

LEVEL II  
ENVIRONMENTAL SITE ASSESSMENT  
for  
RUSSELL AUTO BODY  
91-1013

M & W SOILS ENGINEERING  
MAIN STREET, P.O. BOX 884  
CHARLSTOWN, NH 03603

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Warren L. Stevens, P.E.  
Myron Domingue

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**LEVEL II  
ENVIRONMENTAL SITE ASSESSMENT  
FOR  
CHET RILLING**

**INTRODUCTION:**

We have been asked to perform a Level II Environmental Site Assessment on the property identified by the Town of Weathersfield, Vermont as Map 7, Block 1, Lot 4, located about 500' South of Downer's Four Corners on the West side of Route 106. The purpose of a Level II Environmental Site Assessment is to assess for the possibility of current environmental problems and to investigate past uses of the site for potential problems.

A Level II Environmental Site Assessment consists of reviewing the history of the site, contacting Local and State Officials, performing a walk through inspection of current land uses, and initiating a ground water monitoring program. This monitoring program requires the installation of monitor wells, a process which yields both soil and water samples which can be analyzed for chemical contamination.

**SITE:**

This site occupies four acres+/- of land to the West of Vermont Route 106 and South of Vermont Route 131. Entrance to this site is provided from Route 106, about 500' South of the intersection of the two highways. (This intersection is referred to as Downer's Four Corners.)

Geographically, the lot is split in half between usable and unusable areas. The Northern area, considered to be generally unusable, contains an excavated area which has filled with water to form a shallow pond, the ground around which rises steeply to the North and East, more gradually to the South, and remains fairly level to the West. The Southern half of the site contains the buildings and developed surface areas, with ground surfaces sloping moderately to steeply towards the center of this developed portion.

Soil borings at the site show the existing soil to be brown sand and gravel in various combinations. From interviews, it appears that most of the area around the garage is fill material which replaces gravel that was removed. Most areas contain a large number of cobbles and boulders which inhibit drilling. Groundwater was observed at a depth of about 19' in the low area of the Southern half of the site.

Surface water on this site is limited to the pond area in the Northern section of the site which has been mentioned. The Black River flows within approximately 1000' of the property to the Southwest. The well used by the facility on this site is located approximately 35' over the property line between this property and the adjacent property to the West.

There is no Town water or sewer service to the neighboring areas. The only building on this site with plumbing is the garage near Route 106. This building is serviced by a 1,000 gallon concrete septic tank with no leachfield.

There are currently two buildings on this site, a 2,800 square foot Quonset style metal building used mainly for storage and a 2,400 square

foot commercial garage with an unfinished 640 square foot addition. The Quonset building is unheated, has no plumbing, and sits on a concrete slab which contains two floor drains which are outleted about 20' East of the building. The garage has a metal exterior structure with a flat metal roof, and is heated by a forced hot air system fueled by oil which is stored behind the building in an underground 500 gallon metal tank. The addition is a wooden structure with a metal roof, and the plumbing and heating system for this area appears to be unfinished. Both the garage and the addition are built on a concrete slab. There is one bathroom with a sink and toilet which is serviced by the septic tank mentioned above. This tank is located within 20' of the bathroom, off the back side of the garage. Two floor drain systems were found in the garage, one in the paint room and the other for the two bays off the garage (these will be discussed later).

Access to the site has been described above. The area directly in front of the garage is the only paved area on the site. The entrance from Route 106 continues through this property in a Westerly direction to provide entrance to an adjacent lot with a mobile home. This drive is contained within a 20' right-of-way for this adjoining property, and also provides access to the Quonset building and a large parking area across the drive from this building.

#### **HISTORY:**

The Town of Weathersfield Land Records were researched, not to establish a chain of title but to establish previous land uses for the site. A partial list of the previous owners of the site is as follows:

<u>VOL</u>	<u>PAGE</u>	<u>GRANTOR</u>	<u>GRANTEE</u>	<u>DATE</u>
67	422	Eugene & Alice Adams	Roger Russell	12/30/86
55	42	Matthew Birmingham III	Eugene & Alice Adams	11/04/77
55	39	Eugene & Lucinda Adams	Matthew Birmingham III	11/04/77
48	512	Estate of George Robinson	Eugene & Lucinda Adams	08/03/72
26	152	Carl H. Adams	George & Elsie Robinson	12/26/19
26	6	Hervie N. Thomas	Carl H. Adams	06/03/19

The garage was built around 1976, and a commercial business was operated here from that time until 1990, first by Eugene Adams and then by Roger Russell. The Quonset building and the addition to the garage were added in 1989. Before this time it appears that portions of the site were used as a gravel pit and the remaining area was unused.

Adjacent businesses include a gas station/convenience store to the North and another commercial garage slightly South of the site across Route 106. Other businesses in the area include a restaurant to the North across Route 106 and another small garage across Route 106, further to the South. The garages and current restaurant have begun operating within the past 10 years, the store site has been operating since the 1950's.

The surrounding area does have some history of development, but not adjacent to this site. In the late 1800's Downer's Inn was located across Route 131 from this site. The Inn was a tourist attraction which operated until it burned in 1916, after this time the site became a private residence.

The surrounding area is mainly residential, with homes very close to the site to the West, South and East. These properties have private water and septic sources.

**SITE INVESTIGATION:**

The investigation of this site consisted of site walkovers and soil borings.

**WALKOVER:**

This site was visited on several occasions in late June of 1994. An attempt was made to visually inspect all areas of this site. In addition, a limited number of areas were chosen in which subsurface observations were made or materials were tested using an HNU Photoionizer, a trace gas analyzer.

**A) GARAGE:**

The interior of the garage was accessed after a key was obtained. The addition could not be accessed but was visually inspected through the exterior windows.

Although a commercial business has not operated at this garage in several years, the interior is still full of tools, parts, paints, etc. which would be associated with this kind of operation. The garage is split into three sections, each with an overhead door facing the parking lot. The first section is closest to Route 106. This section contains the bathroom, a small office, some storage and a car lift built into the concrete slab. The second section contains a furnace room, storage, and open garage space. The last section contains some open floor space and a separated paint room. The back half of the building has a second floor over the first and second sections where tires, parts, and paints are stored.

The interior of the garage is generally cluttered and dirty, with the exception of the paint room, which is empty. Many sources of hazardous material remain in this building, mainly in the form of cans of paint, primers, solvents etc. In the overhead storage area above the center bay there are around 100 cans of various sizes of these materials on wooden shelves, most show signs of having been opened. There is also metal shelving and cabinets in this center bay which contain more of these cans, as well as several 5 gallon plastic or metal cans on the floor containing hydraulic oil or unknown liquids. A nearly full 55 gallon drum in the first bay appears to contain motor oil. There are also oil pans with oil still in them and some empty oil containers in this area. Another drum near the door of the paint room is nearly full of an unidentified, apparently volatile liquid.

As previously mentioned, there were two floor drain systems observed in the garage. The first was in the center of the paint room, where a single 4" diameter drain in the center of the bay had been filled in with concrete. This concrete plug was chipped away so that the drain could be inspected. A plug of this concrete which fell into the pipe inhibited physical inspection, although it appeared that solid material was in the drain pipe up to a point about 10" under the floor slab. This concrete did not prevent the use of the HNU Meter at the pipe opening, but no readings were obtained. From an interview with the present owner of the site, Mr. Roger Russell, it was determined that this drain outlets outside the Western end of the building. Mr. Russell reported that he had filled the floor drain with concrete after learning that it outleted directly into the ground.

The second drain system is a grate type which runs through the first two bays. The grates cover a concrete trench approximately 1' deep

which contains from 2 to 4" of oily dirt and sludge. Readings up to 20 ppm were obtained from this material with the HNU Meter. This trench may not have an outlet, a metal probe was used to search the bottom of the trench (visual observation was not possible due to the amount of material present) and no break in the concrete was found. The 55 gallon drum of motor oil mentioned above, as well as the oil pans and related equipment, sits directly on the grates so that any oil spilled in the use of these items would end up in the trench.

