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Environmental Solutions through Technology

TRC Environmental Corporation
Boott Mills South, Foot of John Street
Lowell, MA 01852
☎ (508) 970-5600

January 25, 1993

Mr. Chuck Schwer
Site Management Section
Department of Environmental Conservation
Vermont Agency of Natural Resources
103 South Main Street, West Building
Waterbury, VT 05671-0404

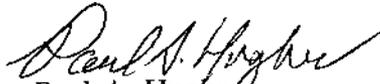
Subject: Final Site Inspection Report
DECART
Morrisville, Vermont
W.A. No. 08-1JZZ
Reference No. 1-636-009-0-1J46, TDD No. 9107-08-ATS
CERCLIS No. VTD099369910

Dear Mr. Schwer:

A copy of the Final Site Inspection Report for DECART in Morrisville, VT is enclosed. This final report has been revised in accordance with comments received from the EPA and the State.

If you have any questions, please do not hesitate to call.

Sincerely,


Paul A. Hughes
ARCS Program Manager

Enclosure

cc: S. Hayes (w/o enclosure)
D. Smith (w/o enclosure)

finsivt .st

ARCS

Remedial Planning Activities at Selected Uncontrolled Hazardous Substance Disposal Sites in Region I



**Environmental Protection Agency
Region I**

ARCS Work Assignment No. 08-1JZZ

Decart
Morrisville, VT
VTD099369910
TDD# 9107-08-ATS

Site Inspection
Final Report

January 1993

**TRC
Companies, Inc.**

Alliance Technologies Corporation
TRC Environmental Consultants, Inc.

TAMS Consultants, Inc.
PEI Associates, Inc.
Jordan Communications, Inc.

SITE INSPECTION
DECART
MORRISVILLE, VT

VTD099369910

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region I
90 Canal Street
Boston, Massachusetts 02203-2211

Work Assignment No.:	08-1JZZ
EPA Region:	I
Contract No.:	68-W9-0033 (ARCS)
TRCC Document No.:	A92-1672
TRCC Project No.:	1-636-009-0-1J46
TDD No.:	9107-08-ATS
TRCC Work Assignment Manager:	Diane Stallings
TRCC Task Manager:	Erik Bankey
Telephone No.:	(508) 970-5600
EPA Work Assignment Manager:	Sharon Hayes
Telephone No.:	(617) 573-5709
Date Prepared:	January 21, 1993

TRC COMPANIES, INC.
Boott Mills South
Foot of John Street
Lowell, MA 01852
(508) 970-5600

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INTRODUCTION

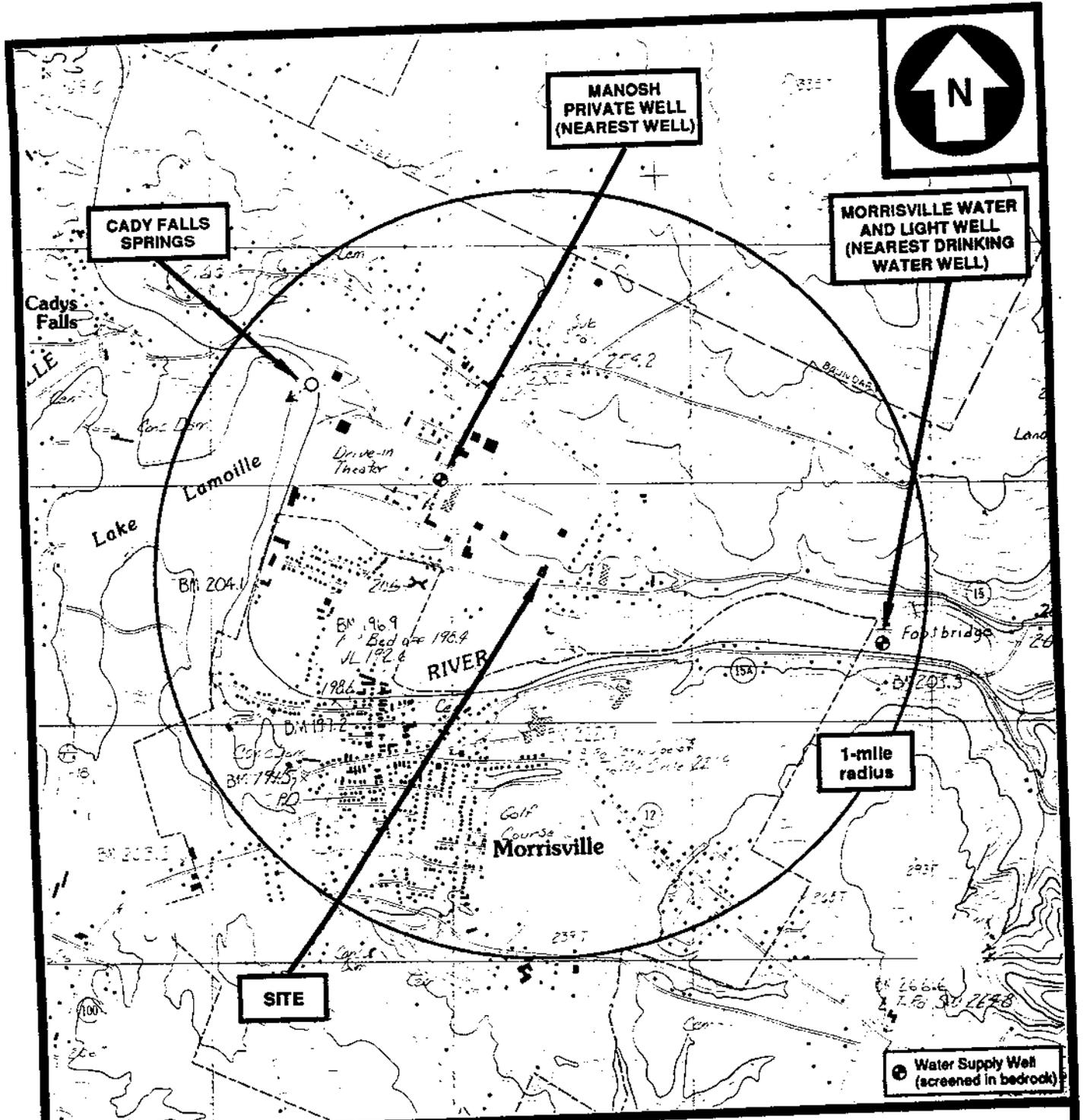
TRC Companies (TRCC) Inc. was contracted by the Region I U.S. Environmental Protection Agency (EPA) Waste Management Division to perform a Site Inspection of the Decart, Inc. (Decart) property in Morrisville, Vermont. All tasks were conducted in accordance with Work Assignment Number 08-1JZZ under EPA Contract Number 68-W9-0033. The Vermont Department of Environmental Conservation (VTDEC), under contract to the EPA completed a Preliminary Assessment (PA) of this site on December 13, 1989. On the basis of information provided in the PA, a Site Inspection was initiated.

Background information used in the generation of this report was obtained through file searches conducted at EPA, VTDEC, and Town Offices. Information was also collected during TRCC fieldwork, including site reconnaissance and environmental sampling conducted on June 18 and August 5, 1992, respectively.

This report follows guidelines developed under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, commonly referred to as Superfund. However, this report does not necessarily fulfill the requirements of other EPA regulations such as those under the Resource Conservation and Recovery Act (RCRA) or other federal, state, or local regulations. Site Inspections are intended to provide a preliminary screening of sites to facilitate EPA's assignment of site priorities. They are limited efforts and are not intended to supersede more detailed investigations.

SITE DESCRIPTION

Decart, Inc. is located in the village of Morrisville within the town of Morrystown, Lamoille County, Vermont, off of Harrel Street in the Lamoille Industrial Park. The property encompasses approximately 4.1 acres, and is located at 43°34'09.3" north latitude and 72°35'13.9" west longitude (Bankey, 1992a).



BASE MAP IS A PORTION OF THE FOLLOWING 7.5' U.S.G.S. QUADRANGLE:
 MORRISVILLE, VT, 1986



QUADRANGLE LOCATION

LOCATION MAP

DECART
 MORRISVILLE, VERMONT

TRC Companies, Inc.

Figure 1.

Decart, Inc. has been in operation at this location since 1980 as a manufacturer of hobby paints. Decart disposed of process wastewaters into a drywell located near the northwest corner of the onsite building between 1980-1988. As a result, the Decart property was added to the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) on January 18, 1989.

Information regarding current site conditions was obtained by TRCC during the two site visits conducted on June 18, and August 5, 1992. All manufacturing operations and offices are housed in one, single-story building, situated in the southwestern corner of the Decart property (Figure 2). An asphalt parking lot and driveway are located on the northern and eastern sides of the Decart building. The rest of the property is covered by grass (tall grass on the north end of the property) and trees (Bankey, 1992b).

