PO Box 787
368 Avenue D
Suite 15
Williston, VT 05495
Ph. 802.383.0486
Fax 802.383.0490

KAS INC
www.kas-consulting.com
ENVIRONMENTAL & GEOLOGICAL CONSULTING

October 14, 2011

Stantec Consulting Inc.
55 Green Mountain Drive
South Burlington, Vermont 05403
Attn: Mr. Jon Leinwohl, PE

RE: Phase I Environmental Site Assessments, AIP 78, Burlington International Airport, South Burlington, Vermont

Dear Mr. Leinwohl:

KAS, Inc. is pleased to present the attached Phase I Environmental Site Assessment (ESA) report for the AIP 74 above referenced properties. The ESA was conducted in compliance with ASTM E-1527-05. No recognized environmental conditions (RECs) were identified during this assessment.

The staining noted under the above ground storage tank inside the basement of the 1375 Airport Drive and on the concrete floor within the garage at 120 Airport Parkway are considered de minimis conditions as defined by ASTM and as outlined in Sections 9.0 and 10.0 of this report.

An additional investigation is deemed necessary to ascertain the presence or absence of a REC at the1375 Airport Drive, 1379 Airport Drive, and 120 Airport Parkway properties. The two Airport Drive properties each contained unidentified steel pipes protruding from the ground and an additional investigation is needed to determine if these pipes are associated with underground storage tanks. An interview with the former owner of 120 Airport Parkway indicated a dump used to be present adjacent to the property. Additional investigation is needed to ascertain whether or not this is a REC.

The residential structures on the properties have potential to contain asbestos-containing building materials (ACM) and lead-based paint (LBP) (except at 120 Airport Parkway and 396 White Street) and as such, further pre-demolition assessment of ACM and LBP are warranted.

The shed at 120 Airport Parkway that could not be accessed should be checked for the presence of petroleum products or hazardous substances prior to demolition.

Thank you for this opportunity to be of service. Please call me should you have questions.

Sincerely,

Angela Emerson

Angela Emerson
Environmental Professional
Enc/ cc: KAS #509110226

PHASE I
ENVIRONMENTAL SITE ASSESSMENT REPORT

AIP #78
Various Properties
South Burlington, Vermont 05403

October 14, 2011

Prepared for:

Stantec Consulting Inc.
55 Green Mountain Drive
South Burlington, Vermont 05403

Prepared by:

P.O. Box 787
368 Avenue D, Suite 15
Williston, VT 05495
(802) 383-0486
(802) 383-0490 fax
info@kas-consulting.com

KAS Proj. #509110226

Table of Contents

1.0 EXECUTIVE SUMMARY

KAS, Inc. of Williston, Vermont conducted a Phase I Environmental Site Assessment (ESA) of land and premises at six residential properties located in the City of South Burlington, Vermont (collectively referred to as AIP # 78). The ESA was conducted pursuant to the American Society of Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E 1527-05). This assessment was conducted for Stantec Consulting Inc. herein referred to as client. The owner of record of the property as of the date of this report is the City of Burlington, herein referred to as owner.[1] The user of this document is the Burlington International Airport.

AIP #78 consists of six individual residential properties located at the following addresses: 110, 120 Airport Parkway; 31 Dumont Avenue; 396 White Street; and, 1375 and 1379 Airport Drive (see Appendix A: Site Location Map and Appendix B: Site Plans). All of the properties are single family residential on 0.287 acre or less lots except 396 White Street which is a two family residential unit. The properties are located in a predominantly suburban residential portion of the City of South Burlington. The character of the area is fully developed with residential structures on suburban lots. Neighboring properties are also residential. East or south of the residential neighborhoods is the Burlington International Airport. To the north of the residential area is a commercial zone including retail stores, public works facility, and interstate 89. To the south is Williston Road and commercial uses associated with that area.

The six properties within AIP group #78 have been assessed and it has been determined that the historic and current uses have been for residential housing. Prior to the development of the properties the general area was determined to be used for agricultural purposes.

No recognized environmental conditions (RECs) were identified during this assessment. A REC is defined in ASTM E 1527 as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions."

Evidence of four of the properties using fuel oil to heat the structures was noted during the site reconnaissance. These properties are 110 Airport Parkway, 120 Airport Parkway, 1375 Airport Drive, and 1379 Airport Drive.

The remaining properties did not supply visual evidence suggesting oil was stored on these properties. Typical of Chittenden County urban areas, natural gas was installed in the 1960's

[1] City of South Burlington Land Records, various books, pages.

and many of the tanks and oil burners were removed or left in place. There was no evidence of fuel oil contamination encountered during the reconnaissance except at the 1375 Airport Drive property where some staining and sorbent material was noted under the AST in the basement. The staining was fairly minimal and no floor drains, sumps, or cracks were noted in the vicinity of the staining.

The staining noted under the above ground storage tank inside the basement of the 1375 Airport Drive and on the concrete floor within the garage at 120 Airport Parkway are considered de minimis conditions as defined by ASTM and as outlined in Sections 9.0 and 10.0.

None of the properties are included in regulatory database listings for environmental concerns. A few properties in the vicinity appear in the regulatory database report but none appear to present tangible environmental risk to the subject properties.

An additional investigation is deemed necessary to ascertain the presence or absence of a REC at the1375 Airport Drive, 1379 Airport Drive, and 120 Airport Parkway properties. The two Airport Drive properties each contained unidentified steel pipes protruding from the ground and an additional investigation is needed to determine if these pipes are associated with underground storage tanks. An interview with the former owner of 120 Airport Parkway indicated a dump used to be present adjacent to the property. Additional investigation is needed to ascertain whether or not this is a REC.

As part of the Phase I ESA, KAS also provided an opinion regarding asbestos-containing building materials (ACBMs) and lead-based paint (LBP) in accordance with 13.1.5 List of Additional Issues in the ASTM E 1527-05 Standard. In accordance with National Emissions Standard for Hazardous Air Pollutants (NESHAPS) – Asbestos and 18 VSA Chapter 26, a Pre-Demolition Asbestos Inspection shall be performed and NESHAPS notification submitted 10 business days prior to commencement of demolition of all structures. Based on the ages of the buildings (pre-1978), LBP may be present in all buildings except 120 Airport Parkway and 396 White Street. KAS recommends that paints present in the AIP 78 buildings except 120 Airport Parkway and 396 White Street be assumed to be lead based and the demolition contractor be required to comply with applicable local, state and federal safety and disposal requirements.

The following table is a summary of the environmental issues associated with each property:

Property	*Environmental Issues*	*Recommendations*
110 Airport Parkway	• ~275 gallon fuel oil AST in basement (empty) • 1 can WD40 • 1 qt outboard and snowmobile lubricant • Tires on bank of ravine • Suspect ACBM • Suspect LBP	• Remove AST from Residence • Remove materials from residence • No action needed for tires unless the use of retaining wall is ended – then they will need to be disposed of properly • Pre-Demolition Asbestos Inspection • Assume LBP is present

Property	*Environmental Issues*	*Recommendations*
120 Airport Parkway	• ~275 gallon fuel oil AST in basement (empty) • Minor staining on walls and floors of garage • Possible historic dump adjacent to subject property • Suspect ACBM	• Remove AST from residence • Conduct additional investigation to determine if historic dump is present • Pre-Demolition Asbestos Inspection
31 Dumont Avenue	• Heavily corroded 55 gallon drum in backyard • Suspect ACBM • Suspect LBP	• Remove drum from property • Pre-Demolition Asbestos Inspection • Assume LBP is present
396 White Street	• Possible septic system or holding tank on property • Suspect ACBM	• Excavate/dispose of holding tank • Pre-Demolition Asbestos Inspection
1375 Airport Drive	• ~275 gallon fuel oil AST in basement (3/8 full) • Staining on basement floor under AST • Unknown pipe on property • Suspect ACBM • Suspect LBP	• Remove AST from residence • Investigate area of pipe to determine if connected to a UST • Pre-Demolition Asbestos Inspection • Assume LBP is present
1379 Airport Drive	• AST pipe present on exterior wall – no AST in basement • Unknown pipe on property • Suspect ACBM • Suspect LBP	• Remove former AST pipes • Investigate area of pipe to determine if connected to a UST • Pre-Demolition Asbestos Inspection • Assume LBP is present

2.0 INTRODUCTION

KAS, Inc. of Williston, Vermont (KAS) conducted a Phase I Environmental Site Assessment (ESA) of land and premises at six residential properties located in the City of South Burlington, Vermont (collectively referred to as AIP # 78; see Appendix A: Site Location Map[2] and Appendix B: Site Plans). The ESA was conducted pursuant to the American Society of Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E 1527-05). This assessment was conducted for Stantec Consulting Inc. herein referred to as client. The owner of record of the property as of the date of this report is the City of Burlington, herein referred to as owner.[3] The user of this document is the Burlington International Airport.

2.1. Purpose

The purpose of this ESA was to identify recognized environmental conditions (RECs), historic RECs and de minimis conditions in association with the property as defined and described in the ASTM standard.

2.2. Detailed Scope-of-Services

KAS was engaged by client to conduct a Phase I ESA as defined in ASTM E-1527-05. The Phase I ESA work scope included the following elements:

- A general description of the site and vicinity, current property and adjoining property uses, description of improvements.
- An evaluation of user supplied information including land records, liens, limitations, specialized knowledge, and valuation information.
- A review of practically reviewable regulatory and historic records in connection with the property.
- A site reconnaissance including general site setting, interior and exterior observations.
- Interviews with owner, site manager, occupants, local government officials and others as available.
- Presentation of Findings, Opinion, Conclusions, Deviations and the results of any out of scope contract obligations between client and KAS.

Unless otherwise stated in Section 12.0 of this document, no invasive environmental testing was conducted, and no assessment or testing of asbestos, lead paint, radon or other structural environmental hazards was conducted. If any of these tasks were contracted between KAS and client, the methodology, limitations and results of such tasks may be presented in Section 12.0 of this document.

[2] USGS, 1987 and Acquired Land Location Plan
[3] City of South Burlington Land Records, various books, pages

3.0 SITE DESCRIPTION

3.1. Location

AIP #78 consists of six individual residential properties located at the following addresses: 110, 120 Airport Parkway; 31 Dumont Avenue; 396 White Street; and, 1375 and 1379 Airport Drive (see Appendix Site Location Map and Site Map). All of the properties are single family residential on 0.287 acre or less lots except 396 White Street which is a two family residential unit.

3.2. Site and Vicinity General Characteristics

The property is located in a predominantly suburban residential portion of the City of South Burlington, Vermont (see Site Location Map in Appendix 1). The character of the area is fully developed with residential structures on suburban lots. Neighboring properties are also residential. East or south of the residential neighborhoods is the Burlington International Airport. To the north of the residential area is a commercial zone including retail stores, public works facility, and interstate 89. To the south is Williston Road and commercial uses associated with that area. The general topography in the area is flat. Depth to groundwater is likely to be more than 10' below grade. The groundwater flow direction beneath the property is most likely toward the north based on the location of the Winooski River. The depth to groundwater and predicted flow direction were not confirmed during this Phase I ESA.

3.3. Current Use of the Property

As of September 22 and 23, 2011 (site reconnaissance dates) the properties were unoccupied and were not in use.

3.4. Descriptions of On-Site Structures, Roads and Other Improvements

As of September 22 and 23, 2011 the properties were developed as follows:

110 Airport Parkway	
Property Description:	The property consisted of 0.36 acres and hosted one 1,163 square foot single family residential building with a full basement. The on site building was a one and a half story wood framed building with a concrete block foundation and a concrete slab in the basement. The structure was reportedly built in 1955. The basement space was unfinished. The residential building was unoccupied on the date of the reconnaissance. A paved drive was located on the western portion of the property, and a grassy area was noted on the northern, eastern, and southern portions of the property. The property also contained a 460 square foot enclosed patio, a single bay garage, and two storage sheds. The garage, shed, and patios contained a large amount of personal belongings. The subject property was serviced by municipal water and sewer. Electric power and telephone utilities were noted overhead on the subject property.[4]

[4] Navin O'Grady Appraisal Services, 2009.

120 Airport Parkway	
Property Description:	The property consisted of 0.276 acres and hosted one 1,169 square foot single family residential building with a full basement. The on site building was a one story wood framed building with a concrete block foundation and a concrete slab in the basement. The structure was reportedly built in 1987. The basement space was partially finished. The residential building was unoccupied on the date of the reconnaissance. A paved drive was located on the western portion of the property, and a grassy area was noted on the northern, eastern, and southern portions of the property. The property also contained an attached garage and a small (11'X12') shed. Access to the shed could not be obtained during the site reconnaissance. The subject property was serviced by municipal water and sewer. Electric power and telephone utilities were noted overhead on the subject property.[4]

31 Dumont Avenue	
Property Description:	The property consisted of 0.26 acres and hosted one 1,163 square foot single family residential building with a full basement. The on site building was a one and a half story wood framed building with a concrete block foundation and a concrete slab in the basement. The structure was reportedly built in 1955. The basement space was partially finished. The residential building was unoccupied on the date of the reconnaissance. A gravel drive was located on the western portion of the property, and a grassy area was noted on the northern, eastern, and southern portions of the property. The property also contained a small open shed in the backyard. The subject property was serviced by municipal water and sewer. Electric power and telephone utilities were noted overhead on the subject property.[4]

396 White Street	
Property Description:	The property consisted of 0.287 acres and hosted one approximately 1,900 square foot residential two family building with a full basement. The on site building was a one to two story wood framed building with a concrete block foundation and a concrete slab in the basement. The structure was reportedly built in 1985. The basement space was partially finished. The residential building was unoccupied on the date of the reconnaissance. A gravel driveway was located on the western portion of the property, and a grassy area was noted on the remaining portions of the property. An approximately 430 square foot attached garage was present to the south of the residential building. An approximate 10'x10' storage shed was observed on the eastern side of the property. No other improvements were noted on the subject property. The subject property was serviced by municipal water and sewer. Electric power and telephone utilities were noted overhead on the subject property. [4]

1375 Airport Drive	
Property Description:	The property consisted of 0.16 acres and hosted one approximately 875 square foot residential single family building with a full basement. The on site building was a one story wood framed building with a concrete block foundation and a concrete slab in the basement. The structure was reportedly built in 1956. The basement space was unfinished. The residential building was unoccupied on the date of the reconnaissance. A paved driveway was located on the southern portion of the property, and a grassy area was noted on the remaining portions of the property. An approximate 6'x6' wooden shed was observed on the northern side of the property. No other improvements were noted on the subject property. The subject property was serviced by municipal water and sewer. Electric power and telephone utilities were noted overhead on the subject property. [4]

1379 Airport Drive	
Property Description:	The property consisted of 0.16 acres and hosted one approximately 864 square foot residential single family building with a full basement. The on site building was a one story wood framed building with a concrete block foundation and a concrete slab in the basement. The structure was reportedly built in 1956. The basement space was mostly finished. The residential building was unoccupied on the date of the reconnaissance. A paved driveway was located on the southern portion of the property, and a grassy area was noted on the remaining portions of the property. No other improvements were noted on the subject property. The subject property was serviced by municipal water and sewer. Electric power and telephone utilities were noted overhead on the subject property.[4]

3.5. Current Uses of Adjoining Properties

Land uses adjacent to the properties as of the date of this assessment were generally suburban residential except as follows.

- 1375 and 1379 Airport Drive are located adjacent to the parking lots for the Burlington International Airport.

4.0 USER SUPPLIED INFORMATION

4.1. Title Records

KAS reviewed chain of title information for the property at the City of South Burlington Clerk's office. The deeds were traced back to the first apparent development. No recorded environmental liens or other items of interest were found during the land record review. A summary of the land record research for each property is included in Appendix C.

4.2. Environmental Liens or Activity and Use Limitations

No environmental liens or activity and use limitations were discovered during review of land records. User did not provide positive information of the existence of environmental liens or activity and use limitations in connection with the properties.

4.3. Specialized Knowledge

User provided the following specialized knowledge regarding the properties: see Section 7.0.

4.4. Commonly Known or Reasonably Ascertainable Information

User provided the following commonly known or reasonable ascertainable information regarding the properties: see Section 7.0.

4.5. Valuation Reduction for Environmental Issues

User indicated that the transaction was executed at fair market value with no valuation reduction for environmental issues. KAS reviewed the appraisal conducted at each property prior to its purchase. No valuation reduction for environmental issues was noted in the appraisals.

4.6. Owner, Property Manager, and Occupant Information

User identified the property owner and manager as the Burlington International Airport. The properties are currently vacant.

4.7. Reasons for Performing Phase I

User indicated that this Phase I ESA was being performed in advance of demolition of the properties as part of the owner's noise impact reduction program.

4.8. Other User Supplied Information and Documentation

User provided the following other information and documentation: Appraisal Report prepared for each property by Navin O'Grady Appraisal Services and Property Location Plan acquired from Stantec Consulting Services, Inc.

5.0 RECORDS REVIEW

5.1. Standard Environmental Record Sources

5.1.1 Regulatory Database Search

KAS contracted with Environmental FirstSearch Technology Corporation to perform a review of state and federal regulatory records during this Phase I ESA. A copy of the FirstSearch Search Report is included in Appendix E. A summary of the pertinent data contained in the First Search report is presented below.

Property
The subject properties were not listed on the FirstSearch Report.

Immediately Adjacent Sites
One immediately adjacent Site to one or more of the subject properties (The Burlington International Airport) was listed on the FirstSearch Report as being a RCRA generator (RCRAGN) site, an underground storage tank (UST) site, and a leaking UST site.

Other Sites

All of the subject properties are in close proximity to the Burlington International Airport which was listed on the FirstSearch Report as being a RCRA generator (RCRAGN) site, an underground storage tank (UST) site, and a leaking UST site. Based on the FirstSearch Report various quantities of ignitable waste, corrosive waste, reactive waste, and petroleum products are stored at the Burlington International Airport. The storage of these materials classifies the site property as a RCRA generator site. The airport also has USTs present on the property. It is unclear from reading the FirstSearch Report exactly how many USTs are located on the property; however, the report does list fuel oil and aviation fuel as being present in some of the USTs. The FirstSearch report also indicates that several USTs have been removed from the Airport property. The FirstSearch Report indicates no contamination or contamination below state standards was found beneath several of the removed USTs; however, the report states that contamination was encountered above state standards at some of the removed UST locations. It appears the presence of contamination was reported to the Vermont Department of Environmental Conservation (VTDEC); however, no additional information is given on the extent of contamination.

The Hertz Rental Corp, located at the Burlington International Airport, was also listed on the FirstSearch Report has being a RCRA generator site, a UST site, and a state listed site. Based on the FirstSearch report one 10,000-gallon gasoline UST is currently present on the property and one was removed in 1992. The UST removed in 1992 appears to have leaked which resulted in contamination present on the property. The contamination has been monitored since 1992 and groundwater enforcement standards are currently exceeded in several wells. According to the FirstSearch Report there are no sensitive receptor impacts.

The North/South hanger at the Burlington International Airport is a state listed site according to the FirstSearch Report. Based on the report it appears a dry well was removed and contamination was encountered. However, the report indicates that the site was closed as of November 1999 and it does not appear additional work is necessary as a result of this contamination.

The Vermont Air National Guard located at the Burlington International Airport is a state listed site according to the FirstSearch Report. Based on the report remedial activities were conducted at this property in the summer 2004 to clean up petroleum contamination from above ground tanks and spills. According to the report sensitive receptors are impacted and the site is listed as a high priority clean up site by the VTDEC.

Several other sites are included in the FirstSearch report within ½ mile of the subject property. None of these properties appear to pose an environmental threat to the subject property. The listed properties are located downgradient from or at a significant distance away from the property so as to not pose a tangible environmental threat to the subject property.

5.2. Additional Environmental Record Sources

The following reports/documents pertaining to environmental investigations conducted on adjacent properties were reviewed on line at the VTDEC Waste Management Interactive Database (http://www.anr.state.vt.us/dec/wastediv/SMS/WMID_Intro.htm) during this Phase I ESA:

- Subsurface Investigation Report – Hertz Rent-A-Car, Burlington International Airport dated May 20, 1993 and prepared by Groundwater Technology, Inc;
- Site Investigation Report - Burlington International Airport Innotech Fuel Farm dated September 21, 1994 and prepared by Groundwater of Vermont;
- Vermont Department of Environmental Conservation Site Management Activity Completed Letter for the Ethan Allen Air Force Base, dated June 30, 1997;
- Vermont Department of Environmental Conservation Site Management Activity Completed Letter for the North/South Hanger Burlington International Airport, dated November 23, 1999; and,
- Site Status Letter, Vermont Air National Guard Base, May 2002.

These five documents pertain to the reported contamination at properties located at the Burlington International Airport. It appears that two of the properties, Ethan Allen Air Force Base (VTDEC Site #94-1663) and the North/South Hanger (VTDEC Site #97-2200) have received site closure status from the VTDEC.

According to the Subsurface Investigation Report dated June 4, 1993 prepared for the Hertz Car Rental property groundwater was documented to flow towards the northeast and contamination was determined to be limited to the immediate area of the site property.

According to the Site Investigation Report dated September 21, 1994 prepared for the Burlington International Airport Innotech Fuel Farm property groundwater was documented to flow towards the southwest. Contamination was determined to be extensive and the full extent of the plume was not defined.

According to the Site Status letter for the Vermont Air National Guard Base dated May 2002 contamination is present on this property from multiple sources including an former landfill dump areas, former dry wells, former underground storage tanks, and former fuel pits. Both petroleum and chlorinated contamination is present on this property which reportedly extends off the base property towards Poor Farm Road and Country Club Estates property.

Copies of these reports/documents are included in Appendix J.

5.3. Physical Setting Sources

5.3.1 USGS Topographic Maps

The most recent USGS topographic quadrangle map was reviewed during this assessment. No buildings are identified on the map due to the housing density of the area[5].

5.3.2 State Geological Maps

Bedrock in the vicinity of the property consists of Ordovician-aged Cutting Dolomite and/or Bascom formation.[6] Both bedrock units are carbonate rocks with varying amounts of sandstone. The overburden deposits in the area of the property are mapped as pebbly marine sand.[7]

5.3.3 Other Physical Setting Sources

KAS reviewed the current City of South Burlington Comprehensive Land Use Plan for information about the subject properties. According to this plan, land use of all the subject properties is currently residential. Future land uses are also indicated as residential.[8]

5.4. Historical Use Information on the Property and Adjoining Properties

5.4.1 Standard Historical Sources

Aerial Photographs

KAS reviewed aerial photographs dated May 1962,[9] April 1999[10] and April 2004.[11] The aerial photograph dated May 1962 depicts the subject properties and the surrounding properties in a similar configuration to that observed in September 2011 with the following exceptions; the 120 Airport Parkway and 396 White Street properties are not shown on the 1962 map. An April 1999 and April 2004 aerial photo of the subject property was reviewed on line at the KAS office. The photo shows the subject properties and the surrounding properties consistent with how they were observed in September 2011. Copies of the aerial photographs are included in Appendix E.

[5] USGS, 1987
[6] Doll et. al. 1961.
[7] Doll et. al. 1970.
[8] South Burlington Comprehensive Plan, Maps 1 and 6.
[9] VT 62-L Vermont Law Library
[10] MSR Aerial Photo
[11] Google Earth Image.

Fire Insurance Maps

KAS has determined that there is no available Sanborn Fire Insurance Map coverage for the subject properties.[12]

Historic USGS Topographic Maps

Two historic USGS topographic quadrangle maps were reviewed during this assessment. These included the 1906 and the 1948 USGS topographic quadrangle maps for Burlington, Vermont.[13] Based on review of these maps, in 1906 the area was largely undeveloped except for scattered buildings along the main roads. The Burlington Airport was not present in 1906. By 1948, the southeastern part of the airport had been developed and there were more structures along the roads. The northern part of the airport had not yet been developed. The resolution of these maps is not sufficient to determine the identity of individual homes included in this assessment.

6.0 SITE RECONAISSANCE

6.1. Methodology and Limiting Conditions

On September 22, 2011, Angela Emerson of KAS conducted a site reconnaissance to inspect the 110 Airport Parkway, 120 Airport Parkway, 31 Dumont Avenue, 1375 Airport Drive, and 1379 Airport Drive properties for indications of environmental risks or hazardous conditions. On September 23, 2011, Aaron Roth of KAS conducted a site reconnaissance to inspect the 396 White Street property for indications of environmental risks or hazardous conditions. A completed site inspection checklist is included in Appendix G. KAS was accompanied by Mr. Kurt Miller, employee and designated representative of the Burlington International Airport, during the site reconnaissance. Photographs of the property are included in Appendix D.

6.2. General Site Setting

6.2.1 Current Uses

All properties were single family residential housing except for 396 White Street which was a two family residential unit. All properties were not being used except for 120 Airport Parkway which was being used seasonally as a Halloween scare house.

6.2.2 Past Uses

Past uses appear to be as a single or multi family residential housing.

[12] FirstSearch No Coverage Letter.
[13] University of New Hampshire Collections.

6.2.3 Current and Past Uses of the Adjoining Properties

Current uses of adjacent properties are included in section 3.5. Past uses appear to be similar to current uses.

6.2.4 Current and Past Uses in the Surrounding Area

Surrounding area is predominately residential with the airport near by. Past uses appear to be similar to current uses.

6.2.5 Geologic, Hydrogeologic and Topographic Conditions

All properties are generally flat. No bedrock was observed.

6.2.6 General Description of Structures

The on-site housing structures consisted of a wood framed residential building with a full basement and concrete foundation. The buildings contained 2 to 4 bedrooms. All properties contained a garage which was either attached or detached from the residential building except at 31 Dumont Avenue, 1375 Airport Drive and 1379 Airport Drive. Sheds were noted at 110 Airport Parkway, 120 Airport Parkway, 396 White Street, 31 Dumont Avenue, and 1375 Airport Drive.

6.2.7 Roads

Airport Parkway is located immediately west of 110 and 120 Airport Parkway. Picard Circle is located immediately south of 120 Airport Parkway. White Street is located south of 396 White Street. Dumont Avenue is located east of 31 Dumont Street. 1375 Airport Drive is located at the northwest intersection of Airport Drive and Maryland Street while 1379 Airport Drive is located at the southwestern corner of Airport Drive and Maryland Street.

6.2.8 Potable Water Supply

Potable water supply is most likely municipal based on the proximity of fire hydrants near the subject properties. A water meter was noted to be present inside the basement at each property.

6.2.9 Sewage Disposal System

Sewage disposal system is most likely municipal based on the presence of sewer manholes in the vicinity of the subject properties.

6.3. Exterior Observations

6.3.1 Current Usage

The exterior of the subject properties is primarily used as driveways and parking areas. A lawn area is located behind the on site buildings.

6.3.2 Hazardous Substances and Petroleum Products

No evidence of hazardous substance and/or petroleum products were noted on the exterior of the subject properties except as noted in 6.3.3 and 6.3.6. Additionally, an empty, corroded, 55 gallon drum was located in the backyard of the 31 Dumont Avenue Property. No staining or odors were noted in the vicinity of the drum and no evidence of activities related to hazardous or petroleum substance use was noted in the vicinity of the drum.

6.3.3 Storage Tanks

No evidence of storage tanks were noted on the exterior of the subject properties except at 110 Airport Parkway, 120 Airport Parkway, 1375 Airport Drive, and 1379 Airport Drive, which each had fill pipes for an AST present on an exterior wall. Steel pipes were noted in the ground at 1375 and 1379 Airport Drive. The uses/purposes of these pipes could not be discerned during the site reconnaissance.

6.3.4 Odors

No unusual odors were noted on the subject properties.

6.3.5 Pools of Liquid

No pools of liquid were noted on the subject properties.

6.3.6 Drums

No drums were noted on the subject properties except at 31 Dumont Avenue. An empty, corroded, 55 gallon drum was located in the backyard of the 31 Dumont Avenue Property. No staining or odors were noted in the vicinity of the drum and no evidence of activities related to hazardous or petroleum substance use was noted in the vicinity of the drum.

6.3.7 PCBs

No evidence of PCB containing materials or products was noted on the subject properties.

6.3.8 Pits, Ponds and Lagoons

No pits, ponds, or lagoons were noted on the subject properties.

6.3.9 Stained Soil or Pavement

No stained soil or pavement was noted on the subject properties.

6.3.10 Stressed Vegetation

No evidence of stressed vegetation was noted on the subject properties.

6.3.11 Solid Waste

No evidence of solid waste was noted on the properties. Tires were observed on the bank of the steep gully behind the 110 Airport Parkway property. The tires appear to have been used as a retaining wall to hold the bank in place.

6.3.12 Drains and Waste Water

No evidence of waste water was noted on the subject properties except at 1379 Airport Drive, where a catch basin was noted at the end of the driveway (at the intersection of the driveway and Maryland Street).

6.3.13 Wells

No wells were noted on the subject properties.

6.3.14 Septic Systems

No evidence of septic systems were noted on the subject property except at 396 White Street where a holding tank was noted.

6.4. Interior Observations

6.4.1 Current Usage

The interior spaces of the on site buildings were not being used except at 120 Airport Parkway which was being used seasonally as Halloween scare houses.

6.4.2 Hazardous Substances and Petroleum Products

No hazardous substances or petroleum products were noted on the interior of the properties except as noted in Section 6.4.3. Additionally, 1 can of WD-40, 1 quart of outboard motor lubricant and one empty gas can were noted in the garage at 110 Airport Parkway.

6.4.3 Storage Tanks

No above ground storage tanks were noted in the on site buildings during the site reconnaissance except at 110 Airport Parkway, 120 Airport Parkway, and 1375 Airport Drive. The ASTs appeared to be in fair good condition. No spillage or staining was noted near the ASTs except at 1375 Airport Parkway where an area of staining was noted under the tank and some sorbent material was observed. Evidence of a former AST was noted at the 1379 Airport Drive property where a fill pipe was observed protruding from the building structure but no AST was observed in the basement.

6.4.4 Odors

No odors were noted during the site reconnaissance except mold/mildew odors in the basements.

6.4.5 Pools of Liquid

No pools of liquid were noted during the site reconnaissance.

6.4.6 Drums

No drums were noted during the site reconnaissance.

6.4.7 PCBs

No PCBs were noted during the site reconnaissance. Some of the buildings were noted to be built pre 1978 therefore it is possible the paint and/or caulk within these buildings could contain PCBs.

6.4.8 Heating and Cooling

Evidence suggesting the on-site buildings were heated via natural gas was noted at all of the properties except at 110 Airport Parkway, 120 Airport Parkway, and 1375 Airport where it appeared the buildings were heated by fuel oil. Also, historical evidence of the building being heated by fuel oil was found at 1379 Airport Drive.

6.4.9 Stains and Corrosion

No stains or corrosion was noted during the site reconnaissance except at 120 Airport Parkway and 1375 Airport drive. Staining was noted on the floors and walls of the garage of 120 Airport Parkway and staining was noted under a fuel oil AST in the basement of 1375 Airport Drive.

6.4.10 Drains and Sumps

No drains or sumps were noted during the site reconnaissance.

7.0 INTERVIEWS

7.1. Interview with Property Owner

The current property owner is the City of Burlington (see Section 7.5). KAS attempted to contact the past owners of the site properties to complete an interview questionnaire. Failed attempts were made for the subject properties except for 120 Airport Parkway and 1379 Airport Drive. Mike Franco, previous owner of 120 Airport Parkway, and Joseph Lemay, previous owner of 1379 Airport Drive, completed an interview questionnaire on October 11, 2011. Important points brought up during the interview included the following.

- The subject properties have always been used as a residential property to their knowledge and was agricultural land before that. Mr. Franco ran a small business out of his garage for approximately 5 years. He had a small machine shop where he would cut steel. The oils he used were water soluble and he coated the garage floor with epoxy to prevent any oil from penetrating the floor.
- Mr. Franco lived at the property since its construction in 1988 and Mr. Lemay lived at the property for approximately 40 years.
- No USTs or ASTs were known to exist on the properties.
- No hazardous substances were stored on the properties to their knowledge.
- Mr. Franco heard there used to be a dump in the location of the cul-de-sac and that it was used for cars. The cars were reportedly dug up and removed prior to the construction of the development.

7.2. Interview with Site Manager

See Section 7.5

7.3. Interview with Occupants

None; all units were unoccupied.

7.4. Interview with Local Government Officials

KAS interviewed Chief Douglas Brent and Captain Gary Rounds of the City of South Burlington Fire Department in person at the South Burlington Fire Department on September 26, 2011. Chief Brent and Captain Rounds have been with the department for more than 40 years. Neither Chief Brent nor Captain Rounds recall having responded to a hazardous materials incident at any of the properties in this AIP group or the surrounding properties during their tenure at the department.

7.5. Interview with Others

The user of this document (client) completed an interview form on October 14, 2011. A copy of the interview questionnaire is provided in Appendix F. Important information noted in the interview included the following.

- No environmental cleanups liens or activity and use limitations are known to exist for the properties.
- No environmental cleanups are known to have occurred at the properties.

8.0 FINDINGS

No RECs were identified during this Phase I ESA as defined by ASTM and as outlined in Sections 9.0 and 10.0.

9.0 OPINION

The properties have been adequately assessed and it has been determined that the historic and current uses have been for residential housing.

No RECs were identified during this assessment.

Evidence of four of the properties using fuel oil to heat the structures was noted during the site reconnaissance. These three properties are 110 Airport Parkway, 120 Airport Parkway, 1375 Airport Drive, and 1379 Airport Drive. The remaining properties did not supply visual evidence suggesting oil was stored on these properties. Typical of Chittenden County urban areas, natural gas was installed in the 1960's and many of the tanks and oil burners were removed or left in place. There was no evidence of fuel oil contamination encountered during the reconnaissance except at the 1375 Airport Drive property where some staining and sorbent material was noted

under the AST in the basement. The staining was fairly minimal and no floor drains, sumps, or cracks were noted in the vicinity of the staining.

Some staining was noted on the concrete floor and walls within the garage located at 120 Airport Parkway. No floor drains or sump were noted to be present in the garage and no cracks were noted in the concrete slab.

The staining noted under the AST inside the basement of the 1375 Airport Drive and on the garage floor and walls at 120 Airport Parkway properties are considered a de minimis condition as defined by ASTM and as outlined in Sections 9.0 and 10.0.

There are no nearby properties on record of environmental concern that present tangible environmental risk. The nearest properties are either located some distance away or in locations that do not appear to jeopardize the environmental status of these properties based on documented groundwater flow directions and/or contamination levels.

9.1 Additional Investigation

An additional investigation is deemed necessary to ascertain the presence or absence of a REC at the1375 Airport Drive, 1379 Airport Drive, and 120 Airport Parkway properties. The two Airport Drive properties each contained unidentified steel pipes protruding from the ground and an additional investigation is needed to determine if these pipes are associated with underground storage tanks. An interview with the former owner of 120 Airport Parkway indicated a dump used to be present adjacent to the property. Additional investigation is needed to ascertain whether or not this is a REC. No other investigations are deemed necessary to ascertain the presence or absence of RECs. Per ASTM E-1527-05, this opinion regarding additional investigations is only intended to convey those additional investigations that may be necessary to ascertain the presence or absence of a REC. It does not convey any recommendation relative to the need to evaluate identified RECs at the property.

10.0 CONCLUSIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527 of land and premises at ten residential properties located in the City of South Burlington, Vermont (collectively referred to as AIP # 78). Any exceptions to, or deletions from, this practice are described in Section 11.0 of this report. This assessment has revealed evidence of no recognized environmental conditions in connection with the subject properties.

The staining noted under the above ground storage tank inside the basement of the 1375 Airport Drive and on the concrete floor within the garage at 120 Airport Parkway are considered de minimis conditions as defined by ASTM and as outlined in Sections 9.0 and 10.0.

A recognized environmental condition is defined in ASTM E 1527 as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions."

An additional investigation is deemed necessary to ascertain the presence or absence of a REC at the1375 Airport Drive, 1379 Airport Drive, and 120 Airport Parkway properties. The two Airport Drive properties each contained unidentified steel pipes protruding from the ground and an additional investigation is needed to determine if these pipes are associated with underground storage tanks. An interview with the former owner of 120 Airport Parkway indicated a dump used to be present adjacent to the property. Additional investigation is needed to ascertain whether or not this is a REC.

11.0 DEVIATIONS

11.1. Deviations/Data Gaps

Noted deviations to the ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (ASTM E 1527-2005) included: inability to contact past owner of all the properties within AIP # 78 except 120 Airport Parkway and 1379 Airport Drive. A relatively complete historical record was presented for the property from 1906 to present. Most of the subject properties were developed in the 1950's except for (396 White Street and 120 Airport Parkway). There are several intervals where documentation gaps exceed the 5-year period specified in ASTM E 1527-05 at §8.3.2.1; however, in light of the continuous property usage (residential), it is KAS' opinion that the data gaps are not of significance.

11.2. Significant Assumptions

KAS undertook performance of this Phase I ESA according to the following assumptions: None.

11.3. Limitations and Exclusions

KAS has prepared this Phase I ESA report in accord with ASTM E-1527-05 using the best efforts of Environmental Professionals and information available at the time of preparation. This report is intended to convey a point-in-time environmental evaluation of the property, as well as relevant information on past uses. The user of this document must recognize the limitations inherent in conducting a Phase I ESA, as stated in ASTM E-1527-05, which include but are not necessarily limited to:

- This document does not address regulatory compliance issues and KAS makes no assurances relative to the federal, state or local regulatory compliance of the property (ref. Section 1.4).
- All appropriate inquiry as defined by ASTM E-1527-05 is not an exhaustive assessment of a clean property (ref. Section 4.5.2).
- A variable level of inquiry may be conducted depending on the specific characteristics and features of the property and the information developed during the course of the assessment (ref. Section 4.5.3).
- An assessment meeting or exceeding the requirements of ASTM E-1527-05 and completed less than 180 days prior to the date of acquisition or intended transaction is presumed to be valid (ref. Section 4.6).
- All appropriate inquiry as defined by ASTM E-1527-05 is not exhaustive and does not require assessment of historic uses more frequently than every five years (ref. Section 8.3.2.1).

11.4. Special Contractual Conditions

None.

11.5. User Reliance

This report is for the use and benefit of client as defined herein. Affiliates of client, and third parties authorized in writing by KAS and client, may rely upon this report to the extent that client is entitled to do so, provided said parties agree to abide by the limitations and exclusions as stated herein.

12.0 ADDITIONAL SERVICES

At Client request, KAS conducted a preliminary visual assessment of the potential for asbestos-containing building materials (ACM) and lead-based paint (LBP) in each of the assessed homes. This work did not include inspections as defined by relevant ACM/LBP regulations, and no sampling was conducted. The purpose of performing this work was to provide a preliminary indication of the need to conduct ACM/LBP inspections in the future. This work was performed pursuant to §13.1.5 “List of Additional Issues” contained in ASTM E 11527-05.

The results of this preliminary visual assessment were as follows: Due to the age of the structures all six properties within AIP Group #74 were determined to have the potential to contain ACM and LBP. All of the properties will be required to undergo asbestos inspections prior to demolition, and many will have LBP issues due to their age.

13.0 REFERENCES

1. United States Geological Survey (USGS), Topographic Map of South Burlington, Vermont, 1987, viewed on line at www.msrmaps.com
2. City of South Burlington Land Records viewed in person at the South Burlington City Clerk's office, 575 Dorset Street, South Burlington, Vermont.
3. Environmental FirstSearch Technology Corporation, Norwood, MA, FirstSearch Database Report for South Burlington, Vermont, acquired by KAS on September 20, 2011.
4. Navin O'Grady Appraisal Reports, 2009.
5. Subsurface Investigation Report – Hertz Rent-A-Car, Burlington International Airport, May 20, 1993, prepared by Groundwater Technology, Inc viewed on line at the Vermont DEC Waste Management Interactive Database http://www.anr.state.vt.us/WMID/HazSites.aspx.
6. Site Investigation Report - Burlington International Airport Innotech Fuel Farm, September 21, 1994, prepared by Groundwater of Vermont viewed on line at the Vermont DEC Waste Management Interactive Database http://www.anr.state.vt.us/WMID/HazSites.aspx.
7. Vermont Department of Environmental Conservation Site Management Activity Completed Letter for the Ethan Allen Air Force Base, June 30, 1997 viewed on line at the Vermont DEC Waste Management Interactive Database http://www.anr.state.vt.us/WMID/HazSites.aspx.
8. Vermont Department of Environmental Conservation Site Management Activity Completed Letter for the North/South Hanger Burlington International Airport, November 23, 1999 viewed on line at the Vermont DEC Waste Management Interactive Database http://www.anr.state.vt.us/WMID/HazSites.aspx.
9. Site Status Letter, Vermont Air National Guard Base, May 2002 viewed on line at the Vermont DEC Waste Management Interactive Database
10. Doll, Charles G., ed., 1961, Centennial Geologic Map of Vermont, State of Vermont, on file at KAS' offices, Williston, Vermont.
11. Doll, Charles G., ed., 1970, Surficial Geologic Map of Vermont, State of Vermont, on file at KAS' offices, Williston, Vermont.
12. City of South Burlington Comprehensive Land-Use Plan, March 2011, viewed on line at http://www.southburlingtonvt.govoffice2.com/
13. Vermont Law Library, State St. Montpelier, Vermont, 1962 low altitude aerial photograph collection.
14. USGS, Aerial Photograph of South Burlington, Vermont, April 1999, viewed on line at www.msrmaps.com
15. Google Earth Image, South Burlington, Vermont April 2004.
16. Historic USGS Topographic Maps of South Burlington, Vermont acquired from the University of New Hampshire on line at http://docs.unh.edu
17. KAS, Inc. telephone interview with Mr. Mike Franco and Mr. Joseph Lemay on October 11, 2011.
18. KAS, Inc. personal interview with Chief Douglas Brent and Captain Gary Rounds of the City of South Burlington Fire Department on September 26, 2011; (802) 846-4110.
19. KAS, Inc. standard user questionnaire for ASTM E 1527-05 completed by Heather Kendrew on October 14, 2011.

14.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

We hereby certify that this Phase I Environmental Site Assessment report, as presented, is a complete and accurate record of our findings, to the best of our knowledge.

