE EXTRACTED: 02/28/95
REPORT DATE: 03/03/95
COLLECTED BY: CLIENT

SAMPLE NUMBER: 31771
SAMPLE LOCATION: MW-7

PARAMETER	RESULTS ($\mu\text{g/L}$)	MDL ($\mu\text{g/L}$)
Fluorene	ND	10
4-Nitroaniline	ND	50
4,6-Dinitro-2-Methylphenol	ND	50
N-Nitrosodiphenylamine	ND	10
4-Bromophenyl-Phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	50
Phenanthrene	32.4	10
Anthracene	ND	10
Di-N-Butylphthalate	ND	10
Fluoranthene	31.6	10
Pyrene	22.2	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	10
Benzo (a) Anthracene	13.9	10
Chrysene	17.6	10
Bis (2-Ethylhexyl) Phthalate	24.1	10
Di-N-Octylphthalate	21.0	10
Benzo (B) Fluoranthene	ND	10
Benzo (K) Fluoranthene	ND	10
Benzo (A) Pyrene	ND	10
Indeno (1,2,3-Cd) Pyrene	ND	10
Benzo (G, H, I) Perylene	ND	10
Dibenz (A, H) Anthracene	ND	10

VHA
0.1 ppb
0.2 ppb

ND = NOT DETECTED

ANALYSIS DATE: 03/01/95

Method Reference:

EPA Method

8270 (1)

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846.

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME: STRATEGIC ANALYTICAL
SAMPLE TYPE: WATER
SAMPLE DATE: 02/23/95
DATE RECEIVED: 02/24/95

PROJECT NUMBER: 1199-95
DATE EXTRACTED: 02/28/95
REPORT DATE: 03/03/95
COLLECTED BY: CLIENT

SAMPLE NUMBER: 31772
SAMPLE LOCATION: MW-8

PARAMETER	RESULTS ($\mu\text{g/L}$)	MDL ($\mu\text{g/L}$)
Phenol	ND	20
Bis (2-Chloroethyl) Ether	ND	20
2-Chlorophenol	ND	20
1,3-Dichlorobenzene	ND	20
1,4-Dichlorobenzene	ND	20
1-2 Dichlorobenzene	ND	20
2-Methylphenol	ND	20
2,2-oxybis(1-Chloropropane)	ND	20
4-Methylphenol	ND	20
N-Nitroso-Di-N-Propylamine	ND	20
Hexachloroethane	ND	20
Nitrobenzene	ND	20
Isophorone	ND	20
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	20
Benzoic Acid	ND	100
Bis (2-Chloroethoxy) Methane	ND	20
2,4-Dichlorophenol	ND	20
1,2,4-Trichlorobenzene	ND	20
Naphthalene	ND	20
4-Chloroaniline	ND	20
Hexachlorobutadiene	ND	20
4-Chloro-3-Methylphenol	ND	20
2-Methylnaphthalene	ND	20
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	20
2,4,5-Trichlorophenol	ND	20
2-Chloronaphthalene	ND	20
2-Nitroaniline	ND	100
Dimethylphthalate	ND	20
Acenaphthylene	ND	20
Carbazole	ND	20
Benzyl Alcohol	ND	20
2,6-Dinitrotoluene	ND	20
3-Nitroaniline	ND	100
Acenaphthene	ND	20
2,4-Dinitrophenol	ND	100
4-Nitrophenol	ND	100
Dibenzofuran	ND	20
2,4-Dinitrotoluene	ND	20
Diethylphthalate	ND	20
4-Chlorophenyl-Phenylether	ND	20

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LIMITATIONS & EXCLUSIONS

All the professional opinions presented in this report are based solely on the scope of work conducted and sources referred to in our report. The data presented by GeoLabs in this report was collected and analyzed using generally accepted industry methods and practices at the time the report was generated. This report represents the conditions, locations and materials that were observed at the time the work was conducted. No inferences regarding other conditions, locations or materials, at a later or earlier time may be made based on the contents of the report. No other warranty, express or implied is made.

This report was prepared for the sole use of our client. The use of this report by anyone other than our client or GeoLabs is strictly prohibited without the express prior written consent of GeoLabs. Portions of the report may not be used independent of the entire report.

All analyses were performed within required holding times, in accordance with EPA protocols and using accepted QA/QC procedures. The information contained in this report is, to the best of my knowledge, accurate and complete.



Strategic Analytical Systems, Inc.

39 SQUARE - CENTENNIAL BUILDING
BELLOWS FALLS, VT 05101



DUE 3 MAR 95

CHAIN OF CUSTODY

Phone: (802)463-0733 Fax: (802)463-0723

Page 1 of 1

Company Name <i>Strategic Analytical</i>		Project No. <i>STB-CM-005</i>		Project Name <i>State Bldg.</i>		Turn Around Time <i>Standard</i>		Due Date	
Contact Person <i>Steve Brachett</i>		Address <i>As Above</i>		City		State		Zip	
Telephone <i>(802)463-0733</i>		No. of Containers <i>8270</i>		Analysis Required					
Sample I.D.	Date	Time	COMP	GRAB	MATRIX	Station Location/Source of Sample			
<i>STB-CM-005.1</i>	<i>2/23/95</i>	<i>10:00AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>W</i>	<i>TTW-4</i>			
<i>STB-CM-005.2</i>	<i>2/23/95</i>	<i>10:30AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>W</i>	<i>TTW-6</i>			
<i>STB-CM-005.3</i>	<i>"</i>	<i>11:00AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>W</i>	<i>TTW-7</i>			
<i>STB-CM-005.4</i>	<i>"</i>	<i>11:30AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<i>W</i>	<i>TTW-8</i>			
Matrix: A-Air C-Compost D-Diluent DW-Drinking Water S-Soil SL-Sludge WW-Wastewater									
Sampler Type:		Sampler's Signature:				Special Conditions:			
Special Remarks/Requests									
Relinquished by: (Signature) <i>[Signature]</i>		Date/Time <i>5:30PM 2/23/95</i>		Received by: (Signature) <i>Patrick H Brown</i>		Relinquished by: (Signature)		Date/Time	
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Relinquished by: (Signature)		Date/Time	

FINAL REPORT

PREPARED FOR: Strategic Analytical Systems, Inc.
39 Square-Centennial Building
Bellows Falls, VT 05101