The Decart property slopes gently from the north to the south. North of the Decart building is a small hill, which is approximately 5-10 feet higher than the rest of the property. The rest of the property is relatively flat. Surface water runoff from precipitation probably flows south into a drainage ditch located along the southern edge of the property (Bankey, 1992b).

TRCC did not observe any fences or other barriers during the reconnaissance that would hinder pedestrian or vehicular access to the property. The residences nearest to the property, the Colonial Manor Apartments, were noted to be approximately 300 feet to the southeast (Bankey, 1992b).

Table 1 presents all identified structures or areas on the Decart property that are potential sources of contamination, the containment features associated with each source, and the relative location of each source.

There are two other CERCLIS sites and nine RCRA hazardous waste notifiers located within the town of Morrisville. The CERCLIS sites are tabulated in Table 2 (USEPA, 1992a; 1992b).



Northern Property Boundary
Extends to the North
Approx. 200'

GW-46-04
Approx.
1500'

Former
Dry Well
Location

Rinse Water
Treatment
Room

GW-46-06

Garage

Warehouse
Area

Production
Area

Loading
Dock

Packing

Lab

Lunch-
room

Finished
Products
Area

Offices

Lunch-
room

Parking
Area

Site
Entrance

Drainage
Ditch

Harrel Street

Industrial Park Road

Not to Scale

- Paved Area
- Trees
- Grass
- Ground Water Sample Location
- Property Boundary

SITE SKETCH

DECART
MORRISVILLE, VERMONT

TRC Companies, Inc.

Figure 2.

TABLE 1. SOURCE EVALUATION		
Potential Source Area	Containment Factors	Spatial Location
Contaminated soil around a former dry well	Contaminated soil excavated, and area partially covered with building addition.	Northwest of the onsite building.

Sources: VTDEC, 1990; Bankey, 1992b.

TABLE 2. CERCLIS SITES LOCATED WITHIN THE TOWN OF MORRISVILLE		
Site Name	Address	EPA ID Number
Lamoille Valley RR	Stafford Avenue	VTD051316313
Lamoille Landfill and Salvage Depot	Garfield Road	VTD001139955

SITE ACTIVITY/HISTORY

Decart is currently in operation as a manufacturer of water based hobby paints. Decart is a sister company of Deka operating out of Munich, Germany. It was originally owned by Heinz Koster from Munich, Germany. Currently, Mr. Koster's wife and daughter own the property (VTDEC, 1989a; Bankey, 1992b).

Prior to Decart, the land was first owned by Watson Lepper, a farmer. Watson Lepper sold his land to O'Neil Dem-Mars, an entrepreneur, who, in turn, sold the land to Able Industries. (No dates of land transactions are available through the town clerk's office). On November 12, 1977, Able Industries changed their name to Lamoille Industrial Development Corporation. Lamoille Industrial Development Corporation sold the 4.11 acre parcel to Decart in 1979 (VTDEC, 1989a).

The general types and sources of waste generated at Decart, Inc. include waste paints and wash water generated from rinsing out paint containers and the washing of employees hands who handle the paint containers (VTDEC, 1989a; Bankey, 1992b). In addition, approximately three 55-gallon drums of waste metal hydroxide sludge and rinsewater are generated from the pretreatment/filtering process each year (VTDEC, 1989b). This process is described below. The sludge is handled as a hazardous waste and transported offsite by a certified waste hauler (VTDEC, 1989a, 1989b).

The following table summarizes the types of potentially hazardous substances which have been disposed, used or stored on the property.

TABLE 3. HAZARDOUS WASTE QUANTITY				
Substance	Quantity or Volume/Area	Years of Use/Storage	Years of Storage	Source Area
Paint Rinsewater	500 gal/wk	1980-present	1980-88	Dry Well
Metal Hydroxide Sludge	150 gal/year	1980-present	1980-88	Pretreatment/Filtering Area

Rinsewater from the pretreatment/filtering process is recycled back to the production room to be used in the cleaning of paint containers. The process begins at the wash room in the production area where manufacturing instruments are cleaned. The recycling process involves the following steps (VTDEC, 1989a, 1989b);

1. Rinsewater drains into a sump where it is pumped to the treatment room.
2. From the treatment room, rinsewater is run through a series of three settling tanks to separate the liquids from the solids.
3. After two weeks of settling, the solids/sludges are removed from the bottom of the tank and placed in trays for dewatering. The water from the sludge is reintroduced into the settling tanks.

4. The liquid from the settling tanks is pumped to three 275-gallon flocculation tanks, where it is treated with ferric sulfate which aids in the settling process. Ammonia is added to help buffer the rinsewater. The water remains in these 3 tanks for a period of 2 days.
5. After the 2 days of settling, the rinsewater passes through a charcoal filter and into a holding tank where it is buffered again. About 10% of the water is bled off each week and placed in an Maxevap evaporator.
6. The remaining rinsewater is then ready to be reused in the production room for rinsing of manufacturing instruments. The sludge that is collected is treated as a hazardous waste and placed in 55-gallon drums to be transported offsite by a hauler.

This procedure for recycling has been in use since August 1988. Prior to that, the rinsewater was passed through an activated charcoal filter to remove organics, and was pumped directly to the precast drywell formerly located near the northwest corner of the building. The activated charcoal filter was installed in 1983. According to Decart personnel, approximately 500 gallons per week of rinsewater was discharged to the drywell between 1980 and 1984 (VTDEC, 1989a).

In 1984, the drywell became clogged and failed. The drywell was cleaned and a sample of its contents was sent for analyses by Aquatec, Inc. of South Burlington, VT in December 1984. It was analyzed for benzene and carbon tetrachloride. Benzene was detected in the excavated material at less than 50 micrograms per kilogram (ug/kg). Carbon tetrachloride was not detected. The drywell contents were then disposed at the Morrisville dump (VTDEC, 1989a).

In 1984, a septic tank was installed by Decart to help break down the solids prior to disposal into the drywell. Flocculating tanks were installed in 1985 and began operation in 1986. Decart continued discharging rinsewater to the drywell until August 1988, when an Administrative Order was served to Decart by the VTDEC (VTDEC, 1989a). The order specified that the subsurface discharge of rinsewater must cease. As a result, the current

closed loop recycling/filtering process for rinsewater was installed and implemented. The types and quantities of wastes that were disposed to the drywell between 1980 and 1988 are identical to those shipped offsite by a hazardous waste hauler (VTDEC, 1988, 1989a).

The site has been under various investigations by the VTDEC since 1979.

- On October 2, 1979, Decart was notified that they had been identified as a generator of hazardous materials and must conduct business in accordance with the Hazardous Waste Regulations (VTDEC, 1989a, 1989c).
- On November 19, 1979, a "Certificate of Compliance" was issued by the VTDEC, certifying that no process or washdown wastewater was to be disposed in the onsite septic system. During this time, Decart requested permission to start production so the process rinsewater could be tested and analyzed to determine if it was hazardous (VTDEC, 1979).
- On October 2, 1980, the VTDEC agreed to allow trial runs and preliminary production, but required Decart to test the rinsewater and report the results to the Agency's Protection Division. Any wastewater identified as hazardous could not be disposed onsite without written approval of the Division (VTDEC, 1980). Trace amounts of organic compounds were detected in the rinsewater generated from the cleaning of utensils after the paint manufacturing process.
- In 1981, the VTDEC analyzed Decart's rinsewater, and detected benzene, carbon tetrachloride, methylene chloride, and lead (VTDEC, 1981, 1989a).
- In 1981, Decart contacted the State regarding the discharge analyses from the trial run and requested the delisting of the washwater. The State denied the delisting due to the concentrations of benzene and carbon tetrachloride detected. The State suggested that Decart use carbon filters to remove the organics from the rinsewater (VTDEC, 1981).
- In 1983, Decart submitted a delisting application for their rinsewater indicating that 200-250 gallons are discharged per week, (originally, 150 gallons per week was reported). Decart also informed VTDEC that they would switch to synthetic minerals spirits to eliminate the benzene and would install a charcoal column in their recycling process (VTDEC, 1983).
- In November 1984, the State requested that Decart collect soil samples from around the dry wells for delisting. Decart did not comply with this request (VTDEC, 1989a).
- In 1986, VTDEC analyses of the Decart's wastewater discharge detected benzene, ethylbenzene, n-butyl acetate, toluene, acetone, methyl ethyl ketone, xylene, lead, copper, chrome, cadmium, and nickel (VTDEC, 1986; 1988).