The car lift in the first bay is a hydraulic unit which remains below the floor level when not in use. The metal plating covering this lift was removed to inspect the area in which the lift rests. The bottom of this area is approximately 4' below floor level, and contains several inches of oily material. This material did not show a reading on the HNU Meter, but heavy oils often do not register on this device. The floor of this area appears to be concrete.

As mentioned above, the paint room has been cleaned out except for one empty cabinet. This room is separated by a masonry wall from the center bay, with large doors to completely enclose the area. Ventilation is provided by a single exhaust fan in the back wall.

In the center bay, besides items already noted, there is an exhaust fan in the rear wall, a large air compressor, and a furnace room. This furnace room is empty, from the wiring left on the wall it appears that there was an oil burning furnace here at one time.

The oil burning heater which now serves the building is located above the first bay, a metal duct system distributes heat to the building.

At the present time the electricity and water to the building have been turned off.

The addition to the garage was inspected visually through the exterior windows. The interior of this section has been framed, but no finish work was done. Electrical wires are not connected to anything, plumbing pipes are in the wall but no fixtures are in place, and the interior face of the framing is still exposed.

**B) QUONSET BUILDING:**

As described above, this is a metal building built on a concrete slab. The interior of this building is filled with various auto parts, tires, wood, engines, etc. There are 13 drums of various sizes, some of which are on pallets, at the North end of the building, most feel empty. These drums are generally slightly rusted, and low HNU readings were taken from the tops of several of them. Three of these drums are slightly South of the rest of these, one 55 gallon drum marked as thinner feels about half full, one unmarked drum is nearly full, and the third is nearly empty. The concrete floor around these drums shows no sign of contamination and no HNU readings were obtained.

Two 4" diameter floor drains were found in this building. Mr. Russell reported having filled these with cement soon after the building was constructed. Both floor drains contain dirt and organic material which appeared clean both visually and with the HNU Meter. The outlet for these drains was found to the East of the building where a 4" PVC pipe runs out of the base of a bank into a slight depression. This area was examined closely and appeared to be clean.

**C) GROUNDS:**

The septic tank for the garage was found partially uncovered behind the Eastern end of the building. The tank was uncovered further so that the inlet, outlet and covers were exposed. The outlet appears to empty directly into the surrounding soil, some broken pieces of PVC pipe were found in the surrounding ground and on the surface but there is no indication that they were used as part of an outlet system. Test holes and borings done at various points near the tank show no evidence of a leach field, and interviews and past reports on the site report that there is not one. The inlet pipe from the building appears to be intact with no leakage evident near the tank. One of the covers on the tank has been damaged so that it can not be removed, and the other was removed so the tank could be inspected. The only evidence of contamination was in the fluid near the outlet, where HNU readings at the exterior of the tank were between 3 and 5 ppm. No readings were obtained inside the tank from samples taken both on the surface and from near the bottom of the tank (obtained by submerging a sample jar).

The underground fuel oil tank was located near the septic tank. The measuring stick for the tank was broken, but from the piece remaining it was determined that the tank still contains some fuel oil. No HNU readings were obtained around the fill pipe, or in holes which were dug up to 3' deep around the tank.

At the West end of the garage near the parking area there is a pile of tires and assorted metal scrap, including six 20 gallon drums. Of these six drums, two are empty, three contain a small amount of unknown product, and one appears to be 3/4 full of a volatile product.

In this area at the West end of the garage there is evidence of a proposed addition which was to have been built. A shallow trench runs along the North and West sides of this area, and where a slab would have been placed there is an area which is covered by a partial load of concrete that was dumped here. This concrete cover makes an inspection of this area impossible by visual or physical means, with the exception of a shallow test boring done through the concrete.

The area off the West end of the concrete slab is covered with brush, and nothing of note was observed during the initial visit. During a subsequent site visit, an area was noted on which no vegetation was growing. This area, covering approximately 10 sf., was observed to be discolored, and the surface material had a petroleum odor. A hand auger was used to examine the soil under this area to a depth of 2.5 feet. This soil appeared to be heavily contaminated with a petroleum product, most likely kerosene, which caused the soil to appear very moist and exhibited a very distinct odor. Readings with the HNU meter were highest between 6 and 18 inches, where readings of between 20 and 35 ppm were obtained. The soil was still contaminated at 2.5 feet, the stony soil conditions prevented exploration below this point. A sample obtained at this depth was held for a later test with the HNU meter, this sample showed a reading of 8 ppm when it was tested.

Test pits dug in 1988 are still visible near the top of the bank to the West of the garage. Test pit logs from that time reported the presence of small car parts buried in this area, but these parts were not noted at this time.

West of the garage and across the drive from the Quonset building is a large unpaved parking area where there are approximately 40 junk vehicles. This parking area is fairly level, with steep banks to the South

and East and a moderate slope to the West. There are several stained areas of soil around these vehicles or in locations where it appears that vehicles were once parked. These stains would appear to be from heavy oils leaked from vehicles. Some of these stained soils have an odor of oil but no readings on the HNU Meter, these soils were placed in sample jars so that they could be retested with the HNU Meter at a later time. These later tests were also negative. In addition to these stained areas, there are solid wastes associated with junk vehicles, such as broken glass and various metal and plastic scrap. No readings were obtained with the HNU Meter around most of these vehicles, only a few showed any readings and these were generally around the gas tank.

On the last visit to the site, two engines were noted in the center of the parking area which were not there before. A neighbor reported seeing Mr. Russell leave these engines during the previous week.

The area West of the Quonset building also contains several junked vehicles. These vehicles generally registered higher HNU readings around the gas fill caps than vehicles in the other lot, leading to an assumption that at least some still contain gasoline.

Bordering this group of vehicles on the West is an old mobile home and a tractor trailer. The mobile home was examined and found to contain car parts. The trailer was not entered but was described by Mr. Russell as containing similar parts.

As previously mentioned, the Northern portion of this lot is an old gravel pit which now contains several feet of water. Steep banks to the North and East of this ponded area are covered with wooden construction debris and other wooden waste. There is some metal scrap in this area,

including a bed and a cab from different trucks, and quite a few tires in the woods and the water. Mr. Rilling, who owns the adjoining store and gas station, reported that the water in this pond has been tested and was found to be clean.

The area East of the Quonset building is covered by large boulders and brush and is inaccessible to vehicles. These boulders appear to have been brought in from another property and dumped in this area. A walkover of this area was done, nothing of note was observed other than these boulders.

#### **SITE BORINGS:**

On June 29 and July 1, 1994 test borings were made on this site. Seven exploratory borings and one boring for the placement of a monitor well were done at this time.

The borings were performed in areas of greatest environmental concern, such as around the septic field, oil tank, parking areas and fill areas. The borings were generally made to a depth of 6' because of the extremely stony soil conditions. These conditions also made the installation of a monitor well extremely difficult, which led to the placement of one well in an area where it was judged to be of the most use. Soil samples were usually taken at 2' intervals using a split spoon sampler and were brought back to our lab for later testing. The HNU Meter was used at the time of the drilling to check the soil being brought to the surface, no readings were obtained from any of the borings as they were being done. Please refer to the enclosed boring logs for more detailed results of these borings.

**SAMPLING AND LABORATORY ANALYSIS:**

On July 7, 1994 the monitor well was developed by bailing several volumes of water, and was then sampled. The sample from this well was delivered the following day to Eastern Analytical, Inc. of Concord, N.H. for testing. Laboratory results from the water sample are enclosed. The hazardous substances which are identified are mainly associated with gasoline or petroleum products, with the exception of naphthalene, which is used in solvents. The amounts of each of these substances in the sample are well below State acceptable limits.