Att: Steven Brackett

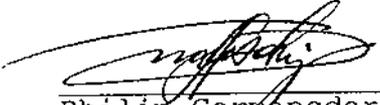
PROJECT ID: STB-CM-004
St. Buildings-Phase 3

GEOLABS PROJECT #: 1199-95

SAMPLE NUMBER: 31635-31647

DATE PREPARED: April 05, 1995

APPROVED BY:


Philip Gernansderfer
Laboratory Director

400 Hingham Street
Rockland, Massachusetts 02370
617-878-1346

GEOLABS, INC.
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(617) 878-1346

SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31635
SAMPLE LOCATION: MW-6/SURFACE

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)	MDL ($\mu\text{g}/\text{kg}$)
Phenol	ND	1000
Bis (2-Chloroethyl) Ether	ND	1000
2-Chlorophenol	ND	1000
1,3-Dichlorobenzene	ND	1000
1,4-Dichlorobenzene	ND	1000
1-2 Dichlorobenzene	ND	1000
2-Methylphenol	ND	1000
2,2-oxybis (1-Chloropropane)	ND	1000
4-Methylphenol	ND	1000
N-Nitroso-Di-N-Propylamine	ND	1000
Hexachloroethane	ND	1000
Nitrobenzene	ND	1000
Isophorone	ND	1000
2-Nitrophenol	ND	1000
2,4-Dimethylphenol	ND	1000
Benzoic Acid	ND	5000
Bis (2-Chloroethoxy) Methane	ND	1000
2,4-Dichlorophenol	ND	1000
1,2,4-Trichlorobenzene	ND	1000
Naphthalene	1010	1000
4-Chloroaniline	ND	1000
Hexachlorobutadiene	ND	1000
4-Chloro-3-Methylphenol	ND	1000
2-Methylnaphthalene	ND	1000
Hexachlorocyclopentadiene	ND	1000
2,4,6-Trichlorophenol	ND	1000
2,4,5-Trichlorophenol	ND	1000
2-Chloronaphthalene	ND	1000
2-Nitroaniline	ND	5000
Dimethylphthalate	ND	1000
Acenaphthylene	ND	1000
Carbazole	ND	1000
Benzyl Alcohol	ND	1000
2,6-Dinitrotoluene	ND	5000
3-Nitroaniline	ND	1000
Acenaphthene	ND	5000
2,4-Dinitrophenol	ND	5000
4-Nitrophenol	ND	1000
Dibenzofuran	ND	1000
2,4-Dinitrotoluene	ND	1000
Diethylphthalate	ND	1000
4-Chlorophenyl-Phenylether	ND	1000

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SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31635
SAMPLE LOCATION: MW-6/SURFACE

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)	MDL ($\mu\text{g}/\text{kg}$)
Fluorene	ND	1000
4-Nitroaniline	ND	5000
4,6-Dinitro-2-Methylphenol	ND	5000
N-Nitrosodiphenylamine	ND	1000
4-Bromophenyl-Phenylether	ND	1000
Hexachlorobenzene	ND	1000
Pentachlorophenol	ND	5000
Phenanthrene	1600	1000
Anthracene	ND	1000
Di-N-Butylphthalate	ND	1000
Fluoranthene	2420	1000
Pyrene	1910	1000
Butylbenzylphthalate	ND	1000
3,3'-Dichlorobenzidine	ND	1000
Benzo (a) Anthracene	1150	1000
Chrysene	1290	1000
Bis (2-Ethylhexyl) Phthalate	ND	1000
Di-N-Octylphthalate	ND	1000
Benzo (b) Fluoranthene	1120	1000
Benzo (k) Fluoranthene	1100	1000
Benzo (a) Pyrene	1130	1000
Indeno (1,2,3-Cd) Pyrene	ND	1000
Benzo (g,h,i) Perylene	ND	1000
Dibenz (a,h) Anthracene	ND	1000

ND = NOT DETECTED

EXTRACTION DATE: 02/15/95

ANALYSIS DATE: 02/21/95

Method Reference:

EPA Method 8270 ⁽¹⁾

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
SW-846.

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31636 31637
SAMPLE LOCATION: MW-6/4.5' MW-6/7.5'-8.0'

PARAMETER	RESULTS (µg/kg)		MDL (µg/kg)
Phenol	ND	ND	500
Bis (2-Chloroethyl) Ether	ND	ND	500
2-Chlorophenol	ND	ND	500
1,3-Dichlorobenzene	ND	ND	500
1,4-Dichlorobenzene	ND	ND	500
1-2 Dichlorobenzene	ND	ND	500
2-Methylphenol	ND	ND	500
2,2-oxybis (1-Chloropropane)	ND	ND	500
4-Methylphenol	ND	ND	500
N-Nitroso-Di-N-Propylamine	ND	ND	500
Hexachloroethane	ND	ND	500
Nitrobenzene	ND	ND	500
Isophorone	ND	ND	500
2-Nitrophenol	ND	ND	500
2,4-Dimethylphenol	ND	ND	500
Benzoic Acid	ND	ND	2500
Bis (2-Chloroethoxy) Methane	ND	ND	500
2,4-Dichlorophenol	ND	ND	500
1,2,4-Trichlorobenzene	ND	ND	500
Naphthalene	ND	ND	500
4-Chloroaniline	ND	ND	500
Hexachlorobutadiene	ND	ND	500
4-Chloro-3-Methylphenol	ND	ND	500
2-Methylnaphthalene	ND	ND	500
Hexachlorocyclopentadiene	ND	ND	500
2,4,6-Trichlorophenol	ND	ND	500
2,4,5-Trichlorophenol	ND	ND	500
2-Chloronaphthalene	ND	ND	500
2-Nitroaniline	ND	ND	2500
Dimethylphthalate	ND	ND	500
Acenaphthylene	ND	ND	500
Carbazole	ND	ND	500
Benzyl Alcohol	ND	ND	500
2,6-Dinitrotoluene	ND	ND	500
3-Nitroaniline	ND	ND	2500
Acenaphthene	ND	ND	500
2,4-Dinitrophenol	ND	ND	2500
4-Nitrophenol	ND	ND	2500
Dibenzofuran	ND	ND	500
2,4-Dinitrotoluene	ND	ND	500
Diethylphthalate	ND	ND	500
4-Chlorophenyl-Phenylether	ND	ND	500