Prepared by:

Angela Emerson, Inspector, Environmental Professional

Reviewed by:

Alan Liptak, Environmental Professional

15.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of this part. We have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject property. We have developed and performed the All Appropriate Inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Angela Emerson, Environmental Professional

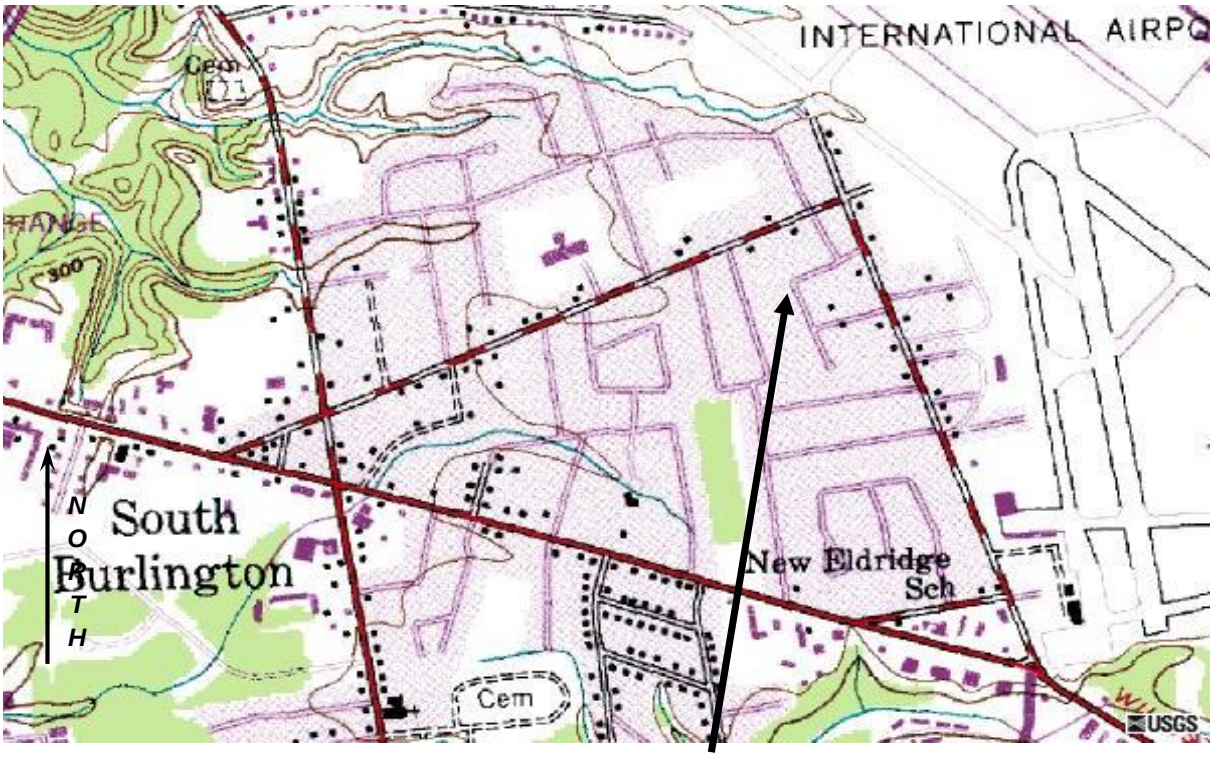
Alan Liptak, Environmental Professional

16.0 APPENDICIES

A. Site Location Maps
B. Site Plan
C. Land Record Research
D. Site Photographs
E. Historical Research Documentation
F. Regulatory Records Documentation
G. Interview Documentation
H. Site Reconnaissance Checklist
I. Qualifications of Environmental Professionals
J. Additional Environmental Records

APPENDIX A

SITE LOCATION MAPS



Subject Property Area

KAS Job Number *509110226*

Source: *http://msrmaps.com/*

KAS INC

Burlington International Airport
AIP 78, South Burlington, VT

Site Location map
July 1987 USGS Map

Date: 09/20/11	Drawing No. 0	Scale: 1:24,000	By: ARL

BURLINGTON INTERNATIONAL AIRPORT
HOUSE REMOVALS ON AIRPORT ACQUIRED LAND
LOCATION PLAN

N

MAGNETIC

AIRPORT PARKWAY

SHAMROCK RD

VERMONT ARMY NATIONAL GUARD AVIATION FACILITY

TAXIWAY FOXTROT

VERMONT AIR NATIONAL GUARD

SITE LOCATION PLAN - ACQUIRED BY STANTEC CONSULTING SERVICES, INC

RUNWAY 15-33

TAXIWAY GOLF

TAXIWAY HOTEL

TAXIWAY GOLF

SERVICE ROAD

KIRBY ROAD

AIRPORT PARKWAY

PICARD CIR

NO. HENRY CT

DUMONT AVE

SO. HENRY CT

PUMPLANE

DUVAL STREET

HANOVER ST

WHITE STREET

DELAWARE STREET

MARYLAND STREET

AIRPORT DRIVE

LEDOUX TERRACE

FAA CONTROL TOWER

BTV TERMINAL

PARKING GARAGE

TAXIWAY ALPHA

ELIZABETH STREET

PATRICK STREET

LOCKWOOD STREET

STREET ADDRESS LEGEND:

APD = AIRPORT DRIVE
APP = AIRPORT PARKWAY
DA = DUMONT AVENUE
DS = DELAWARE STREET
ES = ELIZABETH STREET
LT = LEDOUX TERRACE
MS = MARYLAND STREET
NHC = NORTH HENRY COURT
PS = PATRICK STREET
PC = PICARD CIRCLE
SR = SHAMROCK ROAD
WS = WHITE STREET

COLOR LEGEND:

AIP 74= BLUE
AIP 78= GREEN
AIP 81= CYAN
AIP 84= MAGENTA
AIP 87= RED
AIP MISC. GROUP = BLACK

Stantec Consulting Services Inc.
55 Green Mountain Drive
South Burlington, VT U.S.A.
05407-2246
Tel. 802.864.0223
Fax. 802.864.0165
www.stantec.com

Stantec

STANTEC PROJ. #195310592

0 200 400
SCALE

08 /25 /2011

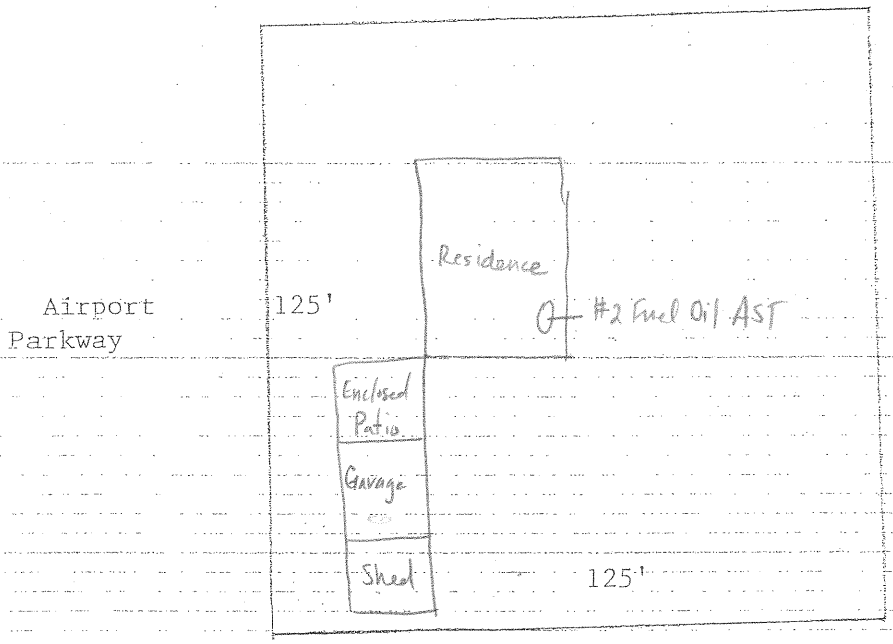
APPENDIX B

SITE PLAN

110 Airport Parkway

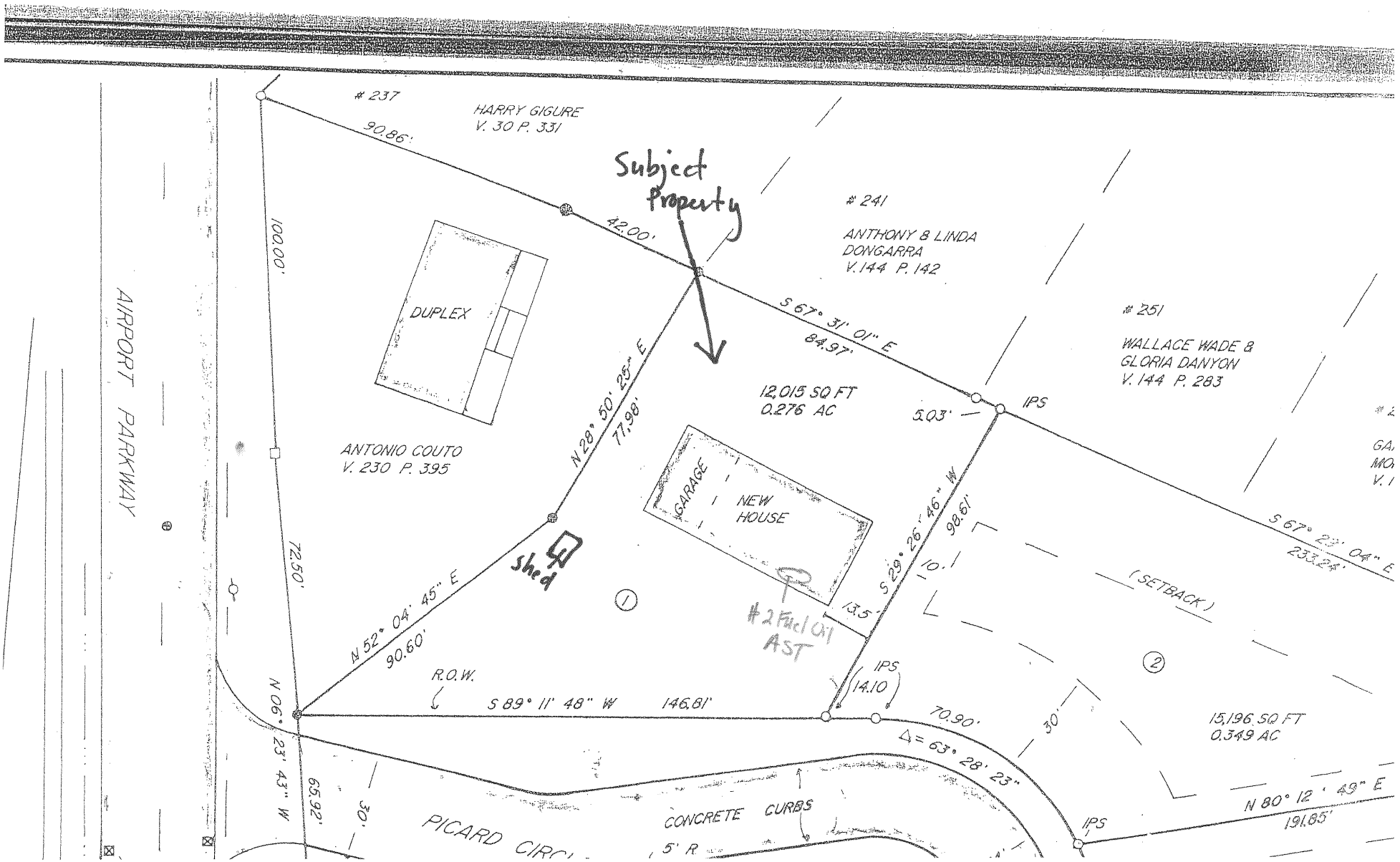
Site Plan

Obtained from Navin O'Grady Appraisal Services



1"=40'

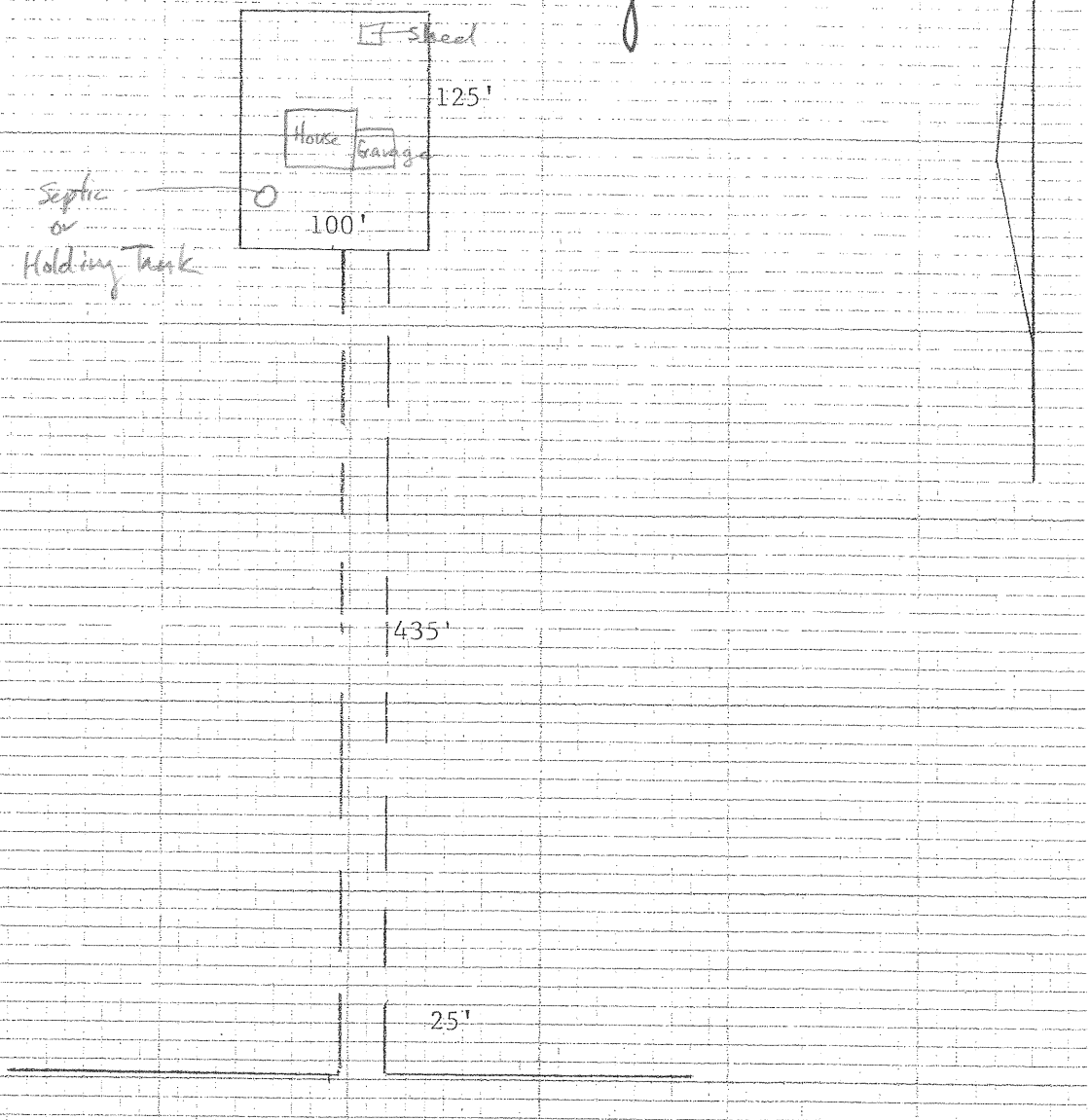
120 Airport Parkway
Site Plan
Obtained from Navin O'Grady
Appraisal Services



396 White St

Site Plan

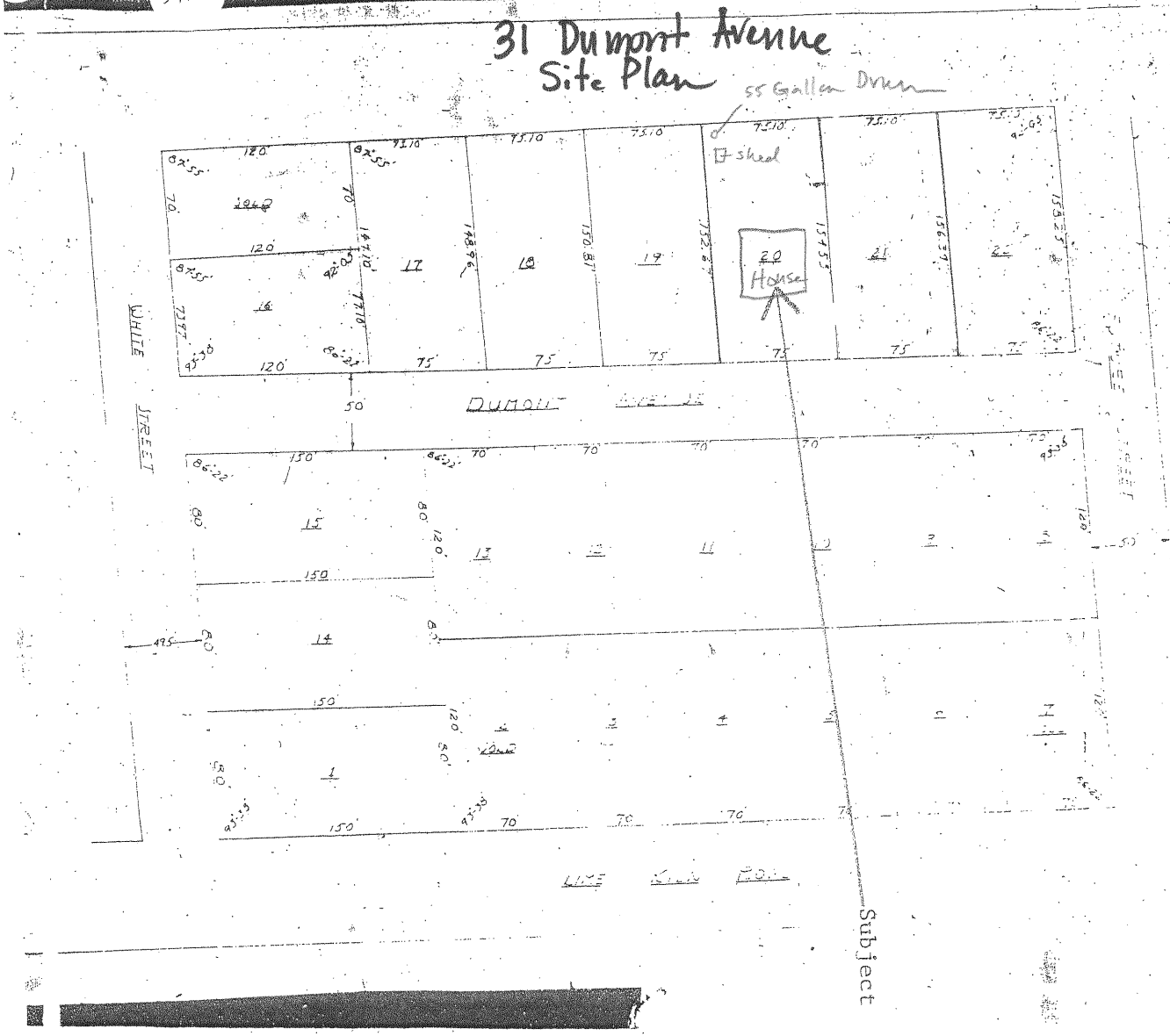
Obtained from Navin O'Grady Appraisal Services



1"=100'

S74.3

31 Dumont Avenue
Site Plan



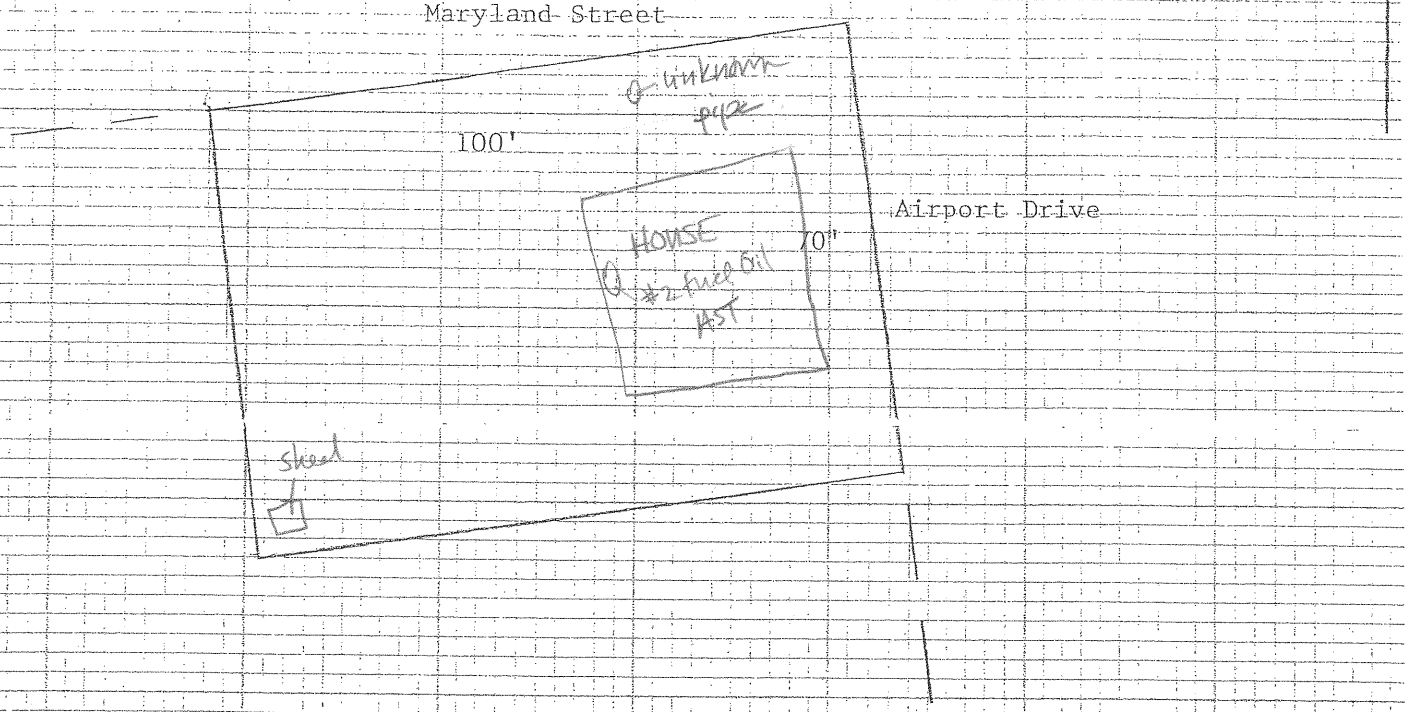
Obtained from Navin O'Grady Appraisal Services

VOL 10 P145

1375 Airport Drive

Site Plan

Obtained from Navin O'Grady Appraisal Services

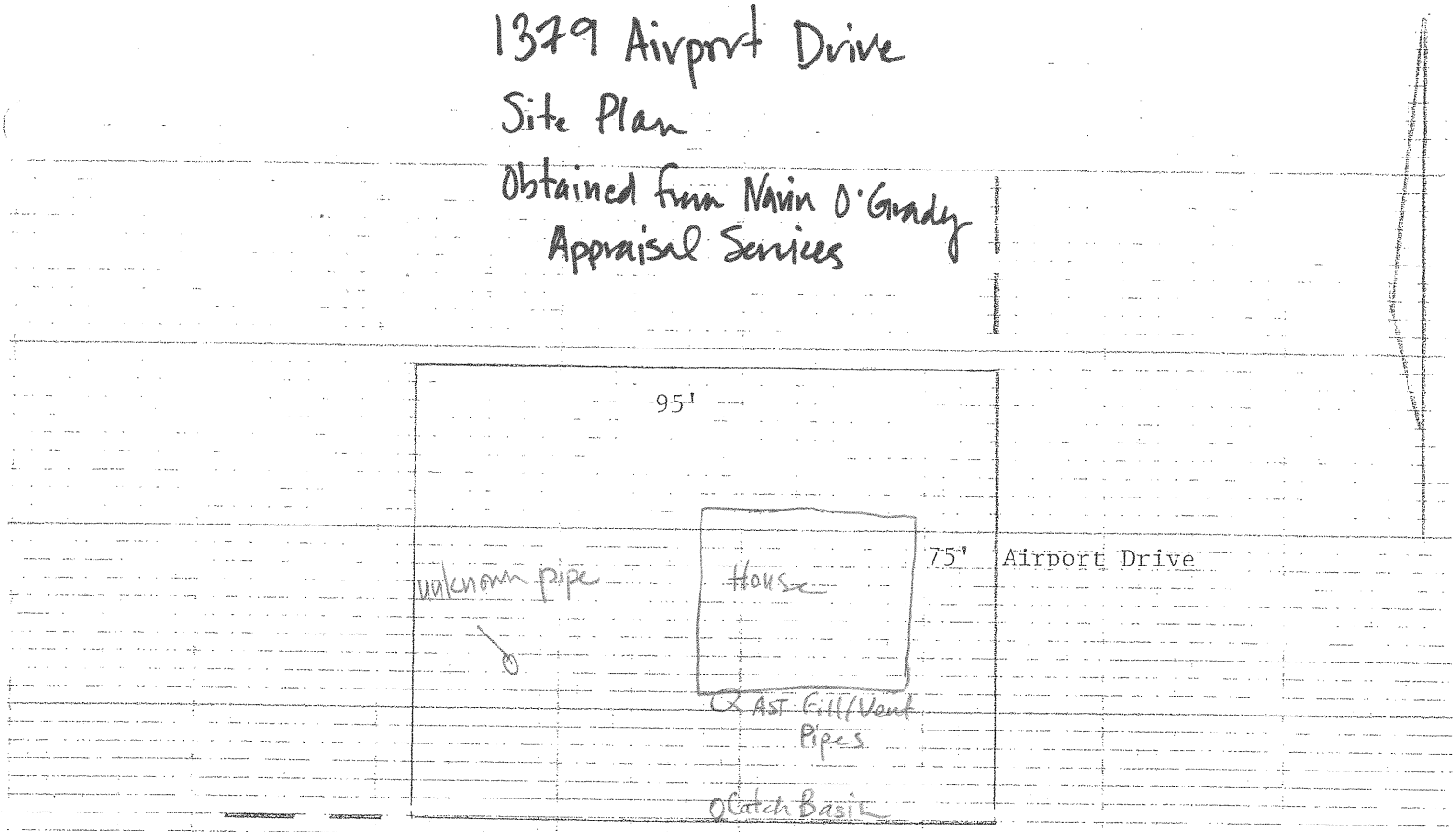


1"=30'

1379 Airport Drive

Site Plan

Obtained from Navin O'Grady Appraisal Services



APPENDIX C

LAND RECORD RESEARCH

Table 4-1 Property Ownership Summary – (110 Airport Parkway)				
Grantor	**Grantee**	**Book**	**Page**	**Date**
Patricia Cherry and Jared Hall	City of Burlington	891	169	9/1/2009*
Brian P. Heir – Administrator of estate of Margret Mary McCluskey	Patricia Cherry and Jared Hall	533	285	12/21/2001*
Howard C. Barber	James D. & Margret Mary McCluskey	94	440	7/17/1970*
Timothy L. & Jacqueline A. Eggleston	Howard C. Barber	85	340	7/26/1966*
Howard C. Barber	Timothy L. & Jacqueline A. Eggleston	44	309	1/2/1958*
Fredrick J. & Dorothy J. Wright	Howard C. Barber	44	299	12/18/1957*
Rowland E. & Katherine M. Peterson	Fredrick J. & Dorothy J. Wright	35	327	12/31/1954*
Henry & Mary Dumont	Rowland E. & Katherine M. Peterson	35	248	9/15/1954
Hiram F. Tilley	Henry & Mary Dumont	15	477	3/30/1942*
Henry and Mary Dumont	Hiram F. Tilley	12	521	3/30/1942*
Benjamin F. White	Henry & Mary Dumont	12	28	4/4/1927*
Robert E. & Eugene T. White	Benjamin F. White	11	329	9/13/1926*
Guy & Irene Iby	Benjamin White	8	417	3/18/1925*
Nelson E. & Minny Kingsley	Guy and Irene Iby	8	530	2/1/1921*
Chad Martin Sr. & Louise Martin	Nelson E. & Minny Kingsley	8	63	8/1/1910
John P. McKenzie	Charles Martin Sr.	3	468	2/23/1904

Table 4-1 Property Ownership Summary – (120 Airport Parkway)				
Grantor	**Grantee**	**Book**	**Page**	**Date**
Mike & Judith Franco	City of Burlington	889	49	8/18/2009*
Mary T. Franco	Mike & Judith Franco	287	240	10/11/1989*
Henry & Mary Dumont	Vito Franco	12	28	3/14/1939*
Benjamin F. White	Mary Dumont	12	28	4/4/1927*
Robert A. & Eugene T. White	Benjamin F. White	11	329	4/13/1926
Benjamin F. White	Robert and Eugene T. White	8	427	5/14/1925
Irene V. And Guy G. Iby	Benjamin F. White	8	417	5/14/1925
Nelson E. & Minney Kingsley	I&G Iby	8	530	2/1/1921
John P. McKenzie	Charles Martin Sr.	3	468	2/23/1904

Table 4-1 Property Ownership Summary – (31 Dumont Avenue)				
Grantor	**Grantee**	**Book**	**Page**	**Date**
Donna Bailey & Trista A. Cummingham	City of Burlington	892	242	9/10/2009*
Joshua W. Joy	Donna Bailey & Trista A. Cummingham	642	450	10/3/2003*
Maureen M. Cummingham	Maureen M. Cummingham & Arline Barovick-Peterson	265	96	6/29/1988*
Clayton J & Mary Lou Willamson	Maureen M. Cummingham	219	105	1/8/1987*
Margret J. & Brian Doubleday	Clayton J & Mary Lou Willamson	215	450	4/8/1986*
Kenneth L. & Loretta Lamphere	Margret J. & Brian Doubleday	194	354	8/29/1983*
Henry N. & Ethel L. Leclair	Kenneth L. & Loretta Lamphere	94	448	7/22/1970*

Table 4-1 Property Ownership Summary – (31 Dumont Avenue continued…)				
Grantor	**Grantee**	**Book**	**Page**	**Date**
Raymond H. & Audrey LaBounty	Henry N. & Ethel L. Leclair	78	5	8/30/1965*
Rowland E. Peterson & Howard C. Barber	Raymond H. & Audrey LaBounty	39	63	10/19/1955*
Henry & Mary Dumont	Rowland E. Peterson & Howard C. Barber	35	383	2/24/1955
Hiram F. Tilley	Henry & Mary Dumont	15	477	3/30/1942
Henry and Mary Dumont	Hiram F. Tilley	12	521	3/30/1942
Benjamin F. White	Henry & Mary Dumont	12	28	4/4/1927
Robert A. & Eugene T. White	Benjamin F. White	11	329	4/13/1926
Benjamin F. White	Robert and Eugene T. White	8	427	5/14/1925
Irene V. And Guy G. Iby	Benjamin F. White	8	417	5/14/1925
Nelson E. & Minney Kingsley	I&G Iby	8	530	2/1/1921
John P. McKenzie	Charles Martin Sr.	3	/468	2/23/1904

Table 4-1 Property Ownership Summary – (396 White Street)				
Grantor	**Grantee**	**Book**	**Page**	**Date**
Tom & Cheryl M. Dunkley	City of Burlington	885	21	3/15/2010*
David Legrow	Tom & Cheryl M. Dunkley	573	631	10/24/2002*
Sonia C. Silva	David Legrow	212	63	5/2/1985*
Bruce W. & Sandra Cote	Sonia C. Silva	199	132	12/2/1983
Richard C. & Brenda C. Sprano	Bruce W. & Sandra Cote	139	224	12/13/1977
Robert E. & Roberta M. Sprano	Richard C. & Brenda C. Sprano	155	520	7/23/1974
Fred & Florence Desellies	Robert E. & Roberta M. Sprano	85	222	4/21/1967

Table 4-1 Property Ownership Summary – (1375 Airport Drive)				
Grantor	**Grantee**	**Book**	**Page**	**Date**
Alberta L. Deavitt	City of Burlington	900	251	10/21/2009*
Alcide A. Tessler Jr	Alberta L. Deavitt	419	66	11/26/1997
Laura Tessler	Alcide A. Tessler Jr	199	172	12/16/1983*
Donald & Constance Brayman	Alcide Tessler & Laura Tessler & Alcide A. Tessler Jr	78	232	3/14/1966*
Arden R. & Ruth M. Van Dusen	Donald & Constance Brayman	61	233	6/9/1962*
Burt Ray & Hazel Bertha Wild	Arden R. & Ruth M. Van Dusen	56	183	9/27/1960*
Sumner C. Whittier, Administrator of Veterans Affairs	Burt Ray & Hazel Bertha Wild	50	268	6/25/1959*
Burlington Savings and Loan Association	Sumner C. Whittier, Administrator of Veterans Affairs	44	493	8/6/1958
Perley & Jeanette Elwood (foreclosure)	Burlington Savings and Loan Association	NR	NR	6/10/1958

Table 4-1 Property Ownership Summary – (1379 Airport Drive)				
Grantor	**Grantee**	**Book**	**Page**	**Date**
Joseph H.E. & Barbara I. Lemay	City of Burlington	895	50	9/17/2009*
Frederick R. & Louise A. McGibney	Joseph H.E. & Barbara I. Lemay	96	445	5/3/1971*

Table 4-1 Property Ownership Summary – (1379 Airport Drive continued…)				
Grantee	**Book**	**Page**	**Date**	
Charles R. & Mary P. Stanley	Frederick R. & Louise A. McGibney	78	177	1/27/1966*
Louis J. & Patricia A. Paini	Charles R. & Mary P. Stanley	66	75	5/27/1963*
Regis Paul & Joyce Nolan	Louis J. & Patricia A. Paini	61	33	10/6/1961*
Clarence L. & Helen B. DeForge	Regis Paul & Joyce Nolan	39	626	3/15/1957*
Rowland E. Peterson & Howard C. Barber	Clarence L. & Helen B. DeForge	39	292	5/11/1956
Anna L. LeDoux & Florence E. Foisy	Rowland E. Peterson & Howard C. Barber	39	173	2/15/1956

*=Dwelling noted in deed

APPENDIX D

SITE PHOTOGRAPHS

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 01 22-Sep-11 Location: 110 Airport Parkway Direction: North Comments: Front of single family housing structure	
Photograph ID: 02 22-Sep-11 Location: 110 Airport Parkway Direction: East Comments: Garage at 110 Airport Parkway	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 03 22-Sep-11 Location: 110 Airport Parkway Direction: North Comments: Photo of tires at the edge of the ravine	
Photograph ID: 04 22-Sep-11 Location: 110 Airport Parkway Direction: West Comments: Petroleum products in garage	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 05 22-Sep-11 Location: 110 Airport Parkway Direction: North Comments: View of the interior living space	
Photograph ID: 06 22-Sep-11 Location: 110 Airport Parkway Direction: North Comments: View of AST in Basement	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 07 22-Sep-11 Location: 120 Airport Parkway Direction: Northwest Comments: Front of single family housing structure	
Photograph ID: 08 22-Sep-11 Location: 120 Airport Parkway Direction: Southwest Comments: View of shed - could not access	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 09 22-Sep-11 Location: 120 Airport Parkway Direction: West Comments: Staining on floor and walls in garage	
Photograph ID: 010 22-Sep-11 Location: 120 Airport Parkway Direction: Northwest Comments: View of interior living space	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 011 22-Sep-11 Location: 120 Airport Parkway Direction: South Comments: View of AST in basement	
Photograph ID: 012 22-Sep-11 Location: 31 Dumont Avenune Direction: Southwest Comments: Front of single family housing structure	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 013 22-Sep-11 Location: 31 Dumont Avenune Direction: South Comments: View of shed in backyard	
Photograph ID: 014 22-Sep-11 Location: 31 Dumont Avenune Direction: South Comments: 55 gallon drum on subject property	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 015 22-Sep-11 Location: 31 Dumont Avenune Direction: East Comments: View of interior living space	
Photograph ID: 016 23-Sep-11 Location: 396 White Street Direction: East Comments: Front of two family housing structure	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 017 23-Sep-11 Location: 396 White Street Direction: North Comments: View of probable septic or holding tank	
Photograph ID: 018 23-Sep-11 Location: 396 White Street Direction: West Comments: View of interior living space	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 019 22-Sep-11 Location: 1375 Airport Drive Direction: South Comments: Front of single family housing structure	
Photograph ID: 020 22-Sep-11 Location: 1375 Airport Drive Direction: East Comments: View of shed on subject property	

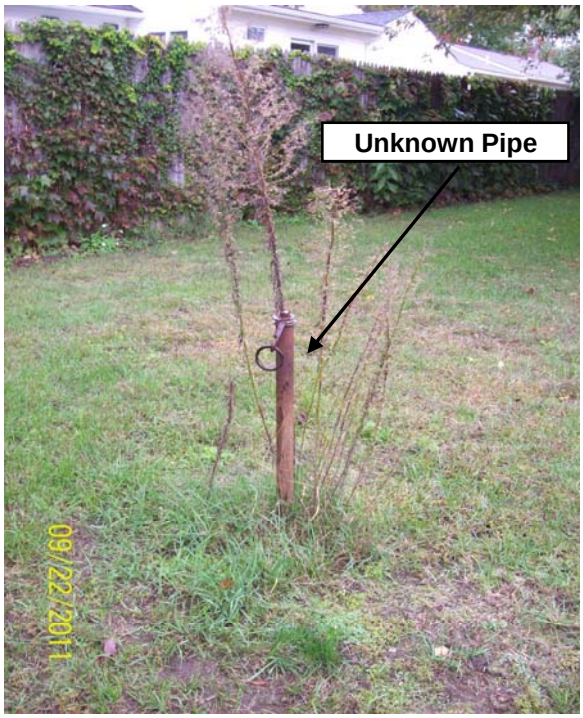
Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 021 22-Sep-11 Location: 1375 Airport Drive Direction: 1375 Airport Drive Comments: View of crushed unknown pipe	
Photograph ID: 022 22-Sep-11 Location: 1375 Airport Drive Direction: South Comments: View of interior living space	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 023 22-Sep-11 Location: 1375 Airport Drive Direction: South Comments: View of the AST in the basement space with staining and sorbent material	
Photograph ID: 024 22-Sep-11 Location: 1379 Airport Drive Direction: South Comments: Front of single family housing structure	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

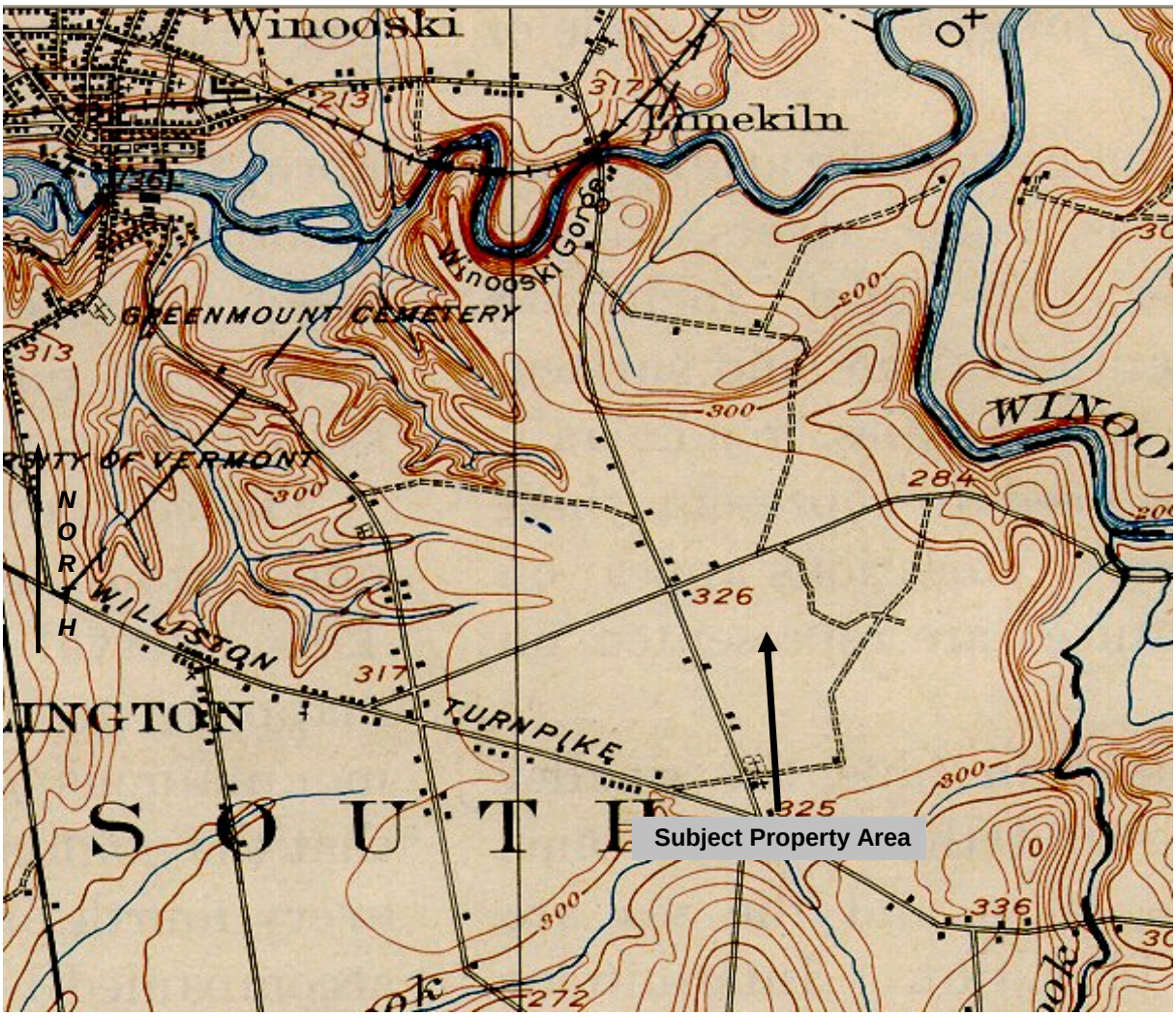
Photograph ID: 025 22-Sep-11 Location: 1379 Airport Drive Direction: South Comments: Unknown pipe on the subject property	
Photograph ID: 026 22-Sep-11 Location: 1379 Airport Drive Direction: West Comments: Former AST pipes with no AST	

Photographic Documentation
Phase I Environmental Site Assessment
Burlington International Airport
AIP 78, South Burlington, VT
KAS Job #509110226

Photograph ID: 027 22-Sep-11 Location: 1379 Airport Drive Direction: South Comments: View of the interior living space	
Photograph ID: 028 22-Sep-11 Location: 1379 Airport Drive Direction: North Comments: View of the interior living space	

APPENDIX E

HISTORICAL RESEARCH DOCUMENTATION



KAS Job Number *509110226*

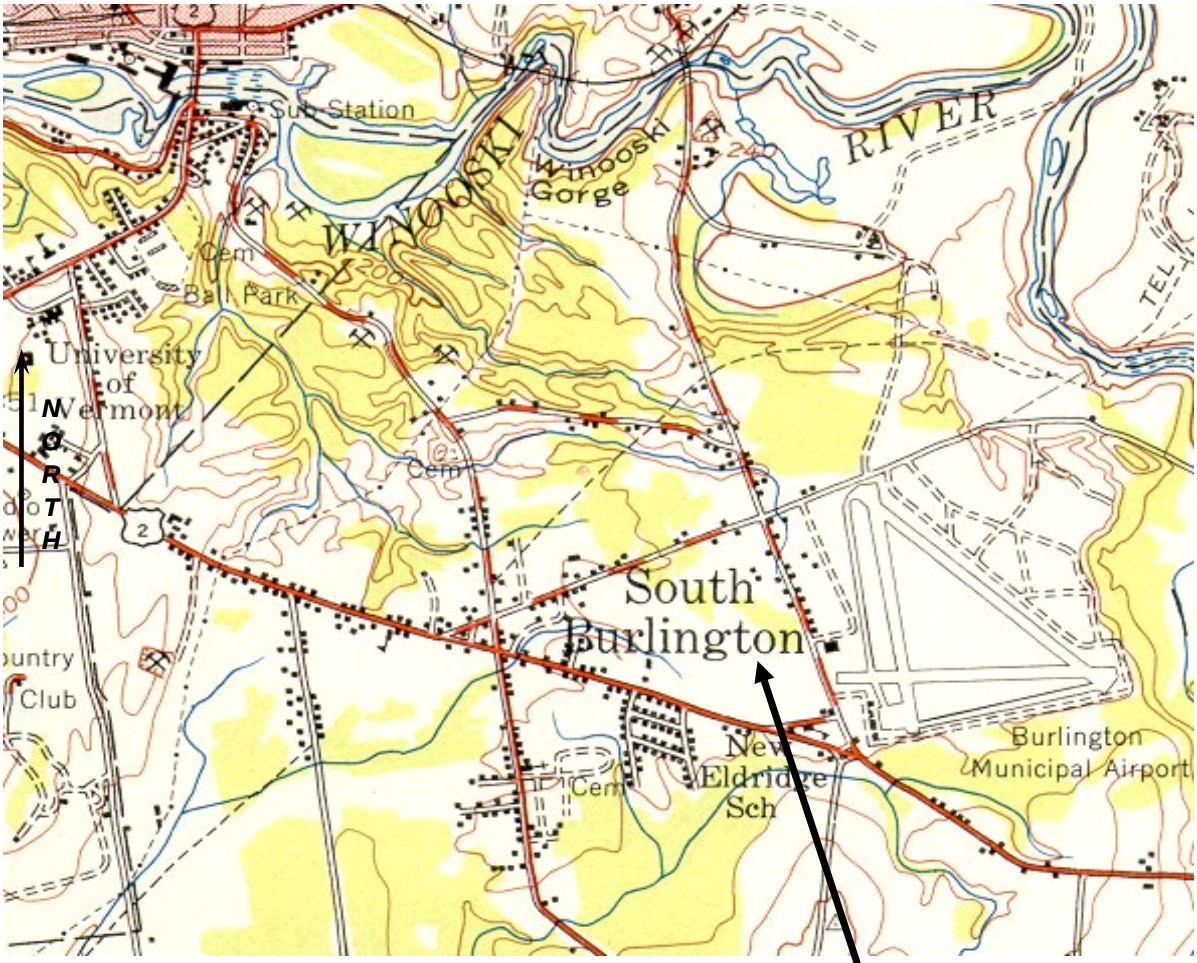
Source: *University of New Hampshire on line map collection, http://docs.unh.edu*

KAS INC

Burlington International Airport
AIP 78, South Burlington, VT

1906 USGS Topographic Map

Date: 09/20/11	Drawing No. 0	Scale: 1:62,500	By: AE



KAS Job Number *509110226*

Source: *University of New Hampshire on line map collection, http://docs.unh.edu*

KAS INC

Burlington International Airport
AIP 78, South Burlington, VT

1948 USGS Topographic Map

Date: 09/20/11	Drawing No. 0	Scale: 1:62,500	By: ARL

KAS Job Number *509110226*

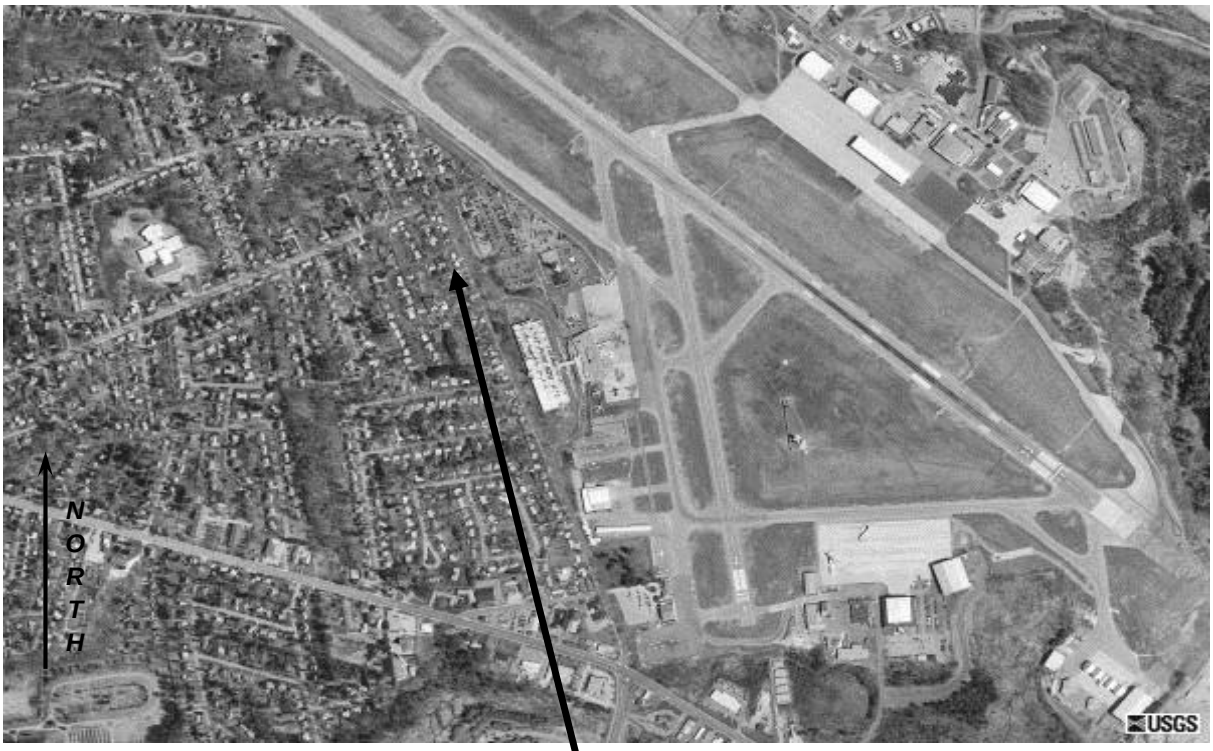
Source: *Vermont Law Library*

KAS INC

Burlington International Airport
AIP 78, South Burlington, VT

Aerial Photography
May 1962 Aerial photo

Date: 09/20/11	Drawing No. 0	Scale: 1:24,000	By: ARL



Subject Property Area

KAS Job Number *509110226*

Source: *http://msrmaps.com*

Burlington International Airport
AIP 78, South Burlington, VT

Aerial Photography
April 1999 USGS Image

Date: 09/20/11	Drawing No. 0	Scale: 1:24,000	By: ARL

Subject Property Area

KAS Job Number *509110226*

Source: *Google Earth*

KAS INC

Burlington International Airport
AIP 78, South Burlington, VT

Aerial Photography
April 2004 Google Earth Image

Date: 09/20/11	Drawing No. 0	Scale: 1:24,000	By: ARL

APPENDIX F

REGULATORY RECORDS DOCUMENTATION

FirstSearch Technology Corporation

Environmental FirstSearch™ Report

Target Property:

200 AIRPORT PKWY

SOUTH BURLINGTON VT 05403

Job Number: 509110222

PREPARED FOR:

KAS, Inc.