Two soil samples were also chosen to be tested. These were both from Boring B-4, located off the Northwest corner of the garage, at depths of 0-2 and 4-6'. This boring was chosen due to its proximity to the garage, current storage for hazardous materials and solid waste, and a past storage area for barrels of hazardous material. Laboratory results for these samples are also enclosed, no hazardous substances were found in these samples above detectable limits.

All of the soil samples obtained during the test borings were tested in the lab using a Head Space Procedure. In this procedure the sampled jars are heated to release vapors which may be present, and then tested again with the HNU Meter. This procedure resulted in no readings from these samples.

There are wells on adjacent properties which are reportedly checked regularly. The well near the Western border of this property, which is the source of water for the garage, is sampled yearly according to the tenant of the mobile home which also uses this well, he reported that the water has always been found to be clean.

Mr. Rilling has one monitor well on his property, this has also tested cleanly.

**STATE AND LOCAL AGENCIES:**

The appropriate State and Local Agencies were contacted concerning this property.

At the Local level, the Town of Weathersfield offices were visited and the Town Land Records and Tax Map Cards were researched. Mr. Peter Cole, the Town Health Officer, was interviewed at this office and reported no involvement with this site. Mr. Clarence Grover Jr., the Town Fire Chief, was contacted by phone and reported that there may have been a minor fire, probably vehicular, at the site several years ago.

While at the Town Offices, a copy of the Vermont Hazardous Waste Division Active Sites List was obtained and the Russell's Autobody site was found on this list. Ms. Ann Thurber was contacted at the State Office of this division and she verified that this site did have a file which was still active. This file was reviewed in the course of this investigation and information from this is as follows:

In 1991 the State of Vermont began an investigation of this site after receiving information about drums of hazardous materials being stored on site. The major area of concern at that time was the presence of 22 drums of material located in three areas off the West end of the garage. Some staining of the soil was noted in this area, although no readings were obtained with a PID Meter below the ground surface. The Hazardous Waste Division went through a bid process to have this material sampled and analyzed but before further action was taken Mr.

Russell had the barrels removed by a licensed contractor. After this action by Mr. Russell, no further action appears to have been taken by the State. It is my understanding that this file remains open due to the fact that this site was not visited again once the barrels were removed.

During the current investigation the Northernmost former storage area was noted by slight soil staining which exhibited no odor or HNU readings. The contaminated area off the end of the concrete slab which was described earlier seems to correspond to the largest, southernmost storage area as described in the state report. It would appear that this contamination occurred after the state inspection of the site, as it would have been very noticeable.

Also included in this file was a statement by Mr. Russell that Mr. Adams, the original owner of the garage, had discharged solvents into a floor drain which led to the septic tank. When test pits were dug in 1988 a solvent odor was noted in the area West of the septic tank. This odor was not noted in any of the borings done for this investigation. In my discussion with Mr. Russell, he stated that this floor drain had outleted into the ground just off the West end of the garage and that this is where the solvent odor had been noted. From the location of the floor drain it would appear more likely that this drain would have outleted into this area rather than into the septic tank. Mr. Russell reported having the soil in this area tested before covering the area with concrete, he stated that these samples had been found to be clean but that he no longer had a copy of the testing results.

There was a note in one of the reports in the file that oil had been observed in the septic tank, but no opinion was given as to its origin.

Included in this file was a 1990 investigation of this lot by Morlock Environmental, Inc. In this report the waste storage area of concern to the State was noted, as well as several other drums and various other solid wastes which are no longer present. The garage was not entered during that investigation, and the septic tank was not inspected. The Morlock report suggests further investigation of the site based on the hazardous and solid wastes present and the possibility of soil and groundwater contamination.

Mr. Leon Litchfield, Chief Environmental Enforcement Officer for the Department of Environmental Conservation, was contacted and reported having no record of this site in the Weathersfield Town file.

The State Underground Storage Tank List was checked and no tanks are registered on this site. The gas station to the North, owned by Mr. Rilling, does have three underground 3,000 gallon fuel tanks which were installed in 1984.

A visit to the Water Supply Division revealed no record of complaints or activity at this site.

#### INTERVIEWS:

Many of the people interviewed during this investigation have been recognized in this report.

Mr. Eugene Adams, the original owner of the garage, was interviewed briefly on strictly historical subjects. From this interview, it was learned that this site was formerly a gravel pit, he recalled hauling gravel from the Northern portion of the lot for the State in the 1950's,

and that the garage was built on fill material.

Mr. Roger Russell, the current owner of the property, was interviewed in a phone conversation, information from this interview has been noted above.

Mr. Chet Rilling provided information and documents relating to this site and his adjacent property.

Ms. Edith Hunter of the Weathersfield Historical Society was contacted regarding historical use information.

In most cases information was not easily obtained from these interviews, with the exception of Mr. Rilling those interviewed did not seem eager to talk about the site.

### **OPINIONS:**

The following are items of concern as noted in this report:

- 1) The concrete septic tank behind the garage does not appear to have an acceptable leachfield.
- 2) There are numerous drums, most of which are empty, on this site which should be removed by a qualified contractor.
- 3) There is a large amount of solid waste, mainly in the form of vehicles and their associated parts, which should be removed from the site. Care should be taken in removing these vehicles to insure that fuel or oils are not released into the soil.

4) Material found in the trench drain and car lift pit in the garage should be treated as hazardous waste. If an outlet is noted in either of these areas in the course of removing this material, the outlet pipe should be traced and further investigation of the receiving area should be done.

5) The area directly West of the garage is covered by a layer of concrete. This area may contain buried solid wastes, and is reportedly the area in which a floor drain from the garage used to outlet.

6) There are several areas of contaminated soil, most noticeably the area off the West end of the concrete slab, which should be removed and properly disposed of. This includes surface stained areas in the parking areas and any further contamination which may occur as the result of a clean up procedure.

### **CONCLUSIONS:**

Based on the results of laboratory analysis there is some evidence of contamination of groundwater at this site. The lab results for one soil boring were clean, but there are obvious areas of contaminated soil on this site, most noticeably to the West of the garage where it appears a sizeable spill of oil occurred.

Most of the areas of concern on the site should have no serious environmental impact once they have been cleaned up and materials on them are removed from the site. The area of greatest concern is at the West end of the garage where the layer of concrete has been placed. Evidence has been found of buried car parts in the area, and there is a

strong possibility that a floor drain emptied directly into this area. The extent of the soil contamination from the former oil storage area mentioned above is unknown, but it appears that no significant amount of this product is entering the groundwater table.

Based on the evidence found during this Level II Environmental Site Assessment, there are areas of environmental concern on the property in question. These areas have been summarized in the Opinions Section of this report. We would recommend that each of these areas be cleaned or investigated further as each situation warrants.

If these areas of concern are addressed, and if no other environmental problems are noted while clean up is occurring, especially in the area to the West of the garage, we feel that this site should no longer be an area of environmental concern.

The monitor well should be tested on a regular basis, we would suggest every six months, to insure that contaminant levels in the groundwater are either stable or declining. There is a possibility that with the depth to groundwater at the site that the contaminants have not yet reached their peak level, and this should be monitored for compliance with State Levels.

#### **SUMMARY:**

The purpose of this investigation was to assess for the possibility of environmental problems on the parcel of land identified as Map 7, Block 1, Lot 4 in the Town of Weathersfield, Vermont. This investigation was based on a limited number of observations, soils and groundwater samples. Subsurface conditions can be extremely difficult to ascertain

M & W Soils Engineering, Inc.  
August 1, 1994  
Page 20

and can vary significantly with time and location. Information used to assess this site has been supplied by others. No attempt was made to check compliance of the present owner of this site with Federal, State or Local Regulations.