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SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31636 31637
SAMPLE LOCATION: MW-6/4.5' MW-6/7.5'-8.0'

PARAMETER	RESULTS (µg/kg)		MDL (µg/kg)
Fluorene	ND	ND	500
4-Nitroaniline	ND	ND	2500
4,6-Dinitro-2-Methylphenol	ND	ND	2500
N-Nitrosodiphenylamine	ND	ND	500
4-Bromophenyl-Phenylether	ND	ND	500
Hexachlorobenzene	ND	ND	500
Pentachlorophenol	ND	ND	2500
Phenanthrene	ND	ND	500
Anthracene	ND	ND	500
Di-N-Butylphthalate	ND	ND	500
Fluoranthene	ND	ND	500
Pyrene	ND	ND	500
Butylbenzylphthalate	ND	ND	500
3,3'-Dichlorobenzidine	ND	ND	500
Benzo(A) Anthracene	ND	ND	500
Chrysene	ND	ND	500
Bis(2-Ethylhexyl)Phthalate	ND	ND	500
Di-N-Octylphthalate	ND	ND	500
Benzo(b) Fluoranthene	ND	ND	500
Benzo(k) Fluoranthene	ND	ND	500
Benzo(a) Pyrene	ND	ND	500
Indeno(1,2,3-Cd) Pyrene	ND	ND	500
Benzo(G,H,I) Perylene	ND	ND	500
Dibenz(A,H) Anthracene	ND	ND	500

ND = NOT DETECTED

EXTRACTION DATE: 02/22/95 02/15/95
ANALYSIS DATE: 02/22/95 02/21/95

Method Reference:

EPA Method 8270 (1)

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
SW-846.

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31638 31639
SAMPLE LOCATION: MW-6/12' MW-6/22'

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)		MDL ($\mu\text{g}/\text{kg}$)
Phenol	ND	ND	500
Bis (2-Chloroethyl) Ether	ND	ND	500
2-Chlorophenol	ND	ND	500
1,3-Dichlorobenzene	ND	ND	500
1,4-Dichlorobenzene	ND	ND	500
1-2 Dichlorobenzene	ND	ND	500
2-Methylphenol	ND	ND	500
2,2-oxybis (1-Chloropropane)	ND	ND	500
4-Methylphenol	ND	ND	500
N-Nitroso-Di-N-Propylamine	ND	ND	500
Hexachloroethane	ND	ND	500
Nitrobenzene	ND	ND	500
Isophorone	ND	ND	500
2-Nitrophenol	ND	ND	500
2,4-Dimethylphenol	ND	ND	500
Benzoic Acid	ND	ND	2500
Bis (2-Chloroethoxy) Methane	ND	ND	500
2,4-Dichlorophenol	ND	ND	500
1,2,4-Trichlorobenzene	ND	ND	500
Naphthalene	ND	ND	500
4-Chloroaniline	ND	ND	500
Hexachlorobutadiene	ND	ND	500
4-Chloro-3-Methylphenol	ND	ND	500
2-Methylnaphthalene	ND	ND	500
Hexachlorocyclopentadiene	ND	ND	500
2,4,6-Trichlorophenol	ND	ND	500
2,4,5-Trichlorophenol	ND	ND	500
2-Chloronaphthalene	ND	ND	500
2-Nitroaniline	ND	ND	2500
Dimethylphthalate	ND	ND	500
Acenaphthylene	ND	ND	500
Carbazole	ND	ND	500
Benzyl Alcohol	ND	ND	500
2,6-Dinitrotoluene	ND	ND	500
3-Nitroaniline	ND	ND	2500
Acenaphthene	ND	ND	500
2,4-Dinitrophenol	ND	ND	2500
4-Nitrophenol	ND	ND	2500
Dibenzofuran	ND	ND	500
2,4-Dinitrotoluene	ND	ND	500
Diethylphthalate	ND	ND	500
4-Chlorophenyl-Phenylether	ND	ND	500

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SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31638 31639
SAMPLE LOCATION: MW-6/12' MW-6/22'

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)		MDL ($\mu\text{g}/\text{kg}$)
Fluorene	ND	ND	500
4-Nitroaniline	ND	ND	2500
4,6-Dinitro-2-Methylphenol	ND	ND	2500
N-Nitrosodiphenylamine	ND	ND	500
4-Bromophenyl-Phenylether	ND	ND	500
Hexachlorobenzene	ND	ND	2500
Pentachlorophenol	ND	ND	500
Phenanthrene	ND	ND	500
Anthracene	ND	ND	500
Di-N-Butylphthalate	ND	ND	500
Fluoranthene	ND	ND	500
Pyrene	ND	ND	500
Butylbenzylphthalate	ND	ND	500
3,3'-Dichlorobenzidine	ND	ND	500
Benzo (A) Anthracene	ND	ND	500
Chrysene	ND	ND	500
Bis (2-Ethylhexyl) Phthalate	ND	ND	500
Di-N-Octylphthalate	ND	ND	500
Benzo (b) Fluoranthene	ND	ND	500
Benzo (k) Fluoranthene	ND	ND	500
Benzo (a) Pyrene	ND	ND	500
Indeno (1,2,3-Cd) Pyrene	ND	ND	500
Benzo (G, H, I) Perylene	ND	ND	500
Dibenz (A, H) Anthracene	ND	ND	500

ND = NOT DETECTED

EXTRACTION DATE: 02/22/95 02/22/95
ANALYSIS DATE: 02/22/95 02/22/95

Method Reference:

EPA Method 8270 ⁽¹⁾

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
SW-846.