- In 1986, A RCRA inspection was conducted at Decart by VTDEC. During this inspection, samples of the washwater and soils from the drywell were collected. Test results indicated that the concentrations of copper, lead, and chlorinated phenols exceeded health advisory limits (VTDEC, 1989a). These laboratory test results were not included with available file information.
- In February 1987, Decart applied to the Morrisville treatment plant for a waste disposal permit. However, the treatment plant could not properly treat the rinsewater and subsequently denied the permit. The State advised Decart that their wastewater was hazardous and was unsuitable for subsurface discharge (VTDEC, 1989a).
- A draft "Administrative Order" was issued to Decart on December 27, 1987 by the VTDEC. The order advised Decart to eliminate wastewater discharge to the drywell/leachfield or to treat the effluent to meet specified standards. In addition, Decart was required to conduct a hydrogeological site investigation to determine the extent of any groundwater contamination from past releases (VTDEC, 1989a).
- On February 24, 1988, the final "Administrative Order" for Decart was filed by the VTDEC. The order required that a written plan be submitted by a qualified hydrogeologist evaluating the condition of soil and groundwater contamination on the property. In addition, by July 1, 1988, Decart was to explore the technical feasibility of treating and recycling the wastewater. The order required also Decart to cease discharge of wastewater to the subsurface or treat wastewater to meet drinking water standards and/or the state of Vermont health advisory maximum concentration limits for metals and VOCs by August 15, 1988 (VTDEC, 1988, 1989a).
- Mr. Von Behren, general manager of Decart, wrote to Patrick Parenteau, former DEC Commissioner, on April 8, 1988, protesting the requirement of a hydrogeological site evaluation. Mr Von Behren explained that the evaluation represented an unfair expense for Decart. He stated that the effluent was certified as "non-toxic" and the wastewater was a very dilute version of the paint products. Mr. Von Behren did agree to cease discharge of process wastewater into the drywell. The last day of discharge was September 7, 1988. At that time, Decart installed the closed loop recycling system (VTDEC, 1988b, 1989a).
- On December 22, 1989, VTDEC reviewed Decart's ACT 250 application for an addition to the existing facility (ACT 250 is a Vermont land development law that provides for reviewing current and past land use before new construction). Decart proposed constructing the addition on top of the location of the former drywell. Consequently, VTDEC requested that soil samples be collected and analyzed for hazardous constituents if the drywell was to be excavated (VTDEC, 1989a).
- On February 2, 1990, Decart contracted Adams Engineering to drill three borings on the Decart property near the former drywell location. Soil samples were collected from each of the three soil borings with a split spoon, at five-foot intervals. Soil

samples from these borings were analyzed by Aquatec Environmental Services (Decart, 1990).

On August 5, 1992, TRCC collected two ground water samples in the vicinity of the Decart property (Figure 1). One ground water sample was collected with a hydraulic sampling probe (Geoprobe) on the Decart property, approximately 10-15 feet north of the former dry well location. The second was collected from a private well on the H.A. Manosh commercial property, located approximately 0.3 miles northwest of the site (Figure 1). This well is not used for drinking water (Bankey, 1992c).

ENVIRONMENTAL SETTING

The village of Morrisville is located in the north central part of Vermont, within the Green Mountains and the Vermont Piedmont physiographical province (USDA, 1981). Land use in the area includes residential, agricultural, commercial, and light industrial. The Village of Morrisville lies within the Town of Morristown, which are populated by 1,984 and 4,733 inhabitants, respectively. The nearest residence is, Colonial Manor Apartments, located approximately 350 feet southeast of Decart (Bankey, 1992b, 1992d; USGS, 1986).

During the winter, the average temperature is 18 degrees Fahrenheit with an average daily minimum at 7 degrees Fahrenheit. Average seasonal snowfall for Morrisville has been recorded at 114 inches. During the summer months, the average temperature is 66 degrees Fahrenheit with an average daily maximum of 80 degrees Fahrenheit. In Morristown, the annual precipitation averages 43 inches. Lake evaporation in the area is approximately 23 inches per year, resulting in a net precipitation of 20 inches annually (VTDEC, 1989a).

The surficial materials in the area are mapped as lacustrine and marine sands and gravels. The soils belong to the Adams-Colton-Duxbury Association. Adams soils comprise 40% of the total, Colton soils 23%, Duxbury soils 14%, and the remaining 23% of minor extent. These soils are described as being loamy fine sand with level to steep slopes 8-15%. The soils are excessively drained and very acidic. The permeability of the Adams soil is rapid in

the subsoil and very rapid in the substratum, but runoff is slow (VTDEC, 1989a; USDA, 1981).

Bedrock underlying the site has been mapped as sedimentary and meta-sedimentary rocks. These are defined as being interbedded grey to green phyllites and schists, that belong in the Lower Ordovician of the Stowe formation (VTGS, 1961). Well completion reports filed with the Vermont Department of Water Resources describe the bedrock as dark-green, gray-black shale (Bankey, 1992b). Bedrock has been encountered in well borings in the Morrisville area at depths ranging from as shallow as 5 feet bgs to as deep 69 feet bgs (Bankey, 1992e).

Five public water supply sources and numerous private drinking water wells are located within four miles of Decart. The village of Morrisville obtains its drinking water from a water system operated by the Morrisville Water and Light Company. The system serves approximately 3,000 people and is supplied by three overburden wells completed in sand and gravel. The wells are located approximately 0.9 miles east-southeast of Decart, on the south bank of the Lamoille River, along Route 15A. Well #1 is 29 feet deep and yields 600 gallons per minute (gpm); well #2 is 50 deep and yields 450 gpm; and well #3 is 45.5 deep and yields 1500 gpm. An aquifer protection area/wellhead protection area (APA/WHPA) has been delineated for the vicinity of these wells by the Ground Water Management Section of VTDEC. These three wells are the closest drinking water wells to Decart (VTDEC, 1989a; Bankey, 1992e).

The village of Morrisville is also supplied by the Cady Falls Water Coop. This is a public community water supply that serves approximately 75 people. Water from the Cady Falls Coop is supplied by two springs, located approximately 0.8 miles northwest of Decart, directly north of the railroad tracks near Lake Lamoille, (Bankey, 1992e). The springs are within a large deposit of unconsolidated material (VTDEC, 1989a). An APA/WHPA has been delineated for the springs by the VTDEC, Ground Water Management Section (Bankey, 1992e).

Morrisville Water and Light also operates a water system located 2.5 to 3.0 miles west-southwest of Decart that consists of one bedrock well and two springs, and serves approximately 150 people. Two small public systems servicing trailer parks are also located within four miles of Decart (Bankey, 1992e).

The public water supply wells located within four miles of the property also serve residents located beyond a four mile radius of the site. These public water supply sources are summarized in Table 4. Private well users within four miles of the site are tabulated in Table 5.

There are five private wells recorded with the Water Supply Division of the VTDEC as being within one-half mile of Decart. However, none of these wells are used for drinking water. The depth of the wells range from 73 feet below ground surface (bgs) to 540 feet bgs, with yields ranging from 0.5 gpm to 50 gpm. No samples are known to have been collected from any of these wells. Approximately 2907 people consume water drawn from private wells within four miles of the property (VTDEC, 1989; Bankey, 1992e, 1992f).

The Decart property lies at approximately 208 meters above sea level (USGS, 1986). Surface water runoff from the property currently flows south into a drainage ditch along Harrel Street, on the southern side of the Decart property. Water in this drainage ditch flows south under Harrel Street into an unnamed intermittent stream. The drainage ditch and unnamed intermittent stream were dry during TRCC's field activities. Surface water continues to flow south for approximately 0.2 miles in the unnamed stream until it empties into the Lamoille River (USGS, 1986; Bankey, 1992b). The surface water pathway from the property is as follows (Bankey, 1992g).

- The Lamoille River flows west approximately 1.4 miles downstream from the property, where the river has been dammed up by Cady Falls Dam to form Lake Lamoille.
- Lake Lamoille empties back into the Lamoille River approximately 2.5 miles downstream of Decart.

Distance/Direction from property	Source Name	Location of Source	Approximate Population Served	Source Type
0.8 mi. NW	Cady Falls Water Coop	Morristown, VT	75	2 Springs
0.9 mi. ESE	Morrisville Wtr & Light	Morristown, VT	3000	3 OB Wells
2.5-3.0 mi. WSW	Morrisville Water & Light	Morristown, VT	150	1 BR Well, 2 Springs
3.1 mi. SW	Pinecrest Trailer Park	Morristown, VT	160	1 BR Well
3.1 mi. NW	Sterling View Trailer Park	Morristown, VT	160	unknown
TOTAL			3545	

OB - Overburden

BR - Bedrock

Sources: VTDEC, 1989a; Bankey, 1992e, 1992h, 1992i, 1992j.

Radial Distance from Decart (miles)	Approximate Population Served by Private Wells
0.00 - 0.25	0
0.25 - 0.50	0
0.50 - 1.00	31
1.00 - 2.00	704
2.00 - 3.00	1,013
3.00 - 4.00	1,159
TOTAL	2,907

Sources: VTDEC, 1989a; Bankey, 1992d, 1992f, 1992h, 1992i, 1992j.