368 Avenue D, Suite 15

Williston, VT 05495

09-20-11

Tel: (781) 551-0470 *Fax: (781) 551-0471*

Environmental FirstSearch
Search Summary Report

Target Site: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	08-15-11	1.00	0	0	0	0	0	0	0
NPL Delisted	Y	08-15-11	0.50	0	0	0	0	-	0	0
CERCLIS	Y	07-26-11	0.50	0	0	0	0	-	0	0
NFRAP	Y	07-26-11	0.50	0	0	0	0	-	0	0
RCRA COR ACT	Y	07-11-11	1.00	0	0	0	0	0	0	0
RCRA TSD	Y	07-11-11	0.50	0	0	0	0	-	0	0
RCRA GEN	Y	07-11-11	0.25	0	0	1	-	-	0	1
Federal Brownfield	Y	07-05-11	0.50	0	0	0	0	-	0	0
ERNS	Y	07-18-11	0.12	0	0	-	-	-	0	0
Tribal Lands	Y	12-01-05	1.00	0	0	0	0	0	1	1
State/Tribal Sites	Y	07-08-11	1.00	0	0	0	1	18	2	21
State Spills 90	Y	07-08-11	0.12	1	0	-	-	-	6	7
State/Tribal SWL	Y	04-15-09	0.50	0	0	0	0	-	6	6
State/Tribal LUST	Y	07-08-11	0.50	0	0	0	5	-	5	10
State/Tribal UST/AST	Y	07-08-11	0.25	0	0	0	-	-	1	1
State/Tribal EC	Y	NA	0.25	0	0	0	-	-	0	0
State/Tribal IC	Y	NA	0.25	0	0	0	-	-	0	0
State/Tribal VCP	Y	NA	0.50	0	0	0	0	-	0	0
State/Tribal Brownfields	Y	05-01-11	0.50	0	0	0	0	-	0	0
Federal IC/EC	Y	08-01-11	0.50	0	0	0	0	-	0	0
-TOTALS-				1	0	1	6	18	21	47

Notice of Disclaimer

Due to the limitations, constraints, and inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSeaarch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

Environmental FirstSearch
Site Information Report

Request Date:	09-20-11	**Search Type:**	COORD
Requestor Name:	ALAN LIPTAK	**Job Number:**	509110222
Standard:	ASTM-05	**Filtered Report**	

Target Site: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

Demographics

Sites:	47	**Non-Geocoded:**	21	**Population:**	NA
Radon:	0 - 6.6 PCI/L				

Site Location

	Degrees (Decimal)	**Degrees (Min/Sec)**		**UTMs**
Longitude:	-73.165383	-73:9:55	**Easting:**	645911.753
Latitude:	44.476318	44:28:35	**Northing:**	4926198.906
Elevation:	326		**Zone:**	18

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes:

ZIP Code	City Name	ST	Dist/Dir	Sel

Services:

	Requested?	Date
Fire Insurance Maps	No	
Aerial Photographs	No	
Historical Topos	No	
City Directories	No	
Title Search	No	
Municipal Reports	No	
Liens	No	
Historic Map Works	No	
Online Topos	No	

Environmental FirstSearch
Target Site Summary Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

TOTAL: 47 **GEOCODED:** 26 **NON GEOCODED:** 21 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
1	SPILLS	DEMETRIOUS MICHAELIDES PROPERTY 01-WMD250/CLOSED	200 AIRPORT PKWY SOUTH BURLINGTON VT	0.00 --	0	1

Environmental FirstSearch
Sites Summary Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

TOTAL: 47 **GEOCODED:** 26 **NON GEOCODED:** 21 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
1	SPILLS	DEMETRIOUS MICHAELIDES PROPERTY 01-WMD250/CLOSED	200 AIRPORT PKWY SOUTH BURLINGTON VT	0.00 --	0	1
2	RCRAGN	EUROTECH SALES & SERVICE VTD981207236/VGN	615 AIRPORT PKWY SOUTH BURLINGTON VT 05403	0.16 NW	- 13	2
3	STATE	BUDGET RENT A CAR 931526/CLOSED	700 AIRPORT PKWY SOUTH BURLINGTON VT	0.26 NW	- 19	3
3	LUST	BUDGET RENT A CAR 621/PULLED UST DATABASE	700 AIRPORT PKWY SOUTH BURLINGTON VT 05403	0.26 NW	- 19	4
4	LUST	CHAMBERLIN SCHOOL 628/PULLED UST DATABASE	262 WHITE ST SOUTH BURLINGTON VT 05401	0.36 SE	+ 8	5
5	LUST	GAMACHE RESIDENCE 2001088/PULLED UST DATABASE	82 SUBURBAN SQ SOUTH BURLINGTON VT	0.43 SE	+ 24	6
6	LUST	HARRINGTON BROTHERS 9990213/PULLED UST DATABASE	400 PATCHEN RD SOUTH BURLINGTON VT	0.46 NW	- 17	7
7	LUST	SCHOOL DISTRICT BUS GARAGE 627/PULLED UST DATABASE	PATCHEN RD SOUTH BURLINGTON VT 05401	0.49 NW	- 23	8
8	STATE	OFFSET HOUSE 870107/CLOSED	UNKNOWN SOUTH BURLINGTON VT	0.53 NW	- 28	9
8	STATE	OFFSET HOUSE PROPERTY 770075/CLOSED	UNKNOWN SOUTH BURLINGTON VT	0.53 NW	- 28	10
9	STATE	KELCO FACILITY 20002783/CLOSED	73 ETHAN ALLEN DR SOUTH BURLINGTON VT	0.56 NE	- 101	11
10	STATE	SOUTH BURLINGTON STREET DEPT 931383/ACTIVE	PATCHEN RD SOUTH BURLINGTON VT	0.60 NW	- 46	12
11	STATE	HERTZ RENT A CAR/NATIONAL CAR 921313/ACTIVE	0 BURLINGTON INTRNTNL AIRPO SOUTH BURLINGTON VT	0.62 SE	+ 16	13
12	STATE	U S POST OFFICE 972299/CLOSED	60 WHITE ST SOUTH BURLINGTON VT	0.66 SW	- 11	14
13	STATE	WILLISTON ROAD MOBIL 921327/ACTIVE	1314 WILLISTON RD SOUTH BURLINGTON VT	0.70 SW	+ 3	15
14	STATE	U-SAVE BEVERAGE 900496/ACTIVE	0 WILLISTON RD SOUTH BURLINGTON VT	0.71 SW	- 6	16
15	STATE	GRACEY S STORE 951924/ACTIVE	0 WILLISTON RD SOUTH BURLINGTON VT	0.73 SW	+ 7	17
16	STATE	VERMONT AIR NATIONAL GUARD 770043/ACTIVE	0 AIRPORT RD SOUTH BURLINGTON VT	0.75 NE	- 19	18
17	STATE	WILLISTON ROAD CITGO - DAVE S CITG 900545/ACTIVE	1241 WILLISTON RD SOUTH BURLINGTON VT	0.77 SW	- 4	19
18	STATE	DOLANS VARIETY 961956/ACTIVE	1160 WILLISTON RD SOUTH BURLINGTON VT	0.80 SW	- 8	20

Environmental FirstSearch
Sites Summary Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

TOTAL: 47 **GEOCODED:** 26 **NON GEOCODED:** 21 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
19	STATE	SOUTH BURLINGTON CENTRAL SCHOOL 921301/CLOSED	1181 WILLISTON RD SOUTH BURLINGTON VT	0.80 SW	- 7	21
20	STATE	UNIVERSITY GULF 900646/ACTIVE	0 WILLISTON RD SOUTH BURLINGTON VT	0.84 SW	- 13	22
21	STATE	CHAMPLAIN VALLEY SUNOCO 982491/ACTIVE	1143 WILLISTON RD SOUTH BURLINGTON VT	0.85 SW	- 14	23
22	STATE	BURLINGTON INTERNATIONAL AIRPORT 931503/ACTIVE	0 AIRPORT RD SOUTH BURLINGTON VT	0.93 SE	+ 2	24
23	STATE	GREERS DRY CLEANING DORSET STREET 20053395/ACTIVE	UNKNOWN SOUTH BURLINGTON VT	0.95 SW	- 6	25
24	STATE	UNIVERSITY INN 20002751/CLOSED	5 DORSET ST SOUTH BURLINGTON VT	1.00 SW	- 14	26

Environmental FirstSearch
Sites Summary Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

TOTAL: 47 **GEOCODED:** 26 **NON GEOCODED:** 21 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
	STATE	GADUE DRY CLEANER DORSET STREET 20053295/ACTIVE	UNKNOWN SOUTH BURLINGTON VT	NON GC	N/A	N/A
	STATE	GORDIES TEXACO 870020/CLOSED	UNKNOWN SOUTH BURLINGTON VT	NON GC	N/A	N/A
	SPILLS	AIR GUARD 09-WMD239/CLOSED	BURLINGTON INTNL AIRPORT SOUTH BURLINGTON VT	NON GC	N/A	N/A
	SPILLS	JAMES KNEELAND FLIGHT FACILITY 06-WMD192/CLOSED	AIRPORT RD SOUTH BURLINGTON VT	NON GC	N/A	N/A
	SPILLS	MAINTENANCE BUILDING B 1 A 02-WMD239/CLOSED	AIRPORT RD SOUTH BURLINGTON VT	NON GC	N/A	N/A
	SPILLS	N/A 95-WMD116/CLOSED	AIRPORT PKWY SOUTH BURLINGTON VT	NON GC	N/A	N/A
	SPILLS	VT AIR NATIONAL GUARD 10-WMD167/CLOSED	AIRPORT DR BURLINGTON VT	NON GC	N/A	N/A
	SPILLS	VT ANG 11-WMD316/CLOSED	AIRPORT DR SOUTH BURLINGTON VT	NON GC	N/A	N/A
	SWL	A. MARCELINO AND COMPANY, INC. CH772/RECYCLING	UNKNOWN SOUTH BURLINGTON VT 05495	NON GC	N/A	N/A
	SWL	CHITTENDEN SWM DISTRICT DROP-OFF C CH771/DROP OFF CENTER	PATCHEN ROAD SOUTH BURLINGTON VT 05495	NON GC	N/A	N/A
	SWL	CHITTENDEN SWMD TRANS STATION 11/A	PATCHEN ROAD SOUTH BURLINGTON VT 05403	NON GC	N/A	N/A
	SWL	CHITTENDEN SWMD TRANS STATION 011/A	PATCHEN ROAD SOUTH BURLINGTON VT 05403	NON GC	N/A	N/A
	SWL	CSWD ENVIRONMENTAL DEPOT CH080/HHW/CESQG	UNKNOWN SOUTH BURLINGTON VT 05495	NON GC	N/A	N/A
	SWL	ENGINEERS CONSTRUCTION DISPOSAL SI CH980/LANDFILL	UNKNOWN SOUTH BURLINGTON VT 05486	NON GC	N/A	N/A
	UST	KNEELAND FLIGHT FACILITY 1037/ACTIVE	AIRPORT BIAP RD SOUTH BURLINGTON VT 05402	NON GC	N/A	N/A
	LUST	AIRPORT PARKWAY SEWER PUMP STATION 2736/PULLED UST DATABASE	HINESBURGH RD SOUTH BURLINGTON VT	NON GC	N/A	N/A
	LUST	MUNT RESIDENCE 5557561/PULLED UST DATABASE	85 SOUTH ST BURLINGTON VT	NON GC	N/A	N/A
	LUST	NEW ENGLAND TELEPHONE CENTRAL OFFI 895/PULLED UST DATABASE	FARRELL ST SOUTH BURLINGTON VT 05401	NON GC	N/A	N/A
	LUST	STRATTON CORP GOLF MAINTENANCE 517/PULLED UST DATABASE	ORCUTT MEADOW RD WINHALL VT 05403	NON GC	N/A	N/A
	LUST	VERMONT TIRE 5555576/PULLED UST DATABASE	WILLISTON RD SOUTH BURLINGTON VT	NON GC	N/A	N/A

Environmental FirstSearch
Sites Summary Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

TOTAL: 47 **GEOCODED:** 26 **NON GEOCODED:** 21 **SELECTED:** 0

Map ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	ElevDiff	Page No.
	TRIBALLA	BUREAU OF INDIAN AFFAIRS CONTACT I BIA-05403/	UNKNOWN VT 05403	NON GC	N/A	N/A

Environmental FirstSearch
Site Detail Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

SPILLS

SEARCH ID: 21 **DIST/DIR:** 0.00 -- **ELEVATION:** 326 **MAP ID:** 1

NAME:	DEMETRIOUS MICHAELIDES PROPERTY	**REV:**	7/8/11
ADDRESS:	200 AIRPORT PKWY	**ID1:**	01-WMD250
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	CLOSED
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
DATE OF INCIDENT: 7/5/2001 0:00:00
TIME OF INCIDENT: 0
DATE CLOSED: 9/4/2001 0:00:00
UST FACILITY ID:
DUTY OFFICER:
REPORTED BY: MOE FORCIER
REPORTER S ORGANIZATION: EM MGMNT
REPORTER S WORK PHONE:

TYPE OF INCIDENT: ABOVE GROUND TANK RELEASE
PRODUCT: #2
QUANTITY: 5
UNIT OF MEASURE: G

RESPONSIBLE PARTY: DEMETRIOUS MICHAELIDES
ADDRESS:

RESPONSIBLE PARTY S PHONE: 878-1008

6900
SURFACE WATER AFFECTED:

CASE ASSIGNED TO: SPILLS
ACTIONS TAKEN: AGWAY RESPONSE. TENANTS TO CALL IF ODORS HAVEN T IMPROVED. 9/4/01 - CALLED TENANTS. AGWAY HAD RETURNED AND DID ADDITIONAL CLEANING OF BASEMENT. TENANTS DISPOSED OIL SOAKED RUG. NO SIGNIFICANT ODORS REMAIN.

COMMENTS:

Environmental FirstSearch
Site Detail Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

RCRAGN

SEARCH ID: 1 **DIST/DIR:** 0.16 NW **ELEVATION:** 313 **MAP ID:** 2

NAME:	EUROTECH SALES & SERVICE	**REV:**	7/11/11
ADDRESS:	615 AIRPORT PKWY	**ID1:**	VTD981207236
	SOUTH BURLINGTON VT 05403	**ID2:**	
	CHITTENDEN	**STATUS:**	VGN
CONTACT:		**PHONE:**	
SOURCE:	EPA		

SITE INFORMATION

CONTACT INFORMATION: FISHER BOB
615 AIRPORT PKY
SOUTH BURLINGTON VT 05403

PHONE: 8028625369

CONTACT INFORMATION: RUSSELL BERGER
615 AIRPORT PKY
SOUTH BURLINGTON VT 05403

PHONE: 8026601900

UNIVERSE INFORMATION:

NAIC INFORMATION

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

HAZARDOUS WASTE INFORMATION:

The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by
Tetrachloroethylene
Methyl ethyl ketone
Ignitable waste
Benzene
The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/ blends containing, before use, only the above spent

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 2 **DIST/DIR:** 0.26 NW **ELEVATION:** 307 **MAP ID:** 3

NAME:	BUDGET RENT A CAR	**REV:**	12/3/09
ADDRESS:	700 AIRPORT PKWY	**ID1:**	931526
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	CLOSED
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO FURTHER ACTION PLANNED
PROJECT STATUS: DETERMINE DEGREE AND EXTENT OF CONTAMINATION
DATE OF SITE DISCOVERY: 12/1/1993 0:00:00
DATE OF SITE CLOSURE: 5/1/1994 0:00:00
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER: VAL PREDA LEASING INC
OWNER ADDRESS: 700 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

LUST

SEARCH ID: 22 **DIST/DIR:** 0.26 NW **ELEVATION:** 307 **MAP ID:** 3

NAME:	BUDGET RENT A CAR	**REV:**	7/8/11
ADDRESS:	700 AIRPORT PKWY	**ID1:**	621
	SOUTH BURLINGTON VT 05403	**ID2:**	931526
	CHITTENDEN	**STATUS:**	PULLED UST DATABASE
CONTACT:	VAL PREDA LEASING INC	**PHONE:**	802-863-5512
SOURCE:	VT DEC		

This site comes from the Vermont Department of Environmental Conservation Pulled Underground Storage Tanks database and may or may not be considered a leaking underground storage tank , please review the data below for further indications of contamination.

SITE FINDINGS: CONTAMINATION FOUND ABOVE STATE STANDARD. REFERRED TO SITE MANAGEMENT

FACILITY AND OWNER INFORMATION

TYPE OF FACILITY: INDUSTRIAL/COMMERCIAL

OWNER NAME: VAL PREDA LEASING INC CONTACT: PETER VAL PREDA, PRESIDENT
OWNER ADDRESS: 700 AIRPORT PARKWAY
SOUTH BURLINGTON, VT

LAND OWNER: ** UNKNOWN ***
PERMITTED TO: TANK OWNER
NUM OF PULLED TANKS: 2
NUM OF REMOVED TANKS: 2
NUM OF GROUNDWATER MONITORING WELLS:
NUM OF VAPOR MONITORING WELLS:

TANK INFORMATION

TOTAL NUMBER OF TANKS: 2

TANK ID: 529 TANK STATUS: PULLED
SUBSTANCE STORED: TANK CAPACITY IN GAL.: 4000
TANK PROTECTION: UNPROTECTED STEEL YEAR REMOVED: 1993
TANK MONITORING: /
SPILL/OVERFILL PROT.: PUMP TYPE:
PIPE PROTECTION: TESTED DATE:
PIPE MONITORING:
TANK LABEL: 1981-1

TANK ID: 530 TANK STATUS: PULLED
SUBSTANCE STORED: TANK CAPACITY IN GAL.: 500
TANK PROTECTION: UNPROTECTED STEEL YEAR REMOVED: UNK
TANK MONITORING: /
SPILL/OVERFILL PROT.: PUMP TYPE:
PIPE PROTECTION: TESTED DATE:
PIPE MONITORING:
TANK LABEL: 1981-2

Environmental FirstSearch
Site Detail Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

LUST

SEARCH ID: 23 **DIST/DIR:** 0.36 SE **ELEVATION:** 334 **MAP ID:** 4

NAME:	CHAMBERLIN SCHOOL	**REV:**	7/8/11
ADDRESS:	262 WHITE ST	**ID1:**	628
	SOUTH BURLINGTON VT 05401	**ID2:**	
	CHITTENDEN	**STATUS:**	PULLED UST DATABASE
CONTACT:	SOUTH BURLINGTON SCHOOL DISTRICT	**PHONE:**	
SOURCE:	VT DEC		

This site comes from the Vermont Department of Environmental Conservation Pulled Underground Storage Tanks database and may or may not be considered a leaking underground storage tank , please review the data below for further indications of contamination.

SITE FINDINGS: NO CONTAMINATION FOUND

FACILITY AND OWNER INFORMATION

TYPE OF FACILITY: TOWN

OWNER NAME: SOUTH BURLINGTON SCHOOL DISTRICT CONTACT:
OWNER ADDRESS: 550 DORSET STREET
SOUTH BURLINGTON, VT

LAND OWNER: ** UNKNOWN ***
PERMITTED TO:
NUM OF PULLED TANKS: 1
NUM OF REMOVED TANKS: 1
NUM OF GROUNDWATER MONITORING WELLS:
NUM OF VAPOR MONITORING WELLS:

TANK INFORMATION

TOTAL NUMBER OF TANKS: 1

TANK ID: 538 TANK STATUS: PULLED
SUBSTANCE STORED: TANK CAPACITY IN GAL.: 10000
TANK PROTECTION: UNPROTECTED STEEL YEAR REMOVED: 1992
TANK MONITORING: /
SPILL/OVERFILL PROT.: PUMP TYPE:
PIPE PROTECTION: TESTED DATE:
PIPE MONITORING:
TANK LABEL: 1965-1

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

LUST

SEARCH ID: 24 **DIST/DIR:** 0.43 SE **ELEVATION:** 350 **MAP ID:** 5

NAME:	GAMACHE RESIDENCE	**REV:**	7/8/11
ADDRESS:	82 SUBURBAN SQ	**ID1:**	2001088
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	PULLED UST DATABASE
CONTACT:	CLEMENT GAMACHE	**PHONE:**	
SOURCE:	VT DEC		

This site comes from the Vermont Department of Environmental Conservation Pulled Underground Storage Tanks database and may or may not be considered a leaking underground storage tank , please review the data below for further indications of contamination.

SITE FINDINGS: NO CONTAMINATION FOUND

FACILITY AND OWNER INFORMATION

TYPE OF FACILITY: RESIDENTIAL

OWNER NAME: CLEMENT GAMACHE CONTACT:
OWNER ADDRESS: 82 SUBURBAN SQUARE
SOUTH BURLINGTON, VT

LAND OWNER: ** UNKNOWN ***
PERMITTED TO:
NUM OF PULLED TANKS: 1
NUM OF REMOVED TANKS: 1
NUM OF GROUNDWATER MONITORING WELLS:
NUM OF VAPOR MONITORING WELLS:

TANK INFORMATION

TOTAL NUMBER OF TANKS: 1

TANK ID: 2659 TANK STATUS: PULLED
SUBSTANCE STORED: TANK CAPACITY IN GAL.: 2000
TANK PROTECTION: YEAR REMOVED: 2001
TANK MONITORING: /
SPILL/OVERFILL PROT.: PUMP TYPE:
PIPE PROTECTION: TESTED DATE:
PIPE MONITORING:
TANK LABEL: -1-1-R

Environmental FirstSearch
Site Detail Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

LUST

SEARCH ID: 25 **DIST/DIR:** 0.46 NW **ELEVATION:** 309 **MAP ID:** 6

NAME:	HARRINGTON BROTHERS	**REV:**	7/8/11
ADDRESS:	400 PATCHEN RD	**ID1:**	9990213
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	PULLED UST DATABASE
CONTACT:	HARRINGTON BROTHERS	**PHONE:**	
SOURCE:	VT DEC		

This site comes from the Vermont Department of Environmental Conservation Pulled Underground Storage Tanks database and may or may not be considered a leaking underground storage tank , please review the data below for further indications of contamination.

SITE FINDINGS: NO CONTAMINATION FOUND

FACILITY AND OWNER INFORMATION

TYPE OF FACILITY: INDUSTRIAL/COMMERCIAL

OWNER NAME: HARRINGTON BROTHERS CONTACT:
OWNER ADDRESS:
,

LAND OWNER: ** UNKNOWN ***
PERMITTED TO:
NUM OF PULLED TANKS: 1
NUM OF REMOVED TANKS: 1
NUM OF GROUNDWATER MONITORING WELLS:
NUM OF VAPOR MONITORING WELLS:

TANK INFORMATION

TOTAL NUMBER OF TANKS: 1

TANK ID: 5702 TANK STATUS: PULLED
SUBSTANCE STORED: TANK CAPACITY IN GAL.: 2000
TANK PROTECTION: UNPROTECTED STEEL YEAR REMOVED: 1989
TANK MONITORING: /
SPILL/OVERFILL PROT.: PUMP TYPE:
PIPE PROTECTION: TESTED DATE:
PIPE MONITORING:
TANK LABEL: -1-1

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

LUST

SEARCH ID: 26 **DIST/DIR:** 0.49 NW **ELEVATION:** 303 **MAP ID:** 7

NAME:	SCHOOL DISTRICT BUS GARAGE	**REV:**	7/8/11
ADDRESS:	PATCHEN RD	**ID1:**	627
	SOUTH BURLINGTON VT 05401	**ID2:**	
		STATUS:	PULLED UST DATABASE
CONTACT:	SOUTH BURLINGTON SCHOOL DISTRICT	**PHONE:**	
SOURCE:	VT DEC		

This site comes from the Vermont Department of Environmental Conservation Pulled Underground Storage Tanks database and may or may not be considered a leaking underground storage tank , please review the data below for further indications of contamination.

SITE FINDINGS: NO CONTAMINATION FOUND

FACILITY AND OWNER INFORMATION

TYPE OF FACILITY: TOWN

OWNER NAME: SOUTH BURLINGTON SCHOOL DISTRICT CONTACT:
OWNER ADDRESS: 550 DORSET STREET
SOUTH BURLINGTON, VT

LAND OWNER: ** UNKNOWN ***
PERMITTED TO:
NUM OF PULLED TANKS: 1
NUM OF REMOVED TANKS: 1
NUM OF GROUNDWATER MONITORING WELLS:
NUM OF VAPOR MONITORING WELLS:

TANK INFORMATION

TOTAL NUMBER OF TANKS: 1

TANK ID: 537 TANK STATUS: PULLED
SUBSTANCE STORED: TANK CAPACITY IN GAL.: 4000
TANK PROTECTION: UNPROTECTED STEEL YEAR REMOVED: 1989
TANK MONITORING: /
SPILL/OVERFILL PROT.: PUMP TYPE:
PIPE PROTECTION: TESTED DATE:
PIPE MONITORING:
TANK LABEL: 1968-1

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 10 **DIST/DIR:** 0.53 NW **ELEVATION:** 298 **MAP ID:** 8

NAME:	OFFSET HOUSE	**REV:**	12/3/09
ADDRESS:	UNKNOWN	**ID1:**	870107
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	CLOSED
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO FURTHER ACTION PLANNED
PROJECT STATUS: SITE CLOSED
DATE OF SITE DISCOVERY:
DATE OF SITE CLOSURE:
SOURCE: 6900

OWNER INFORMATION:

OWNER:
OWNER ADDRESS:

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 11 **DIST/DIR:** 0.53 NW **ELEVATION:** 298 **MAP ID:** 8

NAME:	OFFSET HOUSE PROPERTY	**REV:**	12/3/09
ADDRESS:	UNKNOWN	**ID1:**	770075
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	CLOSED
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO FURTHER ACTION PLANNED
PROJECT STATUS: CONTAMINATION BELOW ACTION LEVELS, SITE CLOSED
DATE OF SITE DISCOVERY:
DATE OF SITE CLOSURE:
SOURCE: 6900

OWNER INFORMATION:

OWNER:
OWNER ADDRESS:

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 9 **DIST/DIR:** 0.56 NE **ELEVATION:** 225 **MAP ID:** 9

NAME:	KELCO FACILITY	**REV:**	12/3/09
ADDRESS:	73 ETHAN ALLEN DR	**ID1:**	20002783
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	CLOSED
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: SITES MANAGEMENT ACTIVITY COMPLETED
PROJECT STATUS: THREE USTS REMOVED JUNE 2000, LIMITED CONTAMINATION REMAINS IN THE VICINITY OF THE FORMER DIESEL UST. ETHYLBENZENE, 1,2,4- AND 1,3,5-TRIMETHYLBENZENE REMAIN, AT LEVELS BELOW VGES, IN THE DIESEL SOURCE AREA WELL. NO SENSITIVE RECEPTOS AFFECTED, RESIDUAL CONTAMINATION CONFINED TO BETWEEN 6 AND 9 FT BGS.
DATE OF SITE DISCOVERY: 6/5/2000 0:00:00
DATE OF SITE CLOSURE: 4/9/2009 0:00:00
SOURCE: 6900 UST-WASTE OIL, 6900 OTHER, 6900 UST-DIESEL, 6900

OWNER INFORMATION:

OWNER: JEFF MYERS & MICHAEL CRETE
OWNER ADDRESS: 73 ETHAN ALLEN DRIVE
SOUTH BURLINGTON VT 05403

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 13 **DIST/DIR:** 0.60 NW **ELEVATION:** 280 **MAP ID:** 10

NAME:	SOUTH BURLINGTON STREET DEPT	**REV:**	7/8/11
ADDRESS:	PATCHEN RD	**ID1:**	931383
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO SENSITIVE RECEPTOR IMPACT (VT SITE PRIORITY SCORE<30)
PROJECT STATUS: ANNUAL GW MONITORING OF GASOLINE UST RELEASE. NEXT ROUND MAY 2009. EVALUATING WAYS TO BETTER DEFINE DOWNGRADIENT EXTENT OF CONTAMINATION, E.G., USE LANDFILL WELLS.
DATE OF SITE DISCOVERY:
DATE OF SITE CLOSURE:
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER: CITY OF BURLINGTON
OWNER ADDRESS: 53 LAVALLEY LANE
BURLINGTON VT 05401

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 8 **DIST/DIR:** 0.62 SE **ELEVATION:** 342 **MAP ID:** 11

NAME: HERTZ RENT A CAR/NATIONAL CAR
ADDRESS: 0 BURLINGTON INTRNTNL AIRPORT
SOUTH BURLINGTON VT
CONTACT:
SOURCE: VT DEC

REV: 7/8/11
ID1: 921313
ID2:
STATUS: ACTIVE
PHONE:

6900
SITE INFORMATION

PRIORITY: NO SENSITIVE RECEPTOR IMPACT (VT SITE PRIORITY SCORE<30)
PROJECT STATUS: ANNUAL GROUNDWATER MONITORING TO TRACK 1992 GASOLINE RELEASE FROM BOTH HERTZ AND NATIONAL CAR RENTAL TANKS. MONITORING CONTINUES TO REVEAL GROUNDWATER ENFORCEMENT STANDARD EXCEEDANCES IN SEVERAL WELLS. NEXT ROUND SCHEDULED FOR OCTOBER 2010.
DATE OF SITE DISCOVERY:
DATE OF SITE CLOSURE:
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER: THE HERTZ CORP
OWNER ADDRESS: 225 BRAE BLVD.
PARK RIDGE NJ 07656

Environmental FirstSearch
Site Detail Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 14 **DIST/DIR:** 0.66 SW **ELEVATION:** 315 **MAP ID:** 12

NAME:	U S POST OFFICE	**REV:**	12/3/09
ADDRESS:	60 WHITE ST	**ID1:**	972299
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	CLOSED
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: SITES MANAGEMENT ACTIVITY COMPLETED
PROJECT STATUS: UST REMOVED. CONTAMINATION FOUND. INVESTIGATION PERFORMED AND PCS EXCAVATED/DISPOSED OF AT ESMI. MWS HAVE BEEN PROPERLY ABANDONED. RONALD ROBBINS OF USPS IS OFFICIAL CONTACT.
DATE OF SITE DISCOVERY: 11/1/1997 0:00:00
DATE OF SITE CLOSURE: 1/12/2006 0:00:00
SOURCE: 6900 UST-HEATING OIL, 6900

OWNER INFORMATION:

OWNER: M A PARSONS AND SONS
OWNER ADDRESS: P O BOX 450
YORK ME 03909

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 20 **DIST/DIR:** 0.70 SW **ELEVATION:** 329 **MAP ID:** 13

NAME:	WILLISTON ROAD MOBIL	**REV:**	7/8/11
ADDRESS:	1314 WILLISTON RD	**ID1:**	921327
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO SENSITIVE RECEPTOR IMPACT (VT SITE PRIORITY SCORE<30)
PROJECT STATUS: GW IMPACTED FROM UST. INVEST NEEDED; 01/2006 - RECEVIED EXPRESSWAY NOTIFICATION - SI TO OCCUR JAN/FEB. 2006; VGES EXCEEDENCES REPORTED; MOST LIKELY OFFSITE CONTAMINATION - FURTHER INVESTIGATION TO OCCUR. OFFSITE MIGRATION CONFIRMED IN JUNE 2006. STILL NOT DEFINED, FURTHER DOWNGRADIENT WELLS PLANNED FOR FALL 2006. VTGES EXCEEDENCES IN ADDITIONAL DOWNGRADIENT WELLS. MORE SITE CHARACTERIZATION PLANNED FOR SPRING 2007. LOW LEVELS; NO SENSITIVE RECEPTORS. CURRENT RECOMMENDATION IS FOR NEIGHBORING GAS STATION SMS SITE # 90-0496 TO DO FURTHER CHARACTERIZATION TO DETERMINE IF DOWNGRADIENT PLUMES ARE COMBINED. QUARTERLY GW SAMPLING ONGOING. 1/20/2010 - REDUCED TO SEMIANNUAL IN 2009, WILL CONTINUE THRU 2010 - MAY DECREASE TO ANNUAL AFTER THAT. NO CORRECTIVE ACTION PLANNED.
DATE OF SITE DISCOVERY: 12/8/1992 0:00:00
DATE OF SITE CLOSURE:
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER: S.B. COLLINS, INC.
OWNER ADDRESS: P O BOX 671
ST. ALBANS VT 05478

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 15 **DIST/DIR:** 0.71 SW **ELEVATION:** 320 **MAP ID:** 14

NAME:	U-SAVE BEVERAGE	**REV:**	7/8/11
ADDRESS:	0 WILLISTON RD	**ID1:**	900496
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO SENSITIVE RECEPTOR IMPACT (VT SITE PRIORITY SCORE<30)
PROJECT STATUS: UST CONTAMINATION FOUND. 5/2011 1 OF 6 MWS ABOVE VGES. ANNUAL MONITORING
DATE OF SITE DISCOVERY: 4/4/1990 0:00:00
DATE OF SITE CLOSURE:
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER: CHAMPLAIN OIL CO
OWNER ADDRESS: P O BOX 2126
SOUTH BURLINGTON VT 05407

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 6 **DIST/DIR:** 0.73 SW **ELEVATION:** 333 **MAP ID:** 15

NAME:	GRACEY S STORE	**REV:**	7/8/11
ADDRESS:	0 WILLISTON RD	**ID1:**	951924
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO SENSITIVE RECEPTOR IMPACT (VT SITE PRIORITY SCORE<30)
PROJECT STATUS: SEVERAL REQUESTS FOR WORK MADE BETWEEN 1996 AND 2005. VERTERRE WP APPROVED 8/05. ISI FOUND SIGNIFICANT LEVELS OF CONTAMIATION AT THIS SSITE UST LEAK FOUND IN OCTOBER, 2006. 1,500 GALLONS OF CONTAMINATED WATER REMOVED FROM SUBSURFACE. PID READINGS IN ONSITE STORM SEWER UP TO 1,100 PARTS PER MILLION. LARGE SCALE SOIL REMOVAL COMPLETED AND TANK DEFICIENCIES CORRECTED. ONGOING GROUNDWATER MONITORING IS BEING CONDUCTED AT THIS SITE. GROUNDWATER CONTAMINATION APPEARS TO BE SUBSIDING. NO SIGNIFICANT VAPORS PRESENT IN ONSITE STORM SEWER ACCESS POINTS.
DATE OF SITE DISCOVERY: 2/1/1996 0:00:00
DATE OF SITE CLOSURE:
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER: SALAMIN HANDY
OWNER ADDRESS: 75 WINOOSKI AVE
BURLINGTON VT 05401

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 18 **DIST/DIR:** 0.75 NE **ELEVATION:** 307 **MAP ID:** 16

NAME: VERMONT AIR NATIONAL GUARD
ADDRESS: 0 AIRPORT RD
SOUTH BURLINGTON VT
CONTACT:
SOURCE: VT DEC

REV: 7/8/11
ID1: 770043
ID2:
STATUS: ACTIVE
PHONE:

6900
SITE INFORMATION

PRIORITY: DIRECTLY IMPACTED SENSITIVE RECEPTOR (VT SITE PRIORITY SCORE>60)
PROJECT STATUS: BASEWIDE SUPPLEMENTAL REMEDIAL INVESTIGATION UNDERWAY SUMMER 04; REPORT BY EARLY 05. SITE 1 GROUNDWATER INTERCEPTION TRENCH OPERATING AS DESIGNED. SITE 3 FREE PRODUCT RECOVERY SYSTEMS OPERATING AS DESIGNED.
DATE OF SITE DISCOVERY:
DATE OF SITE CLOSURE:
SOURCE: 6900 ABOVE GROUND STORAGE TANK, 6900 UST-KEROSENE, 6900 SPILL, 6900 OTHER, 6900

OWNER INFORMATION:

OWNER: VERMONT AIR NATIONAL GUARD
OWNER ADDRESS: AIRPORT ROAD
SOUTH BURLINGTON VT 05403

Environmental FirstSearch
Site Detail Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 19 **DIST/DIR:** 0.77 SW **ELEVATION:** 322 **MAP ID:** 17

NAME:	WILLISTON ROAD CITGO - DAVE S CITGO	**REV:**	7/8/11
ADDRESS:	1241 WILLISTON RD	**ID1:**	900545
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: THREATENED SENSITIVE RECEPTOR (30 >= VT SITE PRIORITY SCORE <= 60)
PROJECT STATUS: VAPOR IMPACTS IN ADJACENT BUILDING. SVE REMEDIAL SYSTEM INSTALLED 11/00. REMEDIATION COMPLETED, REMEDIATION SYSTEM HAS BEEN SHUT OFF, MONITORING ONGOING. NO INDOOR AIR IMPACTS. 11/2010 - SEMI ANNUAL GW MONITORING ONGOING.
DATE OF SITE DISCOVERY: 9/1/1996 0:00:00
DATE OF SITE CLOSURE:
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER: CHAMPLAIN OIL CO
OWNER ADDRESS: P O BOX 2126
SOUTH BURLINGTON VT 05407

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 5 **DIST/DIR:** 0.80 SW **ELEVATION:** 318 **MAP ID:** 18

NAME:	DOLANS VARIETY	**REV:**	7/8/11
ADDRESS:	1160 WILLISTON RD	**ID1:**	961956
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO SENSITIVE RECEPTOR IMPACT (VT SITE PRIORITY SCORE<30)
PROJECT STATUS: 03/11: CONTAMINANT CONCENTRATIONS DECLINING OVER TIME. MONITORING ONCE EVERY OTHER YEAR. NEXT MONITORING ROUND SCHEDULED FOR SPRING 2011.
DATE OF SITE DISCOVERY: 2/1/1996 0:00:00
DATE OF SITE CLOSURE:
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER: PRECOURT INVESTMENT CO
OWNER ADDRESS: 21 MAPLE LEAF LANE
SHELBURNE VT 05482

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 12 **DIST/DIR:** 0.80 SW **ELEVATION:** 319 **MAP ID:** 19

NAME:	SOUTH BURLINGTON CENTRAL SCHOOL	**REV:**	12/3/09
ADDRESS:	1181 WILLISTON RD	**ID1:**	921301
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	CLOSED
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO FURTHER ACTION PLANNED
PROJECT STATUS: UST REMOVED. IDENTIFIED CONTAMINATION. FURTHER WORK PENDING.
DATE OF SITE DISCOVERY:
DATE OF SITE CLOSURE: 5/27/1993 0:00:00
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER: BURLINGTON SCHOOL DISTRICT
OWNER ADDRESS: 287 SHELBURNE RD
BURLINGTON VT 05401

Environmental FirstSearch
Site Detail Report

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 16 **DIST/DIR:** 0.84 SW **ELEVATION:** 313 **MAP ID:** 20

NAME: UNIVERSITY GULF
ADDRESS: 0 WILLISTON RD
SOUTH BURLINGTON VT
CONTACT:
SOURCE: VT DEC

REV: 7/8/11
ID1: 900646
ID2:
STATUS: ACTIVE
PHONE:

6900
SITE INFORMATION

PRIORITY: THREATENED SENSITIVE RECEPTOR (30 >= VT SITE PRIORITY SCORE <= 60)
PROJECT STATUS: MONITORING ONGOING FOLLOWING UST REMOVAL.
DATE OF SITE DISCOVERY:
DATE OF SITE CLOSURE:
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER:
OWNER ADDRESS:

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 4 **DIST/DIR:** 0.85 SW **ELEVATION:** 312 **MAP ID:** 21

NAME:	CHAMPLAIN VALLEY SUNOCO	**REV:**	7/8/11
ADDRESS:	1143 WILLISTON RD	**ID1:**	982491
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO SENSITIVE RECEPTOR IMPACT (VT SITE PRIORITY SCORE<30)
PROJECT STATUS: CONTAM SOIL AND GW. INVESTIGATION COMPLETED. 12/16/99 2 OF 4 MWS ABOVE VGES. 3/21, 9/5/00, 3/30, 9/19/01, 3/15/02, 3/18/03 3 OF 4 MWS, 3/24/04 2 OF 3MWS ABOVE VGES, 9/09 2 OF 9 MWS ABOVE VGES, SITE REDEVELOPED AS NSB BANK, BIENNIAL MONITOR
DATE OF SITE DISCOVERY: 9/21/1998 0:00:00
DATE OF SITE CLOSURE:
SOURCE: 6900 UST-GASOLINE, 6900

OWNER INFORMATION:

OWNER: NSB SAVINGS BANK
OWNER ADDRESS: PO BOX 347
NORTHFIELD VT 05663

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 3 **DIST/DIR:** 0.93 SE **ELEVATION:** 328 **MAP ID:** 22

NAME:	BURLINGTON INTERNATIONAL AIRPORT	**REV:**	7/8/11
ADDRESS:	0 AIRPORT RD	**ID1:**	931503
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: NO SENSITIVE RECEPTOR IMPACT (VT SITE PRIORITY SCORE<30)
PROJECT STATUS: ANNUAL GROUNDWATER MONITORING ONGOING AND FREE PRODUCT MONITORING.
DATE OF SITE DISCOVERY:
DATE OF SITE CLOSURE:
SOURCE: 6900 ABOVE GROUND STORAGE TANK, 6900 UST-HEATING OIL, 6900

OWNER INFORMATION:

OWNER: BURLINGTON INTERNATIONAL AIRPORT
OWNER ADDRESS: 1200 AIRPORT DRIVE
SOUTH BURLINGTON VT 05403

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 7 **DIST/DIR:** 0.95 SW **ELEVATION:** 320 **MAP ID:** 23

NAME:	GREERS DRY CLEANING DORSET STREET	**REV:**	7/8/11
ADDRESS:	UNKNOWN	**ID1:**	20053395
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: THREATENED SENSITIVE RECEPTOR (30 >= VT SITE PRIORITY SCORE <= 60)
PROJECT STATUS:
DATE OF SITE DISCOVERY: 7/1/2005 0:00:00
DATE OF SITE CLOSURE:
SOURCE: 6900

OWNER INFORMATION:

OWNER:
OWNER ADDRESS:

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

STATE

SEARCH ID: 17 **DIST/DIR:** 1.00 SW **ELEVATION:** 312 **MAP ID:** 24

NAME:	UNIVERSITY INN	**REV:**	12/3/09
ADDRESS:	5 DORSET ST	**ID1:**	20002751
	SOUTH BURLINGTON VT	**ID2:**	
	CHITTENDEN	**STATUS:**	CLOSED
CONTACT:		**PHONE:**	
SOURCE:	VT DEC		

6900
SITE INFORMATION

PRIORITY: SITES MANAGEMENT ACTIVITY COMPLETED
PROJECT STATUS: 2 FUEL OIL USTS CLOSED IN PLACE. CONTAM FOUND. 6/00, 3/01 4 OF 5 MWS, 7/03 2 OF 5 MWS ABOVE VGES, 1 FP, 5/04 3 OF 5 ABOVE VGES.
DATE OF SITE DISCOVERY: 2/29/2000 0:00:00
DATE OF SITE CLOSURE: 1/27/2010 0:00:00
SOURCE: 6900 UST-HEATING OIL, 6900 UST-GASOLINE, 6900 FREE PRODUCT PRESENT, 6900

OWNER INFORMATION:

OWNER: UNIVERSITY INN
OWNER ADDRESS: P O BOX 993
SOUTH BURLINGTON VT 05402

Environmental FirstSearch Descriptions

NPL: EPA NATIONAL PRIORITY LIST - The National Priorities List is a list of the worst hazardous waste sites that have been identified by Superfund. Sites are only put on the list after they have been scored using the Hazard Ranking System (HRS), and have been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money. A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.FINAL - Currently on the Final NPLPROPOSED - Proposed for NPL

NPL DELISTED: EPA NATIONAL PRIORITY LIST Subset - Database of delisted NPL sites. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.DELISTED - Deleted from the Final NPL

CERCLIS: EPA COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM (CERCLIS)- CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL.PART OF NPL- Site is part of NPL siteDELETED - Deleted from the Final NPLFINAL - Currently on the Final NPLNOT PROPOSED - Not on the NPLNOT VALID - Not Valid Site or IncidentPROPOSED - Proposed for NPLREMOVED - Removed from Proposed NPLSCAN PLAN - Pre-proposal SiteWITHDRAWN - Withdrawn

NFRAP: EPA COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.NFRAP – No Further Remedial Action PlanP - Site is part of NPL siteD - Deleted from the Final NPLF - Currently on the Final NPLN - Not on the NPLO - Not Valid Site or IncidentP - Proposed for NPLR - Removed from Proposed NPLS - Pre-proposal SiteW – Withdrawn

RCRA COR ACT: EPA RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.RCRAInfo facilities that have reported violations and subject to corrective actions.