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31640
SAMPLE LOCATION: MW-7/SURFACE

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)	MDL ($\mu\text{g}/\text{kg}$)
Phenol	ND	2500
Bis (2-Chloroethyl) Ether	ND	2500
2-Chlorophenol	ND	2500
1,3-Dichlorobenzene	ND	2500
1,4-Dichlorobenzene	ND	2500
1-2 Dichlorobenzene	ND	2500
2-Methylphenol	ND	2500
2,2-oxybis (1-Chloropropane)	ND	2500
4-Methylphenol	ND	2500
N-Nitroso-Di-N-Propylamine	ND	2500
Hexachloroethane	ND	2500
Nitrobenzene	ND	2500
Isophorone	ND	2500
2-Nitrophenol	ND	2500
2,4-Dimethylphenol	ND	2500
Benzoic Acid	ND	12500
Bis (2-Chloroethoxy) Methane	ND	2500
2,4-Dichlorophenol	ND	2500
1,2,4-Trichlorobenzene	ND	2500
Naphthalene	ND	2500
4-Chloroaniline	ND	2500
Hexachlorobutadiene	ND	2500
4-Chloro-3-Methylphenol	ND	2500
2-Methylnaphthalene	ND	2500
Hexachlorocyclopentadiene	ND	2500
2,4,6-Trichlorophenol	ND	2500
2,4,5-Trichlorophenol	ND	2500
2-Chloronaphthalene	ND	12500
2-Nitroaniline	ND	2500
Dimethylphthalate	ND	2500
Acenaphthylene	ND	2500
Carbazole	ND	2500
Benzyl Alcohol	ND	2500
2,6-Dinitrotoluene	ND	12500
3-Nitroaniline	ND	2500
Acenaphthene	ND	12500
2,4-Dinitrophenol	ND	12500
4-Nitrophenol	ND	2500
Dibenzofuran	ND	2500
2,4-Dinitrotoluene	ND	2500
Diethylphthalate	ND	2500
4-Chlorophenyl-Phenylether	ND	2500

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SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31640
SAMPLE LOCATION: MW-7/SURFACE

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)	MDL ($\mu\text{g}/\text{kg}$)
Fluorene	ND	2500
4-Nitroaniline	ND	12500
4,6-Dinitro-2-Methylphenol	ND	12500
N-Nitrosodiphenylamine	ND	2500
4-Bromophenyl-Phenylether	ND	2500
Hexachlorobenzene	ND	2500
Pentachlorophenol	ND	12500
Phenanthrene	ND	2500
Anthracene	ND	2500
Di-N-Butylphthalate	ND	2500
Fluoranthene	ND	2500
Pyrene	ND	2500
Butylbenzylphthalate	ND	2500
3,3'-Dichlorobenzidine	ND	2500
Benzo (A) Anthracene	ND	2500
Chrysene	ND	2500
Bis (2-Ethylhexyl) Phthalate	ND	2500
Di-N-Octylphthalate	ND	2500
Benzo (b) Fluoranthene	ND	2500
Benzo (k) Fluoranthene	ND	2500
Benzo (a) Pyrene	ND	2500
Indeno (1,2,3-Cd) Pyrene	ND	2500
Benzo (G, H, I) Perylene	ND	2500
Dibenz (A, H) Anthracene	ND	2500

ND = NOT DETECTED

EXTRACTION DATE: 02/15/95
ANALYSIS DATE: 02/17/95

Method Reference:

EPA Method 8270 ⁽¹⁾

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
SW-846.

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31641 31642
SAMPLE LOCATION: MW-7/3-5' MW-7/7-9'

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)		MDL ($\mu\text{g}/\text{kg}$)
Phenol	ND	ND	500
Bis (2-Chloroethyl) Ether	ND	ND	500
2-Chlorophenol	ND	ND	500
1,3-Dichlorobenzene	ND	ND	500
1,4-Dichlorobenzene	ND	ND	500
1-2 Dichlorobenzene	ND	ND	500
2-Methylphenol	ND	ND	500
2,2-oxybis (1-Chloropropane)	ND	ND	500
4-Methylphenol	ND	ND	500
N-Nitroso-Di-N-Propylamine	ND	ND	500
Hexachloroethane	ND	ND	500
Nitrobenzene	ND	ND	500
Isophorone	ND	ND	500
2-Nitrophenol	ND	ND	500
2,4-Dimethylphenol	ND	ND	500
Benzoic Acid	ND	ND	2500
Bis (2-Chloroethoxy) Methane	ND	ND	500
2,4-Dichlorophenol	ND	ND	500
1,2,4-Trichlorobenzene	ND	ND	500
Naphthalene	ND	ND	500
4-Chloroaniline	ND	ND	500
Hexachlorobutadiene	ND	ND	500
4-Chloro-3-Methylphenol	ND	ND	500
2-Methylnaphthalene	ND	ND	500
Hexachlorocyclopentadiene	ND	ND	500
2,4,6-Trichlorophenol	ND	ND	500
2,4,5-Trichlorophenol	ND	ND	500
2-Chloronaphthalene	ND	ND	2500
2-Nitroaniline	ND	ND	500
Dimethylphthalate	ND	ND	500
Acenaphthylene	ND	ND	500
Carbazole	ND	ND	500
Benzyl Alcohol	ND	ND	500
2,6-Dinitrotoluene	ND	ND	2500
3-Nitroaniline	ND	ND	500
Acenaphthene	ND	ND	2500
2,4-Dinitrophenol	ND	ND	2500
4-Nitrophenol	ND	ND	500
Dibenzofuran	ND	ND	500
2,4-Dinitrotoluene	ND	ND	500
Diethylphthalate	ND	ND	500
4-Chlorophenyl-Phenylether	ND	ND	500

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SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31641 31642
SAMPLE LOCATION: MW-2/3-5' MW-2/7-9'

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)		MDL ($\mu\text{g}/\text{kg}$)
Fluorene	ND	ND	500
4-Nitroaniline	ND	ND	2500
4,6-Dinitro-2-Methylphenol	ND	ND	2500
N-Nitrosodiphenylamine	ND	ND	500
4-Bromophenyl-Phenylether	ND	ND	500
Hexachlorobenzene	ND	ND	500
Pentachlorophenol	ND	ND	2500
Phenanthrene	ND	ND	500
Anthracene	ND	ND	500
Di-N-Butylphthalate	ND	ND	500
Fluoranthene	ND	ND	500
Pyrene	ND	ND	500
Butylbenzylphthalate	ND	ND	500
3,3'-Dichlorobenzidine	ND	ND	500
Benzo (A) Anthracene	ND	ND	500
Chrysene	ND	ND	500
Bis (2-Ethylhexyl) Phthalate	ND	ND	500
Di-N-Octylphthalate	ND	ND	500
Benzo (b) Fluoranthene	ND	ND	500
Benzo (k) Fluoranthene	ND	ND	500
Benzo (a) Pyrene	ND	ND	500
Indeno (1,2,3-Cd) Pyrene	ND	ND	500
Benzo (G, H, I) Perylene	ND	ND	500
Dibenz (A, H) Anthracene	ND	ND	500

ND = NOT DETECTED

EXTRACTION DATE: 02/22/95 02/22/95
ANALYSIS DATE: 02/22/95 02/22/95

Method Reference:

EPA Method 8270 (1)

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
SW-846.