Sincerely,



Randall Rhoades, EIT



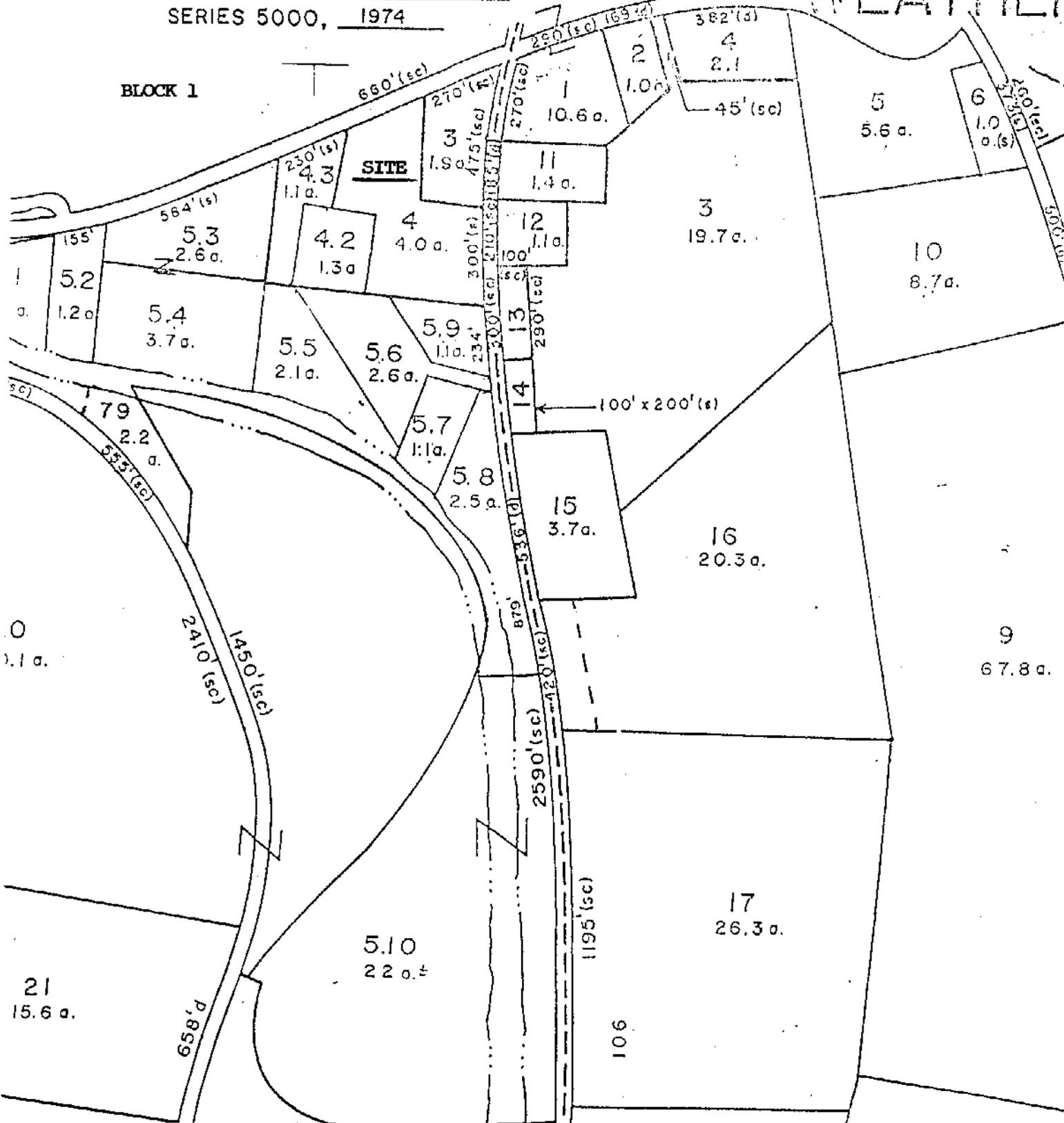
RR/WLS:sj

BLOCK 2

PROPERTY  
WEATHER

BLOCK 1

**SITE**



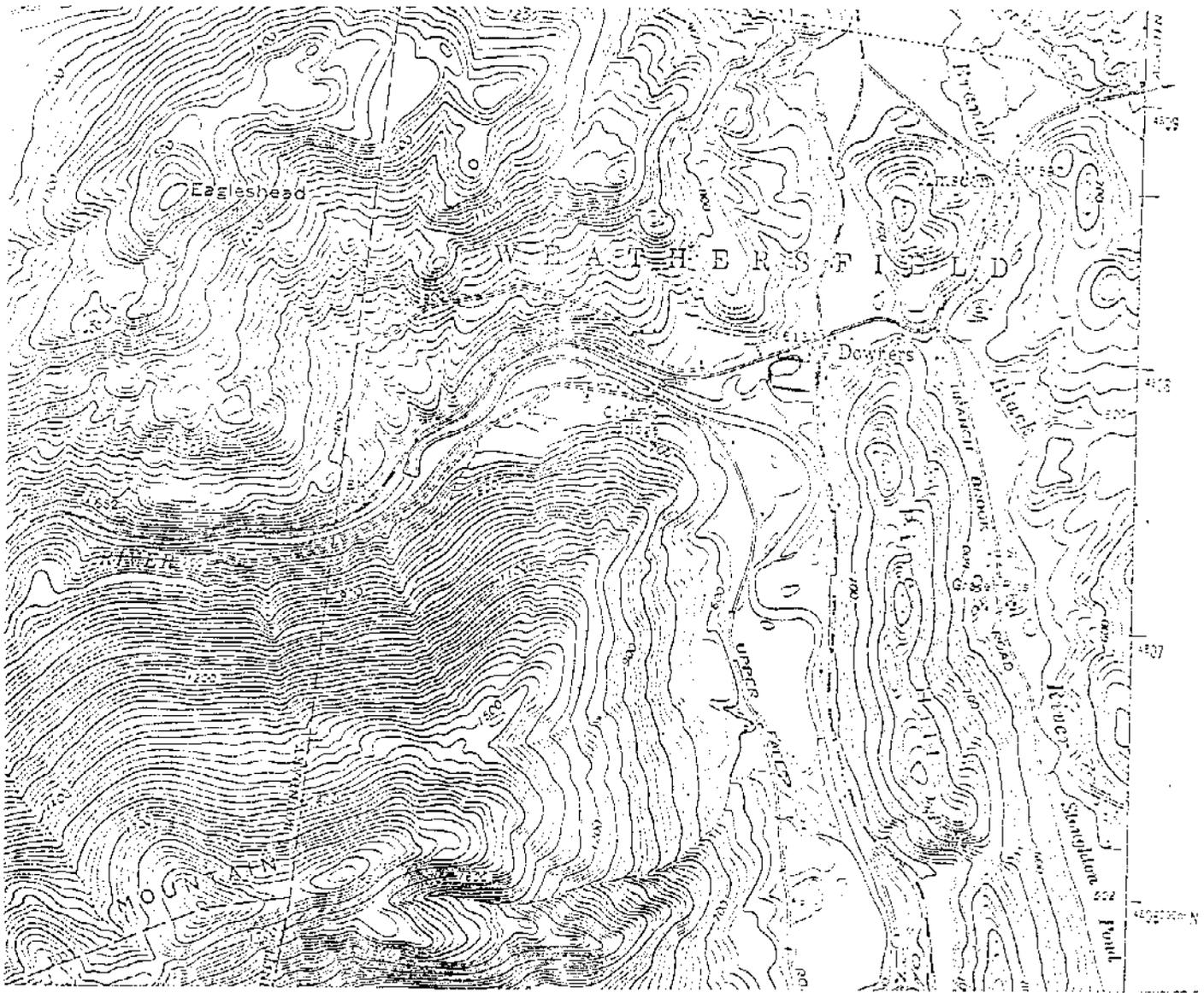
**MAP 7**

**BLOCK 1**

<u>LOT</u>	<u>OWNER</u>
3	Charles & Julietta Rilling
4	Roger Russell
4.2	Jeffrey Spurr
4.3	Jeffrey Spurr
5.6	Mary Louise Horn
5.9	Scott Watkins