- The Lamoille River flows northwest toward Lake Champlain. The end of the 15-mile surface water pathway is located 1.2 miles southeast of the point where Judeville Brook flows into the Lamoille River, about 1.7 miles south of the town of Waterville, VT.

The mean annual flow rate at the closest gauging station along the Lamoille River, approximately 5.5 miles northwest (downstream) of the site, is 518-654 cubic feet per second. The property is located outside of Lamoille River flood plain (VTDEC, 1989a). There are no surface water intakes used for drinking water along the 15-mile downstream surface water pathway (Bankey, 1992k).

The nearest lake or pond to the site is Lake Lamoille which lies 0.75 miles west downstream of Decart (Figure 1). Lake LaMoille is an artificial lake created by the Cady Falls Dam, owned and operated by Morrisville Water and Light Company. The lake is a warm water lake with a maximum depth of 15 feet and encompasses 130 acres. Presently, the lake is used for fishing, swimming, and boating (VTDEC, 1989a).

Approximately 5,562 people reside within four miles of the Decart property. Table 7 lists the population by distance ring. Population information was obtained through house counts and from census data (Bankey, 1992d, 1992f).

Sensitive environments present within one mile of the Decart property and within 15 miles downstream of the property are limited to wetlands. Two palustrine wetlands are located within one mile of the site. The nearest wetland is approximately one acre in size and is located approximately 200-300 feet east of Decart. It is described as an open water palustrine wetland with an unknown bottom. There are no other wetlands within a half-mile radius of the site (USDOI, 1977).

Wetlands front the entire 15-mile downstream surface water pathway, totalling approximately 30 miles. These wetlands are classified as lower perennial, open water and riverine, with an unknown bottom (USDOI, 1977; Bankey, 1992g).

TABLE 7. ESTIMATED POPULATION WITHIN FOUR MILES OF DE CART	
Radial Distance from Decart (miles)	Approximate Population within Distance Ring
onsite (workers)	23
0.00 - 0.25	92
0.25 - 0.50	201
0.50 - 1.00	1,995
1.00 - 2.00	890
2.00 - 3.00	1,202
3.00 - 4.00	1,159
TOTAL	5,562

Source: Bankey, 1992d; 1992f

The VT Department of Fish and Wildlife database reports the occurrence of a great blue heron rookery in Lake Lamoille, located just upstream from Cady Falls, approximately 1.0 miles northwest of Decart. No other endangered or threatened species are known to exist within a four-mile radius of the Decart site. (VTF & WL, 1992).

The Lamoille River is home to various fish, the major species being rainbow and brown trout, and small-mouth bass. Other fish that live in the Lamoille are brook trout, landlocked salmon, yellow perch, walleye, northern pike, chain pickerel, largemouth bass, bullhead catfish, and various panfish (VTDEC, 1989a; VTF & WL, 1988).

RESULTS

The only previous subsurface investigation on the Decart property was performed in 1990. Soil samples from the three borings were analyzed by Aquatec Environmental Services for volatile organic compounds (VOCs), using EPA Method 8240; semi-volatile organic compounds (SVOCs) using EPA Method 8270; and metals (VTDEC, 1989a). Methylene chloride was detected in two of the borings; B-1 (at 25 ppb) and B-2 (at 13 ppb) located near

the northwest corner of the building. No other organic or inorganic compounds were detected in soil samples from those three borings. Complete analytical results and a site map showing the location of these borings, are included in Appendix A (Aquatec, 1990).

On August 5, 1992, TRCC collected two ground water samples; one from a water supply well on the H.A. Manosh Corporation commercial property, and the other on the Decart property, from a location approximately 10-15 feet north of the former drywell. TRCC proposed collecting ground water from a total of five sample locations, however, were unable to collect ground water from three of the proposed locations, one offsite, and two on the Decart property. Table 8 summarizes the locations and times at which all samples were collected. Complete analytical results are included in Appendix B.

TABLE 8. DE CART GROUND WATER SAMPLING SUMMARY Environmental Samples Collected by TRCC Personnel on August 5, 1992					
Sample Location Number*	Traffic Report Number	Time Collected	Remarks	Sample Depth	Sample Source
GW-46-04	SA0245 SA0248 MAAR46	16:10	Grab	--	Ground water sample collected from Manosh Corp Well.
GW-46-06	ADC19	13:45	Grab	39 feet	Sample (VOC only) from geoprobe location north of the NW corner of the Decart building.
RB-46-07	ADC20	10:00	Grab	--	Geoprobe sampling equipment rinsate blank.
TB-46-08	ADC16	10:15	Grab	--	Trip blank sample collected for quality control.

*Sample location numbers are not consecutive because TRCC was unable to collect sample numbers GW-46-01, 02, 03, and 05.

Ground water samples from the Manosh well were analyzed through the Contract Laboratory Program, Special Analytical Services for VOCs by EPA Method 524.2; for SVOCs, pesticides, and polychlorinated biphenyls (PCBs) by Superfund Analytical Methods for Low Concentration Water for Organic Analysis 6/91; and for low concentration Target Analyte

List (TAL) metals, and cyanide by EPA SOW 3/90. The samples were obtained by filling sample containers directly from the faucet closest to the well.

The ground water sample collected on the Decart property with the hydraulic sampling probe was analyzed through the Contract Laboratory Program for full Target Compound List (TCL) organic compounds VOCs (Bankey, 1992b).

Table 9 is a summary of compounds and elements detected in samples collected by TRCC. Listing of a compound or element is based on its being detected at a concentration greater than or equal to the sample quantitation limit for organics, or sample detection limit for inorganics. Problems were identified during data evaluation resulting in estimated data (a "J" qualifier).

TABLE 9. SAMPLE RESULTS SUMMARY						
Decart Samples Collected by TRCC on August 5, 1992						
Sample Location	Compound/Element	Sample Concentration		Reference Concentration		
GW-46-04 <i>Hand Sh Well</i>	Arsenic	4.1	mg/kg	2.4	mg/kg	(SDL)
	Calcium	46,100	mg/kg	15.50	mg/kg	(SDL)
	Lead	4.4	mg/kg	1.70	mg/kg	(SDL)
	Magnesium	10,500	mg/kg	40.10	mg/kg	(SDL)
	Manganese	101	mg/kg	4.40	mg/kg	(SDL)
	Potassium	825	mg/kg	265.5	mg/kg	(SDL)
	Sodium	19,100	mg/kg	31.3	mg/kg	(SDL)
GW-46-06	Acetone	960	J μg/l	50	μg/l	(SQL)

Notes: μg/l - micrograms per liter
 mg/kg - micrograms per kilogram
 J - value is estimated due to limitations identified during data validation

Acetone was the only VOC detected above reference values in ground water collected from the Decart site. Acetone (960 micrograms per liter [μg/l]) was detected in the ground water sample collected on the Decart property. It's presence may be related to operations at Decart

since elevated levels of acetone were detected in VTDEC analyses of Decart wastewater discharge in 1986.

No SVOCs, pesticides, or PCB compounds were detected in the tap water sample collected from the Manosh well.

Arsenic, calcium, lead, magnesium, manganese, potassium, and sodium were also detected at concentrations above SDLs in the Manosh ground water sample. Inorganic element concentrations ranged from 4.1 mg/kg (arsenic) to 46,100 mg/kg (calcium) in sample GW-46-04. The source of these inorganics compounds is unknown.

SUMMARY

Decart is located off Harrel Street in the Lamoille Industrial Park, in Morrisville, Vermont. Decart has manufactured water based hobby paints at this facility since 1980 and disposed of wastewater from paint cleanup to a drywell located on the north side of the building between 1980 and 1988. The general types and sources of waste generated at Decart include waste paints and wash water. In 1981, the wastewater was analyzed and found to contain volatile organic compounds. In 1983, an activated charcoal filter was installed to remove the organics. Prior to this, the wastewater was pumped directly to the drywell for disposal.

Most of the village of Morrisville is supplied by public water, from three overburden wells located approximately 0.9 miles east of the site. Approximately 6,452 people consume water drawn from wells located within four miles of Decart. In addition, approximately 5,562 people reside within four miles of the property.

During TRCC's field activities, two ground water samples were collected. Seven inorganic elements were detected above reference values in the ground water sample collected from the Manosh well, located approximately 0.3 miles northwest of the Decart property. These inorganic elements are not directly attributable to operations at Decart. No volatile organic compounds (VOCs) or semivolatile compounds (SVOCs) were detected above reference

values in the Manosh well. Acetone was the only volatile organic compound detected in the ground water sample collected at Decart and it may be attributable to operations at Decart. The ground water sample collected from Decart was not analyzed for VOCs or SVOCs.

Potential receptors of contamination from the Decart property include wetlands and fisheries along the surface water pathway.

- There was wetland frontage along the entire 15-mile downstream surface water pathway, approximately 30 miles.
- The Lamoille River is home to various fish.