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31643
SAMPLE LOCATION: MW-7/TOP OF BEDROCK

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)	MDL ($\mu\text{g}/\text{kg}$)
Phenol	ND	500
Bis (2-Chloroethyl) Ether	ND	500
2-Chlorophenol	ND	500
1,3-Dichlorobenzene	ND	500
1,4-Dichlorobenzene	ND	500
1-2 Dichlorobenzene	ND	500
2-Methylphenol	ND	500
2,2-oxybis (1-Chloropropane)	ND	500
4-Methylphenol	ND	500
N-Nitroso-Di-N-Propylamine	ND	500
Hexachloroethane	ND	500
Nitrobenzene	ND	500
Isophorone	ND	500
2-Nitrophenol	ND	500
2,4-Dimethylphenol	ND	500
Benzoic Acid	ND	2500
Bis (2-Chloroethoxy) Methane	ND	500
2,4-Dichlorophenol	ND	500
1,2,4-Trichlorobenzene	ND	500
Naphthalene	ND	500
4-Chloroaniline	ND	500
Hexachlorobutadiene	ND	500
4-Chloro-3-Methylphenol	ND	500
2-Methylnaphthalene	ND	500
Hexachlorocyclopentadiene	ND	500
2,4,6-Trichlorophenol	ND	500
2,4,5-Trichlorophenol	ND	500
2-Chloronaphthalene	ND	500
2-Nitroaniline	ND	2500
Dimethylphthalate	ND	500
Acenaphthylene	ND	500
Carbazole	ND	500
Benzyl Alcohol	ND	500
2,6-Dinitrotoluene	ND	2500
3-Nitroaniline	ND	500
Acenaphthene	ND	500
2,4-Dinitrophenol	ND	2500
4-Nitrophenol	ND	2500
Dibenzofuran	ND	500
2,4-Dinitrotoluene	ND	500
Diethylphthalate	ND	500
4-Chlorophenyl-Phenylether	ND	500

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SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31643
SAMPLE LOCATION: MW-7/TOP OF BEDROCK

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)	MDL ($\mu\text{g}/\text{kg}$)
Fluorene	ND	500
4-Nitroaniline	ND	2500
4,6-Dinitro-2-Methylphenol	ND	2500
N-Nitrosodiphenylamine	ND	500
4-Bromophenyl-Phenylether	ND	500
Hexachlorobenzene	ND	500
Pentachlorophenol	ND	2500
Phenanthrene	ND	500
Anthracene	ND	500
Di-N-Butylphthalate	ND	500
Fluoranthene	ND	500
Pyrene	ND	500
Butylbenzylphthalate	ND	500
3,3'-Dichlorobenzidine	ND	500
Benzo (A) Anthracene	ND	500
Chrysene	ND	500
Bis (2-Ethylhexyl) Phthalate	694	500
Di-N-Octylphthalate	ND	500
Benzo (b) Fluoranthene	ND	500
Benzo (k) Fluoranthene	ND	500
Benzo (a) Pyrene	ND	500
Indeno (1,2,3-Cd) Pyrene	ND	500
Benzo (G, H, I) Perylene	ND	500
Dibenz (A, H) Anthracene	ND	500

ND = NOT DETECTED

EXTRACTION DATE: 02/22/95

ANALYSIS DATE: 02/22/95

Method Reference:

EPA Method 8270 ⁽¹⁾

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
SW-846.

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31644
SAMPLE LOCATION: MW-8/SURFACE

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)	MDL ($\mu\text{g}/\text{kg}$)
Phenol	ND	5000
Bis (2-Chloroethyl) Ether	ND	5000
2-Chlorophenol	ND	5000
1,3-Dichlorobenzene	ND	5000
1,4-Dichlorobenzene	ND	5000
1-2 Dichlorobenzene	ND	5000
2-Methylphenol	ND	5000
2,2-oxybis(1-Chloropropane)	ND	5000
4-Methylphenol	ND	5000
N-Nitroso-Di-N-Propylamine	ND	5000
Hexachloroethane	ND	5000
Nitrobenzene	ND	5000
Isophorone	ND	5000
2-Nitrophenol	ND	5000
2,4-Dimethylphenol	ND	5000
Benzoic Acid	ND	250000
Bis (2-Chloroethoxy) Methane	ND	5000
2,4-Dichlorophenol	ND	5000
1,2,4-Trichlorobenzene	ND	5000
Naphthalene	5520	5000
4-Chloroaniline	ND	5000
Hexachlorobutadiene	ND	5000
4-Chloro-3-Methylphenol	ND	5000
2-Methylnaphthalene	ND	5000
Hexachlorocyclopentadiene	ND	5000
2,4,6-Trichlorophenol	ND	5000
2,4,5-Trichlorophenol	ND	5000
2-Chloronaphthalene	ND	250000
2-Nitroaniline	ND	5000
Dimethylphthalate	ND	5000
Acenaphthylene	ND	5000
Carbazole	ND	5000
Benzyl Alcohol	ND	5000
2,6-Dinitrotoluene	ND	250000
3-Nitroaniline	ND	5000
Acenaphthene	ND	250000
2,4-Dinitrophenol	ND	250000
4-Nitrophenol	ND	5000
Dibenzofuran	ND	5000
2,4-Dinitrotoluene	ND	5000
Diethylphthalate	ND	5000
4-Chlorophenyl-Phenylether	ND	5000

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SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31644
SAMPLE LOCATION: MW-8/SURFACE