**BLOCK 2**

<u>LOT</u>	<u>OWNER</u>
1	Scott & Kathleen Bradley
11	Scott Bradley
12	Armand Leblanc
13	Jeffrey Spurr

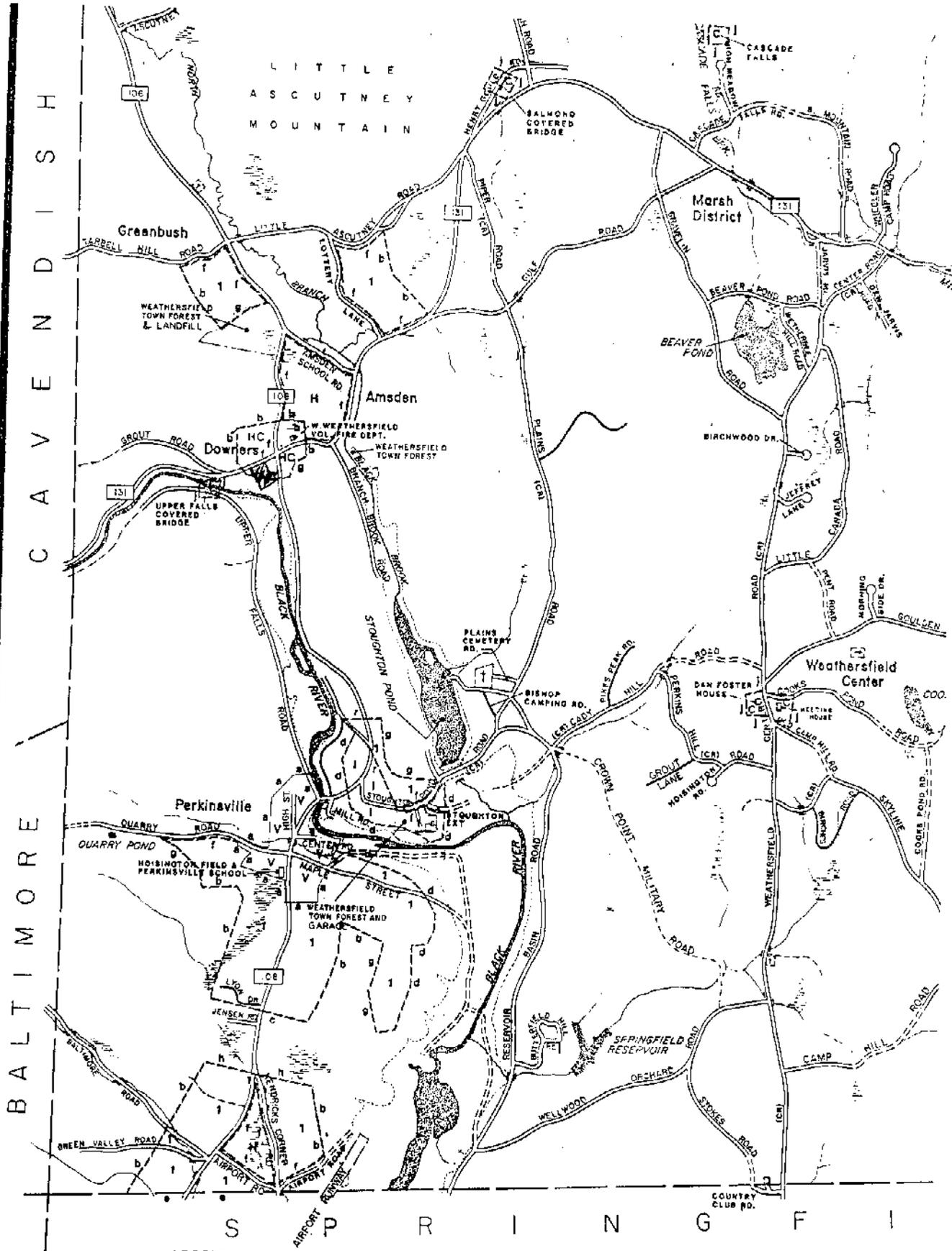


SCALE 1:24 000



CONTOUR INTERVAL 20 FEET  
 NATIONAL GEODETIC VERTICAL DATUM OF 1929

**APPENDIX B  
 SITE TOPOGRAPHY**



**LEGEND**  
 Zone Boundaries

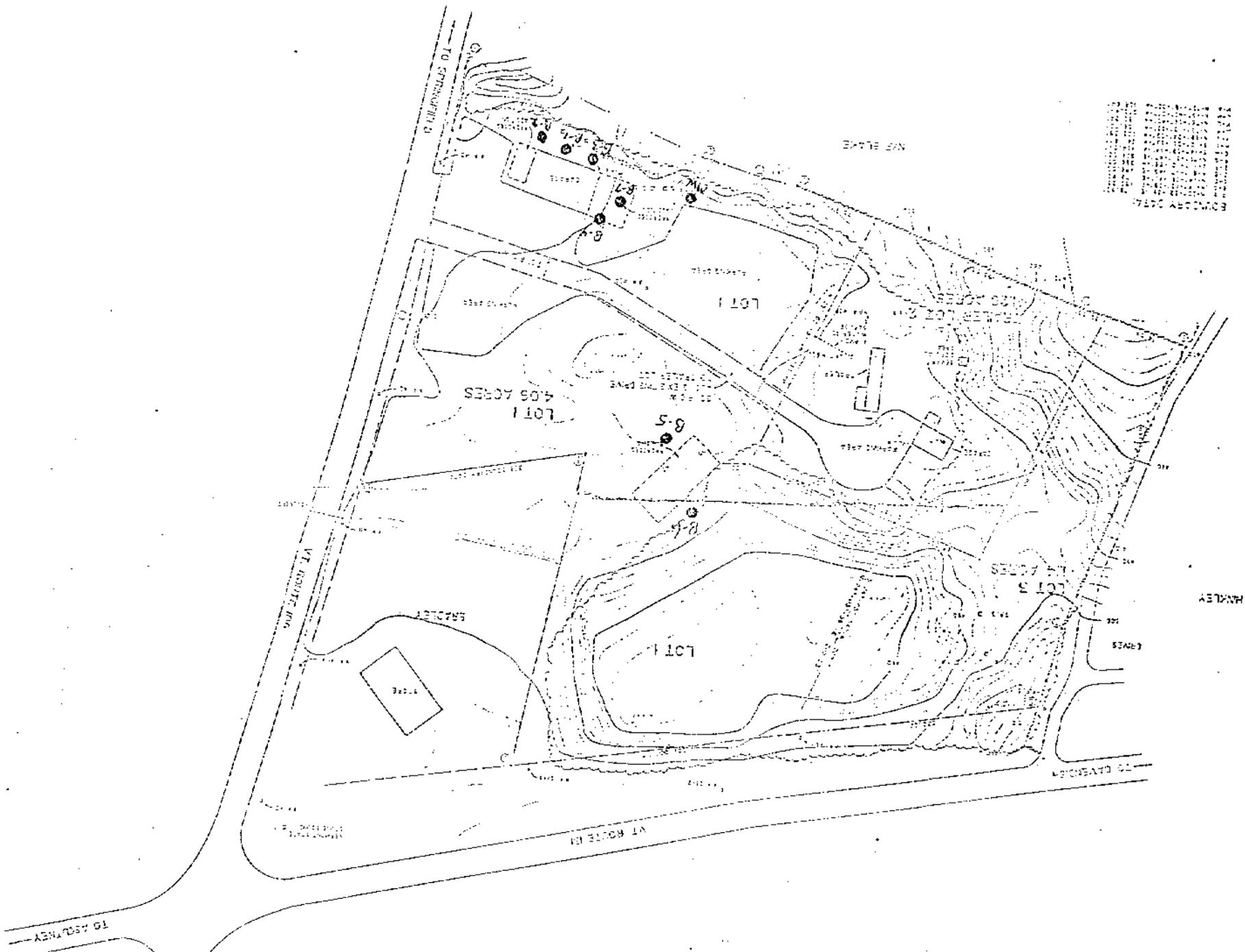
**APPENDIX C  
 SITE LOCATION**



**APPENDIX E**  
**SOIL BORING LOGS**

BORING LOCATIONS

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



HANLEY

SCALE

VT ROUTE 61

VT ROUTE 60

TO ASQUITH

M & W Soils Engineering, Inc.  
Main St. Charlestown, NH 03603

SHEET 1 OF 1  
DATE 6/29/84  
HOLE NO. MW-1  
LINE & STA.  
OFFSET

TO CHET RILLING ADDRESS  
PROJECT NAME RUSSELL AUTOBODY LOCATION WEATHERSFIELD, VT  
REPORT SENT TO CHET RILLING PROJ. NO.  
SAMPLE SENT TO RETAINED BY M & W SOILS ENG. OUR JOB NO. 6075-94

GROUND WATER OBSERVATIONS		Type	CASING	SAMPLER	CORE BAR	SURFACE ELEV.
AT 19'1"	AT "	HSA		SS		DATE STARTED 6/29/84
*WELL COMPLETION		Size I. D.	4 1/4"	1 1/2"		DATE COMPL. 7/1/84
AT	AT	Hammer Wt.		140#	BIT	BORING FORMAN M.D. & R.H.
AT	AT	Hammer Fall		30"		INSPECTOR
						SOILS ENGR.

LOCATION OF BORING IN GRAVEL PIT WEST OF SHOP

Depth	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler			MOISTURE DENSITY OF CONSTANT	STRATA CHANGE ELEV.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and ect.	SAMPLE		
				From 0-6	6-12	12-18				NO.	PEN	REC
5'		0' - 2'	SS	1	6		DRY	DENSE BROWN SAND AND GRAVEL WITH COBBLES AND BOULDERS (NUMEROUS FROM 0'-2')	1	24"	12"	
		(NO READING)		12	19							
5'		5' - 6'	SS	21	40		DRY	VERY DENSE SAME MATERIAL	2	12"	10"	
		(NO READING)						REFUSAL				
10'								..... MOVED 5' SOUTH REFUSAL AT 8' ..... MOVED 5' NORTH OF 1ST ATTEMPT				
								VERY DENSE BROWN SAND AND GRAVEL WITH COBBLES	3	12"	12"	
15'		15' - 18'	SS	40	43		DRY					
20'		20' - 22'	SS	3	7		WET	MED. DENSE BROWN FINE SAND	4	24"	12"	
				9	13			SAME MATERIAL				
25'												
30'												
								GREY FINE SAND AND SILT				
								INSTALLED 2" PVC WELL AT 24' SLOTTED FROM 14'4"-24'4" WITH 0.010" SLOT SCREEN FILTER SAND TO 4' BENTONITE SEAL FROM 3'-4' MATERIALS USED: 10' OF 0.010" SLOT SCREEN 18' OF 2" SOLID 2 2" COUPLINGS 1 2" EXPANSION CAP 1 2" T-THREADED PLUG 1 5" STEEL PROTECTIVE CASING WITH PADLOCK 40# OF CONCRETE MIX 25# OF BENTONITE PELLETS 100# OF SAND				

GROUND SURFACE TO 29'

USED HSA CASING THEN

Sample Type  
D-Dry C-Cored W-Washed  
UP-Unfinished Piston  
TP-Test Pit A-Augur V-Vane Test  
UT-Undisturbed Thinwall

Proportions Used  
trace 0 to 10%  