RCRA TSD: EPA RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are

required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.Facilities that treat, store, dispose, or incinerate hazardous waste.

RCRA GEN: EPA/MA DEP/CT DEP RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM GENERATORS - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.Facilities that generate or transport hazardous waste or meet other RCRA requirements.LGN - Large Quantity GeneratorsSGN - Small Quantity GeneratorsVGN – Conditionally Exempt Generator.Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities. CONNECTICUT HAZARDOUS WASTE MANIFEST – Database of all shipments of hazardous waste within, into or from Connecticut. The data includes date of shipment, transporter and TSD info, and material shipped and quantity. This data is appended to the details of existing generator records. MASSACHUSETTES HAZARDOUS WASTE GENERATOR – database of generators that are regulated under the MA DEP. VQN-MA = generates less than 220 pounds or 27 gallons per month of hazardous waste or waste oil.SQN-MA = generates 220 to 2,200 pounds or 27 to 270 gallons per month of waste oil.LQG-MA = generates greater than 2,200 lbs of hazardous waste or waste oil per month.

Fed Brownfield: EPA BROWNFIELD MANAGEMENT SYSTEM (BMS) - database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield grant Programs./n CLEANUPS IN MY COMMUNITY (subset) - Sites, facilities and properties that have been contaminated by hazardous materials and are being, or have been, cleaned up under EPA's brownfield’s program.

ERNS: EPA/NRC EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) - Database of incidents reported to the National Response Center. These incidents include chemical spills, accidents involving chemicals (such as fires or explosions), oil spills, transportation accidents that involve oil or chemicals, releases of radioactive materials, sightings of oil sheens on bodies of water, terrorist incidents involving chemicals, incidents where illegally dumped chemicals have been found, and drills intended to prepare responders to handle these kinds of incidents. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

Tribal Lands: DOI/BIA INDIAN LANDS OF THE UNITED STATES - Database of areas with boundaries established by treaty, statute, and (or) executive or court order, recognized by the Federal Government as territory in which American Indian tribes have primary governmental authority. The Indian Lands of the United States map layer shows areas of 640 acres or more, administered by the Bureau of Indian Affairs. Included are Federally-administered lands within a reservation which may or may not be considered part of the reservation.BUREAU OF INDIAN AFFIARS CONTACT - Regional contact information for the Bureau of Indian Affairs offices.

State/Tribal Sites: VT DEC ACTIVE AND CLOSED HAZARDOUS SITES LIST - database of active and closed hazardous waste sites. The data includes priority, project status, source, date of site discovery, date of site closure, and

owner information.

State Spills 90: VT DEC VERMONT SPILLS DATABASE - database of spills reported to the Vermont Department of Environmental Conservation. The data includes information regarding incident date, type of incident, reporter, responsible party, and action taken.

State/Tribal SWL: VT DEC SOLID WASTE MANAGEMENT FACILITIES LIST - database of both landfills and transfer stations for the state of Vermont. The list includes contact information for each site.

State/Tribal LUST: VT DEC PULLED UNDERGROUND STORAGE TANKS LIST - database of tanks that have been pulled/removed due to a leak. Under state law any tank that has reported a leak must be pulled/removed. The data includes owner and operator name, facility type, and tank information.

State/Tribal UST/AST: VT DEC REGISTERED UNDERGROUND STORAGE TANKS LIST - database of underground storage tanks registered with the Vermont Department of Environmental Conservation. The data includes facility type, owner contact information, and tank substance, protection, and capacity.

State/Tribal Brownfields: VT ANR BROWNFIELD SITE LIST SUBSET- database of sites that have been classified as Brownfields and have Institutional Controls. Information regarding size, response action, cleanup type, and project manager is included. Management System (BMS) - database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various brownfield grant programs.

State/Tribal Brownfields: VT ANR BROWNFIELD SITE LIST - database of sites that have been classified as Brownfields and/or have Institutional Controls. Information regarding size, response action, cleanup type, and project manager is included. Management System (BMS) - database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various brownfield grant programs.

Federal IC / EC: EPA FEDERAL ENGINEERING AND INSTITUTIONAL CONTROLS- Superfund sites that have either engineering or an institutional control. The data includes the control and the media contaminated. RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES (RCRA) – RCRA site that have institutional controls.

Environmental FirstSearch Database Sources

NPL: EPA Environmental Protection Agency

Updated quarterly

NPL DELISTED: EPA Environmental Protection Agency

Updated quarterly

CERCLIS: EPA Environmental Protection Agency

Updated quarterly

NFRAP: EPA Environmental Protection Agency.

Updated quarterly

RCRA COR ACT: EPA Environmental Protection Agency.

Updated quarterly

RCRA TSD: EPA Environmental Protection Agency.

Updated quarterly

RCRA GEN: EPA/MA DEP/CT DEP Environmental Protection Agency, Massachusetts Department of Environmental Protection, Connecticut Department of Environmental Protection

Updated quarterly

Fed Brownfield: EPA Environmental Protection Agency

Updated quarterly

ERNS: EPA/NRC Environmental Protection AgencyNational Response Center.

Updated annually

Tribal Lands: DOI/BIA United States Department of the InteriorBureau of Indian Affairs

Updated annually

State/Tribal Sites: VT DEC Vermont Department of Environmental Conservation

Updated quarterly

State Spills 90: VT DEC Vermont Department of Environmental Conservation

Updated quarterly

State/Tribal SWL: VT DEC Vermont Department of Environmental Conservation, Solid Waste Management Division

Updated annually

State/Tribal LUST: VT DEC Vermont Department of Environmental Conservation, Hazardous Materials Management Division

Updated quarterly

State/Tribal UST/AST: VT DEC Vermont Department of Environmental Conservation, Hazardous Materials Management Division

Updated quarterly

State/Tribal Brownfields: VT ANR Vermont Agency of Natural Resources, Waste Management Division of Brownfields Program

Updated quarterly

State/Tribal Brownfields: VT ANR Vermont Agency of Natural Resources, Waste Management Division of Brownfields Program

Updated quarterly

Federal IC / EC: EPA Environmental Protection Agency

Updated quarterly

Environmental FirstSearch
Street Name Report for Streets within .25 Mile(s) of Target Property

Target Property: 200 AIRPORT PKWY
SOUTH BURLINGTON VT 05403

JOB: 509110222

Street Name	Dist/Dir	Street Name	Dist/Dir
AIRPORT PKWY	0.00--		
Airport Ter	0.02 NW		
Berkeley St	0.24 SW		
Berkley St	0.24 SW		
Clover St	0.22 SW		
Dumont Ave	0.21 SE		
Duval St	0.13 SW		
Hanover St	0.21 SW		
Kirby Rd	0.02 SW		
N Henry Ct	0.17 SE		
Picard Cir	0.08 SE		
Queensbury Rd	0.22 SW		
S Henry Ct	0.22 SE		

Environmental FirstSearch

1 Mile Radius

ASTM Map: NPL, RCRACOR, STATE Sites

200 AIRPORT PKWY, SOUTH BURLINGTON VT 05403

Source: Tele Atlas

Target Site (Latitude: 44.476318 Longitude: -73.165383) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

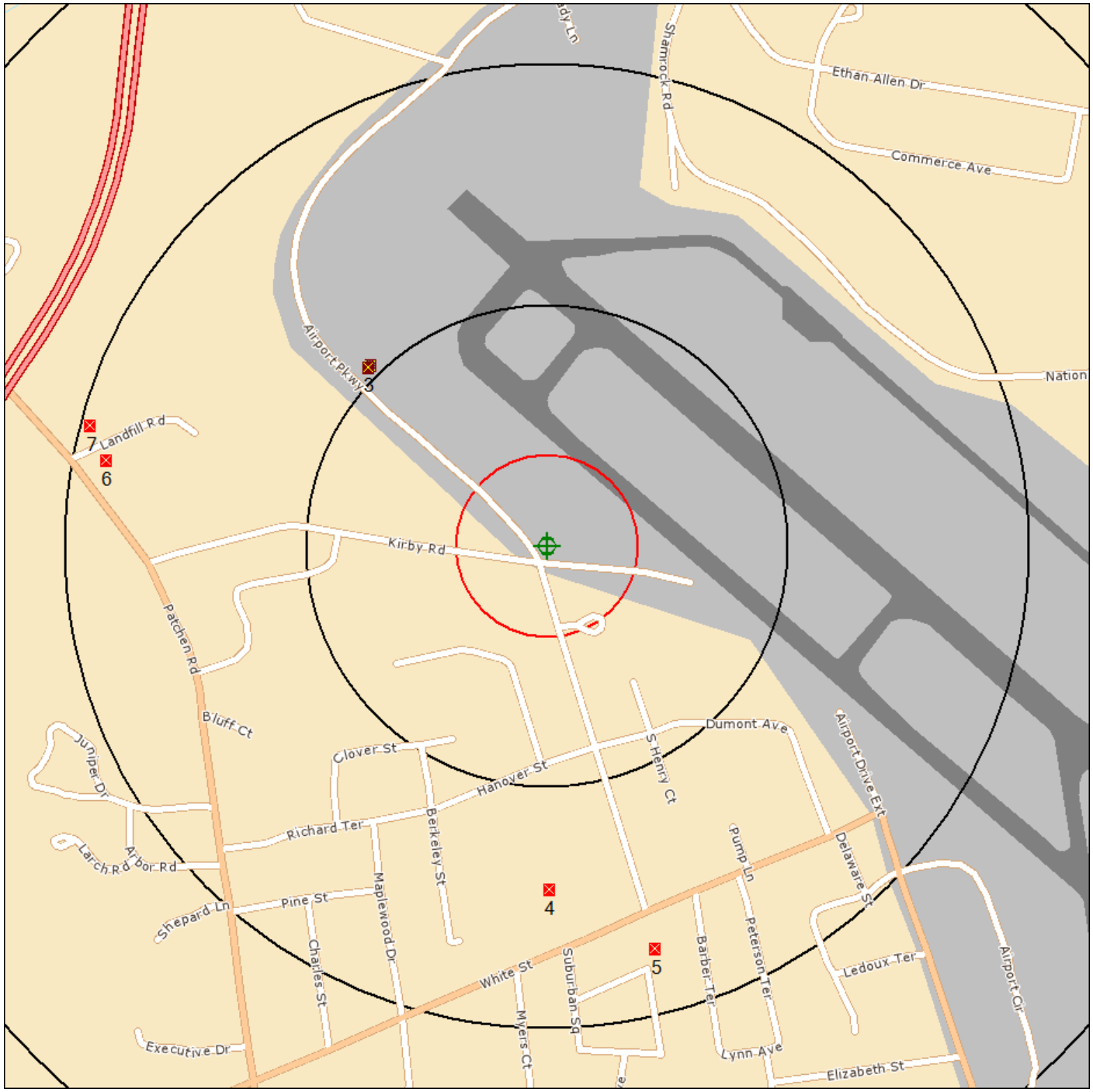
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.5 Mile Radius

ASTM Map: CERCLIS, RCRATSD, LUST, SWL

200 AIRPORT PKWY, SOUTH BURLINGTON VT 05403



Source: Tele Atlas

Target Site (Latitude: 44.476318 Longitude: -73.165383) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

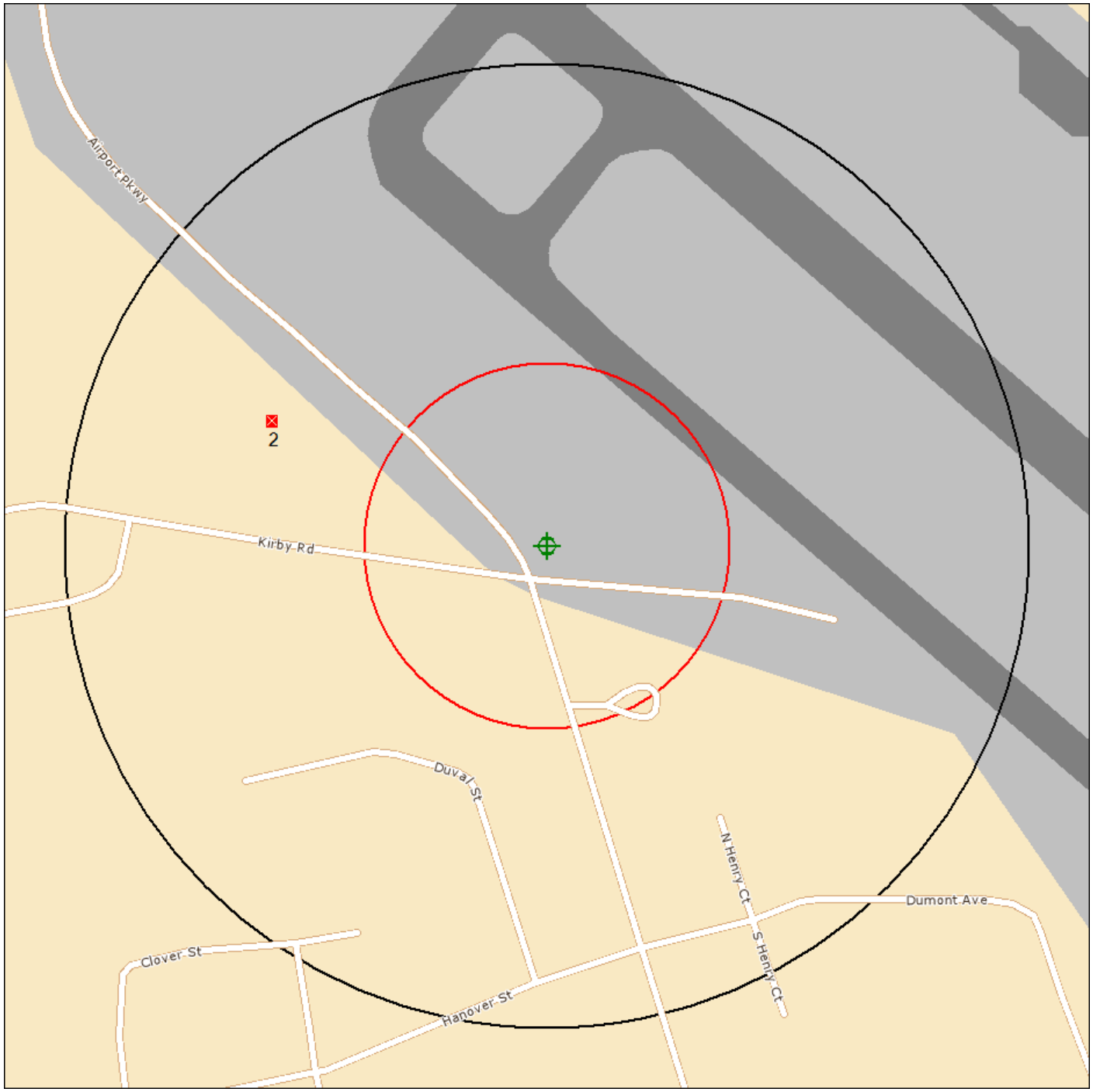
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.25 Mile Radius

ASTM Map: RCRAGEN, ERNS, UST, FED IC/EC, METH LABS

200 AIRPORT PKWY, SOUTH BURLINGTON VT 05403



Source: Tele Atlas

Target Site (Latitude: 44.476318 Longitude: -73.165383) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

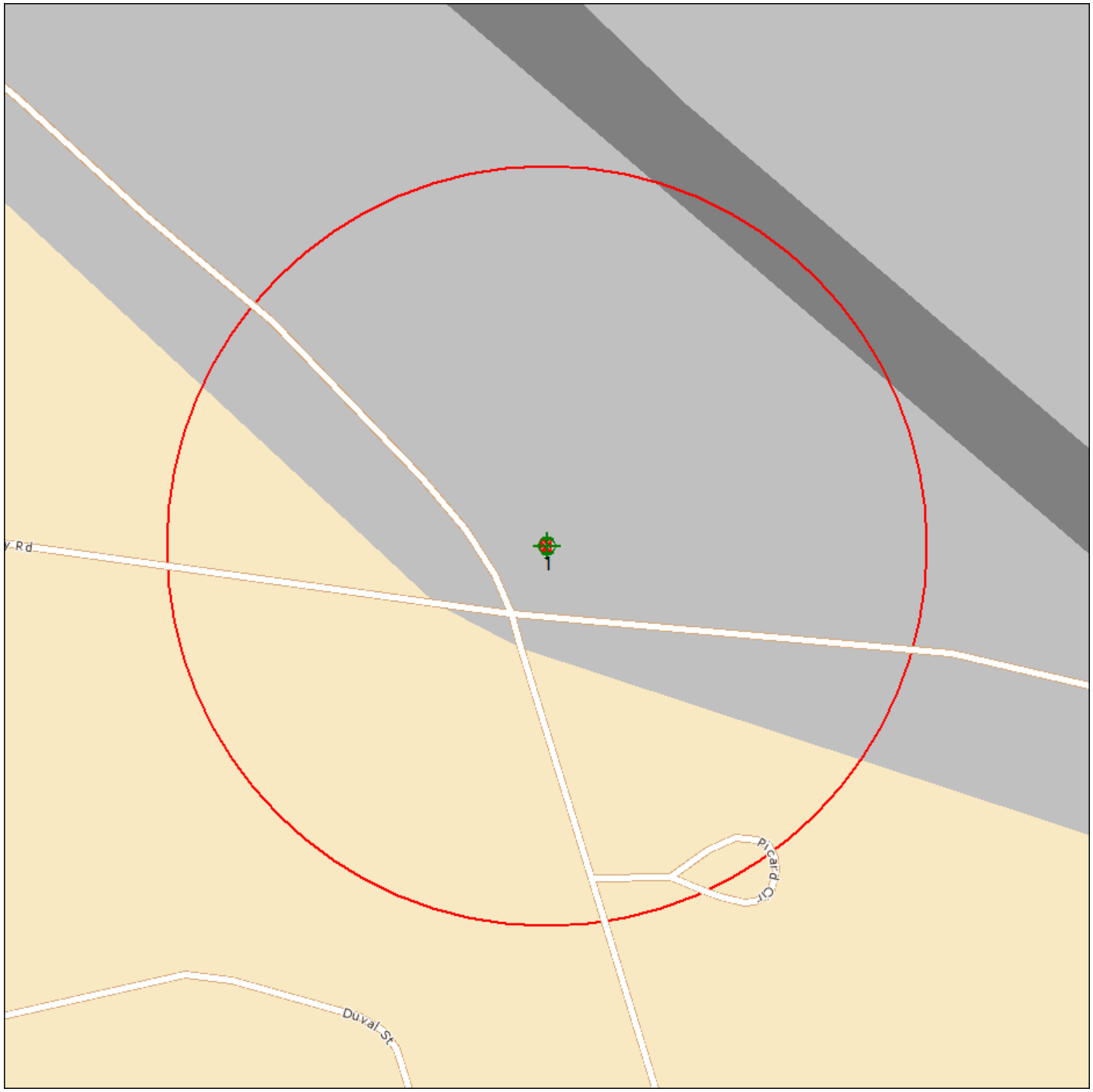
Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.12 Mile Radius

Non-ASTM Map: Spills 90

200 AIRPORT PKWY, SOUTH BURLINGTON VT 05403



Source: Tele Atlas

Target Site (Latitude: 44.476318 Longitude: -73.165383) .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

National Historic Sites and Landmark Sites .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

HISTORICAL FIRE INSURANCE MAPS

NO MAPS AVAILABLE

Report Date: 9/23/2011
Client Job Number: 509110222
FirstSearch Index Number: 279111
Site Address(es): 200 AIRPORT PKWY
SOUTH BURLINGTON, VT 05403

A search of FirstSearch Technology Corporation's proprietary database of historical fire insurance map availability confirmed that there are NO MAPS AVAILABLE for the Subject Location as shown above.

FirstSearch Technology Corporation’s proprietary database of historical fire insurance map availability represents abstracted information from the Sanborn® Map Company LLC obtained through online access to the Library of Congress as well as the result of a review of the other fire insurance map microfilm collections available via various local libraries.

FirstSearch Technology Corporation
10 Cottage Street, Norwood, MA 02062
Tel: 781-551-0470 Fax: 781-551-0471

APPENDIX G

INTERVIEW DOCUMENTATION

QUESTIONNAIRE FOR INTERVIEW

Name of person being interviewed: Mike Franco

Title and address: Former Owner - 120 Airport Parkway

In person or telephone: Telephone

Telephone Number: 502-863-5826

Association with Property: Owned since 1988

Date of Interview: 10/11/11

Name of person conducting interview:

"To the Best of your Knowledge"

1. Please provide a description of the property, its current use and past uses.
   Residential Home w small buisness for ~5 years. Machine shop - cutting steel.

2. Has the property or an adjacent property ever been used for agriculture, mineral, commercial or industrial purposes? If yes, explain.
   Agricultural before residential

3. Are any past or present improvements such as old building foundations, evident on the property: if yes, explain:
   - Steel cars used to be there - used to be hole at end of road.

4. Have there been or are there any unnatural topographic features such as mounds, fill areas, depressions, etc.? If yes, explain.
   - The cul-de-sac used to be a landfill where they had buried cars - they reportedly dug them up and moved them out

5. Has fill dirt ever been brought onto the property that originated from a contaminated site or that was of an unknown origin? If yes, explain.
   No

6. Have any of the following been dumped above grade, or buried and/or burned on the property: hazardous substances or petroleum products (except when burned for
   No

heating), tires, automotive or industrial batteries, vehicles, barrels, pesticide containers or other waste materials? If yes, explain.

No

7. Has there been any past, present or permitted or planned mining activity or oil and gas exploration or development on the property? If yes, explain.

No

8. Are there or have there ever been pipelines or utility lines, either buried or overhead, crossing the property and have there been spills or releases associated with them? If yes, explain.

No

9. Are PCBs present or have PCBs ever been present in transformers, capacitors, or hydraulic equipment on the property and have there been any releases? If yes, explain.

No - used water soluble oils in equipment

10. Is there or has there been any storage, mixing or disposal of pesticides on the property? Note: disposal means other than normal intended use of the product. If yes, explain.

No

11. Have any monitoring wells been installed in the property? If yes, explain any the purpose of the wells and provide any analytical results.

No

12. If the property is served by a private well have contaminants ever been identified in the well that exceeded acceptable levels? If yes, explain.

N/A

13. If surface water is present, are there or have there been any unnatural characteristics such as color, sheens, odors, etc.? If yes, explain.

No

14. Are there or have there been pits, ponds or lagoons associated with waste treatment or waste disposal on the property? If yes, explain.

No

15. Has the property discharged waste water (not including stormwater runoff) on or adjacent to the property? If yes, explain.

No

16. Is there or has there been stressed or dead vegetation present? If yes, explain.

No

17. Are floor drains present? If yes, explain and indicate whether the drains are connected to municipal sewer or whether they discharge on site.

No

18. Are there or have there been any floors, drains or walls stained by substances other than water or which are emitting foul and/or unnatural odors? If yes, explain.

No

19. Have radon, asbestos containing materials or lead based paint ever been identified in any on site structures? If yes, explain.

Neighbor had radon

20. Are there or were there ever above ground or underground storage tanks on the property? If yes, explain.

No

21. Have hazardous substances been stored on the property? If yes, explain.

No

22. Have there been any industrial drums, sacks or chemicals located or dumped on the property? If yes, explain.

No

23. Have there been any environmental permits or licenses associated with the property? If yes, explain.

No

24. Have there been any compliance / enforcement notices or environmental liens relating to past or recurrent violations of environmental laws with respect to the property or any facility on the property? If yes, explain.

No

25. Has an environmental site assessment of the property indicated the presence of hazardous substances, petroleum products or other potential environmental problems on the property, or recommended further assessments? If yes, explain.

No

26. Are you aware of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substances or petroleum products on the property? If yes, explain.

No

27. Have there been spills of hazardous substances or petroleum products on the property? If yes, explain and indicate whether these spills were reported to regulatory authorities.

No

28. Are material safety data sheets available for the facility? If yes, attempt to view.

No

29. If a purchase, does the purchase price reasonably reflect fair market value? If not, has the price been discounted due to real or perceived contamination?

Yes

30. If not mentioned above, is there anything else that could indicate the presence of hazardous substance and petroleum products which may impact the property? If yes, explain.

No

QUESTIONNAIRE FOR INTERVIEW

Name of person being interviewed: Joseph Lemay

Title and address: Former Owner - 1379 Airport Drive

In person or telephone: Telephone

Telephone Number: (919) 556-8573

Association with Property: 41 years - owned

Date of Interview: 10/11/11

Name of person conducting interview: Angela Emerson

"To the Best of your Knowledge"

1. Please provide a description of the property, its current use and past uses.
   Farm property 70-80 years ago - It has been residential ever since

2. Has the property or an adjacent property ever been used for agriculture, mineral, commercial or industrial purposes? If yes, explain.
   NO - other than it was agricultural before it was developed

3. Are any past or present improvements such as old building foundations, evident on the property: if yes, explain:
   NO

4. Have there been or are there any unnatural topographic features such as mounds, fill areas, depressions, etc.? If yes, explain.
   No

5. Has fill dirt ever been brought onto the property that originated from a contaminated site or that was of an unknown origin? If yes, explain.
   No

6. Have any of the following been dumped above grade, or buried and/or burned on the property: hazardous substances or petroleum products (except when burned for

heating), tires, automotive or industrial batteries, vehicles, barrels, pesticide containers or other waste materials? If yes, explain.

No

7. Has there been any past, present or permitted or planned mining activity or oil and gas exploration or development on the property? If yes, explain.

No

8. Are there or have there ever been pipelines or utility lines, either buried or overhead, crossing the property and have there been spills or releases associated with them? If yes, explain.

No

9. Are PCBs present or have PCBs ever been present in transformers, capacitors, or hydraulic equipment on the property and have there been any releases? If yes, explain.

No

10. Is there or has there been any storage, mixing or disposal of pesticides on the property? Note: disposal means other than normal intended use of the product. If yes, explain.

No

11. Have any monitoring wells been installed in the property? If yes, explain any the purpose of the wells and provide any analytical results.

No

12. If the property is served by a private well have contaminants ever been identified in the well that exceeded acceptable levels? If yes, explain.

No

13. If surface water is present, are there or have there been any unnatural characteristics such as color, sheens, odors, etc.? If yes, explain.

No

14. Are there or have there been pits, ponds or lagoons associated with waste treatment or waste disposal on the property? If yes, explain.

No

15. Has the property discharged waste water (not including stormwater runoff) on or adjacent to the property? If yes, explain.

No

16. Is there or has there been stressed or dead vegetation present? If yes, explain.

No

17. Are floor drains present? If yes, explain and indicate whether the drains are connected to municipal sewer or whether they discharge on site.

No

18. Are there or have there been any floors, drains or walls stained by substances other than water or which are emitting foul and/or unnatural odors? If yes, explain.

No

19. Have radon, asbestos containing materials or lead based paint ever been identified in any on site structures? If yes, explain.

No

20. Are there or were there ever above ground or underground storage tanks on the property? If yes, explain.

Leachfield in the background

21. Have hazardous substances been stored on the property? If yes, explain.

No

22. Have there been any industrial drums, sacks or chemicals located or dumped on the property? If yes, explain.

No

23. Have there been any environmental permits or licenses associated with the property? If yes, explain.

No

24. Have there been any compliance / enforcement notices or environmental liens relating to past or recurrent violations of environmental laws with respect to the property or any facility on the property? If yes, explain.

No

25. Has an environmental site assessment of the property indicated the presence of hazardous substances, petroleum products or other potential environmental problems on the property, or recommended further assessments? If yes, explain.

No

26. Are you aware of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substances or petroleum products on the property? If yes, explain.

No

27. Have there been spills of hazardous substances or petroleum products on the property? If yes, explain and indicate whether these spills were reported to regulatory authorities.

No

28. Are material safety data sheets available for the facility? If yes, attempt to view.

No

29. If a purchase, does the purchase price reasonably reflect fair market value? If not, has the price been discounted due to real or perceived contamination?

Yes

30. If not mentioned above, is there anything else that could indicate the presence of hazardous substance and petroleum products which may impact the property? If yes, explain.

No

Interview Questionnaire – Phase I ESA User
Phase I Environmental Site Assessment

Date: _____

Site Name: Airport Land Acquisition Program – All Residential Properties
Location:
Multiple

Person Interviewed: Heather Kendrew

Title/ Affiliation: Director of Maintenance, Engineering & Env.

Relationship to Subject Property: Owner Representative

Address: 1200 Airport Drive
South Burlington, VT 05403

Telephone: 802-863-2874

Signed: _____

(1.) *Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?*

No for all properties

(2.) *Are you aware of any Activity and Use Limitations, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?*

No for all properties

(3.) *Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?*

No for all properties, these were long term residential single/multi family homes

(4.) *Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?*

Yes, all properties were bought at fair market value based on appraisal, and a second review appraisal as required by the FAA for their federal land acquisition program

(5.) *(a.) Do you know the past uses of the property?*

Residential use for all properties, primarily single family dwellings, some duplex units.

(5.) *(b.) Do you know of specific chemicals that are present or once were present at the property?*

We have no knowledge of chemicals present currently or historically on the properties.

(5.) *(c.) Do you know of spills or other chemical releases that have taken place at the property?*

We have no knowledge or records of chemical releases on the properties

(5.) *(d.) Do you know of any environmental cleanups that have taken place at the property?*

We have no knowledge or records of environmental cleanups on the properties

(6.) *Based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?*

There are no obvious indicators of contamination on the properties. No issues were noted during the appraisal process or subsequent inspection process as part of airport final acceptance of properties.

APPENDIX H

SITE RECONAISSANCE CHECKLIST

Site Reconnaissance Checklist
Phase I Environmental Site Assessment

KAS Project No.: 509110226

Date: September 22-23, 2011

Site Name: 6 Residential Properties, AIP 78

Location: South Burlington, VT

Inspector: Angela Emerson and Aaron Roth

Signed: Angela Emerson

Weather: 60-70 degrees, cloudy, rain showers

Accompanied By: Kurt Miller

Title, or Relationship to the Property: Burlington International Airport Representative

Telephone: 802-233-4869

Section 1. General Site Setting (ASTM E-1527-05 Section 9.4.1)

A. *Current uses of the property (Section 9.4.1.1):* Describe current property uses with emphasis on those likely to involve use, treatment, storage, disposal and/or generation of hazardous substances and/or petroleum products. Generate site sketch map (or obtain existing site plans). Include an estimate of the subject property boundaries. Include detail sketches if appropriate. Describe structures and other improvements on the property.

- The subject properties are currently vacant and not in use with the exception of 120 Airport Parkway, which appear to be used for Halloween purposes during the Halloween season.
- Each property has a single family housing structure with the exception of 396 White Street which contains a duplex building. Each building contained 2-4 bedrooms. All properties contained a garage; either attached or detached from the residential building except at All properties contained a garage which was either attached or detached from the residential building except at 31 Dumont Avenue, 1375 Airport Drive and 1379 Airport Drive. Sheds were noted at 110 Airport Parkway, 120 Airport Parkway, 396 White Street, 31 Dumont Avenue, and 1375 Airport Drive.

B. *Past uses of the property (Section 9.4.1.2):* To the extent visually evident, describe past property uses with emphasis on those likely to involve use, treatment, storage, disposal and/or generation of hazardous substances and/or petroleum products.

- Past uses appear to be as a single or multi family residential housing

C. *Current and past uses of adjoining properties (Section 9.4.1.3 and 9.4.1.4.):* To the extent visually identifiable from the subject property, list current uses of adjoining properties with emphasis on those likely to indicate recognized environmental conditions on the subject property. If past uses of adjoining properties with such potential are evident list these also.

- Surrounding properties are all suburban/residential expect at 1375 and 1379 Airport Drive which are located across the road from the parking lots for the Burlington International Airport. Past uses appear to be the same based on visual observations.

D. *Current or past uses in the surrounding area (Section 9.4.1.5):* To the extent visually identifiable from the subject property and public thoroughfares in the vicinity, describe general area development with potential to indicate recognized environmental conditions with the subject property.

- The area is generally residential in nature with the exception of the Burlington International Airport.

E. *Geologic, Hydrogeologic, Hydrologic and Topographic Conditions (Section 9.4.1.6):* Describe the overall property setting. Describe natural bodies of water (including springs and seeps) and possible wetlands on subject property and indicate location(s) on site sketch map. Note presence of exposed bedrock on property grounds and indicate general location(s) on site sketch map.

- No bodies of water or wetland areas were noted.
- No exposed bedrock was noted.

F. *General Description of Structures (Section 9.4.1.7):* Describe structures or other improvements on the property including number and size of buildings, footprints, number of stories each, approximate age of buildings, occupancy status, pavement, fences, foundations/ruins, utilities, product pipelines, and ancillary structures such as railroad spurs and power transmission lines.

- Each property has a single family housing structure with the exception of 396 White Street which contains a duplex building. Each building contained 2-4 bedrooms. All residential buildings contained one to two stories. The buildings were wood framed with a concrete foundation. Each residential building contained a full basement. The buildings were constructed in the 1950's except for the 120 Airport Parkway and 396 White Street properties which were built in the 1980's.
- All properties contained a garage; either attached or detached from the residential building except at All properties contained a garage which was either attached or detached from the residential building except at 31 Dumont Avenue, 1375 Airport Drive and 1379 Airport Drive. Sheds were noted at 110 Airport Parkway, 120 Airport Parkway, 396 White Street, 31 Dumont Avenue, and 1375 Airport Drive.
- No other structures were noted.

G. *Roads (Section 9.4.1.8):* List public thoroughfares, roads, streets and parking facilities adjoining / on the subject property.

- Adjoining roads/streets include Airport Parkway, Airport Drive, Maryland Street, and Dumont Avenue.

H *Potable Water Supply (Section 9.4.1.9):* Identify potable water supply source(s) for the subject property as apparent from visual inspection.

- Municipal based on visual inspection.

I. *Sewage Disposal System (Section 9.4.1.10):* Identify current sewage disposal system as apparent from visual inspection.

- Municipal based on visual inspection.

Section 2. Interior and Exterior Observations (ASTM E-1527-05 Section 9.4.2)

A. *Current and Past Property Use (Sections 9.4.2.1 and 9.4.2.2):* If building structures are identified on the subject property, visually inspect accessible common areas (lobbies, hallways), maintenance and repair areas (boiler rooms) and a representative sample of occupant spaces. Identify below which interior spaces were inspected and describe. Also note which interior spaces were not inspected.

- All interior spaces were inspected. The building spaces were generally vacant. A hot water heater remained at each property. Some small quantities of wood, clothing, and/or appliances remained. The main structure at each property appeared to be used as a residential living space based on visual observation. The sheds appeared to be used as storage. The garage spaces appeared to be used as storage and/or for parking of vehicles.

- The exterior of the subject properties is primarily used as a driveway and parking area. A lawn area is located behind the on site buildings.

- The shed at 120 Airport Parkway could not be accessed.

B. *Hazardous Substances and Petroleum Products (Sections 9.4.2.3, 9.4.2.8 and 9.4.2.9):* List apparent hazardous substances, petroleum products, pollutants, contaminants and raw materials observed on the subject property. Include type, container size and quantity, locations and whether stored appropriately. Note presence or absence of labeling, content according to labels, drum condition. Are adverse environmental conditions observed? Obtain/ review Material Safety Data Sheets if possible.

- No evidence of hazardous substance and/or petroleum products were noted on the exterior of the subject properties except at 110 Airport Parkway, 120 Airport Parkway, 1375 Airport Drive, and 1379 Airport Drive, which each had fill pipes for an AST present on an exterior wall (see Section 6.3.3). Additionally, an empty, corroded, 55 gallon drum was located in the backyard of the 31 Dumont Avenue Property. No staining or odors were noted in the vicinity of the drum and no evidence of activities related to hazardous or petroleum substance use was noted in the vicinity of the drum. Steel pipes were noted in the ground at 1375 and 1379 Airport Drive. The uses/purposes of these pipes could not be discerned during the site reconnaissance.
- No hazardous substances or petroleum products were noted on the interior of the properties except at 110 Airport Parkway, 120 Airport Parkway, and 1375 Airport Drive fuel oil aboveground storage tanks (AST) were noted (see Section 6.4.3) There were fill pipes for an AST located on the exterior wall of 1379 Airport Drive, but no ASTs were located in the basement. Additionally, 1 can of WD-40, 1 quart of outboard motor lubricant and one empty gas can were noted in the garage at 110 Airport Parkway.

C. *Storage Tanks (Section 9.4.2.4):* Identify ASTs and USTs on the subject property. Note pumps, fill pipes, vents, access ways, concrete pads, saw cuts in paved areas, etc. Determine location, size and construction material to the extent visually identifiable, apparent contents, spill/ release protection, containment measures, status (active or inactive). Note upgrades such as corrosion protection, spill and overfill protection, secondary containment systems, etc. Note visual evidence of whether tank(s) have been taken out of operation, removed, closed in place, or otherwise closed.

- No evidence of storage tanks were noted at the subject properties except at 110 Airport Parkway, 120 Airport Parkway, and 1375 Airport Drive, which each had an AST in the basement. Fill pipes for an AST were noted at 1379 Airport Drive but no AST was found on the property/
- Steel pipes for an unknown purpose were observed protruding from the ground at the 1375 and 1379 Airport Drive properties.

D. *Odors (Section 9.4.2.5):* Note strong, pungent, or noxious odors and attempt to identify source.

- No odors were noted.

E. *Pools of Liquid (Section 9.4.2.6):* Note standing surface water, and pools or sumps containing liquids likely to be hazardous substances or petroleum products, to the extent visually identifiable.

- No pools of liquid were noted.

F. *Drums (Section 9.4.2.7):* Identify drums potentially containing hazardous substances, petroleum products, pollutants, or contaminants. Identify storage methods including whether release protection measures are in place. Are adverse environmental conditions such as leakage, weeping or overfilling observed? If drums are identified, indicate whether they are labeled and identify drum contents according to labeling.

- No drums were noted on the subject properties except at 31 Dumont Avenue where a corroded, empty 55 gallon drum was noted in the backyard. No staining was noted around the drum.