PARAMETER	RESULTS (µg/kg)	MDL (µg/kg)
Fluorene	7200	5000
4-Nitroaniline	ND	250000
4,6-Dinitro-2-Methylphenol	ND	250000
N-Nitrosodiphenylamine	ND	5000
4-Bromophenyl-Phenylether	ND	5000
Hexachlorobenzene	ND	5000
Pentachlorophenol	ND	250000
Phenanthrene	20200	5000
Anthracene	5920	5000
Di-N-Butylphthalate	ND	5000
Fluoranthene	15300	5000
Pyrene	12000	5000
Butylbenzylphthalate	ND	5000
3,3'-Dichlorobenzidine	ND	5000
Benzo (A) Anthracene	ND	5000
Chrysene	ND	5000
Bis (2-Ethylhexyl) Phthalate	ND	5000
Di-N-Octylphthalate	ND	5000
Benzo (b) Fluoranthene	ND	5000
Benzo (k) Fluoranthene	ND	5000
Benzo (a) Pyrene	ND	5000
Indeno (1,2,3-Cd) Pyrene	ND	5000
Benzo (G, H, I) Perylene	ND	5000
Dibenz (A, H) Anthracene	ND	5000

ND = NOT DETECTED

EXTRACTION DATE: 02/15/95
ANALYSIS DATE: 02/17/95

Method Reference:

EPA Method 8270 (1)

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
SW-846.

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME:	STRATEGIC ANALYTICAL SYSTEMS	PROJECT NUMBER:	1199-95
SAMPLE TYPE:	SOIL	REPORT DATE:	02/27/95
SAMPLE DATE:	02/13/95	COLLECTED BY:	CLIENT
DATE RECEIVED:	02/13/95		

SAMPLE NUMBER:	31645	31646
SAMPLE LOCATION:	MW-8/3-5'	MW-8/5-7'

PARAMETER	RESULTS (µg/kg)	RESULTS (µg/kg)	MDL (µg/kg)
Phenol	ND	ND	500
Bis (2-Chloroethyl) Ether	ND	ND	500
2-Chlorophenol	ND	ND	500
1,3-Dichlorobenzene	ND	ND	500
1,4-Dichlorobenzene	ND	ND	500
1-2 Dichlorobenzene	ND	ND	500
2-Methylphenol	ND	ND	500
2,2-oxybis(1-Chloropropane)	ND	ND	500
4-Methylphenol	ND	ND	500
N-Nitroso-Di-N-Propylamine	ND	ND	500
Hexachloroethane	ND	ND	500
Nitrobenzene	ND	ND	500
Isophorone	ND	ND	500
2-Nitrophenol	ND	ND	500
2,4-Dimethylphenol	ND	ND	500
Benzoic Acid	ND	ND	2500
Bis (2-Chloroethoxy) Methane	ND	ND	500
2,4-Dichlorophenol	ND	ND	500
1,2,4-Trichlorobenzene	ND	ND	500
Naphthalene	ND	ND	500
4-Chloroaniline	ND	ND	500
Hexachlorobutadiene	ND	ND	500
4-Chloro-3-Methylphenol	ND	ND	500
2-Methylnaphthalene	ND	ND	500
Hexachlorocyclopentadiene	ND	ND	500
2,4,6-Trichlorophenol	ND	ND	500
2,4,5-Trichlorophenol	ND	ND	500
2-Chloronaphthalene	ND	ND	500
2-Nitroaniline	ND	ND	2500
Dimethylphthalate	ND	ND	500
Acenaphthylene	ND	ND	500
Carbazole	ND	ND	500
Benzyl Alcohol	ND	ND	500
2,6-Dinitrotoluene	ND	ND	500
3-Nitroaniline	ND	ND	2500
Acenaphthene	ND	ND	500
2,4-Dinitrophenol	ND	ND	2500
4-Nitrophenol	ND	ND	2500
Dibenzofuran	ND	ND	500
2,4-Dinitrotoluene	ND	ND	500
Diethylphthalate	ND	ND	500
4-Chlorophenyl-Phenylether	ND	ND	500

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SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31645 31646
SAMPLE LOCATION: MW-8/3-5' MW-8/5-7'

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)	MDL ($\mu\text{g}/\text{kg}$)
Fluorene	ND	500
4-Nitroaniline	ND	2500
4,6-Dinitro-2-Methylphenol	ND	2500
N-Nitrosodiphenylamine	ND	500
4-Bromophenyl-Phenylether	ND	500
Hexachlorobenzene	ND	500
Pentachlorophenol	ND	2500
Phenanthrene	ND	500
Anthracene	ND	500
Di-N-Butylphthalate	547	500
Fluoranthene	ND	500
Pyrene	ND	500
Butylbenzylphthalate	ND	500
3,3'-Dichlorobenzidine	ND	500
Benzo (A) Anthracene	ND	500
Chrysene	ND	500
Bis (2-Ethylhexyl) Phthalate	ND	500
Di-N-Octylphthalate	ND	500
Benzo (b) Fluoranthene	ND	500
Benzo (k) Fluoranthene	ND	500
Benzo (a) Pyrene	ND	500
Indeno (1,2,3-Cd) Pyrene	ND	500
Benzo (G,H,I) Perylene	ND	500
Dibenz (A,H) Anthracene	ND	500

ND = NOT DETECTED

EXTRACTION DATE: 02/22/95 02/22/95

ANALYSIS DATE: 02/22/95 02/22/95

Method Reference:

EPA Method 8270 (1)

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
SW-846.

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SEMI-VOLATILE ORGANICS ANALYSIS

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31647
SAMPLE LOCATION: MW-9/SURFACE

PARAMETER	RESULTS ($\mu\text{g}/\text{kg}$)	MDL ($\mu\text{g}/\text{kg}$)
Phenol	ND	500
Bis (2-Chloroethyl) Ether	ND	500
2-Chlorophenol	ND	500
1,3-Dichlorobenzene	ND	500
1,4-Dichlorobenzene	ND	500
1-2 Dichlorobenzene	ND	500
2-Methylphenol	ND	500
2,2-oxybis(1-Chloropropane)	ND	500
4-Methylphenol	ND	500
N-Nitroso-Di-N-Propylamine	ND	500
Hexachloroethane	ND	500
Nitrobenzene	ND	500
Isophorone	ND	500
2-Nitrophenol	ND	500
2,4-Dimethylphenol	ND	500
Benzoic Acid	ND	2500
Bis (2-Chloroethoxy) Methane	ND	500
2,4-Dichlorophenol	ND	500
1,2,4-Trichlorobenzene	ND	500
Naphthalene	ND	500
4-Chloroaniline	ND	500
Hexachlorobutadiene	ND	500
4-Chloro-3-Methylphenol	ND	500
2-Methylnaphthalene	560	500
Hexachlorocyclopentadiene	ND	500
2,4,6-Trichlorophenol	ND	500
2,4,5-Trichlorophenol	ND	500
2-Chloronaphthalene	ND	500
2-Nitroaniline	ND	2500
Dimethylphthalate	ND	500
Acenaphthylene	558	500
Carbazole	ND	500
Benzyl Alcohol	ND	500
2,6-Dinitrotoluene	ND	500
3-Nitroaniline	ND	2500
Acenaphthene	ND	500
2,4-Dinitrophenol	ND	2500
4-Nitrophenol	ND	2500
Dibenzofuran	ND	500
2,4-Dinitrotoluene	ND	500
Diethylphthalate	ND	500
4-Chlorophenyl-Phenylether	ND	500