little 10 to 20%  
some 20 to 35%  
and 35 to 50%

140 lb. wt. x 30"-fall an 2" O.D. Sampler  
Cohesionless Density  
0-10 Loose  
10-30 Med. Dense  
30-50 Dense  
50+ Very Dense

Cohesive Consistency  
0-4 Soft 30 + Hard  
4-8 M/Stiff  
8-15 Stiff  
15-30 V-Stiff

summary	
EARTH BORING 29'	
ROCK CORING	
SAMPLES 4	
HOLE NO. MW-1	



TO CHET RILLING ADDRESS  
PROJECT NAME RUSSELL AUTOBODY LOCATION WEATHERSFIELD, VT  
REPORT SENT TO CHET RILLING PROJ. NO.  
SAMPLE SENT TO RETAINED BY M & W SOILS ENG. OUR JOB NO. 6075-94

GROUND WATER OBSERVATIONS		CASING	SAMPLER	CORE BAR	SURFACE ELEV.
AT DRY	AT _____ HOURS	AUGER	SS		DATE STARTED 8/29/94
		Type			DATE COMPL. 8/29/94
		Size I. D.	4"	1 1/2"	BORING FORMAN M.D. & R.H.
		Hammer Wt.		140#	INSPECTOR
		Hammer Fall		30"	SOILS ENGR.

LOCATION OF BORING BEHIND BLOWER FAN FROM BUILDING

Depth	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler			MOISTURE DENSITY OF CONSTANT	STRATA CHANGE ELEV.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, drilling time, seams and etc.	SAMPLE		
				From 0-6	6-12	To 12-18				NO.	PEN	REC
5'		0' - 2'	SS	4	3			1'	GRAVELLY SAND	1	24"	18"
		(NO READING)		2	1		DRY					
		2' - 4'	SS	2	2			3'6"	LOOSE BROWN FINE SAND	2	24"	18"
		(NO READING)		3	10		DRY					
		4' - 5'6"	SS	18	20			5'6"	DENSE BROWN SAND AND COARSE GRAVEL	3	18"	12"
		(NO READING)		31								
		REFUSAL ON SAMPLER										
10'												

GROUND SURFACE TO 4'

USED 4" AUGER CASING THEN DROVE SS 18"

Sample Type  
D-Dry C-Cored W-Washed  
UP-Unfinished Plston  
TP-Test Pit A-Auger V-Vane Test  
UT-Undisturbed Thinwall

Proportions Used  
trace 0 to 10%  
little 10 to 20%  
some 20 to 35%  
and 35 to 50%

140 lb. wt. x 30"-fall an 2" O.D. Sampler  
Cohesionless Density  
0-10 Loose  
10-30 Med. Dense  
30-50 Dense  
50+ Very Dense  
Cohesive Consistency  
0-4 Soft 30 + Hard  
4-8 M/Stiff  
8-15 Stiff  
15-30 V-Stiff

summary  
EARTH BORING 5'6"  
ROCK CORING  
SAMPLES 3  
HOLE NO. B-2

M & W Soils Engineering, Inc.  
 Main St. Charlestown, NH 03603

TO CHET RILLING  
 PROJECT NAME RUSSELL AUTOBODY  
 REPORT SENT TO CHET RILLING  
 SAMPLE SENT TO RETAINED BY M & W SOILS ENG.  
 ADDRESS WEATHERSFIELD, VT  
 LOCATION WEATHERSFIELD, VT  
 PROJ. NO. 6075-84  
 OUR JOB NO. 6075-84

SHEET 1 OF 1  
 DATE 6/29/84  
 HOLE NO. B-3  
 LINE & STA.  
 OFFSET

GROUND WATER OBSERVATIONS  
 AT DRY AT \_\_\_\_\_ HOURS  
 AT \_\_\_\_\_ AT \_\_\_\_\_ HOURS

Type \_\_\_\_\_  
 Size I. D. 4"  
 Hammer Wt. 140#  
 Hammer Fall 30"  
 CASING AUGER  
 SAMPLER SS  
 CORE BAR \_\_\_\_\_  
 BIT \_\_\_\_\_