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APPENDIX A

ANALYTICAL RESULTS

Samples Collected by Aquatec on February 9, 1990



aquatec

ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403

TEL. 802 658-1074

ANALYTICAL REPORT

Date: 21 February 1990
Aquatec Lab No.: 110362
ETR No.: 20128, Project 90009
Sample Received On: 12 February 1990
Sample Identification: Decart, Inc., soil sample labeled B-1-34.1-36.1,
2/9/90 at 1130 hours.

Volatile Organic Compounds in ug/Kg as Received EPA Method 8240

<u>benzene</u>	<u>5 U</u>	<u>methylene chloride</u>	<u>25C</u>
<u>carbon tetrachloride</u>	<u>5 U</u>	<u>chloromethane</u>	<u>10 U</u>
<u>chlorobenzene</u>	<u>5 U</u>	<u>bromomethane</u>	<u>10 U</u>
<u>1,2-dichloroethane</u>	<u>5 U</u>	<u>bromoform</u>	<u>5 U</u>
<u>1,1,1-trichloroethane</u>	<u>5 U</u>	<u>bromodichloromethane</u>	<u>5 U</u>
<u>1,1-dichloroethane</u>	<u>5 U</u>	<u>dibromochloromethane</u>	<u>5 U</u>
<u>1,1,2-trichloroethane</u>	<u>5 U</u>	<u>tetrachloroethene</u>	<u>5 U</u>
<u>1,1,2,2-tetrachloroethane</u>	<u>5 U</u>	<u>toluene</u>	<u>5 U</u>
<u>chloroethane</u>	<u>10 U</u>	<u>trichloroethene</u>	<u>5 U</u>
<u>2-chloroethyl vinyl ether</u>	<u>10 U</u>	<u>vinyl chloride</u>	<u>10 U</u>
<u>chloroform</u>	<u>5 U</u>	<u>acetone</u>	<u>10 U</u>
<u>1,1-dichloroethene</u>	<u>5 U</u>	<u>2-butanone</u>	<u>10 U</u>
<u>1,2-dichloroethenes</u>	<u>5 U</u>	<u>carbon disulfide</u>	<u>5 U</u>
<u>1,2-dichloropropane</u>	<u>5 U</u>	<u>2-hexanone</u>	<u>10 U</u>
<u>trans-1,3-dichloropropene</u>	<u>5 U</u>	<u>4-methyl-2-pentanone</u>	<u>10 U</u>
<u>cis-1,3-dichloropropene</u>	<u>5 U</u>	<u>styrene</u>	<u>5 U</u>
<u>ethylbenzene</u>	<u>5 U</u>	<u>vinyl acetate</u>	<u>10 U</u>
		<u>total xylenes</u>	<u>5 U</u>

% Solids = 85

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



Environmental Services

ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403
TEL 802-658-1074

ANALYTICAL REPORT

Decart, Inc.
Lamoille Industrial Park
P.O. Box 309
Morrisville, VT 05661

Date : 02/27/90
ETR Number : 20128
Project No.: 90009
No. Samples: 6
Arrived : 02/12/90
P.O. Number: *

Page 1

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Lab No.	Sample Description	Method No.	Parameter	Result
110363	B-1-34.1-36.1:02/09/90 @1130(EptoxExt)			
		7060	Arsenic, Total	<0.05
		6010	Barium, Total	<1
		6010	Cadmium, Total	<0.01
		6010	Chromium, Total	<0.05
		7421	Lead, Total	<0.05
		7470	Mercury, Total	<0.002
		6010	Nickel, Total	<1
		7740	Selenium, Total	<0.01
		7760	Silver, Total	<0.05
		6010	Zinc, Total	<1
110365	B-2-8.5-13.5:02/09/90 @1325(EptoxExt)			
		7060	Arsenic, Total	<0.05
		6010	Barium, Total	<1
		6010	Cadmium, Total	<0.01
		6010	Chromium, Total	<0.05
		7421	Lead, Total	<0.05
		7470	Mercury, Total	<0.002
		6010	Nickel, Total	<1
		7740	Selenium, Total	<0.01
		7760	Silver, Total	<0.05
		6010	Zinc, Total	<1
110367	B-3-8-13:02/09/90 @1450(EptoxExt)			
		7060	Arsenic, Total	<0.05
		6010	Barium, Total	<1

< Cont. Next Page >



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, South Burlington, VT 05403
TEL. 802 658-1074

ANALYTICAL REPORT

Date: 21 February 1990
Aquatec Lab No.: 110364
ETR No.: 20128, Project 90009
Sample Received On: 12 February 1990
Sample Identification: Decart, Inc., soil sample labeled B-2-8.5-13.5,
2/9/90 at 1325 hours.

Volatile Organic Compounds in ug/Kg as Received
EPA Method 8240

benzene	5 U	methylene chloride	13C
carbon tetrachloride	5 U	chloromethane	10 U
chlorobenzene	5 U	bromomethane	10 U
1,2-dichloroethane	5 U	bromoform	5 U
1,1,1-trichloroethane	5 U	bromodichloromethane	5 U
1,1-dichloroethane	5 U	dibromochloromethane	5 U
1,1,2-trichloroethane	5 U	tetrachloroethene	5 U
1,1,2,2-tetrachloroethane	5 U	toluene	5 U
chloroethane	10 U	trichloroethene	5 U
2-chloroethyl vinyl ether	10 U	vinyl chloride	10 U
chloroform	5 U	acetone	10 U
1,1-dichloroethene	5 U	2-butanone	10 U
1,2-dichloroethenes	5 U	carbon disulfide	5 U
1,2-dichloropropane	5 U	2-hexanone	10 U
trans-1,3-dichloropropene	5 U	4-methyl-2-pentanone	10 U
cis-1,3-dichloropropene	5 U	styrene	5 U
ethylbenzene	5 U	vinyl acetate	10 U
		total xylenes	5 U

% Solids - 95

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ENVIRONMENTAL SERVICES

3 Green Mountain Drive, So. Burlington, VT 05403
TEL: 802-658-1074

ANALYTICAL REPORT

Date: 21 February 1990
Aquatec Lab No.: 110366
ETR No.: 20128, Project 90009
Sample Received On: 12 February 1990
Sample Identification: Decart, Inc., soil sample labeled B-3-8-13, 2/9/90
at 1450 hours.

Volatile Organic Compounds in ug/Kg as Received EPA Method 8240

benzene	5 U	methylene chloride	LCB
carbon tetrachloride	5 U	chloromethane	10 U
chlorobenzene	5 U	bromomethane	10 U
1,2-dichloroethane	5 U	bromoform	5 U
1,1,1-trichloroethane	5 U	bromodichloromethane	5 U
1,1-dichloroethane	5 U	dibromochloromethane	5 U
1,1,2-trichloroethane	5 U	tetrachloroethene	5 U
1,1,2,2-tetrachloroethane	5 U	toluene	5 U
chloroethane	10 U	trichloroethene	5 U
2-chloroethyl vinyl ether	10 U	vinyl chloride	10 U
chloroform	5 U	acetone	10 U
1,1-dichloroethene	5 U	2-butanone	LCB
1,2-dichloroethenes	5 U	carbon disulfide	5 U
1,2-dichloropropane	5 U	2-hexanone	10 U
trans-1,3-dichloropropene	5 U	4-methyl-2-pentanone	10 U
cis-1,3-dichloropropene	5 U	styrene	5 U
ethylbenzene	5 U	vinyl acetate	10 U
		total xylenes	5 U

% Solids = 94

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403
TEL. 802-658-1074

ANALYTICAL REPORT

Date: 26 February 1990
Aquatec Lab No.: 110366
ETR No.: 20128, Project 90009
Sample Received On: 12 February 1990
Sample Identification: Decart, Inc., soil sample labeled B-3-8-13, 2/9/90 at 1450 hours.