G. *PCBs (Section 9.4.2.10):* List suspect sources of polychlorinated biphenyls (PCBs) such as electrical or other equipment with potential to contain PCBs (transformers, circuit breakers, capacitors, hydraulic fluids, pesticide extenders, lubricants, cutting oils, vacuum pumps, heat transfer systems, plasticizer applications). Fluorescent light ballasts need not be noted. Note with respect to each whether known to contain PCBs (as indicated by labeling), name of utility company (if applicable) and serial numbers, other marks, manufacturer, and model number; evidence of spill or release. Indicate location(s) on site sketch map.

- No evidence of PCB containing materials or products was noted on the subject properties.

Section 3. Interior Observations (ASTM E-1527-05 Section 9.4.3)

A. *Heating/Cooling (Section 9.4.3.1):* Identify current fuel source(s) for heating and cooling. If possible to identify past fuel sources for heating and cooling, list these also.

- All properties appeared to be most recently heated with natural gas due to the presence of a natural gas meter or natural gas meter connections on the outside of the buildings except at 110 Aiport Parkway, 120 Airport Parkway, and 1375 Airport Drive which appeared to be heated by fuel oil. Evidence of a former AST was noted at the 1379 Dumont property where a fill pipe was observed protruding from the building structure but no AST was noted in the basement. The ASTs appeared to be in fair to good condition.

B. *Stains/Corrosion (Section 9.4.3.2):* Identify stains or corrosion of floors, walls, or ceilings except for staining from water.

- No stains or corrosion was noted during the site reconnaissance except at 1375 Airport Drive and 120 Airport Parkway. Staining was noted under the above ground storage tank in the basement space and 1375 Airport Drive. Staining was noted on the walls and floor of the garage at 120 Airport Parkway.

C. *Drains and Sumps (Section 9.4.3.3):* Identify floor drains, other drains, ditches, and sumps on the subject property. Note the presence or absence of wastewater or other liquid discharge, and sediments, in or into these structures. Describe whether flowing or pooled, sheens, color, odor Note processes active in their vicinity and whether drains are sealed or operational. Can discharge pipes be seen and if so, note the direction they exit the floor drain. Do drains daylight on the property?

- None noted.

Section 4. Exterior Observations (ASTM E-1527-05 Section 9.4.4)

A. *Pits, Ponds and Lagoons (Section 9.4.4.1):* Note pits, pools, ponds, lagoons, sumps, or catch basins and indicate location on site sketch map and indicate whether they appear to have been used in connection with waste disposal or treatment.

- None noted

B. *Stained soil or pavement (Section 9.4.4.2):* Note stained soil or pavement.

- None noted

C. *Stressed Vegetation (section 9.4.4.3):* Note areas of stressed vegetation from cause other than lack of water and indicate location on site sketch map.

- None noted

D. *Solid Waste (Section 9.4.4.4):* Note landfills for solid waste or hazardous waste and whether active or abandoned. Note presence of trash and/or construction debris. Note areas that are apparently filled or graded by non-natural causes or filled with material of unknown origin, mounds, or depressions suggesting solid waste disposal.

- None noted. Tires were noted on the bank of the steep gully behind 110 Airport Parkway – they appear to be used as for a retaining wall.

E. *Waste Water (Section 9.4.4.5):* Describe wastewater or other liquid (including storm water) discharge into drain, ditch, or stream on or adjacent to the subject property. Note the condition of wastewater or liquid discharge (e.g., water flowing or pooled, sheens on the liquid surface, color, odor)

- None noted except catch basin noted at base of driveway at 1379 Airport Drive. No water was noted in the catch basin during the reconnaissance.

F. *Wells (Section 9.4.4.6):* Note active or inactive wells on the subject property (including oil or gas wells, injection wells, irrigation wells, groundwater monitoring wells, dry wells, abandoned wells, or other wells) and indicate location on site sketch map.

- None noted

G. *Septic Systems (Section 9.4.4.7):* Indicate whether evidence exists of on site septic systems and/or cesspools, to the extent visually identifiable.

- None noted except at 396 White Street where a holding tank/septic system was observed

H. *Limitations (Section 9.2.4):* Identify condition(s) which prevented thorough inspection of building interiors and/or property grounds (snow cover, denied access, safety or structural issues).

- Access could not be obtained for shed at 120 Airport Parkway

I. *Additional Site Reconnaissance Observations:* This section is used to describe other contract specific requests not addressed above, whether ASTM or non-ASTM criteria are used to evaluate the specific feature (Attach additional pages as needed.)

- All properties were noted to be of an age where asbestos containing materials and/or lead based paint may be present.

APPENDIX I

QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

KAS, INC.
PROFESSIONAL PROFILE

ANGELA EMERSON

TITLE	**Senior Scientist**
EXPERTISE	Environmental project management; Brownfields investigation and remediation; geological investigations; hazardous waste site investigations and cleanup; remedial system design, installation, and operation; Phase I and Phase II Environmental Site Assessments; technical reports.
EXPERIENCE	**KAS, Inc., Williston, Vermont. April 2005-Present.** Project Manager 2005-2007; Brownfields project manager 2007-2010. Environmental Project Management. Brownfields investigation and remediation. Phase I and Phase II Environmental Site Assessments. Remediation design, implementation, and operation. Corrective Action Plan preparation and implementation. Bid specification preparation and construction oversight. **Yu & Associates, Elmwood Park, New Jersey. September 2002-October 2003.** Staff geologist on 2nd Avenue Subway Project in New York City. Managed all field and laboratory data. Created geotechnical data reports. Monitored drilling operations and geotechnical investigation budget. Sampled monitoring wells and maintained piezometers. **Vermont Geological Survey, Waterbury, Vermont. Summer 2001** Interned on project with Vermont Geological Survey. Completed environmental assessments and mapped hazards along the Third Branch of the White River.
ACADMEMIC BACKGROUND	B.S., Geology, University of Vermont, 2002
PROFESSIONAL QUALIFICATIONS	40 Hour OSHA 29CFR1910.120 Hazardous Worker Training ASTM/EPA Environmental Professional

KAS, INC.
PROFESSIONAL PROFILE

ALAN R. LIPTAK, PG, CPG

TITLE **Vice-President/Principal**

EXPERTISE Environmental project management, solid waste site design, operations, permitting, closure and post closure; contaminated site investigation and clean up, state and local permitting, innovative test methods.

EXPERIENCE **KAS, Inc., Williston, Vermont. September 2004 – Present.**

Management of KAS' environmental projects/ programs, including environmental site assessments, UST removals, site investigations, and environmental clean up activities. Foster technical innovation, quality control and assurance on projects and written materials. Business development activities for environmental programs. Project Management.

Griffin International, Inc., Williston, Vermont May 1999 – September 2004.

Environmental Programs Manager June 2001-September 2004; Senior Staff Geologist May 1999 –June 2001. Management and supervision of Griffin's environmental programs. Supervised professional staff of scientists and engineers. Business development activities for environmental programs. Management of individual projects.

The Johnson Company, Inc., Montpelier, Vermont October 1990 – May 1999.

Senior Scientist. Management of hazardous and solid waste projects and business development. Assisted with company administration including insurance and retirement planning.

State of Vermont Department of Environmental Conservation, Waterbury, Vermont October 1984 – October 1990.

Progressively responsible positions included assistant regional wastewater engineer, solid waste engineer and supervisor of engineering and technical assistance for the Solid Waste Division.

ACADEMIC BACKGROUND

MBA, Norwich University, June 2005
M.S. Geology, Chemistry Minor, University of Montana, 1984
B.A. Geology, State University of New York at Potsdam, 1982

PROFESSIONAL QUALIFICATIONS

Certified Professional Geologist # 10166
American Institute of Professional Geologists, Arvada, CO
New Hampshire Licensed Geologist #0142
ASTM/EPA Environmental Professional

OTHER

OSHA 1910.120 Hazardous Waste Site Worker
President, Vermont Philharmonic Orchestra Board of Directors
Williston-Richmond Rotary Club Member

KAS, INC.
PROFESSIONAL PROFILE

AARON ROTH

TITLE	**Branch Supervisor, Plattsburgh**
EXPERTISE	Environmental project management, property due diligence assessments, asbestos consulting, contaminated site investigation and clean up.
EXPERIENCE	**KAS, Inc., Williston, Vermont. December 2009 – Present.** Branch Supervisor of KAS's Plattsburgh, New York office. Project management of Phase I Environmental Site Assessments, site investigation and remediation, and asbestos consulting. Business development activities and personnel supervision. **Talus Environmental Consulting, LLC, Lakewood, Colorado 2006-2009.** Conducted and managed Phase I Environmental Site Assessments, asbestos consulting, contaminated site investigations, Superfund Site operations, remedial systems installation, operations and maintenance, senior document review, supervision, client interaction. **ATC Associates, Inc., Centennial, Colorado 2003-2006.** Conducted Phase I and Phase II Environmental Site Assessments, asbestos consulting, contaminated sites management, field work design, senior report review, RCRA facility investigations. **Freudenthal and Elkowitz Consulting Group, Inc., Commack, New York, 2001-2003.** Conducted Environmental Impact Statements, NEPA screening reports, Phase I and Phase II Environmental Site Assessments, report preparation, field work.
ACADEMIC BACKGROUND	B.A., SUNY Plattsburgh, Environmental Planning and Resource Management
PROFESSIONAL QUALIFICATIONS	ASTM/EPA Environmental Professional State of Colorado Listed Consultant #6161 Mold Inspection and Assessment Condition Training New York State and Vermont Certified Asbestos Inspector and Management Planner
OTHER	OSHA 1910.120 Hazardous Waste Site Worker

APPENDIX J

ADDITIONAL ENVIRONMENTAL RECORDS

State of Vermont

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
RELAY SERVICE FOR THE HEARING IMPAIRED
1-800-253-0191 TDD>Voice
1-800-253-0195 Voice>TDD

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
Waste Management Division
103 South Main Street/West Office
Waterbury, Vermont 05671-0404
(802) 241-3888
FAX (802) 241-3296

June 30, 1997

AL LARAWAY
ARMY CORPS OF ENGINEERS
505 RECALL AVENUE
WESTOVER ARB
CHICOPEE MA 01022

RE: Site Management Activity Completed, Ethan Allen Air Force Base, S. Burlington (Site #94-1663)

Dear Mr. Laraway:

The Vermont Department of Environmental Conservation, Sites Management Section (SMS) has recently reviewed the above referenced site file to evaluate whether it could be assigned a SMAC (Site Management Activity Completed) designation. The above cited location was listed as one of Vermont's active hazardous waste sites following discovery of contamination during the closure of a 1,000-gallon fuel oil underground storage tank (UST) in August 1994. During the tank removal, soils screened using a photoionization detector (PID) contained maximum volatile organic compound concentrations of 17 parts per million (ppm). All petroleum contaminated soils with detectable PID readings were excavated and temporarily stockpiled onsite. A total of 20.58 metric tons of petroleum contaminated soils were removed. On October 4, 1994, these soils were disposed at the Williston Landfill. Groundwater was not encountered during the UST site assessment, and no potential sensitive receptors were identified within a 1,000-foot radius of the site. Based on the current conditions at this site, the SMS has determined that this site is now eligible for a SMAC designation. This means that the SMS has determined the following:

- the fuel oil UST has been removed from the ground, and is no longer a continuing source of petroleum contamination at this site;
- all petroleum contaminated soils were excavated and subsequently disposed at the Williston Landfill; and
- any residual contamination does not pose an unacceptable risk to human health or the environment.

Based on these findings, the SMS has determined that site management activities have been completed. The completion of these activities does not release the U.S. Army Corps of Engineers of any past or future liability which may arise from the petroleum contamination discovered to have originated from the fuel oil UST at the former Ethan Allen Air Force Base site. It does mean that the SMS is not requiring any additional work be performed in response to the contamination discovered at this site. If you have any questions or comments, please feel free to contact either me or Matt Moran at (802)-241-3888.

Sincerely,

George Desch, Chief
Sites Management Section

cc: South Burlington Selectboard
DEC Regional Office

State of Vermont

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation

Waste Management Division
103 South Main Street/West Office
Waterbury, Vermont 05671-0404
(802) 241-3888

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
RELAY SERVICE FOR THE HEARING IMPAIRED
1-800-253-0191 TDD>Voice
1-800-253-0195 Voice>TDD

23 November 1999

Mr. Bob McEwing
Burlington International Airport
1200 Airport Drive
South Burlington, VT 05403

Dear Mr. McEwing:

The Vermont Department of Environmental Conservation, Sites Management Section (SMS) has reviewed the results of the environmental investigations and remedial activities conducted at the North-South Hangers site (VT Site # 97-2200) in South Burlington, VT. Based on these data and current site conditions, the SMS has determined the following:

- Shallow soils have been successfully remediated;
- there is groundwater contamination at this site, but the contamination is naturally degrading and is not migrating off site;
- potential sources of future contamination have been removed with the connection of the floor drains in the South Hanger to the South Burlington Sewer system; and
- restrictive covenants have been attached to the deed to prevent future exposure to contamination.

Based on these findings, the SMS has concluded that this site is eligible for a designation of "Site Management Activity Completed" (SMAC). This SMAC designation does not release the responsible parties from any past or future liability associated with the contamination discovered on this site. It does, however, mean that the SMS is not requesting any additional work at this time.

Sincerely,

George Desch, P.E.
Sites Management Section Chief

cc: Mr. Jeff Noyes, Heindel & Noyes, Inc.

SEP 2 6 1994

BURLINGTON INTERNATIONAL AIRPORT

September 21, 1994

Mr. Chuck Schwer, Supervisor
Agency of Natural Resources
Hazardous Materials Management Division
103 South Main St./West Office
Waterbury, Vermont 05671-0404

RE: Site Investigation Report - Site #93-1503
Burlington International Airport Innotech Fuel Farm

Dear Mr. Schwer,

As requested in your letter of January 3, 1994, Burlington International Airport retained the services of a qualified environmental consultant, Groundwater of Vermont, located in Burlington and has completed an initial site investigation of the Innotech fuel farm area. A copy of the Groundwater report for the fuel farm site is enclosed for your use.

Upon review of the report we would appreciate your assessment of the extent of the contamination, your assessment of the report's conclusions and guidance or suggestions you might have regarding the recommendations.

We have also provided a copy of this report to Innotech Aviation for their information and review.

If you have any questions, please contact Bob McEwing at 863-2874.

Sincerely,

John J. Hamilton
Director of Aviation

AIP21/CONTAM/ANR9

1200 Airport Drive, #1, South Burlington, Vermont 05403

(802) 863-2874 TDD
FAX (802) 863-1526

JUN 09 1993

GROUNDWATER TECHNOLOGY

Groundwater Technology, Inc.
1245 Kings Road, Schenectady, NY 12303
Tel: (518) 370-5631 Fax: (518) 370-5864

June 4, 1993

Mr. Matt Germon
VT DEC
103 South Main Street
West Building
Waterbury, Vermont 05671-0404

SUBJECT: Hertz Rent-A-Car
Burlington International Airport

Dear Mr. Germon,

Enclosed please find the subsurface investigation report dated May 20, 1993 for the above referenced site.

Should you have any questions or comments concerning this matter, please do not hesitate to contact me at (518) 370-5631.

Sincerely,
GROUNDWATER TECHNOLOGY, INC.

Michael B. Carr
Lead Geologist
Project Manager

MBC:mbe

Enclosure

GROUNDWATER TECHNOLOGY

Groundwater Technology, Inc.
1245 Kings Road, Schenectady, NY 12303
Tel: (518) 370-5631 Fax: (518) 370-5864

SUBSURFACE INVESTIGATION REPORT
HERTZ RENT - A - CAR
BURLINGTON INTERNATIONAL AIRPORT

May 20, 1993

Submitted to:

Patricia A. Woods
Project Manager
Environmental Affairs
The Hertz Corporation
225 Brae Boulevard
Park Ridge, NJ 07656-0713

GROUNDWATER TECHNOLOGY, INC.
Written/Submitted By:

Nicholas Pressly
Lead Engineer
Project Manager

GROUNDWATER TECHNOLOGY, INC.
Reviewed/Approved By:

Steven R. Meier
Senior Geologist

#1MylcaReport\Hertz/7982Inve.st

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

1.0 INTRODUCTION

Groundwater Technology, Inc (Groundwater Technology) was retained by Hertz Rent A Car (Hertz) to perform a subsurface assessment at the Hertz facility located at Burlington International Airport (Figure 1, Site Location Map). The objectives and scope of work for this investigation was based upon the Groundwater Technology proposal dated January, 25, 1993.

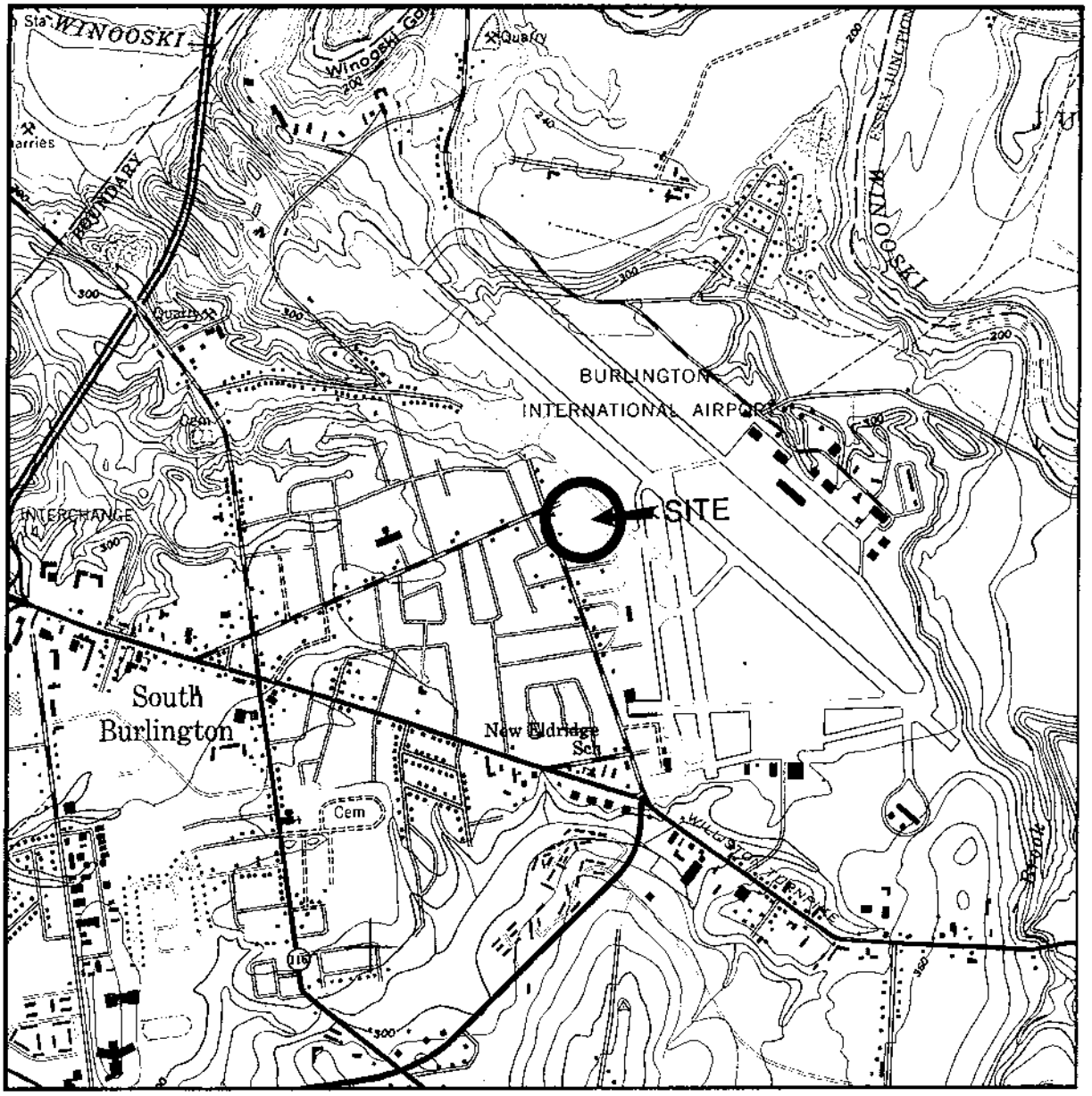
1.1 Background

During the removal of a Hertz owned 10,000 gallon gasoline underground storage tank (UST) on October 20, 1992 hydrocarbon impacted soil was encountered. A photoionization detector (PID) was used to screen excavated soil for volatile organic compounds (VOCs). All soils with PID readings greater than 20 parts per million (ppm) were removed from the excavation on the same date. Approximately 250 cubic yards of soil was removed and stockpiled on-site.

1.2 Objectives

The objectives for this investigation are summarized as follows:

- respond to regulatory requirements in an appropriate manner,
- evaluate the extent and magnitude of hydrocarbon impacts within the subsurface,
- provide data regarding the site hydrogeology,
- identify potential receptors of hydrocarbon impacts originating from the site,
- evaluate remedial alternatives, if necessary, and
- cause minimal disturbance to the normal daily operations at the site.



SOURCE: U.S.G.S. TOPOGRAPHIC QUADRANGLE
BURLINGTON QUADRANGLE
7.5 MINUTE SERIES
DATE: 1948 / REVISED 1987

QUAD LOCATION

SCALE 1:24,000

0 2,000 4,000

SCALE FEET

N

GROUNDWATER TECHNOLOGY

1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5864

DESIGNED: MET	**SITE LOCATION MAP**		
DETAILED: MET	CLIENT: HERTZ		DRAWING DATE: 4/20/93
CHECKED: NCP	LOCATION: MAIN STREET BURLINGTON, VERMONT		FIGURE: 1

2.0 METHODS

2.1 Monitoring Well Installation

On March 23, 1993, a hollow-stem auger drill rig with split-spoon sampling capability was used to install 4 monitoring wells (GT-1 - GT-4) at the site. The well locations are depicted on Figure 2, Site Map.

A Geologist supervised the well installations. Split-spoon soil samples were collected at 5-foot intervals according to standard ASTM methods. Each soil sample was containerized and screened for the presence of VOCs using a PID. A single soil sample exhibiting the highest PID readings found on-site, was submitted for laboratory analysis according to EPA Method 8020. Soil descriptions and PID readings were noted on well logs (Appendix A).

Each well was constructed using 4-inch diameter, 0.020 slotted PVC screen and casing. A silica sand pack surrounded the well screen and a bentonite seal was placed above the sand pack to prevent surface water infiltration. Locking well caps and flush mounted, traffic approved, steel manholes were installed to protect the well casings.

Prior to initiating field work, a site specific health and safety plan was prepared to comply with OSHA requirements under 29 CFR 1910.120.

2.2 Groundwater Gauging and Sampling

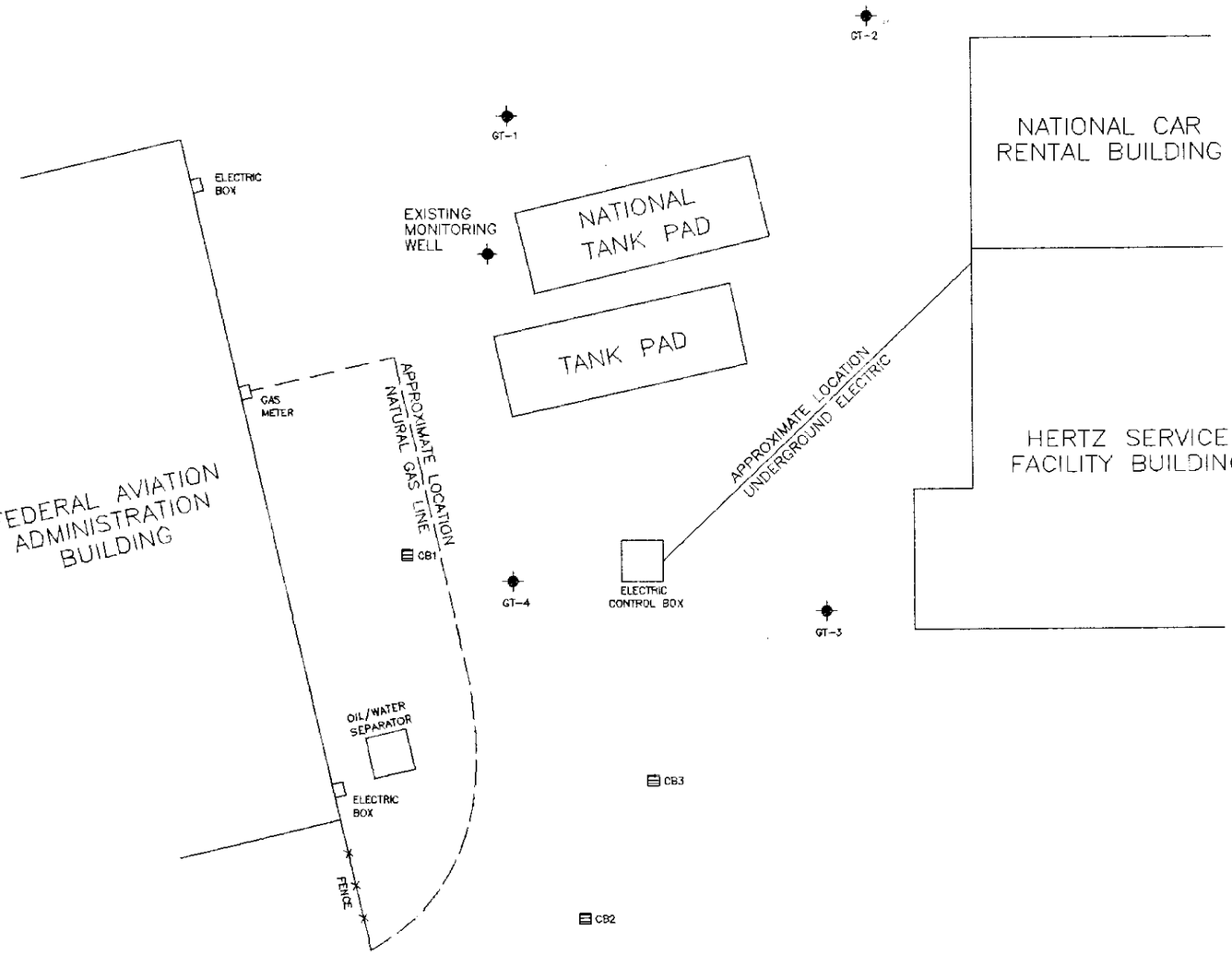
On March 30, 1993, a Groundwater Technology survey team located the existing and new wells and other pertinent site features on a site map. The top of casing elevations of the monitoring wells were surveyed relative to an arbitrary datum. Prior to sampling, the water level in each well was gauged using an ORS Interface Probe (IP). The IP is capable of measuring the depth to water/air/liquid hydrocarbon interface to 0.01 feet.

Groundwater samples were collected using disposable Teflon bailers dedicated to each well. Prior to sampling, 3 to 5 well volumes of groundwater were removed to insure the collection of a representative groundwater sample. Following collection, the samples were stored on ice and shipped via overnight

courier to Groundwater Technology Environmental Laboratories (GTEL). Each sample was analyzed according to EPA Method 602 protocol for BTEX, Total Hydrocarbons, and MtBE.

2.3 Potential Receptor Survey

A potential receptor survey (PRS) was performed to identify water wells, surface water bodies, utilities, basements, and any structures which could potentially be impacted by on-site hydrocarbons. The PRS utilized computer data bases, topographic maps, and on-site surveillance. A U.S.G.S well search was performed to identify public and private production wells within a 0.5 mile radius of the site.



LEGEND

MONITORING WELL

NOTES:

SOURCE:

0 20 40

SCALE FEET

N

APPROXIMATE NORTH

GROUNDWATER TECHNOLOGY
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5631

REV. NO.:	DRAWING DATE:	ACAD FILE:
	4/5/93	5402-STE

SITE MAP

CLIENT: HERTZ			PM: NCP
LOCATION: MAIN STREET BURLINGTON, NY			SM: JLF
DESIGNED: GB	DETAILED: DEO	PROJECT NO.: 01110-5402	FIGURE: 2

3.0 RESULTS

3.1 Site Geology

The soil encountered beneath the site consists of uniform brown fine sand from approximately 3 to 20 feet below grade. Trace quantities of silt, medium sand, and fine gravel were also observed within several soil samples. Soil classification data is included on the well logs in Appendix A.

3.2 Soil Sampling Results

The results of the field screening for VOCs using the PID are summarized below in Table 1.

Table 1

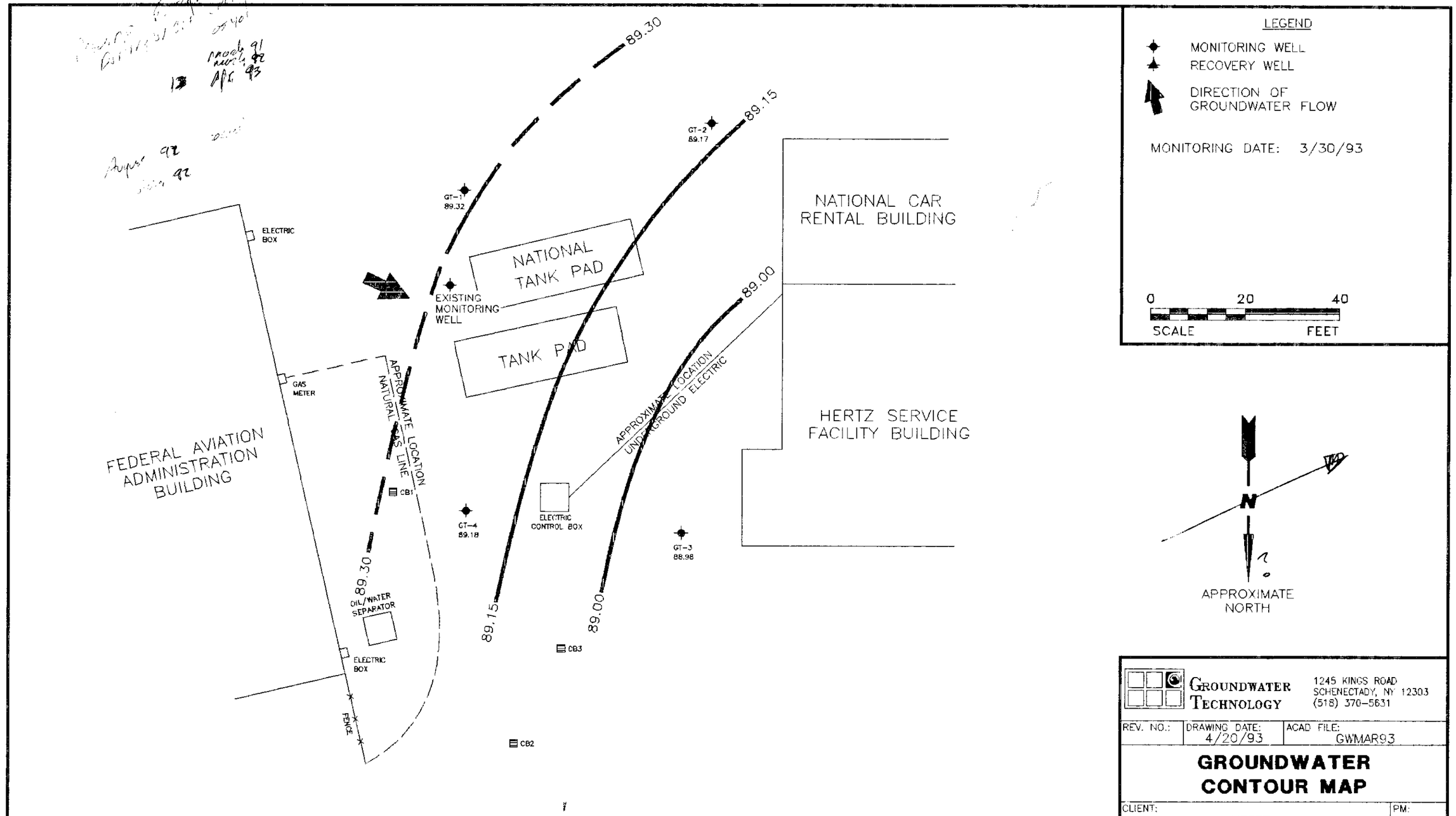
PID Field Screening Results (PPM)

Sample Interval *	GT-1	GT-2	GT-3	GT-4
3-5	0	167	175	90
8-10 +	4	1362	4480 #	4123
13-15	0	110	4185	1276
18-20	0	60	789	323

Key

PPM = Parts Per Million
* = Feet Below Grade
+ = Approximate Water Table Elevation
# = Submitted for laboratory Analysis

The soil sample exhibiting the highest levels of VOCs (GT-3, 8-10) was submitted for laboratory analysis according to EPA Method 8020. The results indicated a total BTEX (Benzene, Toluene, Ethyl Benzene, Xylene) concentration of 230 ppm. A laboratory analytical report is included in Appendix B.



GROUNDWATER TECHNOLOGY	1245 KINGS ROAD SCHENECTADY, NY 12303 (518) 370-5631	
REV. NO.:	DRAWING DATE: 4/20/93	ACAD FILE: GWMAR93

GROUNDWATER CONTOUR MAP

CLIENT: HERTZ		PM: NCP
LOCATION: MAIN STREET BURLINGTON, NY		SM: JLF
DESIGNED: GB	DETAILED: DEO	PROJECT NO.: 01110-5402
		FIGURE: 3

3.3 Site Hydrogeology

The depth to groundwater at the site was approximately 10 feet below grade. Groundwater flow was towards the northwest with an average gradient of 1.2 percent. Groundwater gauging data is included as Appendix C. A groundwater contour map is included as Figure 3.

3.4 Groundwater Sampling Results

On March 30, 1993, liquid phase petroleum was detected within GT-4 and GT-3 at thicknesses of 0.18 and 1.03 feet, respectively. A bail-down test was performed to determine the true product thickness in the aquifer. The test indicated true petroleum thicknesses of 0.07 and 0.45 feet, respectively. A petroleum sample was collected from GT-3 and analyzed for fingerprint characterization by capillary gas chromatography using FID and ECD. The sample was identified as a relatively un-weathered gasoline. The product analytical report is included as Appendix D.

The results of groundwater samples collected on March 30 are summarized below in Table 2.

Table 2

Groundwater Sampling Results (PPB)

Parameter	GT-1	GT-2	GT-3	GT-4
Liquid Phase Petroleum	ND	ND	1.03 feet	0.18 feet
Total BTEX+	ND	6500	NS	NS
MtBE+	ND	180	NS	NS

Key

+ = As determined by EPA Method 602 analysis
ND = Not Detected
NS = Not sampled because of presence of petroleum

The groundwater sampling analytical report according to EPA Method 602 is included as Appendix E. A hydrocarbon distribution map is presented as Figure 4.

3.5 Potential Receptor Survey

The buildings (Hertz, National Car Rental, and the Federal Aviation Administration) are located in the area surrounding the tank pad. These buildings were not found to have basements. Underground utilities within this area included electric, natural gas, and storm sewers. None of these shallow utilities are expected to intersect the water table which is located at approximately 10 feet below grade.

The United States Geological Survey (USGS) Groundwater Site Inventory Database indicated that no water supply wells are located within a 1 mile radius of the site. Public water supply data from the Vermont Department of Environmental Conservation, Water Supply Division indicated that Lake Champlain provides the Burlington area with a large percentage of its potable water supply. They also indicated that no wells were located within 0.5 miles of the site. Finally, The Vermont Center for Geographic Information Systems indicated that the closest water wells are located approximately 3800 meters east (crossgradient) of the site in Williston, Vermont.

A tributary to the Winooski River was located approximately 1000 feet northwest and downgradient of the site. The Winooski River is located approximately 1 mile north of the site.

4.0 CONCLUSIONS

Based on the results obtained during this investigation, the following conclusions are presented:

- The liquid phase hydrocarbon impacts encountered (maximum true thickness = 0.45 feet) within the subsurface appear to have originated from the area of the two underground storage tank systems.
- Field screening results of soil samples using the PID indicate that the highest hydrocarbon concentrations were found in the immediate vicinity of the water table. Based on the areal distribution of hydrocarbon impacts, groundwater flow appears to be the primary transport mechanism.
- Since hydrocarbon levels were not detected within upgradient monitoring well, GT-1, the only other potential source area, other than the Hertz UST, is the National Car Rental UST system.
- Potential receptors including subsurface utilities or water supply wells were not identified. However, a tributary to the Winooski River was identified as a potential receptor in relatively close proximity and downgradient of the site.

5.0 RECOMMENDATIONS

Based on the information obtained during this investigation, the following is recommended.

- Determine which of the two UST systems caused the release one of the following methods:
  - Determine the fuel type within each tank and perform petroleum additive analyses on samples obtained from downgradient monitoring wells and each tank.
  - Add a unique volatile tracer compounds to each tank and collect soil gas samples from the area surrounding the tanks to determine which of the tracers has entered the subsurface.
- Install 3 to 4 additional monitoring wells downgradient of the site to evaluate the full extent of the dissolved and liquid phase hydrocarbon plume.
- Develop and implement a remedial action plan based on the supplemental subsurface investigation data to control hydrocarbon migration and reduce hydrocarbon levels in order to protect the tributary to the Winooski River.

APPENDIX A

WELL LOGS

Drilling Log

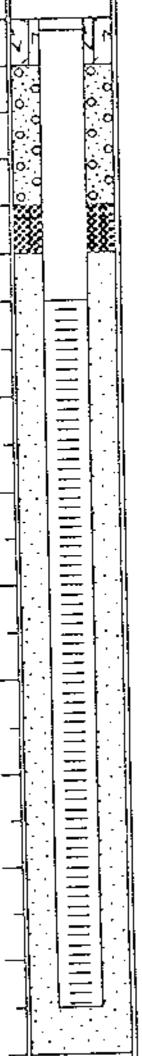
GROUNDWATER TECHNOLOGY

Monitoring Well GT-1

See Site Map
For Boring Location

COMMENTS:

Project *Hertz* Owner *Hertz Corporation*
Location *Burlington, VT* Project No. *0110-5402* Date drilled *3/23/93*
Surface Elev. ______ Total Hole Depth *22 ft.* Diameter *.875 ft.*
Top of Casing ______ Water Level Initial ______ Static ______
Screen: Dia *4 in.* Length *15 ft.* Type/Size *.020 in.*
Casing: Dia *4 in.* Length *5.5 ft.* Type *PVC*
Filter Pack Material *#1 SAND* Rig/Core Type *Mobile B-61*
Drilling Company *GTI* Method *HSA* Permit # ______
Driller *Mike Mede* Log By *J. Favreau*
Checked By *N. Pressly* License No. ______



Depth (ft.)	PID (ppm)	Sample ID Blow Count/ % Recovery	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2				
0				
2			SW	
4	0			3'-5': Damp, brown, fine sand, trace medium sand.
6				
8		5 5 4 6	SW	8'-10': Damp to moist, brown, uniform fine sand.
10	3.8			
12			SW	
14	0	2 3 3 5		13'-15': Saturated, brown, uniform fine sand.
16				
18			SW	18'-20': Saturated, brown, uniform fine sand.
20	0	1 2 2 3		
22				
24				

04/27/1993 lithlog-mar92

Drilling Log

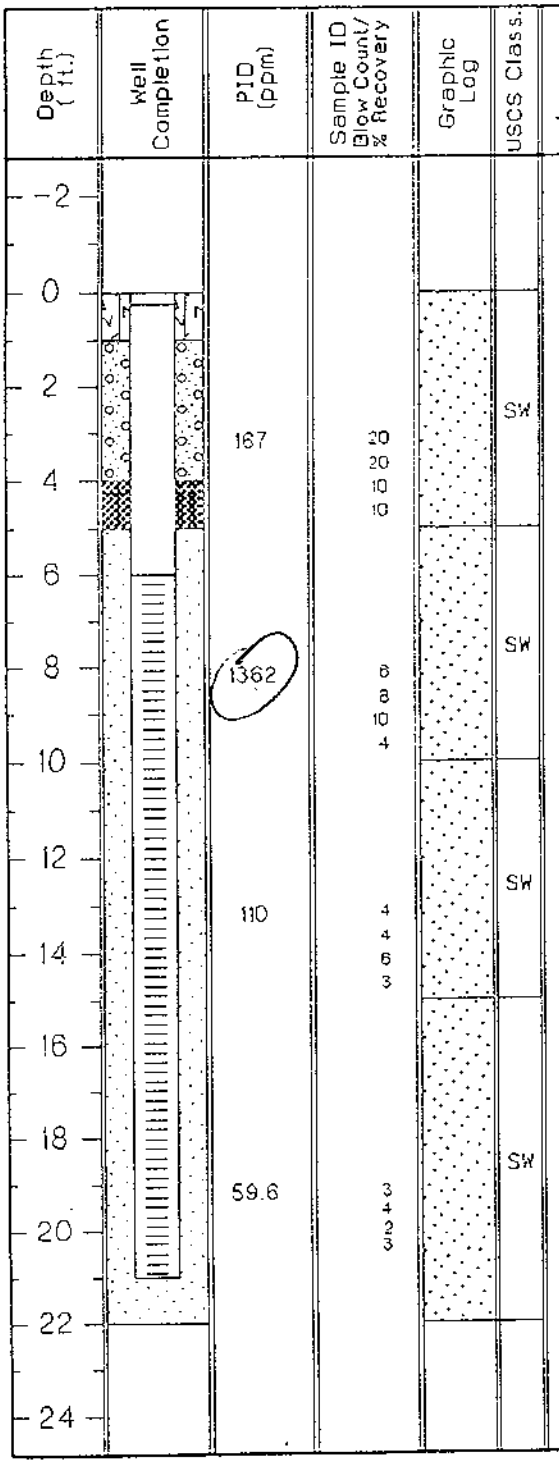
GROUNDWATER TECHNOLOGY

Monitoring Well GT-2

Project Hertz — Owner Hertz Corporation
Location Burlington, VT — Project No. 01110-5402 — Date drilled 3/23/93
Surface Elev. ____ — Total Hole Depth 22 ft. — Diameter .875 ft.
Top of Casing ____ — Water Level Initial ____ — Static ____
Screen: Dia 4 in. — Length 15 ft. — Type/Size .020 in.
Casing: Dia 4 in. — Length 5.5 ft. — Type PVC
Filter Pack Material #1 SAND — Rig/Core Type Mobile B-61
Drilling Company GTI — Method HSA — Permit # ____
Driller Mike Mede — Log By J. Favreau
Checked By N. Pressly — License No. ____

See Site Map For Boring Location

COMMENTS:



Description

(Color, Texture, Structure)
Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%

3'-5':
Damp, brown/dark brown, uniform fine sand, (gasoline odor).

8'-10':
Damp - moist, brown, uniform fine sand, (gasoline odor).

13'-15':
Saturated, as above.

18'-20':
Saturated, as above with trace fine gravel.