GEOLABS, INC.
P.O. BOX 327
ACCORD, MA 02018
(617) 878-1346

SEMI-VOLATILE ORGANICS ANALYSIS
CONTINUED

CLIENT NAME: STRATEGIC ANALYTICAL SYSTEMS PROJECT NUMBER: 1199-95
SAMPLE TYPE: SOIL REPORT DATE: 02/27/95
SAMPLE DATE: 02/13/95 COLLECTED BY: CLIENT
DATE RECEIVED: 02/13/95

SAMPLE NUMBER: 31647
SAMPLE LOCATION: MW-9/SURFACE

PARAMETER	RESULTS (µg/kg)	MDL (µg/kg)
Fluorene	528	500
4-Nitroaniline	ND	2500
4,6-Dinitro-2-Methylphenol	ND	2500
N-Nitrosodiphenylamine	ND	500
4-Bromophenyl-Phenylether	ND	500
Hexachlorobenzene	ND	500
Pentachlorophenol	ND	2500
Phenanthrene	1800	500
Anthracene	527	500
Di-N-Butylphthalate	ND	500
Fluoranthene	1390	500
Pyrene	1430	500
Butylbenzylphthalate	ND	500
3,3'-Dichlorobenzidine	ND	500
Benzo (a) Anthracene	1010	500
Chrysene	1260	500
Bis (2-Ethylhexyl) Phthalate	ND	500
Di-N-Octylphthalate	ND	500
Benzo (b) Fluoranthene	944	500
Benzo (k) Fluoranthene	945	500
Benzo (a) Pyrene	859	500
Indeno (1,2,3-Cd) Pyrene	557	500
Benzo (G,H,I) Perylene	ND	500
Dibenz (A,H) Anthracene	ND	500

ND = NOT DETECTED

EXTRACTION DATE: 02/15/95

ANALYSIS DATE: 02/21/95

Method Reference:

EPA Method 8270 (1)

1) US EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,
SW-846.

GEOLABS
P.O. BOX 327
ACCORD, MA 02018

LIMITATIONS & EXCLUSIONS

All the professional opinions presented in this report are based solely on the scope of work conducted and sources referred to in our report. The data presented by GeoLabs in this report was collected and analyzed using generally accepted industry methods and practices at the time the report was generated. This report represents the conditions, locations and materials that were observed at the time the work was conducted. No inferences regarding other conditions, locations or materials, at a later or earlier time may be made based on the contents of the report. No other warranty, express or implied is made.

This report was prepared for the sole use of our client. Portions of the report may not be used independent of the entire report.

All analyses were performed within required holding times, in accordance with EPA protocols and using accepted QA/QC procedures. The information contained in this report is, to the best of my knowledge, accurate and complete.

DUE TO A TYPOGRAPHICAL ERROR THIS REPORT HAS BEEN REISSUED FROM
02/27/95 TO 04/05/95.



Strategic Analytical Systems, Inc.

39 SQUARE - CENTENNIAL BUILDING
BELLAWS FALLS, VT 05101

Phone: (802) 463-0733 Fax: (802) 463-0723

DVE 22 FEB 95

CHAIN OF CUSTODY

Company Name <i>Strategic Analytical</i>		Project No. <i>STB-CM-004</i>		Project Name <i>St. Buildings - Phase III</i>		Turn Around Time <i>Standard</i>		Due Date																																																																																																																							
Contact Person <i>Steven Brackett</i>		Address <i>As Above</i>		City		State		Zip		Telephone		Analysis Required																																																																																																																			
City		State										Zip		Telephone		<table border="1"> <tr><td colspan="8">No. of Containers</td></tr> <tr><td colspan="8" style="text-align: center;">8270</td></tr> <tr><td colspan="8" style="text-align: center;">/</td></tr> </table>								No. of Containers								8270								/								/								/								/								/								/								/								/								/								/								/							
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<i>STB-CM-004.1</i>	<i>2/13/95</i>	<i>9:00</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-1: Surface MW-6</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.2</i>		<i>9:10</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-1: 4.5' MW-6</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.3</i>		<i>10:05</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-1: 7.5'-8.0' MW-6</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.4</i>		<i>10:10</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-1: 12' MW-6</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.5</i>		<i>10:45</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-1: 22' MW-6</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.6</i>		<i>10:50</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-2: Surface MW-7</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.7</i>		<i>11:05</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-2: 3'-5' MW-7</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.8</i>		<i>11:15</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-2: 7'-9' MW-7</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.9</i>		<i>11:45</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-2: Top of Bedrock MW-7</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.10</i>		<i>12:00</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-3: Surface MW-8</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.11</i>		<i>12:45</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-3: 3'-5' MW-8</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.12</i>		<i>1:00</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>MW-3: 5'-7' MW-8</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.13</i>		<i>1:05</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>Surface: MW-4 MW-9</i>		<i>1</i>	<input checked="" type="checkbox"/>																																																																																																																						
<i>.14</i>		<i>1:45</i>		<input checked="" type="checkbox"/>	<i>S</i>	<i>No sample</i>																																																																																																																									

Matrix: A-Air C-Compost D-Diluent DW-Drinking Water **S-Soil** SL-Sludge WW-Wastewater

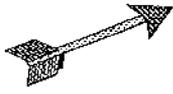
Sampler Type: Sampler's Signature: *[Signature]* Special Conditions:

Special Remarks/Requests: *Please fax results and mail hard copy.*

Relinquished by: (Signature) <i>[Signature]</i>	Date/Time <i>2/13/95 4:00 PM</i>	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Laplante Building

N



Boundary of STR Property



MW-14

5.1'

MW-6

5.3'

MW-4

5.2'

MW-7

7.9'

5.8'

6.8'

MW-8

5.5'

Lohutko Property

10.0'

7.0'

8.0'

26.8'

30.0'

Mineral St

MW-5

5.6'

MW-1

43.1'

Direction of Groundwater Flow

MW-9

Bedrock 4.0'

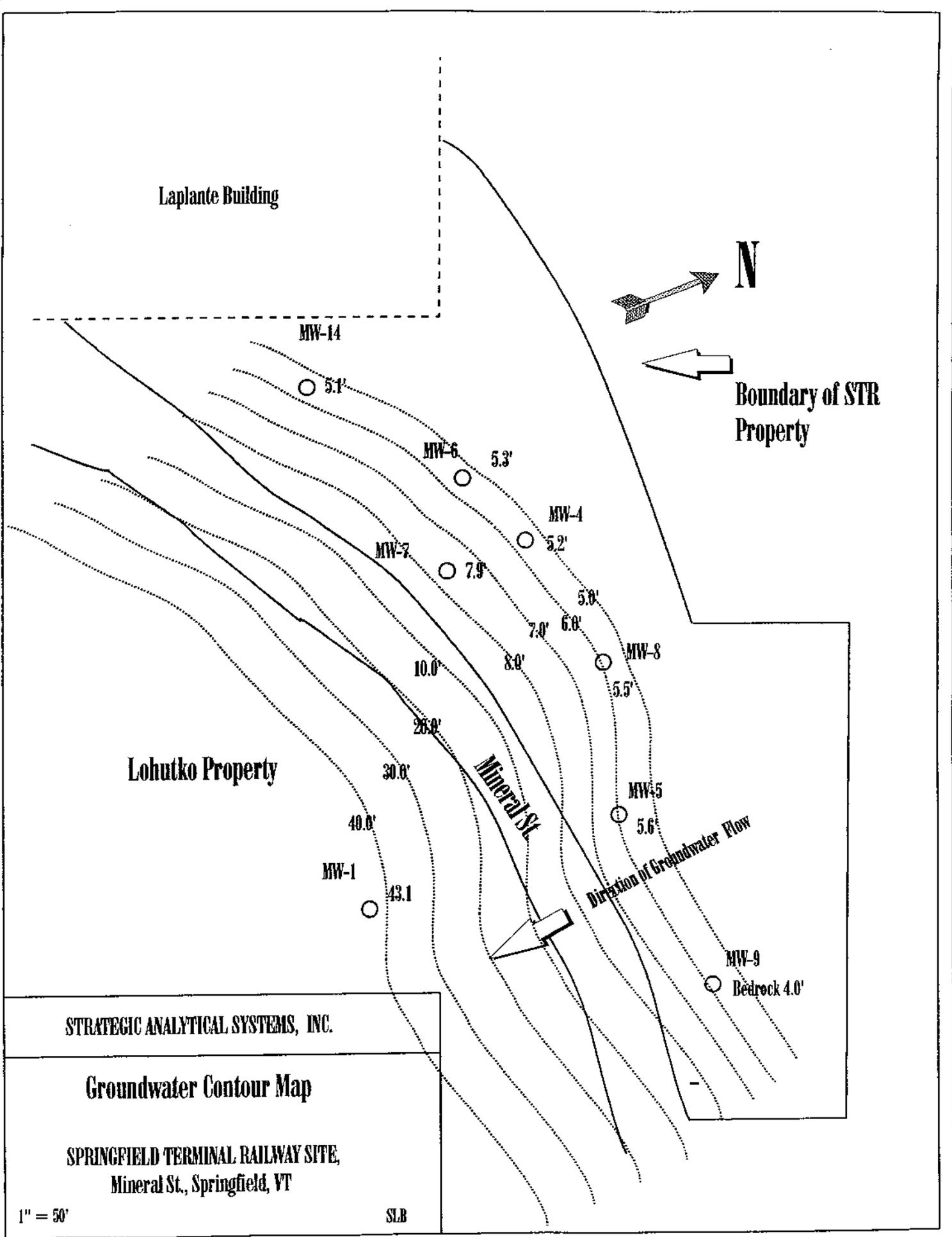
STRATEGIC ANALYTICAL SYSTEMS, INC.

Groundwater Contour Map

SPRINGFIELD TERMINAL RAILWAY SITE,
Mineral St., Springfield, VT

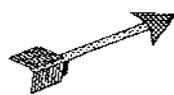
1" = 50'

SLB



Laplante Building

N



Boundary of STR Property



MW-14

strong smell and staining



MW-6

6800



MW-4

> 3600



MW-7

0



Mineral St.

MW-8

20820



MW-5

5800 ppb



MW-1

0 (est.)

10800 ppb



0

MW-9

8083



Lohutko Property

STRATEGIC ANALYTICAL SYSTEMS, INC.

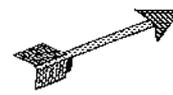
ISOPLETH MAP: Total Carcinogenic PAH's in Surface Soil (ppb)
SPRINGFIELD TERMINAL RAILWAY SITE,
Mineral St., Springfield, VT

1" = 50'

SLB

Laplante Building

N



Boundary of STR Property



MW-14



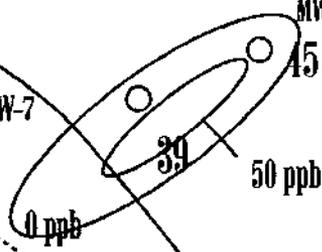
MW-6
ND



MW-4
45



MW-7



MW-8
ND



MW-5



Lohutko Property

MW-1



ND

Mineral St.

MW-9



STRATEGIC ANALYTICAL SYSTEMS, INC.

**ISOPLETH MAP: Total Carcinogenic
PAH's in Groundwater (ppb)**
SPRINGFIELD TERMINAL RAILWAY SITE,
Mineral St., Springfield, VT

1" = 50'

SLB

CROSS SECTION A-A"

Springfield Terminal Railway Site

MW-14

MW-6

MW-4

MW-8

MW-5

MW-9