Base/Neutral Extractable Semivolatile Organic Compounds in ug/Kg as Received
EPA Method 8270

acenaphthene	330 U	benzyl butylphthalate	330 U
1,2,4-trichlorobenzene	330 U	di-n-butyl phthalate	330 U
hexachlorobenzene	330 U	di-n-octyl phthalate	330 U
hexachloroethane	330 U	diethyl phthalate	330 U
bis (2-chloroethyl) ether	330 U	dimethyl phthalate	330 U
2-chloronaphthalene	330 U	benzo(a)anthracene	330 U
1,2-dichlorobenzene	330 U	benzo(a)pyrene	330 U
1,3-dichlorobenzene	330 U	benzo(b)fluoranthene	330 U
1,4-dichlorobenzene	330 U	benzo(k)fluoranthene	330 U
3,3'-dichlorobenzidine	660 U	chrysene	330 U
2,4-dinitrotoluene	330 U	acenaphthylene	330 U
2,6-dinitrotoluene	330 U	anthracene	330 U
fluoranthene	330 U	benzo(ghi)perylene	330 U
4-chlorophenyl phenyl ether	330 U	fluorene	330 U
4-bromophenyl phenyl ether	330 U	phenanthrene	330 U
bis (2-chloroisopropyl) ether	330 U	dibenzo(ah)anthracene	330 U
bis (2-chloroethoxy)methane	330 U	indeno(1,2,3-cd)pyrene	330 U
hexachlorobutadiene	330 U	pyrene	330 U
hexachlorocyclopentadiene	330 U	benzyl alcohol	330 U
isophorone	330 U	4-chloroaniline	330 U
naphthalene	330 U	dibenzofuran	330 U
nitrobenzene	330 U	2-methylnaphthalene	330 U
N-nitrosodiphenylamine+	330 U	2-nitroaniline	1600 U
N-nitrosodipropylamine	330 U	3-nitroaniline	1600 U
bis (2-ethylhexyl) phthalate	330 U	4-nitroaniline	1600 U

% Solids = 94

Key to the letters used to qualify the results of the analysis:

U - The compound was analyzed for but not detected. The number is the detection limit for the compound.

LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.

J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.

C - The result has been corrected for the presence of the compound in the blank.

+ Cannot be separated from diphenylamine.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



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ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403
TEL. 802-658-1074

ANALYTICAL REPORT

Date: 26 February 1990
Aquatec Lab No.: 110366
ETR No.: 20128, Project 90009
Sample Received On: 12 February 1990
Sample Identification: Decart, Inc., soil sample labeled B-3-8-13; 2/9/90
at 1450 hours.

Acid Extractable Semivolatile Organic Compounds in ug/Kg as Received EPA Method 8270

<u>2,4,6-trichlorophenol</u>	<u>330 U</u>
<u>p-chloro-m-cresol</u>	<u>330 U</u>
<u>2-chlorophenol</u>	<u>330 U</u>
<u>2,4-dichlorophenol</u>	<u>330 U</u>
<u>2,4-dimethylphenol</u>	<u>330 U</u>
<u>2-nitrophenol</u>	<u>330 U</u>
<u>4-nitrophenol</u>	<u>1600 U</u>
<u>2,4-dinitrophenol</u>	<u>1600 U</u>
<u>4,6-dinitro-2-methylphenol</u>	<u>1600 U</u>
<u>pentachlorophenol</u>	<u>1600 U</u>
<u>phenol</u>	<u>330 U</u>
<u>benzoic acid</u>	<u>1600 U</u>
<u>2-methylphenol</u>	<u>330 U</u>
<u>4-methylphenol</u>	<u>330 U</u>
<u>U2,4,5-trichlorophenol</u>	<u>1600 U</u>

Key to the letters used to qualify the results of the analysis:

- U - The compound was analyzed for but not detected. The number is the detection limit for the compound.
- LCB - Compound was found but at low concentration, comparable to that in the blank. Quantitation is not possible.
- J - An estimated value. The mass spectrum indicates the presence of the compound, but the calculated result is less than the reliable detection limit for this compound.
- C - The result has been corrected for the presence of the compound in the blank.

Quality controls were analyzed with the sample as part of Aquatec's standard analytical procedures. The results of these are maintained on file at Aquatec.



ENVIRONMENTAL SERVICES

75 Green Mountain Drive, So. Burlington, VT 05403
TEL 802 688-1074

ANALYTICAL REPORT

Decart, Inc.
Lamoille Industrial Park
P.O. Box 309
Morrisville, VT 05661

Date : 02/27/90
ETR Number : 20128
Project No.: 90009
No. Samples: 6
Arrived : 02/12/90
P.O. Number: *

Page 2

Standard analyses were performed in accordance with Methods for Analysis of Water and Wastes, EPA-600/4/79-020, Test Methods for Evaluating Solid Waste, SW-846, or Standard Methods for the Examination of Water and Wastewater. All results are in mg/l unless otherwise noted.

Lab No. Sample Description

110367 B-3-8-13:02/09/90 @1450 (EptoxExt)

Method No.	Parameter	Result
6010	Cadmium, Total	<0.01
6010	Chromium, Total	<0.05
7421	Lead, Total	<0.05
7470	Mercury, Total	<0.002
6010	Nickel, Total	<1
7740	Selenium, Total	<0.01
7760	Silver, Total	<0.05
6010	Zinc, Total	<1

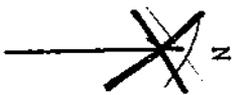
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Submitted By :

R. Mason Miller

Aquatec Inc.

Driveway



N

* B-3

B-2*

B-1*

DECART, Inc.
Building

Boring Location Sketch Map
Decart, Inc.
Lamoille Industrial Park
Morrisville, VT

Scale 1" = 10'

APPENDIX B

ANALYTICAL RESULTS

Samples Collected by TRCC Personnel on August 5, 1992

CLP VOLATILE ORGANIC ANALYSIS
CASE NO. 18553 SDG NO. ADC16
ANALYTICAL RESULTS

Sample Location	DECART	DECART	DECART					
Sample Number	TB-46-08	GW-46-06	RB-46-07					
Traffic Report Number	ADC16	ADC19	ADC20					
Remarks	Trip Blank	5X Dil.	Rinsate					
Sampling Date	8/05/92	8/05/92	8/05/92					
Analysis Date	8/10/92	8/10/92	8/10/92					
VOLATILE ORGANIC COMPOUND	ug/Kg	ug/Kg	ug/Kg					
Chloromethane								
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride	6 J		4 J					
Acetone		960 J	21 J					
Carbon Disulfide								
1,1-Dichloroethene								
1,1-Dichloroethane								
1,2-Dichloroethene (Total)								
Chloroform	15		16					
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
Bromodichloromethane								
1,2-Dichloropropane								
cis-1,3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1,1,2-Trichloroethane								
Benzene								
trans-1,3-Dichloropropene								
Bromoform								
4-Methyl-2-pentanone								
2-Hexanone								
Tetrachloroethene								
1,1,2,2-Tetrachloroethane								
Toluene								
Chlorobenzene								
Ethylbenzene								
Styrene								
Xylene (Total)								

A blank space indicates the compound was not detected.

J Quantitation is approximate due to limitations identified during the quality control review.

TABLE 2 Page 1 of 1
 CLP VOLATILE ORGANIC ANALYSIS
 CASE NO. 18553 SDG NO. ADC16
 SAMPLE QUANTITATION LIMITS

Sample Location	DECART	DECART	DECART				
Sample Number	TB-46-08	GW-46-06	RB-46-07				
Traffic Report Number	ADC16	ADC19	ADC20				
Remarks	Trip Blank	5X Dil.	Rinsate				
Percent Solids							
VOLATILE ORGANIC COMPOUND	ug/Kg	ug/Kg	ug/Kg				
Chloromethane	10 UJ	50 UJ	10 UJ				
Bromomethane	10	50	10				
Vinyl Chloride	10	50	10				
Chloroethane	10	50	10				
Methylene Chloride	10	50 UJ	10				
Acetone	10	50	10				
Carbon Disulfide	10	50	10				
1,1-Dichloroethene	10	50	10				
1,1-Dichloroethane	10	50	10				
1,2-Dichloroethene (Total)	10	50	10				
Chloroform	10	50	10				
1,2-Dichloroethane	10	50	10				
2-Butanone	10	50 UJ	10 UJ				
1,1,1-Trichloroethane	10	50	10				
Carbon Tetrachloride	10	50	10				
Bromodichloromethane	10	50	10				
1,2-Dichloropropane	10	50	10				
cis-1,3-Dichloropropene	10	50	10				
Trichloroethene	10	50	10				
Dibromochloromethane	10	50	10				
1,1,2-Trichloroethane	10	50	10				
Benzene	10	50	10				
trans-1,3-Dichloropropene	10	50	10				
Bromoform	10	50 UJ	10 UJ				
4-Methyl-2-pentanone	10	50 UJ	10 UJ				
2-Hexanone	10	50	10				
Tetrachloroethene	10	50	10				
1,1,2,2-Tetrachloroethane	10	50	10				
Toluene	10	50	10				
Chlorobenzene	10	50	10				
Ethylbenzene	10	50	10				
Styrene	10	50	10				
Xylene (Total)	10	50	10				

UJ Quantitation limit is approximate due to limitations identified during the quality control review.