SURFACE ELEV. \_\_\_\_\_  
 DATE STARTED 6/29/84  
 DATE COMPL. 6/29/84  
 BORING FORMAN M.D. & R.H.  
 INSPECTOR \_\_\_\_\_  
 SOILS ENGR. \_\_\_\_\_

LOCATION OF BORING BESIDE FUEL TANK

Depth	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 5" on sampler			MOISTURE DENSITY OF CONSTANT	STRATA CHANGE ELEV.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling logs, seams and ect.	SAMPLE		
				From 0-6	6-12	To 12-18				NO.	PER	REC
5'		0' - 2'	SS	4	5		DRY	MED. DENSE BROWN FINE SAND - TRACE OF GRAVEL	1	24"	12"	
		(NO READING)		6	12				2	24"	20"	
		2' - 4'	SS	6	4							
		(NO READING)		4	4							
		4' - 6'	SS	8	7							
10'		(NO READING)		8	10				3	24"	18"	

GROUND SURFACE TO 4'

Sample Type  
 D-Dry C-Cored W-Washed  
 UP-Unfinished Plston  
 TP-Test Pit A-Auger V-Vane Test  
 UT-Undisturbed Thinwall

Proportions Used  
 trace 0 to 10%  
 little 10 to 20%  
 some 20 to 35%  
 and 35 to 50%

USED 4" AUGER CASING THEN  
 140 lb. wt. x 30"-fall an 2" O.D. Sampler  
 Cohesionless Density  
 0-10 Loose  
 10-30 Med. Dense  
 30-50 Dense  
 50+ Very Dense  
 Cohesive Consistency  
 0-4 Soft 30 + Hard  
 4-8 M/Stiff  
 8-15 Stiff  
 15-30 V-Stiff

summary  
 EARTH BORING 8'  
 ROCK CORING \_\_\_\_\_  
 SAMPLES 3  
 HOLE NO. B-3

M & W Soils Engineering, Inc.  
Main St. Charlestown, NH 03603

SHEET 1 OF 1  
DATE 6/29/94  
HOLE NO. B-4  
LINE & STA.  
OFFSET  
SURFACE ELEV.  
DATE STARTED 8/29/94  
DATE COMPL. 8/29/94  
BORING FORMAN M.D. & R.H.  
INSPECTOR  
SOILS ENGR.

TO CHET RILLING  
PROJECT NAME RUSSELL AUTOBODY  
REPORT SENT TO CHET RILLING  
SAMPLE SENT TO RETAINED BY M & W SOILS ENG.  
ADDRESS WEATHERSFIELD, VT  
LOCATION WEATHERSFIELD, VT  
PROJ. NO.  
OUR JOB NO. 8075-94

GROUND WATER OBSERVATIONS  
AT DRY AT \_\_\_\_\_ HOURS  
Type CASING SAMPLER CORE BAR  
Size I. D. AUGER SS  
4" 1 1/2"  
Hammer Wt. 140# BIT  
Hammer Fall 30"

LOCATION OF BORING OFF NORTHWEST CORNER - NEXT TO PAINT THINNER BARRELS

Depth	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler			MOISTURE DENSITY OF CONSTANT	STRATA CHANGE ELEV.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling time, tests and ect.	SAMPLE		
				0-6	6-12	12-18				NO.	PE	REC
5'		0' - 2'	SS	3	10		DRY	MED. DENSE BROWN SAND AND GRAVEL	1	24'	18'	
		(NO READING)		8	8				2	24'	*	
		2' - 4'	SS	8	8				3	24'	6'	
		(NO READING)		6	9							
		4' - 6'	SS	8	8							
10'		(NO READING)		6	7		6'	OPEN HOLE SNIFFED - NO READING				

GROUND SURFACE TO 4'

USED 4" AUGER CASING THEN DROVE SS 24"

Sample Type  
D-Dry C-Cored W-Washed  
UP-Unfinished Piston  
TP-Test Pit A-Auger V-Vane Test  
UT-Undisturbed Thinwall

Proportions Used  
trace 0 to 10%  
little 10 to 20%  
some 20 to 35%  
and 35 to 50%

140 lb. wt. x 30"-fall an 2" O.D. Sampler  
Cohesionless Density  
0-10 Loose  
10-30 Med. Dense  
30-50 Dense  
50+ Vary Dense  
Cohesive Consistency  
0-4 Soft 30 + Hard  
4-8 M/Stiff  
8-15 Stiff  
15-30 V-Stiff

summary  
EARTH BORING 6'  
ROCK CORING  
SAMPLES 3  
HOLE NO. B-4

M & W Soils Engineering, Inc.  
Main St. Charlestown, NH 03603

TO CHET RILLING  
PROJECT NAME RUSSELL AUTOBODY  
REPORT SENT TO CHET RILLING  
SAMPLE SENT TO RETAINED BY M & W SOILS ENG.  
ADDRESS WEATHERSFIELD, VT  
LOCATION WEATHERSFIELD, VT  
PROJ. NO. 6075-94  
OUR JOB NO. 6075-94

SHEET 1 OF 1  
DATE 7/1/94  
HOLE NO. B-5  
LINE & STA.  
OFFSET  
SURFACE ELEV.  
DATE STARTED 7/1/94  
DATE COMPL. 7/1/94  
BORING FORMAN M.D. & R.H.  
INSPECTOR  
SOILS ENGR.

GROUND WATER OBSERVATIONS  
AT DRY AT HOURS  
AT AT HOURS

Type CASING SAMPLER CORE BAR  
Size I. D. AUGER SS  
Hammer Wt. 4" 1 1/2"  
Hammer Fall 140# BIT  
30"

LOCATION OF BORING BY DRAIN FROM QUANSET HUT

Depth	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler		MOISTURE DENSITY OF CONSTANT	STRATA CHANGE ELEV.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and etc.	SAMPLE		
				From 0-6	To 6-12 12-18				NO.	PEN	REC
5'		0' - 2'	SS	1	2	DRY	6'	LOOSE TO MED. DENSE BROWN FINE TO MED. FINE SAND	1	24'	24'
		(NO READING)		1	3				2	24'	18'
		2' - 4'	SS	8	9				3	24'	24'
		(NO READING)		9	10						
10'		4' - 6'	SS	6	7						
		(NO READING)		7	6						

GROUND SURFACE TO 4'

Sample Type  
D-Dry C-Cored W-Washed  
UP-Unfinished Piston  
TP-Test Pit A-Auger V-Vane Test  
UT-Undisturbed Thinwall

Proportions Used  
trace 0 to 10%  
little 10 to 20%  
some 20 to 35%  
and 35 to 50%

USED 4" AUGER CASING THEN DROVE SS 24"  
140 lb. wt. x 30"-fall an 2" O.D. Sampler  
Cohesionless Density  
0-10 Loose  
10-30 Med. Dense  
30-50 Dense  
50+ Very Dense  
Cohesive Consistency  
0-4 Soft 30 + Hard  
4-8 M/Stiff  
8-15 Stiff  
15-30 V-Stiff

summary  
EARTH BORING 6'  
ROCK CORING  
SAMPLES 3  
HOLE NO. B-5

M & W Soils Engineering, Inc.  
Main St. Charlestown, NH 03603

SHEET 1 OF 1  
DATE 7/1/94  
HOLE NO. B-6  
LINE & STA.  
OFFSET

TO CHET RILLING  
PROJECT NAME RUSSELL AUTOBODY  
REPORT SENT TO CHET RILLING  
SAMPLE SENT TO RETAINED BY M & W SOILS ENG.  
ADDRESS WEATHERSFIELD, VT  
LOCATION WEATHERSFIELD, VT  
PROJ. NO.  
OUR JOB NO. 6075-94

GROUND WATER OBSERVATIONS  
AT DRY AT \_\_\_\_\_ HOURS  
Type \_\_\_\_\_  
Size I. D. \_\_\_\_\_  
Hammer Wt. \_\_\_\_\_  
Hammer Fall \_\_\_\_\_  
CASING AUGER 4" 1 1/2"  
SAMPLER SS  
CORE BAR \_\_\_\_\_  
BIT \_\_\_\_\_  
SURFACE ELEV. \_\_\_\_\_  
DATE STARTED 7/1/94  
DATE COMPL. 7/1/94  
BORING FORMAN M.D. & R.H.  
INSPECTOR  
SOILS ENGR.