04/27/1993 lithlog-mar92

Drilling Log

GROUNDWATER TECHNOLOGY

Monitoring Well GT-3

Project Hertz — Owner Hertz Corporation
Location Burlington, VT — Project No. 01110-5402 — Date drilled 3/23/93
Surface Elev. ____ — Total Hole Depth 22 ft. — Diameter .875 ft.
Top of Casing ____ — Water Level Initial ____ — Static ____
Screen: Dia 4 in. — Length 15 ft. — Type/Size .020 in.
Casing: Dia 4 in. — Length 5.5 ft. — Type PVC
Filter Pack Material #1 SAND — Rig/Core Type Mobile B-61
Drilling Company GTI — Method HSA — Permit # ____
Driller Mike Mede — Log By J. Favreau
Checked By N. Pressly — License No. ____

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	Well Completion	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0						
2					SW	3'-5': Damp, dark brown, fine sand, trace medium sand (dense) (gasoline odor)
4		175				
6					SW	8'-10': Damp, brown, uniform fine sand (very strong gasoline odor).
8			5 5 5 8			
10		4480				
12					SW	13'-15': Saturated, brown, uniform fine sand trace gravel (sheen).
14		4185	3 3 7 10			
16						
18					SW	18'-20': Saturated, dark brown to brown, fine sand, little silt.
20		789	2 3 3 2			
22						
24						

04/27/1993 lithlog-mar92

Drilling Log

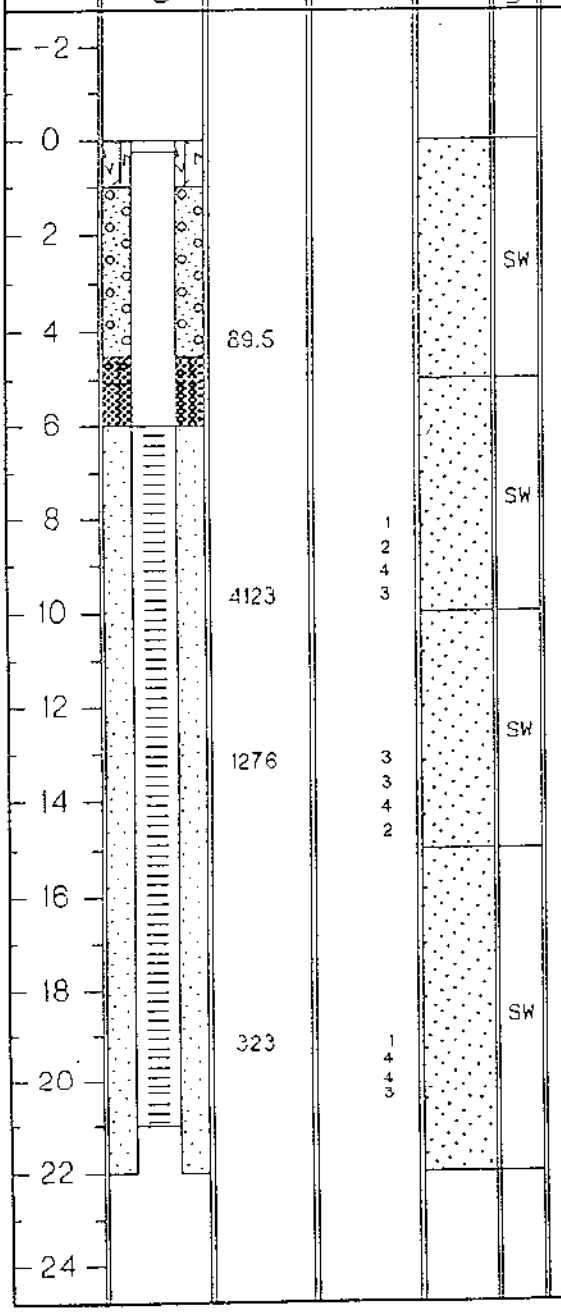
GROUNDWATER TECHNOLOGY

Monitoring Well GT-4

Project Hertz — Owner Hertz Corporation
Location Burlington, VT — Project No. 01110-5402 — Date drilled 3/24/93
Surface Elev. ____ — Total Hole Depth 22 ft. — Diameter .875 ft.
Top of Casing ____ — Water Level Initial ____ — Static ____
Screen: Dia 4 in. — Length 15 ft. — Type/Size .020 in.
Casing: Dia 4 in. — Length 6.5 ft. — Type PVC
Filter Pack Material #1 SAND — Rig/Core Type Mobile B-61
Drilling Company GTI — Method HSA — Permit # ____
Driller Mike Mede — Log By J. Favreau
Checked By N. Pressly — License No. ____

See Site Map For Boring Location

COMMENTS:



Description

(Color, Texture, Structure)
Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%

3'-5':
Damp, brown, very fine to fine sand.

8'-10':
Damp, brown, uniform fine sand (strong gasoline odor).

13'-15':
Saturated, brown, uniform fine sand (strong gasoline odor).

18'-20':
Saturated, brown/dark brown, fine and very fine sand (moderate gasoline odor).

APPENDIX B

SOIL SAMPLING RESULTS

GTEL
ENVIRONMENTAL
LABORATORIES, INC.
Northeast Region
Meadowbrook Industrial Park
Milford, NH 03055
(603) 672-4835
(603) 673-3105 (FAX)

Client Number: 011105402
Project ID: Hertz-Burlington
Login Number: M3-03-0731

April 8, 1993

Nicholas Pressly
Groundwater Technology, Inc.
1245 Kings Road
Schenectady, NY 12303

Dear Mr. Pressly:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 03/26/93 under chain-of-custody record 54288.

A formal Quality Assurance / Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Susan C. Uhler
Laboratory Director

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 2

To N. Pressly	From G. Smith
Co.	Co.
Dept.	Phone #
Fax #	Fax # 03-0731

Client Number: 011105402
Project ID: Hertz-Burlington
Login Number: M3-03-0731

ANALYTICAL RESULTS

Aromatic Volatile Organics in Soil
Modified EPA Method 8020[a]

GTEL Sample Number		030731-01	--	--	--
Client Identification		GT-3 (8'-10')	--	--	--
Date Sampled		03/23/93	--	--	--
Date Analyzed		04/01/93	--	--	--
Analyte	Reporting Limit, mg/kg	Concentration, mg/kg (dry)			
Benzene	0.05	< 0.58	--	--	--
Toluene	0.05	32	--	--	--
Ethylbenzene	0.10	31	--	--	--
Xylenes (total)	0.20	170	--	--	--
BTEX (total)	--	230	--	--	--
Chlorobenzene	0.10	< 1.2	--	--	--
1,2-Dichlorobenzene	0.10	< 1.2	--	--	--
1,3-Dichlorobenzene	0.10	< 1.2	--	--	--
1,4-Dichlorobenzene	0.10	3.7	--	--	--
Sample Dilution Factor[b]		11.6	--	--	--
Percent Solids		96.3	--	--	--

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986; Methanolic extraction by EPA Method 5030 (purge and trap). Method modified to include additional compounds.

b The sample dilution factor indicates the adjustments made to the data and detection limits as a result of dilutions and percent solids.

GTEL ENVIRONMENTAL LABORATORIES, INC.

APPENDIX C

GROUNDWATER GAUGING DATA

GROUNDWATER TECHNOLOGY, INC.
2 WALKER WAY
LBANY, NY 12205
518) 456-2444

PROJECT NAME/LOCATION: Hertz Burlington PAGE ____ OF ____

PROJECT NO.: ____ TASK CODE: ____ DATE: 3/30/93

EQUIPMENT NO.: ____ STAFF CONTACT: NP

PROBE CORRECTION:
☐ CORR. ☐ UNCORR.

☐ WELL ___ NEEDS GRIPPER
☐ WELL ___ NEEDS ROADBOX
☐ WELL ___ NEEDS REPAIR

WELL DATA MONITORING FORM

WELL ID	WELL DEPTH	T.O.C ELEV.	DEPTH TO WATER	DEPTH TO PETRO.	PETRO. THICKNESS	PETRO GRAVITY	HYDRO. EQUIV.	CORRECTED DEPTH TO WATER	CORRECTED WATER ELEV.
T-1		99.38	10.06						89.32
T-2		99.75	10.58						89.17
T-3		99.59	11.37	10.34	1.03	0.74	0.76	10.61	88.98
T-4		99.19	10.14	9.96	0.18	0.74	0.13	10.01	89.18

C MENTS:

APPENDIX D

PRODUCT SAMPLING RESULTS

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

April 6, 1993

Nik Pressly, Project Leader
Groundwater Technology
1245 Kings Road
Schenectady, NY 12303

Dear Mr. Pressly:

Enclosed are the results from the testing of material submitted on April 2, 1993 from Project Hertz Berlington.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

Amy Gray

Amy M. Gray
Chemist

AMG

Enclosures

FAX: (518) 370-5864

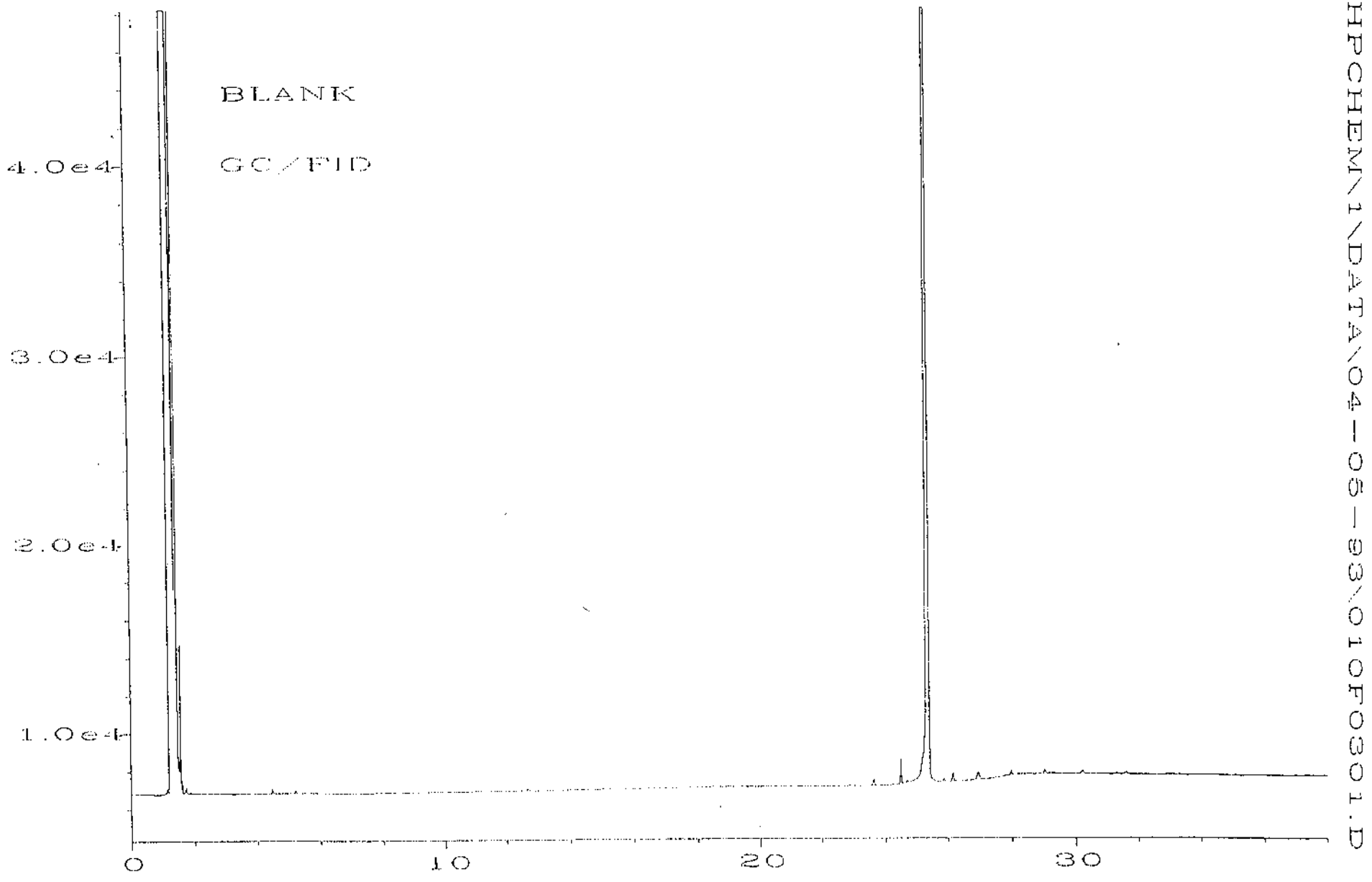
FRIEDMAN & BRUYA, INC.

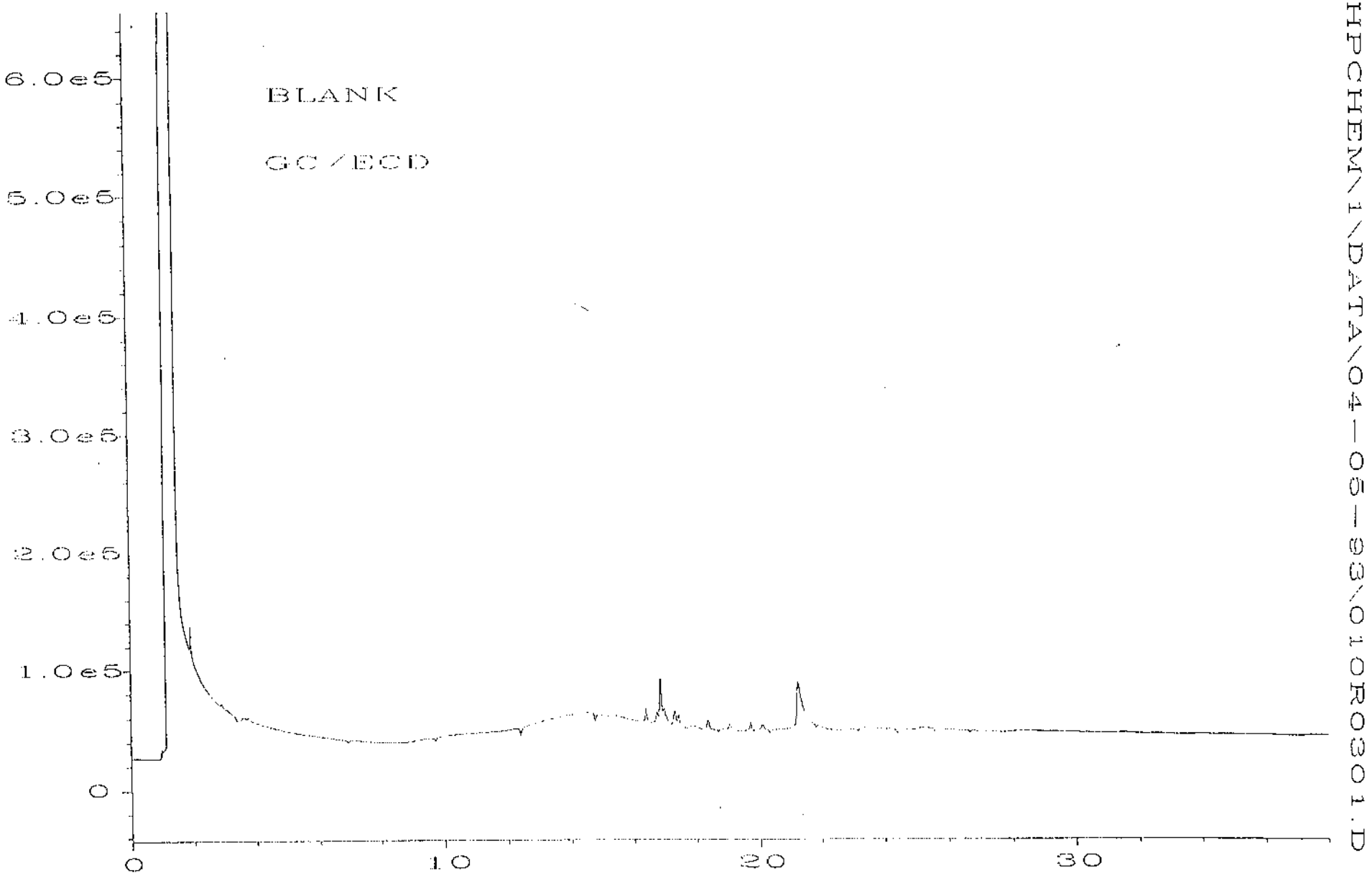
ENVIRONMENTAL CHEMISTS

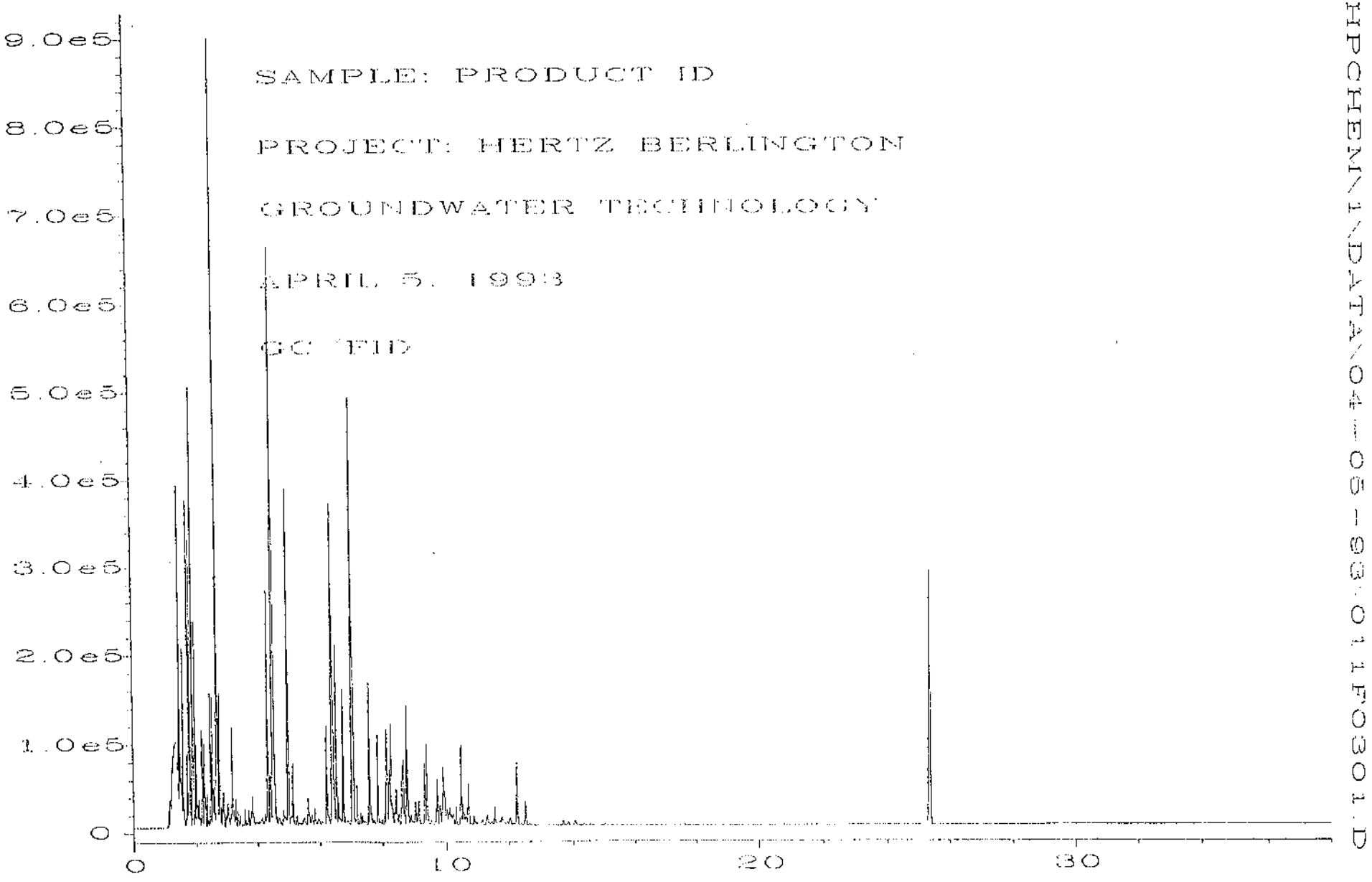
Date of Report: April 6, 1993
Date Received: April 2, 1993
Project: Hertz Berlington

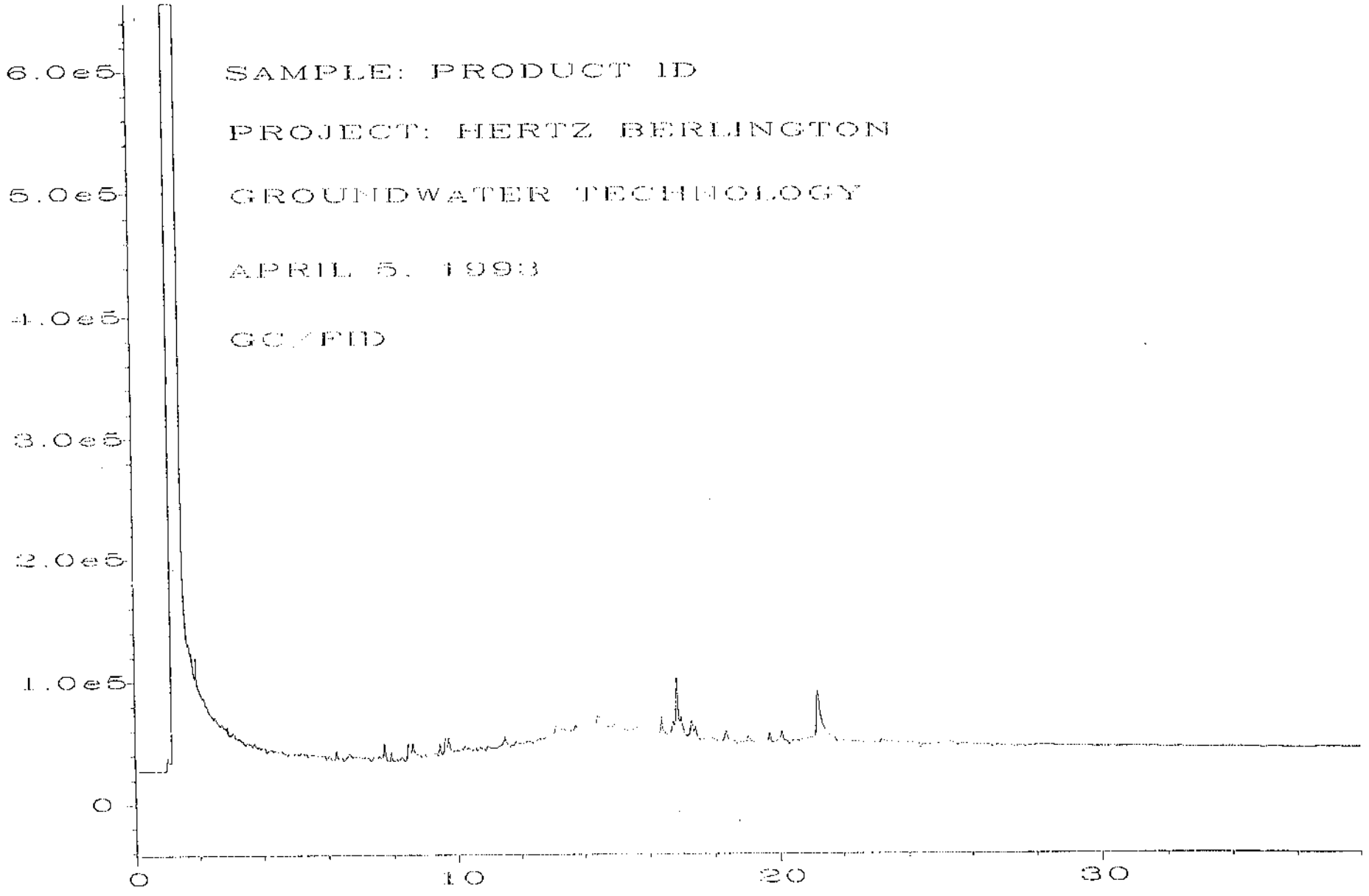
RESULTS FROM THE ANALYSIS OF THE PRODUCT SAMPLE FOR FINGERPRINT CHARACTERIZATION BY CAPILLARY GAS CHROMATOGRAPHY USING A FLAME IONIZATION DETECTOR (FID) AND ELECTRON CAPTURE DETECTOR (ECD)

Sample #	GC Characterization
Product ID (Gas)	The gas chromatographic FID trace showed the presence of low boiling compounds, such as those found in gasoline. This characterization is based on the presence of a typical pattern envelope of peaks present from ca n-C_5 to n-C_{12} with a maximum near n-C_7. Augmented levels of benzene, toluene, ethylbenzene and the xylenes were seen which are common to most gasolines. The material appeared to be mostly unweathered. The large peak seen at 25 minutes is pentacosane, a compound added as a QA/QC check. The GC/ECD trace showed an absence of significant levels of semi-volatile halogenated or oxygenated material or organic lead.


BLANK
GC/FID
4.0e4
3.0e4
2.0e4
1.0e4
0
10
20
30
C:\HPCHEM\1\DATA\04-05-93\010F0301.D

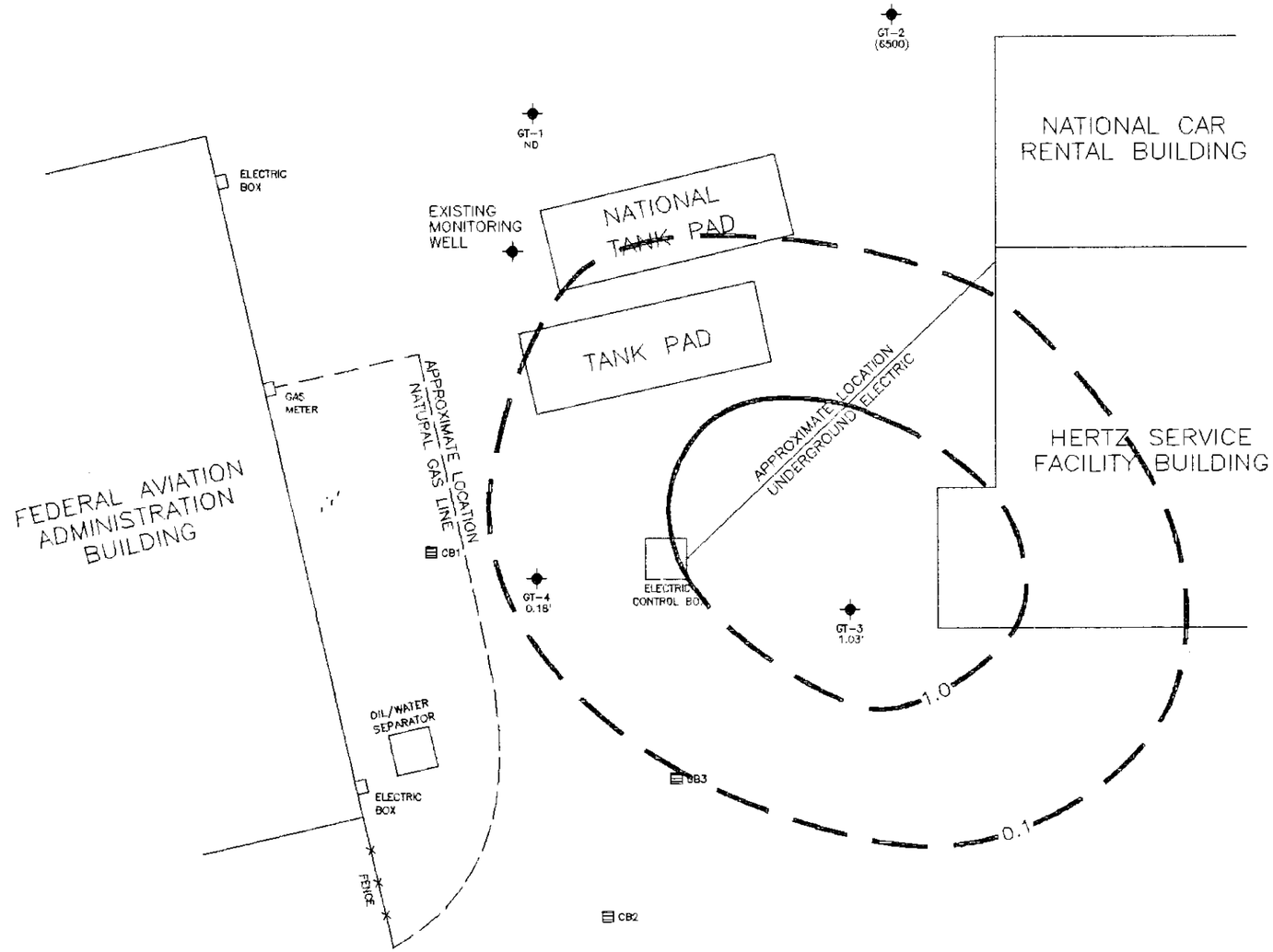

BLANK
GC/ECD
6.0e5
5.0e5
4.0e5
3.0e5
2.0e5
1.0e5
0
0
10
20
30
C:\HPCHEM\1\DATA\04-05-93\010R0301.D


SAMPLE: PRODUCT ID
PROJECT: HERTZ BERLINGTON
GROUNDWATER TECHNOLOGY
APRIL 5, 1993
GC FID
9.0e5
8.0e5
7.0e5
6.0e5
5.0e5
4.0e5
3.0e5
2.0e5
1.0e5
0
0
10
20
30
C:\HPCHEM\1\DATA\04-05-93.011\FO301.D


SAMPLE: PRODUCT ID
PROJECT: HERTZ BERLINGTON
GROUNDWATER TECHNOLOGY
APRIL 5, 1993
GC/PID
6.0e5
5.0e5
4.0e5
3.0e5
2.0e5
1.0e5
0
0
10
20
30
C:\HPCHEM\1\DATA\04-05-93\011R0301.D

APPENDIX E

GROUNDWATER SAMPLING RESULTS



LEGEND

- ✦ MONITORING WELL
- ND NOT DETECTED (EPA METHOD 602)
- (6500) BTEX CONCENTRATION (ppb) (EPA METHOD 602)
- 1.03' LIQUID PHASE HYDROCARBON THICKNESS (feet)
- —1.0— LIQUID PHASE HYDROCARBON CONTOUR (feet)

SAMPLING DATE: 3/30/93

0 20 40
SCALE FEET

N
APPROXIMATE NORTH

GROUNDWATER TECHNOLOGY
1245 KINGS ROAD
SCHENECTADY, NY 12303
(518) 370-5831

REV. NO.:	DRAWING DATE:	ACAD FILE:
	5/12/93	HYDMAR93

HYDROCARBON DISTRIBUTION MAP

CLIENT:		PM:
HERTZ		NCP
LOCATION: MAIN STREET BURLINGTON, NY		SM: JLF
DESIGNED: GB	DETAILED: DEO	PROJECT NO.: 01110-5402

FIGURE: 4

Client Number: 011105402
Project ID: Hertz:Burlington
Login Number: M3-04-0023

ANALYTICAL RESULTS

Purgeable Aromatics in Water
Modified EPA Method 602[a]

GTEL Sample Number		040023-01	040023-02	--	--
Client Identification		GT-1	GT-2	--	--
Date Sampled		03/30/93	03/30/93	--	--
Date Analyzed		04/06/93	04/06/93	--	--
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.2	< 0.2	120	5 --	--
Toluene	0.5	< 0.5	510	2420	--
Ethyl Benzene	0.8	< 0.8	780	380	--
Xylenes (total)	1.7	< 1.7	5100	1,600	--
BTEX (total)	--	--	6500	--	--
Methyl tert-Butyl Ether	0.8	< 0.8	180[c]	40 --	--
Detection Limit Multiplier[b]		1	50	--	--

a Federal Register, Vol. 49, October 26, 1984. Method modified to include additional compounds.
b The detection limit multiplier indicates the adjustments made to the data and detection limits for sample dilutions.
c Methyl tert-Butyl Ether has been quantified from the primary detector and column but has not been confirmed by a secondary detector or column due to the interference of aliphatic hydrocarbons. For definitive confirmation GC/MS analysis is recommended.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL
ENVIRONMENTAL
LABORATORIES, INC.
Northeast Region
Meadowbrook Industrial Park
Milford, NH 03055
(603) 672-4835
(603) 673-8105 (FAX)

Client Number: 011105402
Project ID: Hertz:Burlington
Login Number: M3-04-0023

April 14, 1993

Nick Pressly
Groundwater Technology, Inc.
1245 Kings Road
Schenectady, NY 12303

Dear Mr. Pressly:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 04/01/93 under chain-of-custody record 52221.

A formal Quality Assurance / Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified (approved) by the State of New York under number 10599.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Susan C. Uhler
Laboratory Director

INITIAL SITE INVESTIGATION REPORT

Burlington International Airport
Fuel Farm

VT DEC Site #93-1503

18 June 1994

Prepared for:

Burlington Airport Commission
1200 Airport Drive, #1
South Burlington, VT 05403

Prepared by:

Ground Water of Vermont
1 Mill Street, Box C-5
Burlington, Vermont
(802) 860-6065

GWV Project #V94-011

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Ground Water of Vermont (GWV) has conducted an initial site investigation at the Burlington International Airport Fuel Farm in South Burlington, Vermont. The investigation consisted of the following: 1) a review of available data on the site; 2) a soil gas survey; 3) sampling and analysis of ground water and petroleum product in existing monitoring wells; 4) four weekly bailings of free product from a monitoring well in the fuel farm, 5) a site inspection; 6) a receptor survey and risk assessment; and 7) preparation of a summary report.

The investigation has identified soil and ground water petroleum contamination in two areas of the site. The soil gas results suggest that there are two distinct plumes of petroleum compounds. The larger of the soil-gas plumes appears to have originated from spills in the main fuel transfer area and/or releases from a nearby abandoned underground storage tank (UST) of unknown history. A smaller soil-gas plume was identified in the northern portion of the site, between the former location of two above ground storage tanks owned by British Petroleum and the active Innotech #7 UST. The source of this contamination was not determined. Observations of petroleum staining and odors in soils beneath the aboveground piping system for the Innotech #1 and #2 Jet-A fuel USTs, combined with the presence of nearly one foot of Jet-A fuel in an adjacent monitoring well (MW1), suggests that petroleum has been released to the subsurface from these systems.

Ground water gradient at the site was determined to be toward the southwest, at 0.1%. The presence of free product in two of the three monitoring wells may have interfered with the accurate determination of ground water flow direction. The low gradient is due to the topographic location of the site in the middle of a broad, flat topographic high area. Monitoring results from the three monitoring wells at the site indicate the presence of 0.90 feet of free-phase petroleum product identified as jet fuel in monitoring well MW1 (located adjacent to the Innotech #1 and #2 USTs), 0.04 feet of free product in MW2 (located adjacent to an abandoned UST of unknown history), and dissolved petroleum compounds above Vermont drinking water standards in MW3 (located between the former BP AST locations and the Innotech #7 UST).

Approximately 1.8 gallons of jet fuel were recovered from monitoring well MW1 by manual bailing in four weekly events. Recovery data trends suggest that there is not a large volume of easily recoverable product in the vicinity of this well. Monitoring well MW2 did not contain enough product to warrant recovery efforts.

On the basis of these findings, GWV recommends that additional monitoring wells be installed at the site, to better evaluate the degree and extent of dissolved and free-phase petroleum contamination at the site. Data obtained from the additional monitoring wells will be used to determine whether a Corrective Action Feasibility Study is warranted. GWV recommends the installation and weekly operation of a filter canister-type passive recovery system for continued product recovery from monitoring well MW1, and monthly monitoring of the other monitoring wells at the site. Product recovery should be performed by OSHA-trained personnel. The two abandoned USTs at the site should be permanently closed in accordance with State regulations. Regulatory compliance of current fuel handling and release reporting practices should be verified.

1.0 INTRODUCTION

This report details the results of a site investigation at the Burlington International Airport Fuel Farm in South Burlington, Vermont. The report has been prepared by Ground Water of Vermont (GWV) for the Burlington Airport Commission.

The site investigation has been conducted to fulfill requests made by Mr. Chuck Schwer of the Vermont Department of Environmental Conservation (VT DEC) Sites Management Section (SMS) in a 3 January 1994 letter to the airport director, Mr. John Hamilton. The VT DEC requested that additional work be conducted at the site after receiving a report entitled "Results of a Preliminary Field Investigation at the Burlington International Airport for the City of Burlington, VT". The report, prepared by Burns and McDonnell Waste Consultants, Inc. of Overland Park, Kansas, indicated that subsurface petroleum contamination was present in soils and ground water at the fuel farm site. The VT DEC requested the following actions:

1. Actively recover any free product measured in the ground in excess of 1/8";
2. Further define the degree and extent of contamination to the soil;
3. Perform an additional round of ground water samples from the three on-site monitoring wells;
4. Determine the need for additional monitoring wells at the site in order to define the degree and extent of petroleum contamination;
5. Determine the need for a long-term treatment or monitoring plan for the site; and
6. Submit to the SMS a summary report outlining the work performed and providing conclusions and recommendations.

GWV submitted a preliminary work plan and cost estimate to the VT DEC on 25 February 1994. The VT DEC approved the work plan and cost estimate on 16 March 1994.

1.1 Scope of Work

To accomplish the investigation objectives, GWV has performed the following:

- Reviewed existing data on the site;
- Performed a soil gas survey at the site;
- Determined ground water flow direction and gradient;
- Collected and submitted for laboratory analysis ground water and free product samples from the ground water monitoring wells;
- Performed four weekly free product bailings of the on-site monitoring wells;
- Inspected the site for surface signs of product releases and UST locations;
- Identified potential receptors of the contamination;
- Assessed the risk that the contamination poses to these potential receptors;

- Evaluated the need for additional monitoring wells to determine the degree and extent of petroleum contamination at the site;
- Evaluated the need for treatment and/or a long-term monitoring plan for the site; and
- Prepared a summary report that details the work performed and provides conclusions and recommendations.

1.2 Site Location and Physical Setting

The fuel farm site is located adjacent to the main airport terminal building, on Airport Drive in the City of South Burlington, Vermont (see Figure 1, Site Location Map, and Figure 2, Site Map). The site consists of an unpaved area with both aboveground and underground storage tanks and delivery systems. The fuel farm is surrounded on all sides by paved areas. Parking lots are located to the south and west of the fuel farm. The main terminal building is located approximately 100 feet south of the fuel farm southern boundary. A driveway and the airport control tower are located to the north. A runway ramp and the main runway area lie to the east of the fuel farm.

The site is located in the Champlain Valley, on a terrace above the Winooski River. The site is located on a local topographic high; surface topography is flat and level for several hundred feet in all directions from the site. The Winooski River is located approximately one mile to the east and north of the site, and flows generally westward to Lake Champlain. Approximately one-half mile south of the site, Potash Brook flows westward into Lake Champlain. Approximately one-half mile west and north of the site, several unnamed streams drain toward the west.

The surficial materials at the site are mapped as pebbly marine sands deposited in the Champlain Sea (Doll, 1961). Four soil borings performed for the Burns and McDonnell study encountered fine sands with varying amounts of silt. Bedrock underlying the site is mapped as the Ordovician-age Bascom Formation, which consists of interbedded dolomite, limestone or marble, calcareous sandstone, and limestone breccia (Doll, 1961). The soil borings, which were generally advanced to 22 feet below ground surface, did not encounter bedrock.

2.0 SITE HISTORY

2.1 Petroleum Storage History

The site is currently owned by the City of Burlington, and is managed by the Burlington Airport Commission. The airport has been operated since the 1930s, and the present fuel farm site is believed to have been active since at least the 1950s.

The fuel farm site is used for the storage of aviation fuel. Tank registration records obtained from Mr. Robert McEwing, the Airport Engineer, indicate that five petroleum underground storage tanks (USTs) and five petroleum aboveground storage tanks (ASTs) exist on the site. A partially crushed fill pipe for a sixth UST is visible at the surface on the site. No records of this UST were located in State of Vermont files, and no information on the UST

ownership or history was known to airport officials. Records on former tank ownership and history at the site were not available. Figure 2 in Appendix A shows approximate tank locations, and the table below summarizes known information on the tanks. An additional aboveground storage tank, used for storage of deicing fluid, is located in the southern portion of the site. This tank is not shown on the site map.

Petroleum Storage Tanks at Airport Fuel Farm

Identification	Owner	Type	Age	Size	Contents	Status
Innotech #1	Innotech Av.	UST	1962 or 63	10,000 gal	Jet A	Active
Innotech #2	Innotech Av.	UST	1962 or 63	10,000 gal	Jet A	Active
Innotech #3	Innotech Av.	AST	not stated	12,500 gal	Jet A	Active
Innotech #4	Innotech Av.	AST	not stated	12,500 gal	Jet A	Active
Innotech #5	Innotech Av.	AST	1975	10,000 gal	Jet A	Active
Innotech #6	Innotech Av.	UST	1982	10,000 gal	Jet A	Active
Innotech #7	Innotech Av.	UST	1982	10,000 gal	Av Gas	Active
Innotech #8	Innotech Av.	AST	not stated	12,500 gal	Unld Gas	Active
Innotech #9	Innotech Av.	AST	not stated	12,500 gal	Av Gas	Active
Montair #1	Montair	UST	1981 or 82	10,000 gal	Av Gas	Abandoned
Abandoned UST	Unknown	UST	Unknown	Unknown	Unknown	Abandoned
BP #1	British Petrol.	AST	Not Stated	Not Stated	Not Stated	Removed
BP #2	British Petrol.	AST	Not Stated	Not Stated	Not Stated	Removed

As shown in the above table, all of the ASTs and all of the active USTs are owned and operated by Innotech Aviation of South Burlington, Vermont. The USTs and piping systems are reportedly tightness-tested annually, and no failures have been reported. The Innotech #1 and #2 USTs and #3 and #4 ASTs share a common above ground piping system. Montair Flight Service, listed as owner of the abandoned Montair #1 UST, is reportedly out of business. The ASTs owned by British Petroleum were reportedly removed a few years ago. According to Mr. McEwing, the BP ASTs were located above a concrete pad, and the tank owners reported that they had removed all contaminated soils from the area during the tank removal. No report on the removal was available for this investigation.

2.2 Previous Investigation Results

Subsurface petroleum contamination was discovered at the site in August 1993, as part of a Fuel Farm Relocation Study conducted by Campbell & Paris of Chantilly, Virginia in conjunction with Burns and McDonnell of Overland Park, Kansas. Four soil borings were performed at the site, to evaluate whether soil contamination was present. Soil samples were collected at five-foot intervals with a split-spoon sampler. The borings, which were advanced to a depth of 22 feet, encountered sands, with varying amounts of silt, gravel, and fill. Monitoring wells were installed in three of the borings, with screened intervals from 9 to 19 feet below ground surface.

Soil contamination was detected at all of the boring locations, with Total Petroleum Hydrocarbon (TPH) levels ranging from less than 10 to 23,000 parts per million (ppm), and soil vapor levels measured by photoionization detector (PID) ranging from 0.0 to 287 ppm. Ground water contamination was also detected in samples collected from each of the three monitoring wells installed at the site, with TPH levels ranging from 3.0 to 7.0 ppm (although TPH in a duplicate sample was measured at 60 ppm).

3.0 INVESTIGATIVE PROCEDURES AND RESULTS

3.1 Determination of Ground Water Flow Direction and Gradient

On 27 April 1994, ground water in the surficial aquifer at the site was determined to be flowing toward the southwest at an approximate gradient of 0.1%. The unusually low gradient is representative of the flat site topography.

Water table elevations in the monitoring wells were determined by subtracting the measured depth-to-water in each well from a surveyed top-of-casing elevation. All elevations were measured relative to a storm drain rim elevation on an existing map of the site. In the monitoring wells that contained free product, the apparent water-table elevation was corrected to reflect the water-table depression caused by the presence of free product in the well. The low ground water gradient and the presence of nearly one foot of free product in one well may have reduced the accuracy of the flow direction determination. Water and product level measurements and elevation calculations are presented in Table 1 in Appendix A. A ground water contour map (Figure 3) was prepared using this data.

According to the Burns and McDonnell report, soils in the surficial aquifer underlying the site consist of poorly graded fine sand and varying amounts of silt, with minor occurrences of gravel and fill. Such materials typically have hydraulic conductivities of between 20 and 2,000 ft/yr and an effective porosity of approximately 0.2. Assuming Darcian flow, these estimated values, together with the calculated ground water gradient of 0.1%, yield an estimated average ground water flow velocity of between 0.1 and 10 feet per year.

3.2 Ground Water and Product Sampling and Analysis

Ground water sampling and analysis conducted at the site confirmed the presence of floating free-phase petroleum product in monitoring wells MW1 and MW2 and of dissolved petroleum compounds above Vermont drinking water standards in monitoring well MW3. Analysis of a free product sample collected from MW1 and comparison with petroleum products stored at the site indicated that the petroleum product was Jet-A aviation fuel. Results are summarized in Figure 4 of Appendix A. Analytical results for monitoring well MW3 are summarized in the table below. Laboratory report forms are included in Appendix C.

Ground water sampling was conducted on 27 April 1994, and followed GWV's Ground Water Sampling Protocol. In accordance with this protocol, ground water samples were not collected from the wells that contained free product. A free product sample was collected from

monitoring well MW1 for petroleum identification. MW2 did not contain enough free product for sample collection. GWV collected a trip blank water sample to verify proper quality assurance and quality control (QA/QC), as required by the VT DEC. Because only one ground water sample was collected, the VT DEC approved the elimination of duplicate and equipment blank samples.