CLP VOLATILE ORGANIC ANALYSIS
CASE NO. 18576 SAS 7009A SDG NO. SAO245
ANALYTICAL RESULTS

Sample Location	DECART	DECART						
Sample Number	GW-46-03	Trip Blank						
Traffic Report Number	SAO245	SAO279						
Remarks		Trip Blank						
Sampling Date	8/5/92	8/6/92						
Analysis Date	8/8/92	8/8/92						
VOLATILE ORGANIC COMPOUND	ug/L	ug/L						
Dichlorodifluoromethane								
Chloromethane								
Bromomethane								
Vinyl Chloride								
Chloroethane								
Methylene Chloride								
Acetone								
Carbon Disulfide								
1,1-Dichloroethene								
2,2-Dichloropropane								
1,1-Dichloroethane								
trans-1,2-Dichloroethene								
cis-1,2-Dichloroethene								
Bromochloromethane								
Chloroform		16						
1,2-Dichloroethane								
2-Butanone								
1,1,1-Trichloroethane								
Carbon Tetrachloride								
1,1-Dichloropropene								
Bromodichloromethane								
1,2-Dichloropropane								
cis-1,3-Dichloropropene								
Trichloroethene								
Dibromochloromethane								
1,2-Dibromoethane								
1,1,2-Trichloroethane								
Benzene								
Dibromomethane								
trans-1,3-Dichloropropene								
1,3-Dichloropropane								
Bromoform								
4-Methyl-2-pentanone								

A blank space indicates the compound was not detected.

J Quantitation is approximate due to limitations identified during the quality control review.

CLP VOLATILE ORGANIC ANALYSIS
CASE NO. 18576 SAS 7009A SDG NO. SAO245
ANALYTICAL RESULTS

Sample Location	DECART	DECART						
Sample Number	GW-46-03	Trip Blank						
Traffic Report Number	SAO245	SAO279						
Remarks		Trip Blank						
Sampling Date	8/5/92	8/6/92						
Analysis Date	8/8/92	8/8/92						
VOLATILE ORGANIC COMPOUND	ug/L	ug/L						
2-Hexanone								
Tetrachloroethene								
1,1,2,2-Tetrachloroethane								
Toluene		0.4 J						
Chlorobenzene								
1,1,1,2-Tetrachloroethane								
Ethylbenzene								
Styrene								
Xylene (Total)								
Isopropylbenzene								
Bromobenzene								
1,2,3-Trichloropropane								
n-Propylbenzene								
2-Chlorotoluene								
4-Chlorotoluene								
1,3,5-Trimethylbenzene								
tert-Butylbenzene								
1,2,4-Trimethylbenzene								
sec-Butylbenzene								
1,3-Dichlorobenzene								
1,2-Dichlorobenzene								
p-Isopropyltoluene								
n-Butylbenzene								
1,2-Dibromo-3-Chloropropane								
1,4-Dichlorobenzene		0.08 J						
1,2,4-Trichlorobenzene								
Naphthalene								
1,2,3-Trichlorobenzene								
Hexachlorobutadiene								
Trichlorofluoromethane								

A blank space indicates the compound was not detected.

J Quantitation is approximate due to limitations identified during the quality control review.

TABLE 2 Page 1 of 2
 CLP VOLATILE ORGANIC ANALYSIS
 CASE NO. 18576 SAS 7009A SDG NO. SAO245
 SAMPLE QUANTTATION LIMITS

Sample Location	DECART	DECART						
Sample Number	GW-46-03	Trip Blank						
Traffic Report Number	SAO245	SAO279						
Remarks		Trip Blank						
VOLATILE ORGANIC COMPOUND	ug/L	ug/L						
Dichlorodifluoromethane	1	1						
Chloromethane	1	1						
Bromomethane	1	1						
Vinyl Chloride	1	1						
Chloroethane	1	1						
Methylene Chloride	1	1						
Acetone	5 R	5 R						
Carbon Disulfide	1	1						
1,1-Dichloroethene	1	1						
2,2-Dichloropropane	1	1						
1,1-Dichloroethane	1	1						
trans-1,2-Dichloroethene	1	1						
cis-1,2-Dichloroethene	1	1						
Bromochloromethane	1	1						
Chloroform	1	1						
1,2-Dichloroethane	1	1						
2-Butanone	5 R	5 R						
1,1,1-Trichloroethane	1	1						
Carbon Tetrachloride	1	1						
1,1-Dichloropropene	1	1						
Bromodichloromethane	1	1						
1,2-Dichloropropane	1	1						
cis-1,3-Dichloropropene	1	1						
Trichloroethene	1	1						
Dibromochloromethane	1	1						
1,2-Dibromoethane	1	1						
1,1,2-Trichloroethane	1	1						
Benzene	1	1						
Dibromomethane	1	1						
trans-1,3-Dichloropropene	1	1						
1,3-Dichloropropane	1	1						
Bromoform	1	1						
4-Methyl-2-pentanone	5 R	5 R						

R Value is rejected.

TABLE 2 Page 2 of 2
 CLP VOLATILE ORGANIC ANALYSIS
 CASE NO. 18576 SAS 7009A SDG NO. SAO245
 SAMPLE QUANTTATION LIMITS

Sample Location	DECART	DECART						
Sample Number	GW-46-03	Trip Blank						
Traffic Report Number	SAO245	SAO279						
Remarks		Trip Blank						
VOLATILE ORGANIC COMPOUND	ug/L	ug/L						
2-Hexanone	5 R	5 R						
Tetrachloroethene	1	1						
1,1,2,2-Tetrachloroethane	1	1						
Toluene	1	1						
Chlorobenzene	1	1						
1,1,1,2-Tetrachloroethane	1	1						
Ethylbenzene	1	1						
Styrene	1	1						
Xylene (Total)	1	1						
Isopropylbenzene	1	1						
Bromobenzene	1	1						
1,2,3-Trichloropropane	1	1						
n-Propylbenzene	1	1						
2-Chlorotoluene	1	1						
4-Chlorotoluene	1	1						
1,3,5-Trimethylbenzene	1	1						
tert-Butylbenzene	1	1						
1,2,4-Trimethylbenzene	1	1						
sec-Butylbenzene	1	1						
1,3-Dichlorobenzene	1	1						
1,2-Dichlorobenzene	1	1						
p-Isopropyltoluene	1	1						
n-Butylbenzene	1	1						
1,2-Dibromo-3-Chloropropan	1 R	1 R						
1,4-Dichlorobenzene	1	1						
1,2,4-Trichlorobenzene	1	1						
Naphthalene	1	1						
1,2,3-Trichlorobenzene	1	1						
Hexachlorobutadiene	1	1						
Trichlorofluoromethane	1	1						

R Value is rejected.

CLP EXTRACTABLE ORGANIC ANALYSIS
CASE NO. 18551, SAS6702HQ SDG NO. 3195

ANALYTICAL RESULTS

Sample Location	DECART							
Sample Number	GW-46-03							
Traffic Report Number	SAO248							
Remarks								
Sampling Date	8/05/92							
Extraction Date	8/10/92							
Analysis Date	8/12/92							
SEMI-VOLATILE COMPOUND	ug/L							
Phenol								
bis (2-Chloroethyl) ether								
2-Chlorophenol								
2,2'-Oxybis(1-Chloropropane)								
2-Methylphenol								
4-Methylphenol								
N-Nitroso-di-n-propylamine								
Hexachloroethane								
Nitrobenzene								
Isophorone								
2-Nitrophenol								
2,4-Dimethylphenol								
bis (2-Chloroethoxy) methane								
2,4-Dichlorophenol								
1,2,4-Trichlorobenzene								
Naphthalene								
4-Chloroaniline								
Hexachlorobutadiene								
4-Chloro-3-methylphenol								
2-Methylnaphthalene								
Hexachlorocyclopentadiene								
2,4,6-Trichlorophenol								
2,4,5-Trichlorophenol								
2-Chloronaphthalene								
2-Nitroaniline								
Dimethylphthalate								
Acenaphthylene								
2,6-Dinitrotoluene								

CLP EXTRACTABLE ORGANIC ANALYSIS
CASE NO. 18551, SAS6702HQ SDG NO. 3195
ANALYTICAL RESULTS

Sample Location	DECART							
Sample Number	GW-46-03							
Traffic Report Number	SAO248							
Remarks								
SEMI-VOLATILE COMPOUND	ug/L							
3-Nitroaniline								
Acenaphthene								
2,4-Dinitrophenol								
4-Nitrophenol								
Dibenzofuran								
2,4-Dinitrotoluene								
Diethylphthalate								
4-Chlorophenyl-phenylether								
Fluorene								
4-Nitroaniline								
4,6-Dinitro-2-methylphenol								
N-Nitrosodiphenylamine								
4-Bromophenyl-phenylether								
Hexachlorobenzene								
Pentachlorophenol								
Phenanthrene								
Anthracene								
Di-n-butylphthalate								
Fluoranthene								
Pyrene								
Butylbenzylphthalate								
3,3'-Dichlorobenzidine								
Benzo(a)anthracene								
Chrysene								
bis(2-Ethylhexyl)phthalate								
Di-n-octyl phthalate								
Benzo(b)fluoranthene								
Benzo(k)fluoranthene								
Benzo(a)pyrene								
Indeno (1,2,3-cd)pyrene								
Dibenz(a,h)anthracene								
Benzo(g,h,i)perylene								

A blank space indicates the compound was not detected.