LOCATION OF BORING BETWEEN CARS - NORTH SIDE OF QUANSET HUT

Depth	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	Blows per 6" on sampler			MOISTURE DENSITY OF CONSTANT	STRATA CHANGE ELEV.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, cond., hardness, Drilling time, seams and art.	SAMPLE		
				From 0-6	6-12	12-18				NO.	PER	REC
5'		0' - 2'	SS	1	5		DRY	LOOSE BROWN FINE TO MED. FINE SAND	1	24"	24"	
		(NO READING)		5	5				2	24"	18"	
		2' - 4'	SS	4	4				3	24"	20"	
		(NO READING)		6	5							
		4' - 6'	SS	4	5							
10'		(NO READING)		4	4							

GROUND SURFACE TO 4'  
Sample Type  
D-Dry C-Cored W-Washed  
UP-Unfinished Piston  
TP-Test Pit A-Auger V-Vane Test  
UT-Undisturbed Thinwall

USED 4" AUGER CASING THEN DROVE SS 24"  
140 lb. wt. x 30"-fall an 2" O.D. Sampler  
Cohesionless Density  
0-10 Loose  
10-30 Med. Dense  
30-50 Dense  
50+ Very Dense  
Cohesive Consistency  
0-4 Soft 30+ Hard  
4-8 M/Stiff  
8-15 Stiff  
15-30 V-Stiff

summary  
EARTH BORING 6'  
ROCK CORING  
SAMPLES 3  
HOLE NO. B-6



**APPENDIX F**  
**LABORATORY RESULTS**

# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 9157 SEI

Client: M & W Soils Engineering, Inc.  
Client Designation: Downers-Russell Auto Body

Sample Qty/Type: 1 aqueous  
Date Received: July 8, 1994

## Hazardous Substance List Volatile Organic Compounds

Page 1 of 2

Sample ID:	
Matrix:	MW-1
Date of Analysis:	Aqueous
Units:	7/15/94
Analyst:	µg/L
Method:	NZ
	EPA 8260
Benzene	
Bromobenzene	<1
Bromochloromethane	<1
Bromodichloromethane	<2
Bromoform	<2
	<2
Bromomethane	
n-Butylbenzene	<10
sec-Butylbenzene	<1
tert-Butylbenzene	1
Carbon tetrachloride	<1
	<2
Chlorobenzene	
Chloroethane	<2
Chloroform	<10
Chloromethane	<2
2-Chlorotoluene	<10
	<2
4-Chlorotoluene	
Dibromochloromethane	<1
1,2-Dibromo-3-chloropropane	<2
1,2-Dibromoethane	<2
Dibromomethane	<2
	<2
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	<1
1,4-Dichlorobenzene	<1
Dichlorodifluoromethane	<1
1,1-Dichloroethane	<10
	<2
1,2-Dichloroethane	
1,1-Dichloroethene	<2
cis-1,2-Dichloroethene	<2
trans-1,2-Dichloroethene	<2
1,2-Dichloropropane	<2
	<2
1,3-Dichloropropane	
2,2-Dichloropropane	<2
1,1-Dichloropropene	<2
Ethylbenzene	<2
Hexachlorobutadiene	<1
	<2

Approved By: Timothy Schaper, Organics Supervisor

*Timothy P. Schaper*

# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 9157 SEI

Client: M & W Soils Engineering, Inc.  
Client Designation: Downers-Russell Auto Body

Sample Qty/Type: 1 aqueous  
Date Received: July 8, 1994

## Hazardous Substance List Volatile Organic Compounds

Page 2 of 2

Sample ID:	
Matrix:	MW-1
Date of Analysis:	Aqueous
Units:	7/15/94
Analyst:	µg/L
Method:	NZ
	EPA 8260
Isopropylbenzene	
p-Isopropyltoluene	<1
Methylene chloride	<1
Naphthalene	<2
n-Propylbenzene	1
	1
Styrene	
1,1,1,2-Tetrachloroethane	<1
1,1,2,2-Tetrachloroethane	<2
Tetrachloroethene	<2
Toluene	<2
	<1
1,2,3-Trichlorobenzene	
1,2,4-Trichlorobenzene	<1
1,1,1-Trichloroethane	<1
1,1,2-Trichloroethane	<2
Trichloroethene	<2
	<2
Trichlorofluoromethane	
1,2,3-Trichloropropane	<10
1,2,4-Trimethylbenzene	<2
1,3,5-Trimethylbenzene	2
Vinyl chloride	<1
	<10
o-Xylene	
m,p-Xylene	3
	<1

Approved By: Timothy Schaper, Organics Supervisor

*Timothy P. Schaper*

# LABORATORY REPORT

Eastern Analytical, Inc. ID#: 9181 SEI

Client: M & W Soils Engineering, Inc.  
 Client Designation: Russell's Auto Body

Sample Qty/Type: 2 soil  
 Date Received: July 12, 1994

## Hazardous Substance List Volatile Organic Compounds

Sample ID:	B-4/S-1	B-4/S-2	EPA Method
Matrix:	Soil	Soil	
Date of Analysis:	7/13/94	7/13/94	
Units:	µg/kg	µg/kg	
Analyst:	LB	LB	
Chloromethane	< 100	< 100	
Bromomethane	< 100	< 100	8240
Vinyl Chloride	< 100	< 100	8240
Chloroethane	< 100	< 100	8240
Methylene Chloride	< 10	< 10	8240
Carbon Disulfide	< 10	< 10	8240
1,1-Dichloroethene	< 10	< 10	8240
1,1-Dichloroethane	< 10	< 10	8240
Trans-1,2-Dichloroethene	< 10	< 10	8240
Cis-1,2-Dichloroethene	< 10	< 10	8240
Chloroform	< 10	< 10	8240
1,2-Dichloroethane	< 10	< 10	8240
1,1,1-Trichloroethane	< 10	< 10	8240
Carbon Tetrachloride	< 10	< 10	8240
Bromodichloromethane	< 10	< 10	8240
1,2-Dichloropropane	< 10	< 10	8240
Trans-1,3-Dichloropropene	< 10	< 10	8240
Trichloroethene	< 10	< 10	8240
Dibromochloromethane	< 10	< 10	8240
1,1,2-Trichloroethane	< 10	< 10	8240
Cis-1,3-Dichloropropene	< 10	< 10	8240
2-Chloroethylvinylether	< 10	< 10	8240
Bromoform	< 10	< 10	8240
Tetrachloroethene	< 10	< 10	8240
1,1,2,2-Tetrachloroethane	< 10	< 10	8240
Acetone	< 500	< 500	
2-Butanone (MEK)	< 100	< 100	8240
Vinyl Acetate	< 100	< 100	8240
4-Methyl-2-Pentanone (MIBK)	< 100	< 100	8240
2-Hexanone	< 100	< 100	8240
Benzene	< 10	< 10	8240
Toluene	< 10	< 10	8240
Ethylbenzene	< 10	< 10	8240
Total Xylenes	< 10	< 10	8240
Chlorobenzene	< 10	< 10	8240
Styrene	< 10	< 10	8240

Approved By: Timothy Schaper, Organics Supervisor

*Timothy Schaper*