The water samples were submitted to an analytical laboratory, where they were tested for the volatile petroleum compounds benzene, toluene, ethylbenzene, and xylenes (collectively termed BTEX) and the gasoline additive methyl-tert butyl-ether (MTBE) by EPA Method 8020, and for Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1. Volatile petroleum hydrocarbon compounds were detected in the ground water sample collected from monitoring well MW3. Analytical results for the monitoring well MW3 sample are summarized as follows:

Compound	Concentration	VT Drinking Water Standard
Benzene	BPQL<20 ppb	5 ppb
Toluene	2,090 ppb	1,000 ppb
Ethylbenzene	36 ppb	700 ppb
Xylenes	181 ppb	10,000 ppb
MTBE	BPQL<20 ppb	40 ppb
TPH	37.3 ppm	none

Notes: ppb - parts per billion
ppm - parts per million
BPQL<20 ppb - Below Practical Quantitation Limit of 20 ppb

The BTEX compounds are volatile petroleum hydrocarbons found in all petroleum fuels, although concentrations are typically much higher in gasoline than in other fuels. MTBE is an octane booster that is added only to gasoline; its absence suggests that the released product is not gasoline. TPH is not regulated in drinking water in Vermont, but is used as an indicator of less volatile petroleum compounds. As shown in the table, only the toluene concentration exceeded the Vermont drinking water standard.

Analytical results from the QA/QC sample indicate that adequate QA/QC was maintained during sample collection and analysis. Although toluene was detected in the trip blank at 4 ppb, the measured concentration is approximately three orders of magnitude lower than the toluene concentration reported by the analytical laboratory for the one ground water sample collected, and thus is not considered to invalidate the sample results. Other volatile petroleum compounds and TPH were not detected in the trip blank sample.

The free product sample collected from monitoring well MW1 was analyzed at a laboratory for identification of the petroleum product. The sample's chromatographic signature was compared with reference samples of several petroleum fuels. The laboratory report stated that the sample pattern was "consistent with that of kerosene, No. 1 fuel oil, or Jet-A aviation fuel." Kerosene and No. 1 fuel oil are not reportedly stored at the site; therefore, the product sample collected from monitoring well MW1 is considered to be Jet A aviation fuel.

3.3 Free Product Recovery

Data trends obtained from manual bailing of monitoring well MW1 suggest that there is not a large volume of easily recoverable free product in the vicinity of this well, and that installation of an automated product recovery system is not warranted at this time. The persistence of a thin layer of product after repeated bailing, however, suggests that a passive recovery system such as a filter canister is likely the most cost-effective method for recovery of product that flows to the well.

Of the three monitoring wells at the site, only monitoring well MW1 contained sufficient free-phase petroleum product for recovery by manual bailing. Monitoring well MW1 was bailed weekly for four weeks. Dates, initial and final product thicknesses, and recovered product volume were recorded in a log book. Approximately 1.8 gallons of free-phase petroleum product were recovered from monitoring well MW1 during four weekly bailings.

Product recovery data is presented in Figure 5 of Appendix A, and is summarized here. Initial product thickness in the well dropped quickly, from 0.90 feet prior to the first bailing to 0.38 feet one week later, then appeared to stabilize at 0.3 - 0.4 feet. Final product thickness declined slightly during the bailing. Recovered product volume dropped linearly with each successive bailing effort, declining from 0.75 gallons in the first bailing to 0.2 gallons in the final bailing. The slope of the cumulative recovery curve appears to be declining.

Extrapolation of the identified trends suggests that manual bailing is unlikely to recover a significant volume of free product from monitoring well MW1. Active recovery systems such as automated pumps would also not be likely be cost effective, because the product does not appear to be flowing to the well at a high rate. On the other hand, a passive recovery system such as a filter canister can accumulate product that flows into the well. Filter canister systems typically have a membrane, installed at the product/water interface, that permits petroleum but not water to pass through the membrane into a storage canister. The canister is manually removed on a regular basis and emptied into a storage container at the surface. Such systems are relatively inexpensive (under $1,000), require no electricity or compressed air, and are simple to operate and maintain.

3.4 Soil Gas Survey

The results of a soil gas survey conducted at the fuel farm identified two areas of subsurface petroleum contamination -- one plume in the vicinity of the main fuel-transfer area and an abandoned UST; and a smaller plume near an active gasoline UST and the removed ASTs. The larger plume appears to have resulted principally from spills during fuel transfers from the active USTs and/or ASTs; however, the nearby abandoned UST may be the source of part or all of the contamination. The source of the smaller plume is uncertain; either or both of the nearby fuel storage systems may have been the source of contamination.

Soil gas sample results are tabulated in Table 3 in Appendix A. Sample locations and distribution of total BTX in the soil gas samples are shown in Figure 6 in Appendix A.

The soil gas survey consisted of the installation of stainless-steel probes at 29 locations in the vicinity of the fuel farm. Samples for the soil gas survey were obtained from hollow stainless steel rods, which were generally emplaced at depths of 2.5 feet below ground surface. In a few locations, probes were also driven to deeper depths. Soil gas samples were analyzed on site using a Photovac 10S50 portable gas chromatograph (GC). The GC was calibrated against gas standards for benzene, toluene, ortho-xylene, and meta- and para-xylenes. Equipment blanks and gas standards were run frequently to provide quality assurance and quality control. Standard operating procedures are attached in Appendix B.

3.5 Site Inspection

The site visual inspection consisted of comparison of site features to available records, and observation of ground surfaces for the presence of discoloration, odors, and stressed or absent vegetation. The inspection confirmed the presence and location of all of the tanks that had been reported to be at the site. All of the aboveground tanks appeared to be in good condition, and no staining was observed in the immediate vicinity of these tanks. Stained soils with petroleum odors were noted at several locations beneath aboveground piping that serves the Innotech #1 and #2 USTs. Areas of staining included soils beneath a piping union and beneath a hand pump above UST #2. During the site inspection, product was observed to be dripping from this pump onto the stained area for a short duration (approximately five minutes), at a rate of approximately 3 drips per second.

Several fuel transfer points are located along the eastern edge of the fuel farm, near the edge of pavement (see Figure 2 for approximate locations). The areas immediately beneath the transfer couplings are unpaved. According to a site diagram obtained from the Airport Engineer, the transfer points for all of the Innotech ASTs and Innotech #1 and #2 USTs are located adjacent to one another in a "main" fuel transfer area located immediately to the south of the Innotech #4 AST. Soils underlying the transfer couplings had noticeable petroleum odors, and appeared to be stained with petroleum. An airport operations official indicated that there had been several product releases in this area. None of the releases had apparently been reported to the VT DEC.

4.0 SOURCE AREA DISCUSSION

The results of the investigation suggest that petroleum product has been released from at least two, and possibly at least three source areas. The probable source areas are as follows:

- the main fuel-transfer / abandoned UST area,
- and the Innotech #1 UST and #2 UST area,
- the former BP AST / Innotech #7 UST area.

4.1 Main Fuel Transfer / Abandoned UST Area

The distribution of soil-gas concentrations, the ground water gradient at the site, and the observations of petroleum odors and staining in soils beneath transfer couplings suggest that spills during fuel transfers in the main fuel transfer area are the principal source of soil and ground water contamination in this area. A nearby abandoned UST of unknown history may also be at

least partly responsible for the contaminant plume. The apparent presence of soil-gas contaminants upgradient of the likely source area may indicate additional contributions from the smaller fuel dispensing areas to the north, but may instead represent lateral spreading of contaminants upon reaching the nearly flat water table that underlies the site. The contaminant plume also shows a discernible lengthening in the downgradient direction from the likely source area.

Additional investigation will be necessary to determine the degree and extent of ground water contamination in this area. It is possible that the thin layer of free-phase petroleum product in MW2 represents the downgradient edge of a free-product plume. Observations of petroleum odors and staining in the fuel transfer area suggests that the releases to the subsurface may be continuing.

4.2 Innotech #1 and #2 USTs

The presence of nearly one foot of free product in monitoring well MW1 suggests that a petroleum release has occurred near the well. Because only a thin layer of free product was observed in monitoring well MW2, located upgradient from MW1 and closer to the fuel transfer area, it is likely that the product observed in monitoring well MW1 originated from a source located closer to MW1. Stained soils and a short-duration active leak were noted beneath aboveground piping systems immediately above the Innotech #1 and #2 USTs; personal communication with airport operations officials indicated that several piping leaks have occurred in this system.

Soil-gas results suggest that ground water contaminants have not migrated significantly downgradient from the vicinity of MW1. Additional monitoring wells will be needed in this area to determine the extent of contaminant migration downgradient of MW1. Observations of an active piping leak, and petroleum odors and staining in soils beneath several sections of the piping system suggest that occasional releases may be continuing.

4.3 Former BP AST Locations and Innotech #7 UST

A smaller soil-gas plume with an apparently separate source was identified in the area between the former BP ASTs and the active Innotech #7 UST. One sampling location (VP1) in this area had detectable concentrations of petroleum compounds in the soil gas. This area is upgradient from the larger soil-gas plume, and is separated by soil-gas sampling locations in which no contaminants were detected. Dissolved petroleum compounds were detected in a ground water sample collected from the monitoring well located in this area (MW3); toluene was the only compound detected above Vermont drinking water standards.

The source of contamination in this area was not determined; the most likely sources are the removed BP USTs and the active Innotech UST #7. Additional monitoring wells in this area are needed to determine the source, degree and extent of contamination.

5.0 RECEPTOR SURVEY AND RISK ASSESSMENT

Potential receptors identified during this investigation include the airport building, the airport control tower, and an unnamed tributary to Potash Brook. No drinking water supply wells were identified within one-half mile of the site. The identified contamination does not appear to pose a significant risk to any of these receptors.

During this investigation, GWV conducted a survey of the area surrounding the site to identify potential sensitive receptors of the contamination. The nearest downgradient surface drainage is an unnamed tributary of Potash Brook, approximately one-half mile south of the site. The nearest downgradient building is the airport terminal building, located approximately 100 feet south of the fuel farm's southern boundary.

On the basis of the findings reached during this investigation, GWV has qualitatively evaluated the risks that the contamination at the site poses to these potential receptors. Jet-A fuel and aviation gasoline contain several compounds that are hazardous to human and animal health, including one (benzene) that is listed by the U.S. Environmental Protection Agency (EPA) as a known human carcinogen. The most common routes of exposure include ingestion of compounds that have migrated to drinking water supplies and inhalation of vapors that have migrated into buildings.

The risk of ingestion of petroleum compounds that have migrated to drinking water supplies does not appear to be significant. All properties within one-half mile of the site are reportedly served by the Champlain Water District, which obtains drinking water from Lake Champlain.

The risk of petroleum vapor inhalation also does not appear to be significant. The airport terminal building is the only building within 1,000 feet downgradient from the fuel farm. The terminal is reportedly constructed on a concrete slab, and does not have a basement. No underground utilities are known to pass through the area of known contamination directly into the terminal building. Vapor migration into the building is thus considered unlikely.

Ground water that flows through the surficial aquifer past the site will eventually discharge to a surface water body. Because petroleum compounds can also impact surface water bodies and water-dwelling organisms, the risk to nearby streams was assessed. The unnamed Potash Creek tributary located approximately one-half mile southwest of the site is considered to be the most likely discharge point. The distance between the site and the creek, together with the expected low ground water flow velocities, suggest that the natural processes of adsorption, dilution, dispersion, and degradation will reduce petroleum compound concentrations in ground water to below detectable levels prior to discharge to this or any other surface water body.

6.0 CONCLUSIONS

On the basis of the above-described investigation, Ground Water of Vermont has concluded the following:

1. The degree and extent of petroleum contamination at the site has been evaluated with a soil-gas survey. Two soil-gas contaminant plumes are suggested by the data-- a larger plume located in the vicinity of as well as downgradient from the main fuel transfer area and an abandoned UST of unknown history, and a smaller isolated area of contamination between the former BP AST locations and the Innotech #7 UST.

2. Monitoring results from the existing monitoring wells confirm that ground water beneath the site has been impacted by petroleum compounds. On 27 April 1994, free-phase petroleum product was measured in monitoring wells MW1 (0.90 feet) and MW2 (0.04 feet). Laboratory analysis of a ground water sample collected from monitoring well MW3 indicated the presence of dissolved petroleum compounds, with toluene present above Vermont drinking water standards.

3. The degree and extent of ground water contamination at the site has not been adequately evaluated. The contamination detected in the three existing monitoring wells may have originated from at least three separate sources. Results of the soil-gas survey suggest that ground water contamination is largely confined to the vicinity of the fuel farm, however.

4. Laboratory analysis of a free-product sample collected from monitoring well MW1, and comparison of the results to petroleum products reportedly stored at the site, indicate that the product is Jet A fuel. The thin layer of petroleum product observed in monitoring well MW2 appeared to be the same type of product, but was not present in sufficient thickness for sample collection.

5. Approximately 1.8 gallons of free-phase petroleum product were recovered from monitoring well MW1 during four weekly bailings. Data trends suggest that there is not a large volume of easily recoverable product in the vicinity of this well.

6. The surficial aquifer at the site consists of fine sand and varying amounts of silt, with minor occurrences of gravel. Ground water in this aquifer was measured to be flowing toward the southwest at a gradient of approximately 0.1%. The presence of free product in two of the three monitoring wells may have interfered with the accurate determination of flow direction, however. The low ground water gradient is due to the topographic location of the site in a broad, flat topographic high area.

7. The results of the investigation indicate that there have been releases of petroleum to the subsurface at the site, possibly from three or more separate locations. The principal source areas identified during this investigation include the main fuel transfer/abandoned UST area; the Innotech #1 and #2 UST area; and the former BP AST and Innotech #7 UST area.

8. The principal contaminant source in the main fuel transfer/abandoned UST area appears to be occasional spills during fuel transfers to one or more of the following tanks: Innotech #1 and #2 UST; Innotech #3 #4, #8, and #9 AST, but the nearby abandoned UST may

also be responsible for part or all of the identified contamination. The soil-gas results and the presence of free product in monitoring well MW2 downgradient from the source area suggest that a significant contaminant mass exists in soil and ground water beneath this area.

9. The principal contaminant source in the Innotech #1 and #2 UST areas appears to be occasional releases from aboveground piping that serves these systems. The presence of 0.90 feet of jet fuel in monitoring well MW1 suggests that a free-product plume may have originated from this source.

10. The principal contaminant source in the northwestern part of the site was not determined. The former BP ASTs and the active Innotech #7 UST are the most likely sources.

11. Reported leaks in the aboveground piping system serving the Innotech #1 and #2 USTs and the lack of spill containment systems in the fuel transfer areas represent continuing threats of petroleum releases to the subsurface at the site.

12. The existing soil and ground water contamination at the site does not appear to pose a significant threat to any nearby identified sensitive receptors.

7.0 RECOMMENDATIONS

On the basis of the findings reached during this investigation, Ground Water of Vermont makes the following recommendations:

1. Additional ground water monitoring wells should be installed and sampled for dissolved and free-phase petroleum compounds, to define the source(s), degree and extent of ground water and/or free-phase product contamination resulting from each of the three apparent source areas and to confirm the ground water flow direction. Results of the additional monitoring can then be used to determine whether a Corrective Action Feasibility Investigation is warranted

2. As required by Vermont regulations, free product in monitoring well MW1 should be recovered, stored at the surface, then disposed of as hazardous waste. Because the product is considered to be hazardous waste recovered at a "hazardous waste site," the product removal should be performed by personnel who have received training as specified in OSHA 1910.120 (the Hazardous Waste Operations and Emergency Response, or HAZWOPER, standard). This requirement was recently verified by personnel from the Vermont Occupational Safety and Health Administration (VOSHA). It is likely that the most cost-effective recovery method for this well will be installation and operation of a passive recovery system such as a filter canister. Such systems are relatively inexpensive (<$1,000), and are simple to install, operate, and maintain. Accumulated product can be quickly removed and transferred to an aboveground storage container on a regular basis.

3. Water levels and product thicknesses in monitoring wells MW2 and MW3 should also be monitored regularly. If free product is found to be present in either well in a thickness greater than 1/8', the product should be removed and handled similarly to the product recovered from MW1. On the basis of existing data that indicate no product in MW3 and

only 0.02 to 0.04 feet of product in MW2, it appears that manual bailing will be the most cost-effective recovery method for these wells.

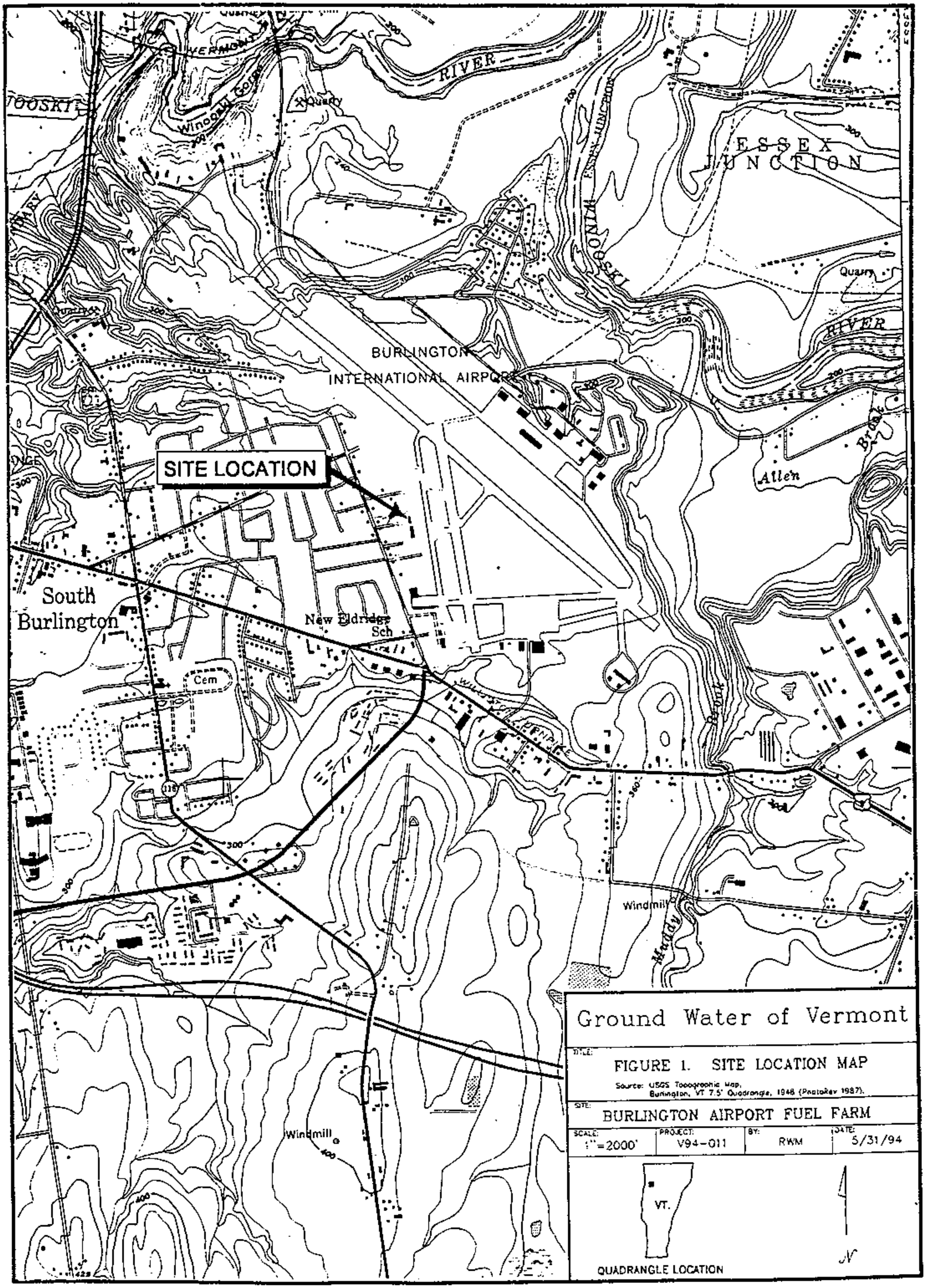
4. The two abandoned USTs at the site should be permanently closed in accordance with State regulations.

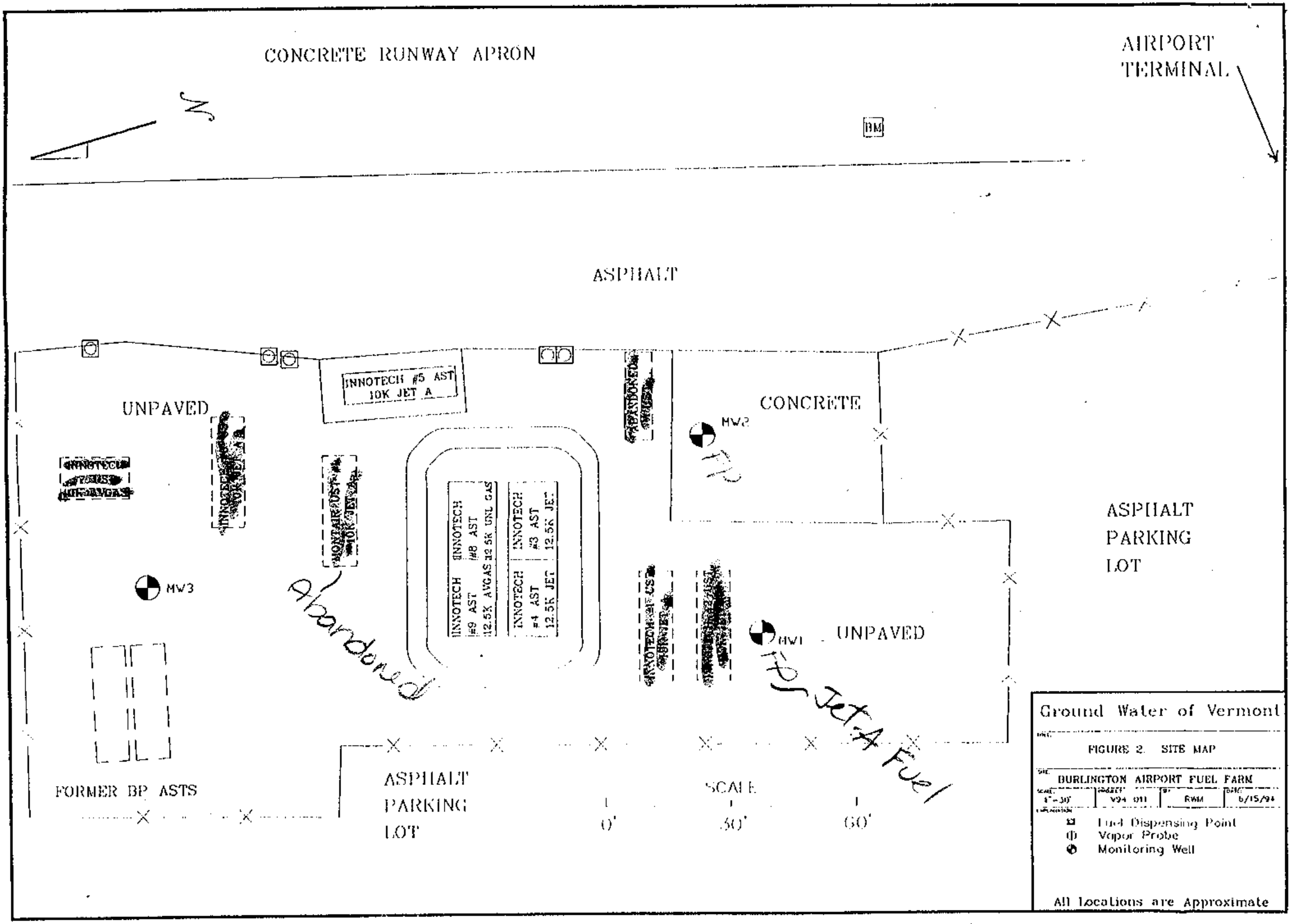
5. Compliance of current fuel handling practices with State and Federal regulations should be verified.

6. Suspected and confirmed product releases from any UST system, including spills or overfills that result in product releases in excess of two gallons, should be reported to the VT DEC, in accordance with Subchapter 6 of the Vermont UST regulations.

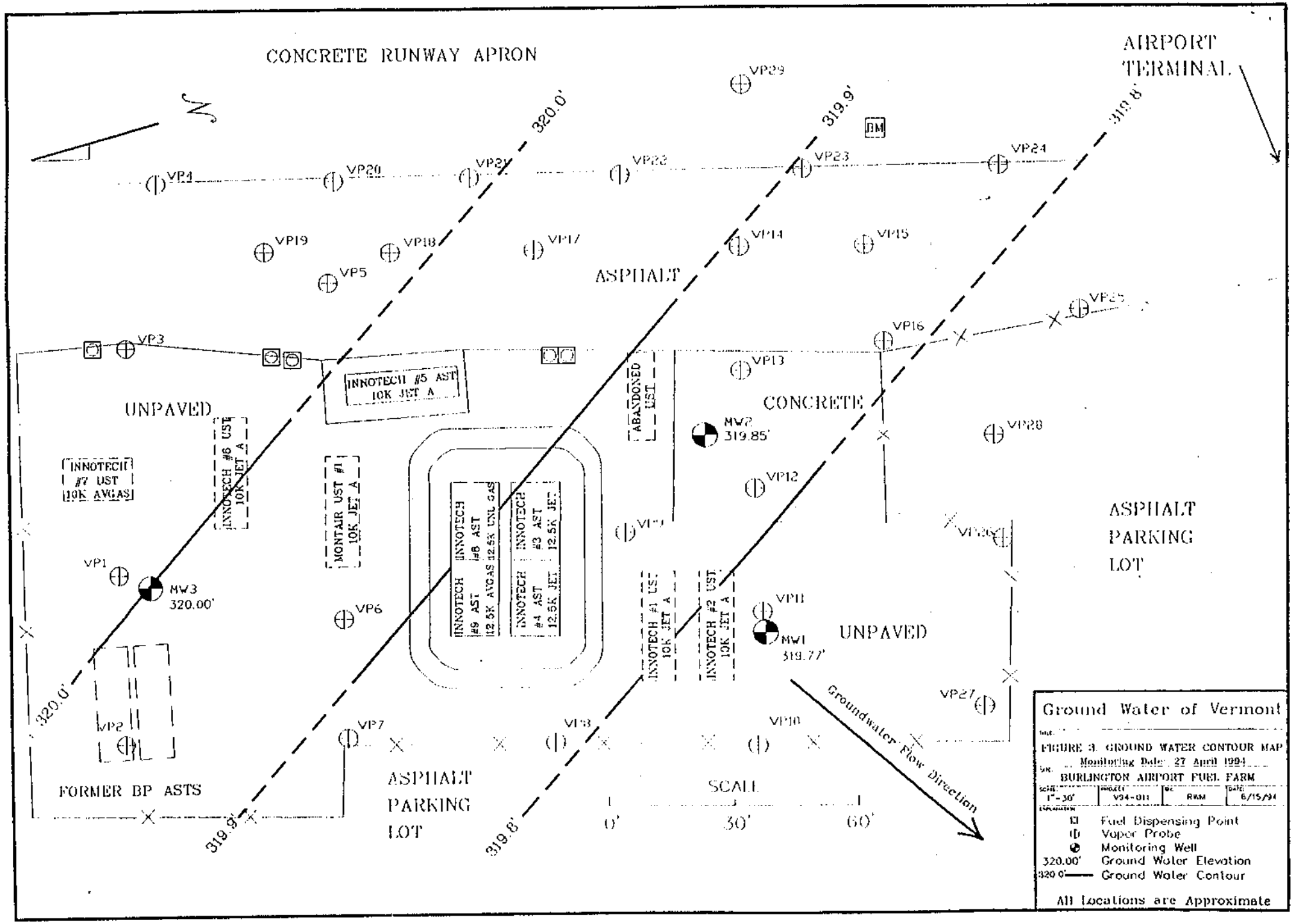
APPENDIX A

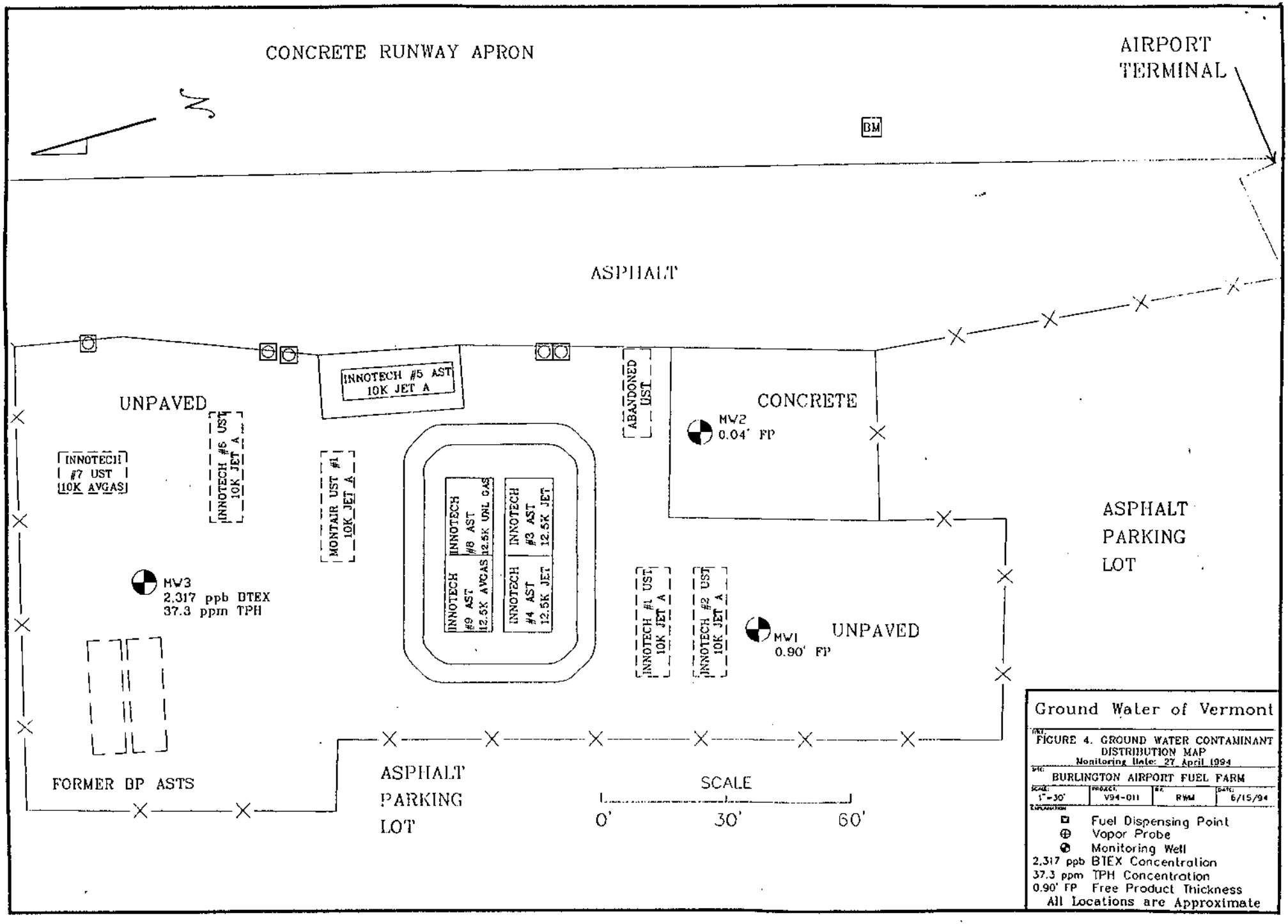
Figures and Tables

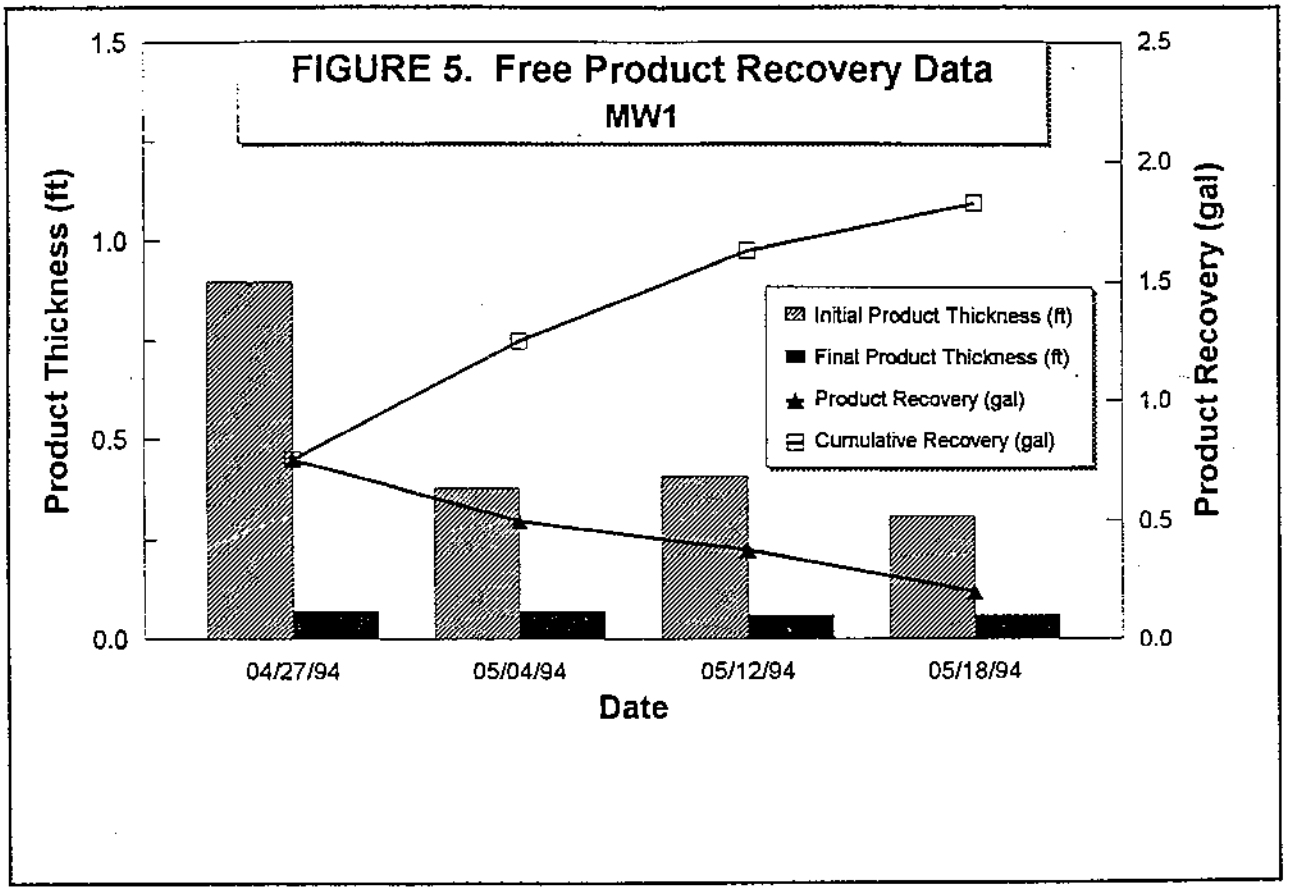

RIVER
ESSEX JUNCTION
Quarry
Winooski Gorge
BURLINGTON INTERNATIONAL AIRPORT
SITE LOCATION
Allen Brook
South Burlington
New Eldridge Sch
Cem
Muddy Brook
Windmill
Ground Water of Vermont
FIGURE 1. SITE LOCATION MAP
Source: USGS Topographic Map, Burlington, VT 7.5' Quadrangle, 1948 (PhotoRev 1987).
BURLINGTON AIRPORT FUEL FARM
SCALE: 1"=2000'
PROJECT: V94-011
BY: RWM
DATE: 5/31/94
VT.
QUADRANGLE LOCATION
N



CONCRETE RUNWAY APRON
N
BM
AIRPORT TERMINAL
ASPHALT
UNPAVED
INNOTECH #5 AST 10K JET A
CONCRETE
MW2
FP
INNOTECH #8 AST 12.5K UNL GAS
INNOTECH #3 AST 12.5K JET
INNOTECH #9 AST 12.5K AVGAS
INNOTECH #4 AST 12.5K JET
ASPHALT PARKING LOT
MW3
abandoned
MW1
UNPAVED
FP's Jet-A Fuel
FORMER BP ASTS
ASPHALT PARKING LOT
SCALE
0'
30'
60'
Ground Water of Vermont
FIGURE 2. SITE MAP
BURLINGTON AIRPORT FUEL FARM
1"=30'
V94 011
RWM
6/15/94
Fuel Dispensing Point
Vapor Probe
Monitoring Well
All Locations are Approximate


CONCRETE RUNWAY APRON
AIRPORT TERMINAL
N
320.0'
319.9'
319.8'
BM
VP29
VP4
VP20
VP21
VP22
VP23
VP24
VP19
VP18
VP17
VP14
VP15
VP5
ASPHALT
VP25
VP16
VP3
INNOTECH #5 AST 10K JET A
VP13
UNPAVED
ABANDONED UST
CONCRETE
MW2 319.85'
VP28
INNOTECH #7 UST 10K AVGAS
INNOTECH #6 UST 10K JET A
MONTAIR UST #1 10K JET A
VP12
VP1
MW3 320.00'
INNOTECH #9 AST 12.5K AVGAS
INNOTECH #8 AST 12.5K UNL GAS
INNOTECH #4 AST 12.5K JET
INNOTECH #3 AST 12.5K JET
ASPHALT PARKING LOT
VP6
INNOTECH #1 UST 10K JET A
INNOTECH #2 UST 10K JET A
VP11
MW1 319.77'
UNPAVED
VP27
VP7
VP8
VP10
Groundwater Flow Direction
FORMER BP ASTS
ASPHALT PARKING LOT
SCALE
0'
30'
60'
Ground Water of Vermont
FIGURE 3. GROUND WATER CONTOUR MAP
Monitoring Date: 27 April 1994
BURLINGTON AIRPORT FUEL FARM
1"=30'
V94-011
RWM
6/15/94
Fuel Dispensing Point
Vapor Probe
Monitoring Well
320.00' Ground Water Elevation
320.0' Ground Water Contour
All Locations are Approximate


CONCRETE RUNWAY APRON
AIRPORT TERMINAL
N
BM
ASPHALT
UNPAVED
INNOTECH #5 AST 10K JET A
ABANDONED UST
CONCRETE
MW2 0.04' FP
INNOTECH #7 UST 10K AVGAS
INNOTECH #6 UST 10K JET A
MONTAIR UST #1 10K JET A
INNOTECH #9 AST 12.5K AVGAS
INNOTECH #8 AST 12.5K UNL GAS
INNOTECH #4 AST 12.5K JET
INNOTECH #3 AST 12.5K JET
ASPHALT PARKING LOT
MW3 2,317 ppb BTEX 37.3 ppm TPH
INNOTECH #1 UST 10K JET A
INNOTECH #2 UST 10K JET A
MW1 0.90' FP
UNPAVED
FORMER BP ASTS
ASPHALT PARKING LOT
SCALE
0'
30'
60'
Ground Water of Vermont
FIGURE 4. GROUND WATER CONTAMINANT DISTRIBUTION MAP
Monitoring Date: 27 April 1994
BURLINGTON AIRPORT FUEL FARM
SCALE: 1"=30'
PROJECT: V94-011
BY: RWM
DATE: 6/15/94
EXPLANATION
Fuel Dispensing Point
Vapor Probe
Monitoring Well
2,317 ppb BTEX Concentration
37.3 ppm TPH Concentration
0.90' FP Free Product Thickness
All Locations are Approximate



Free Product Recovery Data - MW1

Date	Initial Product Thickness (ft)	Final Product Thickness (ft)	Product Recovery (gal)	Cumulative Recovery (gal)
04/27/94	0.90	0.07	0.75	0.75
05/04/94	0.38	0.07	0.50	1.25
05/12/94	0.41	0.06	0.38	1.63
05/18/94	0.31	0.06	0.20	1.83

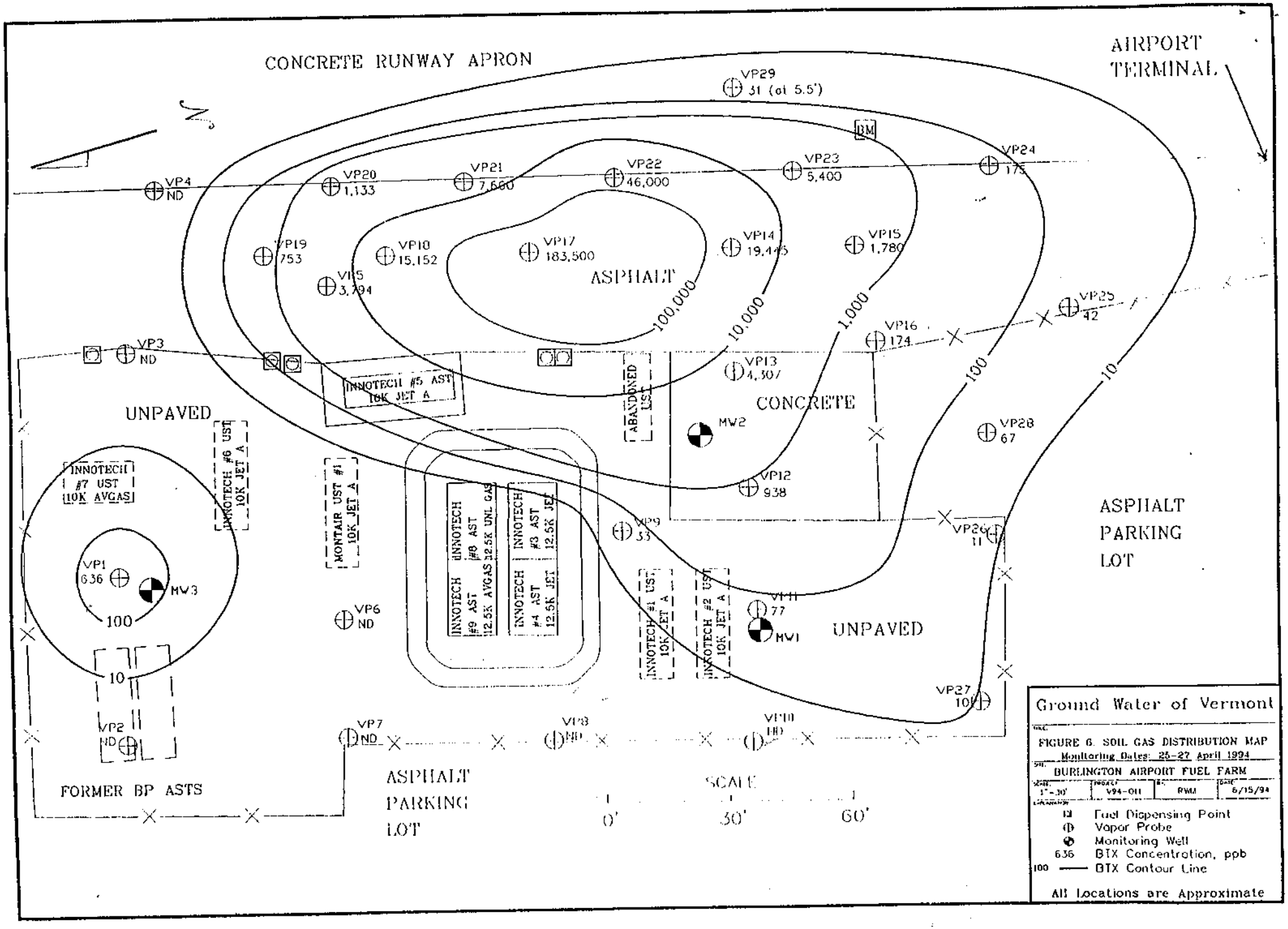

CONCRETE RUNWAY APRON
AIRPORT TERMINAL
VP29 31 (at 5.5')
VP4 ND
VP20 1,133
VP21 7,660
VP22 46,000
VP23 5,400
VP24 175
VP19 753
VP18 15,152
VP17 183,500
VP14 19,445
VP15 1,780
VP5 3,794
ASPHALT
100,000
10,000
1,000
100
10
VP25 42
VP16 174
VP3 ND
VP13 4,307
UNPAVED
INNOTECH #5 AST 10K JET A
ABANDONED UST
CONCRETE
MW2
VP28 67
INNOTECH #6 UST 10K JET A
INNOTECH #7 UST 10K AVGAS
MONTAIR UST #1 10K JET A
VP12 938
VP1 636
MW3
100
VP9 33
VP26 11
INNOTECH #9 AST 12.5K AVGAS
INNOTECH #8 AST 12.5K UNL GAS
INNOTECH #4 AST 12.5K JET
INNOTECH #3 AST 12.5K JET
ASPHALT PARKING LOT
VP6 ND
INNOTECH #1 UST 10K JET A
INNOTECH #2 UST 10K JET A
VP11 77
MW1
UNPAVED
10
VP27 10
VP2 ND
VP7 ND
VP8 ND
VP10 ND
FORMER BP ASTS
ASPHALT PARKING LOT
SCALE
0'
30'
60'
Ground Water of Vermont
FIGURE 6. SOIL GAS DISTRIBUTION MAP
Monitoring Dates: 25-27 April 1994
BURLINGTON AIRPORT FUEL FARM
1"=30'
V94-011
RWM
6/15/94
Fuel Dispensing Point
Vapor Probe
Monitoring Well
636 BTX Concentration, ppb
100 BTX Contour Line
All Locations are Approximate

Table 1. Liquid Level Elevations

Burlington Airport Fuel Farm
South Burlington, Vermont

Monitoring Date: 27 April 1994

Well I.D.	Well Depth	Top of Casing Elevation	Depth To Product	Depth To Water	Product Thickness	Specific Gravity Of Product	Water Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-1	19'	331.83	11.88	12.78	0.90	0.80	0.72	12.06	319.77
MW-2	19'	331.94	12.08	12.12	0.04	0.80	0.03	12.09	319.85
MW-3	19'	332.02	-	12.02				12.02	320.00

TABLE 2. Soil Gas Results
Burlington Airport Fuel Farm
25 - 27 April 1994

Sample #	Depth (ft)	Benzene (ppb)	Toluene (ppb)	M,P Xylene (ppb)	O Xylene (ppb)	Total BTX (ppb)
VP1	2.5	61	575			636
VP1	5.5	109	808			917
VP1	8.0	87	679			766
VP2	2.5					ND
VP3	2.5					ND
VP4	2.5					ND
VP5	2.5	654	3,140			3,794
VP6	2.5					ND
VP7	2.5					ND
VP8	2.5					ND
VP9	2.5	ND	33			33
VP10	2.5					ND
VP11	2.5	32	45			77
VP11	5.5					ND
VP12	2.5	93	664		181	938
VP13	2.5	417	3,890			4,307
VP14	2.5	2,390	16,970		85	19,445
VP15	2.5	386	1,180	214		1,780
VP16	2.5	44	130			174
VP17	2.5	26,700	156,800			183,500
VP18	2.5	3,550	11,530	72		15,152
VP19	2.5	165	588			753
VP20	2.5	207	926			1,133
VP21	2.5		7,600			7,600
VP22	2.5		46,000			46,000
VP23	2.5		5,400			5,400
VP24	2.5		175			175
VP25	2.5	25	17			42
VP26	2.5		11			11
VP27	2.5		10			10
VP28	2.5	55	12			67
VP29	5.5		31			31

Notes: ppb - parts per billion
Equipment blanks analyzed after approximately every five samples.
All equipment blank results were below detection limits.