TABLE 4 Page 1 of 2
 CLP EXTRACTABLE ORGANIC ANALYSIS
 CASE NO. 18551, SAS6702HQ SDG NO. 3195
 SAMPLE QUANTITATION LIMITS

Sample Location	DECART								
Sample Number	GW-46-03								
Traffic Report Number	SAO248								
Remarks									
SEMI-VOLATILE COMPOUND	ug/L								
Phenol	5								
bis (2-Chloroethyl) ether	5								
2-Chlorophenol	5								
2,2'-Oxybis(1-Chloropropane)	5								
2-Methylphenol	5								
4-Methylphenol	5								
N-Nitroso-di-n-propylamine	5								
Hexachloroethane	5								
Nitrobenzene	5								
Isophorone	5								
2-Nitrophenol	5								
2,4-Dimethylphenol	5								
bis (2-Chloroethoxy) methane	5								
2,4-Dichlorophenol	5								
1,2,4-Trichlorobenzene	5								
Naphthalene	5								
4-Chloroaniline	5								
Hexachlorobutadiene	5								
4-Chloro-3-methylphenol	5								
2-Methylnaphthalene	5								
Hexachlorocyclopentadiene	5								
2,4,6-Trichlorophenol	5								
2,4,5-Trichlorophenol	20								
2-Chloronaphthalene	5								
2-Nitroaniline	20								
Dimethylphthalate	5								
Acenaphthylene	5								
2,6-Dinitrotoluene	5								

TABLE 4 Page 2 of 2
 CLP EXTRACTABLE ORGANIC ANALYSIS
 CASE NO. 18551, SAS6702HQ SDG NO. 3195
 SAMPLE QUANTITATION LIMITS

Sample Location	DECART								
Sample Number	GW-46-03								
Traffic Report Number	SAO248								
Remarks									
SEMI-VOLATILE COMPOUND	ug/L								
3-Nitroaniline	20								
Acenaphthene	5								
2,4-Dinitrophenol	20								
4-Nitrophenol	20								
Dibenzofuran	5								
2,4-Dinitrotoluene	5								
Diethylphthalate	5								
4-Chlorophenyl-phenylether	5								
Fluorene	5								
4-Nitroaniline	20								
4,6-Dinitro-2-methylphenol	20								
N-Nitrosodiphenylamine	5								
4-Bromophenyl-phenylether	5								
Hexachlorobenzene	5								
Pentachlorophenol	20								
Phenanthrene	5								
Anthracene	5								
Di-n-butylphthalate	5								
Fluoranthene	5								
Pyrene	5								
Butylbenzylphthalate	5								
3,3'-Dichlorobenzidine	5								
Benzo(a)anthracene	5								
Chrysene	5								
bis(2-Ethylhexyl)phthalate	5								
Di-n-octyl phthalate	5								
Benzo(b)fluoranthene	5								
Benzo(k)fluoranthene	5								
Benzo(a)pyrene	5								
Indeno (1,2,3-cd)pyrene	5								
Dibenz(a,h)anthracene	5								
Benzo(g,h,i)perylene	5								

CLP EXTRACTABLE ORGANIC ANALYSIS
CASE NO. 18551, SAS6702HQ SDG NO. 3195
ANALYTICAL RESULTS

Sample Location	DECART								
Sample Number	GW-46-03								
Traffic Report Number	SAO248								
Remarks									
Sampling Date	8/05/92								
Extraction Date	8/10/92								
Analysis Date	8/14/92								
PESTICIDE/PCB COMPOUND	ug/L								
alpha-BHC									
beta-BHC									
delta-BHC									
gamma-BHC (Lindane)									
Heptachlor									
Aldrin									
Heptachlor epoxide									
Endosulfan I									
Dieldrin									
4,4'-DDE									
Endrin									
Endosulfan II									
4,4'-DDD									
Endosulfan sulfate									
4,4'-DDT									
Methoxychlor									
Endrin ketone									
Endrin aldehyde									
alpha-Chlordane									
gamma-Chlordane									
Toxaphene									
Aroclor-1016									
Aroclor-1221									
Aroclor-1232									
Aroclor-1242									
Aroclor-1248									
Aroclor-1254									
Aroclor-1260									

A blank space indicates the compound was not detected.

TABLE 6 Page 1 of 1
 CLP EXTRACTABLE ORGANIC ANALYSIS
 CASE NO. 18551, SAS6702HQ SDG NO. 3195
 SAMPLE QUANTITATION LIMITS

Sample Location	DECART							
Sample Number	GW-46-03							
Traffic Report Number	SAO248							
Remarks								
PESTICIDE/PCB								
COMPOUND	ug/L							
alpha-BHC	0.010							
beta-BHC	0.010							
delta-BHC	0.010							
gamma-BHC (Lindane)	0.010							
Heptachlor	0.010							
Aldrin	0.010							
Heptachlor epoxide	0.010							
Endosulfan I	0.010							
Dieldrin	0.020							
4,4'-DDE	0.020							
Endrin	0.020							
Endosulfan II	0.020							
4,4'-DDD	0.020							
Endosulfan sulfate	0.020							
4,4'-DDT	0.020							
Methoxychlor	0.100							
Endrin ketone	0.020							
Endrin aldehyde	0.020							
alpha-Chlordane	0.010							
gamma-Chlordane	0.010							
Toxaphene	1.00							
Aroclor-1016	0.200							
Aroclor-1221	0.400							
Aroclor-1232	0.200							
Aroclor-1242	0.200							
Aroclor-1248	0.200							
Aroclor-1254	0.200							
Aroclor-1260	0.200							

CLP INORGANIC ANALYSIS
CASE NO. 18553 SDG NO. MAAR46
ANALYTICAL RESULTS

Sample Location	DECART								
Sample Number	GW-46-03								
Traffic Report Number	MAAR46								
Remarks									
Sampling Date	8/5/92								
Inorganic Elements	CRDL (ug/L)	ug/L							
Aluminum	P 200								
Antimony	P 60								
Arsenic	F 10	4.1							
Barium	P 200								
Beryllium	P 5								
Cadmium	P 5								
Calcium	P 5000	46100							
Chromium	P 10								
Cobalt	P 50								
Copper	P 25								
Iron	P 100								
Lead	F 3	4.4							
Magnesium	P 5000	10500							
Manganese	P 15	101							
Mercury	V 0.2								
Nickel	P 40								
Potassium	P 5000	825							
Selenium	F 5								
Silver	P 10								
Sodium	P 5000	19100							
Thallium	F 10								
Vanadium	P 50								
Zinc	P 20								
Cyanide	C 10								

Analytical Method A blank space indicates the element was not detected.

- F Furnace
- P ICP/Flame AA
- V Cold Vapor
- C Colorimetric

Sample Detection Limits for the elements listed above are reported in Table 2.

CLP INORGANIC ANALYSIS
CASE NO. 18553 SDG NO. MAAR46
SAMPLE DETECTION LIMITS

Sample Location	DECART								
Sample Number	GW-46-03								
Traffic Report Number	MAAR46								
Remarks									
Sampling Date	8/5/92								
Percent Solids	0.0								
Inorganic Elements	IDL (ug/L)	ug/L							
Aluminum	P 23.9	32.30 UJ							
Antimony	P 16.3	16.30 UJ							
Arsenic	F 2.4	2.40							
Barium	P 4.6	25.00							
Beryllium	P 0.7	0.75 UJ							
Cadmium	P 1.5	1.50							
Calcium	P 15.5	15.50							
Chromium	P 4.9	4.90 UJ							
Cobalt	P 3.5	3.50							
Copper	P 3.8	3.90 UJ							
Iron	P 7.6	111.00							
Lead	F 1.7	1.70							
Magnesium	P 40.1	40.10							
Manganese	P 4.4	4.40							
Mercury	V 0.2	0.20							
Nickel	P 3.9	40.00 UJ							
Potassium	P 265.5	265.50							
Selenium	F 3.6	3.60 UJ							
Silver	P 4.8	4.80 UJ							
Sodium	P 31.3	31.30							
Thallium	F 4.3	4.30							
Vanadium	P 2.4	2.60 UJ							
Zinc	P 2.9	3.80 UJ							
Cyanide	C 10.0	10.00 UJ							

Analytical Method

F Furnace AA P ICP/Flame AA V Cold Vapor C Colorimetric

Sample's wet weight (gms) digested							
for Hg analysis							
for ICP analysis							
for furnace AA analysis							
for Cyanide analysis							

Volumes used preparing samples for analysis

for Hg analysis	100 mls
for ICP/AA analysis	200 mls
for Cyanide analysis	50 mls

UJ Value is undetected and the quantitation is approximate due to limitations identified in the quality control review.