APPENDIX B

Soil Gas Sampling Protocols

Ground Water, Inc.
Standard Protocol
FSPRO-3

Revision Date: November 19, 1992

Soil Gas Sampling

A. Applicability: This method is used to detect volatile organic hydrocarbons (VOC's) in the soil gas by sampling temporary and permanent vapor probes. Permanent vapor probes allow repetative vapor sampling at fixed points. Temporary probes provide rapid assessment of plume dimensions and migration direction.

B. Equipment

1. Soil Gas Probes: Environmental Instruments Inc. 2.5 ft. hollow stainless steel lengths with slam bar and threaded rod connections.

2. Plastic Tubing: Various types.

3. Low Flow Sampling Pump: Various models used: Small, hand-held, battery-operated, diaphram pump with maximum flow rate of 2.2 liters per minute.

4. Hand-held below pumps: various sizes/models used.

5. Low Flow Rotometer: Brooks Instruments "Show Rate" Model: maximum flowrate of 4.6 liters per minute.

6. Tedlar Bags: SKC Inc.: 1 liter tedlar sampling bags

7. Gas Sampling Bulbs: Supelco 250 ml to l volume with air tight gas stop-cocks.

8. Volumetric Syringes: Hamilton Inc: various sizes and models used from 1ul to 1ml in size. Both Teflon and steel plunger models used.

9. Photoionization Detector: Photovac Inc. TIP II: equipped with 10.2 eV photoionization lamp.

10. Portable Gas Chromatograph: Photovac Inc. 10S50: set-up with dual column configuration including 1.) 1 ft. CSP 20 column used for gross hydrocarbon screening and 2.) 32.4 ft. CPSIL 5 capillary column used for analytical work and compound identification. The chromatograph is equipped with a 10.2 eV photoionization lamp. The column is heated by an isothermal oven with temperature settings between 20 and 50 degrees C. Ultra Zero grade air is used as carrier gas.

11. Brass T-fitting: brass fitting with one end threaded to match soil gas probes, one threaded with a nipple hose connector and one fitted with a teflon septa for syringe sampling.

C. Permanent Probes: Permanent Probes are installed by hollow stem auger drill rig method. Wells consist of a one foot long section of 1.5" diameter slotted PVC followed by the necessary amounts of 1/2" diameter schedule 40 riser to bring the vapor well to grade. Teflon tubing is attached to the screen with brass fittings and runs the length of the riser to the surface. #2 sand is placed against the screen and benseal is used to seal the probe inlet from the surface. The probe is protected with standard curb stop or locking cap well protectors.

D. Temporary Probes: Temporary probes consist of hollow sections of hardened stainless steel tubing which are threaded to a hardened point. A slotted 6 inch screen section is attached directly to the hardend point allowing access to the soil gas. These sections are driven into the ground using a slam bar. An electric drill is sometimes used to puncture asphalt and concrete. Once at the desired depth (usually between 3 and 5 feet although deeper sampling is possible in favorable field conditions) the probes are ready for sampling.

E. Sampling: A low flow pump or a hand pump is used for sampling (approximately 2 liter/min.). This pump is attached through the Tee fitting the probe with flexible tubing. The pump is used to purge approximately 1 liter of air from the probe and fill the probe with ambient soil gas. Since the probe has an internal volume of approximately 100 ml/rod, this purging will adequately recharge the probe. During purging, the flow rate and vacum can be determined using a low flow rotometers and vacuum gauges to evaluate soil permiability between sampling points. The pump outlet is then connected to 1 liter Telar sample bags or to a sample bulb which are filled for approximately 45 sec. to 1 min. The Telar bags or bulbs are then sealed and analyzed. Alternatively, samples can be obtained with air tight syringes at the teflon septa port of the tee fitting for direct injection into the GC.

F. Analysis: Two instruments are typically used for analysis (although the bags can also be submitted to a laboratory for more precise analysis): The Photovac 10S50 portable gas chromatograph and the Photovac "TIP" photoionization detector. The "TIP" is calibrated to 100 ppm Isobutylene and zeroed before soil gas samples are read. The Photovac 10S50 portable gas chromatograph is calibrated by preparing a specific standard in a 1 liter Tedlar Bag using the following formula:

$$V = \frac{760}{VP}\ (C)(vol)$$

where:

v = volume of headspace over pure standard (in ul)
VP = standard's vapor pressure (in mm Hg)
C = desired concentration (in ppm)
vol = container volume (1 liter for Tedlar bags)

The instrument is calibrated by injecting volumes of vapor standard into the chromatograph using various sized syringes. Compounds are identified by their rentention times in the columns. Concentrations are determined by the area under each chromatograph peak. The gas chromatograph keeps retention times constant by maintaining the column oven at a constant 40 degrees C and carrier gas flow rates of a constant 10 mls per minute. These settings can be varied slightly for specific monitoring jobs. Manufactured calibration gases (typically obtained from Scott Gases or National Air Gas) are sometimes used when analyzing for specific solvent mixtures and gasoline.

Samples are analyzed in the same fashion. Before injection, each bag/sample is analzed with the photoionization detector to gauge the sample's concentration. This can also be accomplished by using the 1 ft. screening column. Syringes are used to inject sample volumes from the Tedlar bags into the gas chromatograph. The chromatograph uses a computer to compare retention times and peak areas to standards so that unknown compounds can be identified and concentrations determined. Experience has shown that detection limits for common volatile compounds are approximately 1 ppb V.

G. <u>QA/QCs</u>

1. Tedlar bags and Sampling Bulbs - All Tedlar bags are purged with three air volumes prior to sampling. Prior to analysis, each bag is filled with ambient air and analyzed on the photo ionization detector. No bag with readings above one ppm relative to a 100ppm iobutylene standard is used. Following sampling and analysis, each bag is quickly evacuated to prevent adsorbtion of contaminants. Clean bags are kept separate from used bags at all times. Each bag is numbered and each sample location # is recorded with its corresponding bag #, and the sample results. Bag blanks are not analyzed when sampling with the direct injection method.

2. Blanks - The bag # and the results of bag blanks are recorded along with the other sample results. Blanks are also be taken through the soil gas sampler to check on cross contamination. One bag blank and one equipment blank are analyzed for every ten sample locations. One bag blank will be run before calibration to check on the completeness of bag purging.

3. Reporting - Sample results are compiled in a table which records the following data: Sample #, location, injection size, gain (sensitivity), and response. Calibration runs will be identified by the electrical response of the detector to a standard. Samples are quantified by comparing their electical

responses relative to the standard. Chromatograms are included as an appendix to the report.

4. Decontamination - portable probes are cleaned with a methanol/water mix followed by a deionized water rinse between each sampling location. The low flow pump is run continuously during the field work to constantly flush the pumping diaphram with ambient air.

APPENDIX C

Laboratory Report Forms

CLIENT NAME:	Groundwater of Vermont	MAV CONTROL NO.:	8797
ADDRESS:	One Mill Street Box C-5 Burlington, VT 05401	PROJECT NO.:	V94-011
SAMPLE LOCATION:	Burlington Airport Fuel Farm	DATE OF SAMPLE:	4/27/94
SAMPLER:	Ron Miller	DATE OF RECEIPT:	5/2/94
		DATE OF ANALYSIS:	5/12/94
ATTENTION:	Ron Miller	DATE OF REPORT:	5/23/94

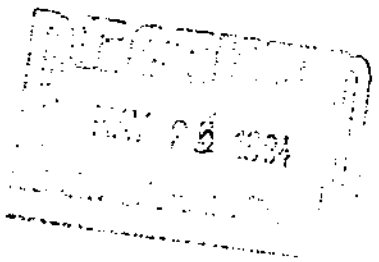
PETROLEUM PRODUCT IDENTIFICATION

A semivolatile organic compound analytical method was developed with the objective of facilitating the discrimination of common petroleum products. A brief outline of this procedure follows:

- Dilute neat sample 1:200 in CS_2
- Inject 2 microliters of diluted sample into split injection port of GC with DB-5 capillary column. Injection temperature = 40°C, hold 1 minute. Temperature program = 10°C/min to 320°C. Detector is Ion Trap GC/MS tuned for DFTPP.
- From the full mass spectral data obtained for every scan in the chromatogram, the mass spectral data are displayed in the form of selected ion chromatograms. These selected ion chromatograms along with the total ion chromatogram (TIC) are presented in a stacked form with time or scans as the common axis. The selected ions are grouped together to be specific for the following classes of hydrocarbon compounds: (a) alkanes (aliphatics), (b) olefins and cyclic alkanes, (c) benzene, (d) alkylbenzenes, (e) alkylnaphthalenes, and (f) alkylanthracenes.
- The resulting compound class-specific chromatographic patterns are compared to those obtained from reference petroleum products such as gasoline, kerosene, and No. 2 fuel oil.

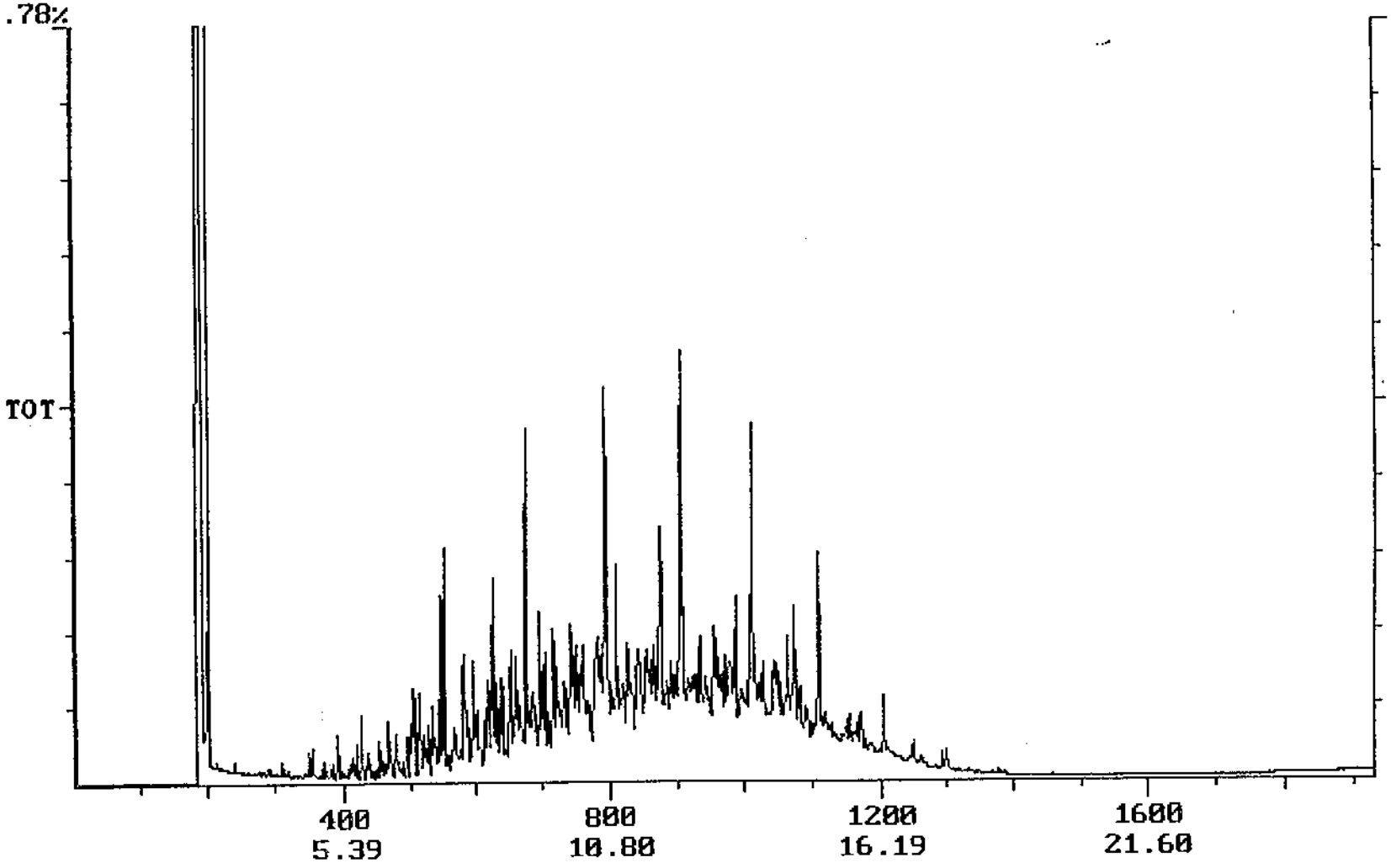
RESULT:

The free product of Sample MW-1 produced a chromatographic pattern consistent with that of kerosene, No. 1 fuel oil, or Jet- A aviation fuel.

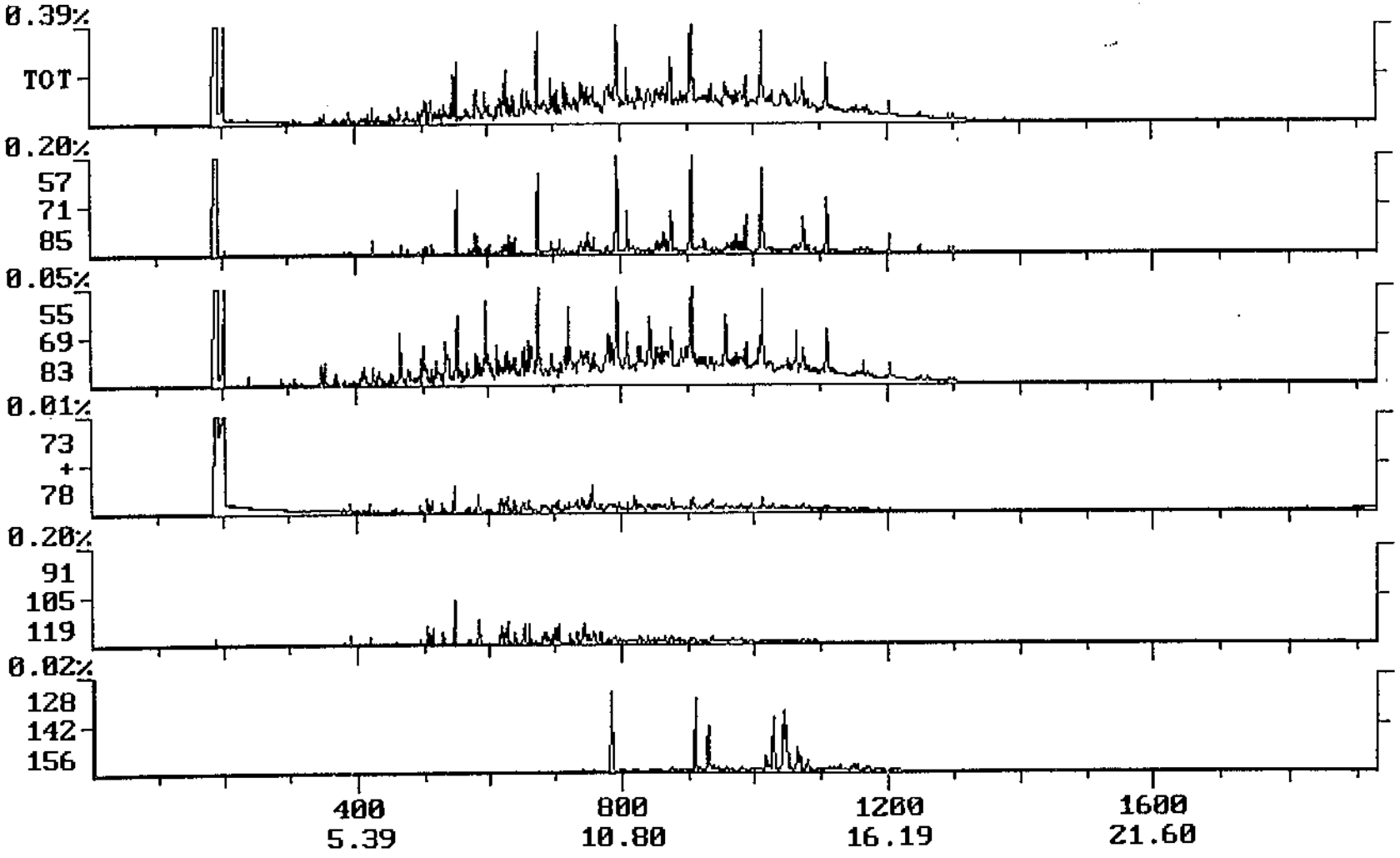


Brendan McMahon, Ph.D.
Director, Chemical Services

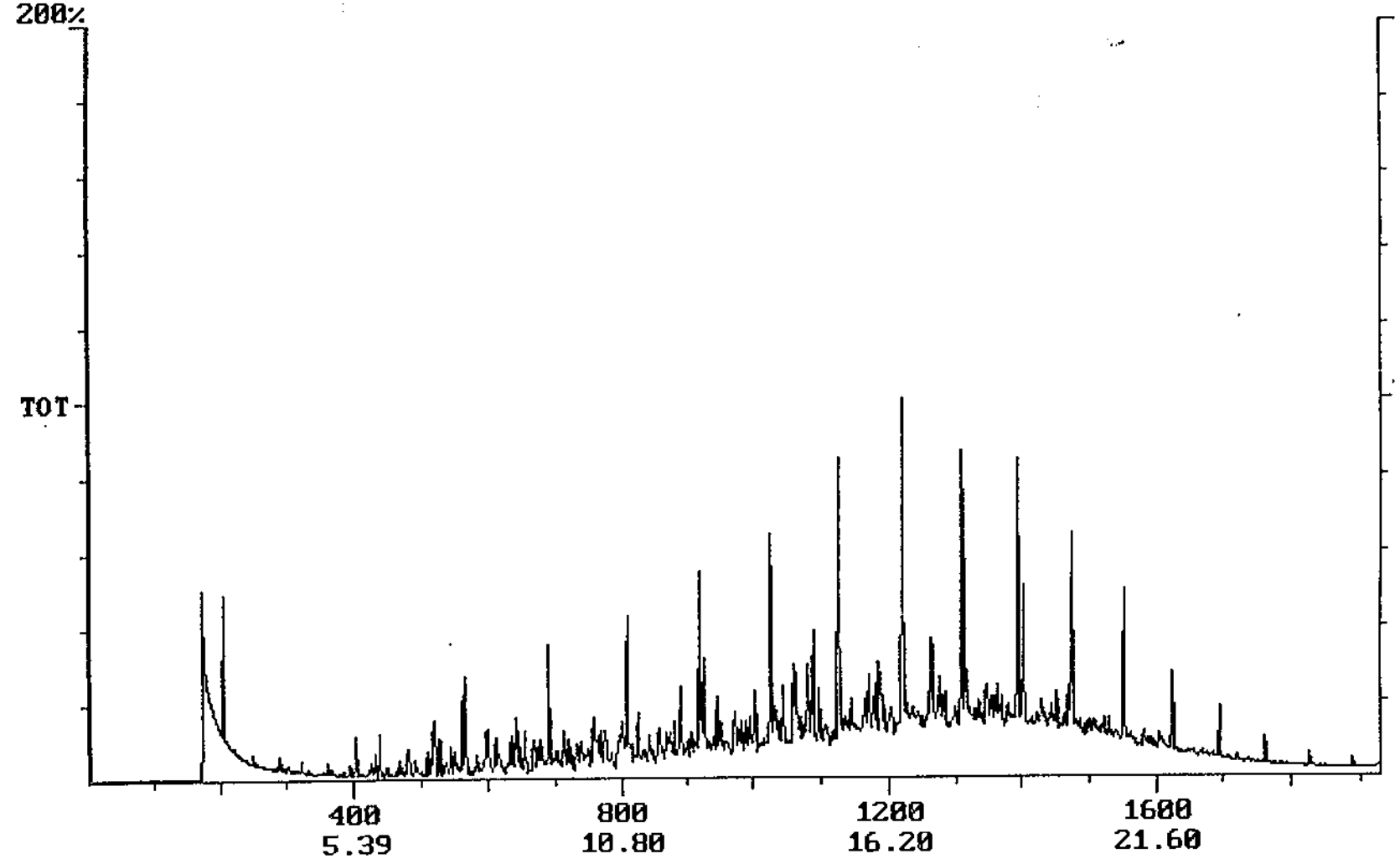
Chromatogram Plot C:\SATURN\DATA\8797MW1 Date: 05/12/94 17:10:27
Comment: 8797 GWV MW-1 PETROLEUM ID
Scan No: 1 Retention Time: 0.01 RIC: 0 2 ass Range: 0 - 0
Plotted: 1 to 1926 Range: 1 to 1926 100% = 452204552
0.78%



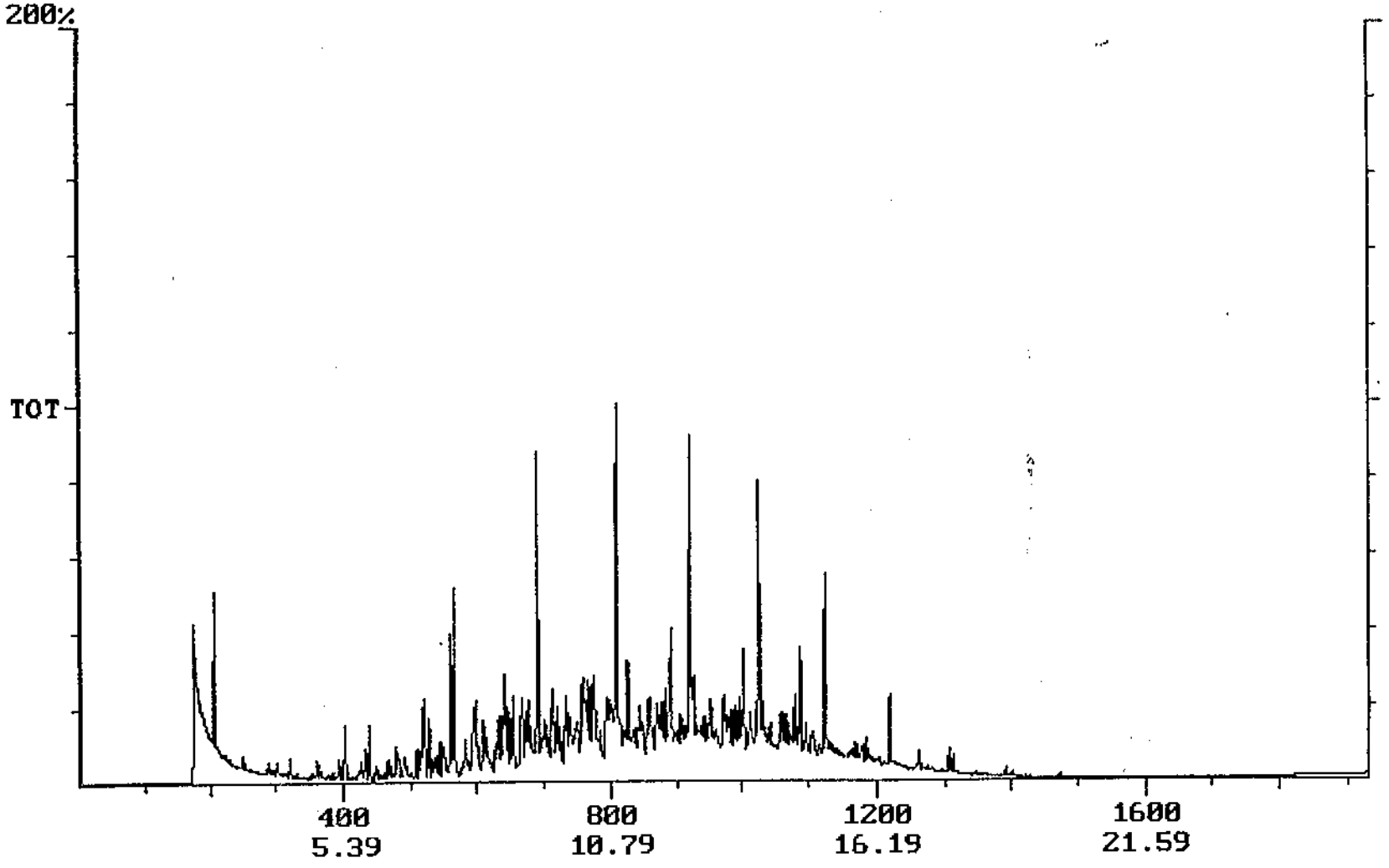
Chromatogram Plot C:\SATURN\DATA\8797MW1 Date: 05/12/94 17:10:27
Comment: 8797 GWV MW-1 PETROLEUM ID
Scan No: 1 Retention Time: 0.01 RIC: 0 Mass Range: 0 - 0
Plotted: 1 to 1926 Range: 1 to 1926 100% = 452204552



Chromatogram Plot C:\SATURN\DATA\STD_#2FU Date: 10/31/93 12:22:03
Comment: #2 FUEL OIL/DIESEL STD 1:200 IN CS2 (2UL INJ)
Scan No: 1 Retention Time: 0.01 RIC: 0 Mass Range: 0 - 0
Plotted: 1 to 1925 Range: 1 to 1925 100% = 860617



Chromatogram Plot C:\SATURN\DATA\STD_KERO Date: 10/31/93 11:40:25
Comment: KEROSENE STANDARD 1:200 IN CS2 (2UL INJ)
Scan No: 1 Retention Time: 0.01 RIC: 0 Mass Range: 0 - 0
Plotted: 1 to 1925 Range: 1 to 1925 100% = 956977



GroundWater of Vermont

The Chace Mill, One Mill Street, Box C-5, Burlington, Vermont, 05401
(802)-860-6065 (802)-860-6076 Fax

CHAIN OF CUSTODY RECORD

LABORATORY

ANALYSIS STATUS:
_____ RUSH (2-DAY)
_____ PRIORITY (4-DAY)
_____ BEST AVAILABLE TIME

PROJECT NUMBER: V94-011
PROJECT NAME: BURLINGTON AIRPORT FUEL FARM
PROJECT LOCATION: S. BURLINGTON, VT
PROJECT MANAGER: Ron Miller
COLLECTED BY: Ron Miller
DATE: 4/27/94

8797

SAMPLE ID	DATE	TIME	SAMPLE MATRIX	TYPE OF CONTAINER	# CONT.	PRESRVD	METALS - PLEASE LIST: MA ( ) EP-TOX ( ) TCLP	OIL & GREASE: IR ( ) GRAV. ( )	VOLATILE ORGANICS: 624 ( ) 601 ( ) 602 8010 ( ) 8015 ( ) 8020 & MTBE (X)	EXTRACTABLES: ACIDS ( ) B-N ( ) PCBs ( ) PESTS ( ) 608/8080 ( )	TSS ( ) TDS ( ) pH ( ) SPEC COND ( )	BACTERIA: SPC ( ) TOT COLI ( ) FEC COLI ( )	CYANIDE: AMEN ( ) TOT ( )	CL ( ) F ( ) SO4 ( )	NO3 ( ) NO2 ( ) NH3 ( )	TCLP: METALS ( ) VOLATILES ( ) SEMIVOLATILES ( ) PESTICIDES ( ) HERBICIDES ( )	OTHER: TPH by 418.1	OTHER: Petroleum I.D.	REMARKS
MW1 - Free Product	4/27	14:20	Liquid Petroleum	40 ml VOA	1	None													X	
MW3		15:40	W	↓	2	HCl + I			X											
TRIP BLANK		16:40	W	↓	2	↓			X											
MW3		15:40	W	1 Liter Bottle-Glass	2	HCl + I												X		
TRIP BLANK		16:40	W	↓	2	↓												X		

MATRIX
W = AQUEOUS
S = SOLIDS

PRESERVATIVE
I = ICED
A = ACIDIFIED (8020: 4 drops 1:1 HCl | 418.1: 40 drops 1:1 HCl)
B = BASE
N = SODIUM BISULFATE

RELINQUISHED BY	DATE	TIME	RECEIVED BY
Ron Miller	5/2/94	7:45	

LABORATORY ANALYSIS

CLIENT NAME:	Groundwater of Vermont	REF #:	8797
ADDRESS:	One Mill Street, Box C-5	PROJECT NO.:	V94-011
	Burlington, VT 05401		
SAMPLE LOCATION:	Burlington Airport Fuel Farm	DATE OF SAMPLE:	4/27/94
SAMPLER:	Ron Miller	DATE OF RECEIPT:	5/2/94
		DATE OF ANALYSIS:	5/10,11/94
ATTENTION:	Ron Miller	DATE OF REPORT:	5/11/94

Pertaining to the analyses of specimens submitted under the accompanying chain of custody form, please note the following:

- Water samples submitted for VOC analysis were preserved with HCl.
- Specimens were processed and examined according to the procedures outlined in the specified method.
- Holding times were honored.
- Instruments were appropriately tuned and calibrations were checked with the frequencies required in the specified method.
- Blank contamination was not observed at levels interfering with the analytical results.
- Continuing calibration standards were monitored at intervals indicated in the specified method. The resulting analytical precision and accuracy were determined to be within method QA/QC acceptance limits.
- The inferred efficiency of analyte recovery for individual samples was monitored by the addition of surrogate analytes to all samples, standards, and blanks. Surrogate recoveries were found to be within laboratory QA/QC acceptance limits, unless noted otherwise.

Reviewed by:

Brendan McMahon, Ph.D.
Director, Chemical Services

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

EPA METHOD 8020 ANALYTES + MTBE with GC/MS Confirmation

CLIENT NAME:	Groundwater of Vermont	PROJECT CODE:	V94-011
PROJECT NAME:	Burlington Airport Fuel Farm	REF.#:	8,797
REPORT DATE:	May 11, 1994	STATION:	MW-3
DATE SAMPLED:	April 27, 1994	TIME SAMPLED:	15:40
DATE RECEIVED:	May 2, 1994	SAMPLER:	Ron Miller
ANALYSIS DATE:	May 11,1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	20	BPQL
Toluene	20	2090
Ethylbenzene	20	36
m+p-Xylene	40	109
o-Xylene	20	72
Chlorobenzene	20	BPQL
1,2-Dichlorobenzene	20	BPQL
1,3-Dichlorobenzene	20	BPQL
1,4-Dichlorobenzene	20	BPQL
MTBE	20	BPQL

Surrogate % Recovery: 99 %

BPQL = Below Practical Quantitation Limit (PQL).

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex, Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY REPORT

EPA METHOD 8020 ANALYTES + MTBE with GC/MS Confirmation

CLIENT NAME:	Groundwater of Vermont	PROJECT CODE:	V94-011
PROJECT NAME:	Burlington Airport Fuel Farm	REF.#:	8,797
REPORT DATE:	May 11, 1994	STATION:	Trip Blank
DATE SAMPLED:	April 27, 1994	TIME SAMPLED:	16:40
DATE RECEIVED:	May 2, 1994	SAMPLER:	Ron Miller
ANALYSIS DATE:	May 10,11,1994	SAMPLE TYPE:	Water

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	BPQL
Toluene	1	4**
Ethylbenzene	1	BPQL
m+p-Xylene	2	BPQL
o-Xylene	1	BPQL
Chlorobenzene	1	BPQL
1,2-Dichlorobenzene	1	BPQL
1,3-Dichlorobenzene	1	BPQL
1,4-Dichlorobenzene	1	BPQL
MTBE	1	BPQL

Surrogate % Recovery: 100%

BPQL = Below Practical Quantitation Limit (PQL).

*Note: This represents the average result of two replicate analyses.

*Note: This result was confirmed with a replicate analysis.

MicroAssays of Vermont, Inc. P.O. Box 189 Middlesex. Vermont 05602 (802) 223-1468 FAX 223-8688

LABORATORY ANALYSIS

CLIENT NAME:	GroundWater of Vermont	MAV CONTROL #: 8797
ADDRESS:	One Mill St. Box C-5	DATE OF SAMPLE: 5/2/94
	Burlington, VT 05401	DATE OF REPORT: 5/16/94
	ATTN: Ron Miller	SAMPLER: Ron Miller
SAMPLE LOCATION:	Burlington Airport Fuel Farm	PROJECT NUMBER: V94-011

EXAMINATION REQUESTED:

Test - Total Petroleum Hydrocarbons. EPA 418.1

SPECIMENS:

(4) Liter glass jars containing water samples Labled MW3, Trip.

FINDINGS:

	Trip	MW -3	Units	PQL
TPH	BPQL	37.3	mg / L	0.5

Reviewed by:

Kenneth Somerville
Head Chemist,Chemical Services

GroundWater of Vermont

The Chace Mill, One Mill Street, Box C-5, Burlington, Vermont, 05401
(802)-860-6065 (802)-860-6076 Fax

CHAIN OF CUSTODY RECORD

LABORATORY

ANALYSIS STATUS:
_____ RUSH (2-DAY)
_____ PRIORITY (4-DAY)
_____ BEST AVAILABLE TIME

PROJECT NUMBER: V94-011
PROJECT NAME: Burlington Airport Fuel Farm
PROJECT LOCATION: S. Burlington, VT
PROJECT MANAGER: Ron Miller
COLLECTED BY: Ron Miller
DATE: 4/27/94

PAGE ___ OF ___

8797

SAMPLE ID	DATE	TIME	SAMPLE MATRIX	TYPE OF CONTAINER	# CONT.	PRESRVD	ANALYSIS REQUESTED: METALS - PLEASE LIST: AA ( ) EP-TOX ( ) (B)	OIL & GREASE: IR ( ) GRAV. ( )	VOLATILE ORGANICS: 624 ( ) 601 ( ) 602 X 8010 ( ) 8015 ( ) 8020 & MTBE	EXTRACTABLES: ACIDS ( ) BN ( ) PCBs ( ) PESTS ( ) 608/8080	TSS ( ) TDS ( ) PH ( ) SPEC COND ( )	BACTERIA: SPC ( ) TOT COLI ( ) FEC COLI ( )	CYANIDE: AMEN ( ) TOT ( )	CL ( ) F ( ) SO4 ( )	NO3 ( ) NO2 ( ) NH3 ( )	TCLP: METALS ( ) VOLATILES ( ) SEMIVOLATILES ( ) PESTICIDES ( ) HERBICIDES ( )	OTHER: TPH 1,2,4	OTHER: Petroleum I.D.	REMARKS
MW1 - Free Product	4/27	14:20	Liquid Petroleum	40 ml VOA	1	None												X	
MW3		15:40	W	↓	2	HCl + I			X										
TRIP BLANK		16:40	W	↓	2	↓			X										
MW3		15:40	W	1 Liter Bottle-Glass	2	HCl + I											X		
TRIP BLANK		16:40	W	↓	2	↓											X		

MATRIX
W = AQUEOUS
S = SOLIDS

PRESERVATIVE
I = ICED
A = ACIDIFIED (8020 = 4 drops 1:1 HCl | 418.1 = 40 drops 1:1 HCl)
B = BASE
N = SODIUM BISULFATE

RELINQUISHED BY	DATE	TIME	RECEIVED BY
Ron Miller	5/2/94	7:45	

VERMONT AIR NATIONAL GUARD BASE, BURLINGTON VT
SITE #77-0043

STREET ADDRESS: Poor Farm Road, Colchester VT

CONTACT:
LT JOHN FERRARO, ENVIRONMENTAL MANAGER
Environmental Management Office
10 Falcon Street
South Burlington VT 05406-5868
(802) 660-5966
john.ferraro@vtburl.ang.af.mil

SITE STATUS (5/2002):
Environmental investigation and cleanup activities are underway at five areas of the site (see attached figure for locations).

SITE 1 – FORMER FIRE DEPARTMENT TRAINING AREA/OLD LANDFILL
Site 1 encompasses approximately 10 acres of woods and grassland in the northeastern portion of the VT ANG base. The former Fire Department Training Area (FDTA) is located in the central portion of the site. Fire training activities were conducted in this area from 1960 to 1980, and included utilization of one primary and possible one secondary burn area. During the period of use, the FTDAs were excavated to create a shallow depression for the retention of ignitable liquids. During fire training exercises, various quantities of ignitable liquids were dispersed into the burn pits and ignited, then extinguished. The primary fuel for the burn pits was jet fuel (JP-4), although a wide variety of liquids were used as fuel during the course of operations in this area. Fire training exercises were conducted an average of 26 times per year from 1960 to 1973, and an average of 12 times per year from 1973 to 1980. It is estimated that approximately 700,000 gallons of fuel was dispersed into the burn pits between 1960 and 1980. In addition, from 1979 to 1980, approximately 1500 gallons of various mixtures of acetone, cyclohexane, methyl ethyl ketone, methanol, propyl alcohol, and waste paint pigments were collected from the surrounding community and burned.

Fuel-related contaminants have been detected in soils in the FTDA. Free-phase petroleum has been detected and remains present in monitoring wells installed in Site 1 area. Groundwater contamination, including petroleum and chlorinated volatile organic compounds, extends from Site 1 to beyond the base property boundary on Poor Farm Road and across to the Country Club Estates property.

SITE 2 – FORMER CONSTRUCTION/DEMOLITION DEBRIS LANDFILL

Site 2 encompasses approximately two acres and is located in the southeastern portion of the base. It is situated on a steep eastward sloping escarpment. Site 2 has been used for

the disposal of construction and demolition debris since 1960. The site is bound to the east by a lowland marsh area.

Investigations at Site 2 have revealed the presence of chlorinated volatile organic compounds, petroleum hydrocarbons, metals and pesticides in soil and groundwater in this area. The most significant issue is the presence of volatile organic compounds in groundwater.

SITE 3 - PETROLEUM/OIL/LUBRICANTS FACILITY
and
SITE 4 - STORMWATER DRAINAGE DITCH AREA

Site 3 consists of an abandoned dry well locate adjacent to the west wall of the fuel transfer pump house and the contaminated area downgradient of the dry well. Once every 3 years from 1954 to 1984, maintenance of the fuel system called for draining approximately 300 to 400 gallons of jet fuel into the floor drain of the transfer pump house, which discharged to the dry well. As much as 20,000 of jet fuel may have been discharged to the dry well as a result of this procedure.

Site 4 consists of a partially covered drainage ditch located immediately south and parallel to Poor Farm Road along the northern boundary of the Vermont ANG base. Surface drainage from the Petroleum/Oil/Lubricants facility area, the flight line, and parking apron areas was conveyed to the drainage ditch via a stormwater/surface water collection and subsurface piping network. Spilled fuel and other contaminants from the portions of the base served by the stormwater system was also discharged to this area.

Contamination in the vicinity of Site 3 and 4 was discovered in 1988 when a strong petroleum hydrocarbon odor was detected during the installation of a sanitary sewer line in the western portion of Site 4. Fuel-related contaminants were detected in soils near the transfer pump house and drainage ditch. Free-phase petroleum was detected in monitoring wells installed in the vicinity of the transfer pump house and drainage ditch. Groundwater contamination, including petroleum and low levels of chlorinated volatile organic compounds, extends from Site 3 to beyond the base property boundary on Poor Farm Road.

In 2000, elevated free product levels observed in existing recovery and monitoring wells in the Site 3 area led to the discovery of a leak in the underground piping system for the POL facility. An unknown quantity of JP-8 jet fuel was released to the subsurface as a result of this leak. The failed line was taken out of service, and free product recovery efforts were augmented to address this new release.

A remedial program consisting of bioventing, free product recovery and intrinsic remediation is currently in place to address contamination at these two sites. An expanded free product recovery system is planned for installation in 2002 to address the additional release of fuel.

SITE 5A - FORMER FLIGHTLINE FUEL PITS

And

SITE 5B – FORMER FLIGHTLINE AREA UNDERGROUND STORAGE TANKS

A hydrant system previously existed at the base for refueling aircraft on the flightline area. Fuel was stored at the Petroleum, Oil and Lubricants facility (Site 3), pumped to two fifty-thousand gallon underground storage tanks located near the flightline (Site 5B), pumped to six below ground concrete refueling pits located adjacent to the taxiway (Site 5A), and finally to fuel dispensing hydrants located on the taxiway (Site 5A). In 1998, the excavation, removal and closure of the USTs, refueling stations and associated subsurface piping revealed petroleum hydrocarbon soil contamination in the vicinity of the USTs and the refueling pits. Supplemental investigation work performed in November-December 2000 revealed both soil and groundwater contamination.

Additional investigation and remedial action work is planned for Site 5B in 2002. This will include installation of a soil vapor extraction system and additional delineation of the extent of soil and groundwater contamination. Due to access issues, additional work at Site 5A has been postponed.