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ARCS I

Final Site Inspection Report

Marino Property

Middletown, Connecticut

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Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY, Region I
Waste Management Division
Boston, MA

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**Final Site Inspection Report
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TDD No. 9209-74-ACS
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INTRODUCTION

The CDM Federal Programs Corporation (CDM) Alternative Remedial Contracting Strategy (ARCS) team was requested by the U.S. Environmental Protection Agency (EPA) Region I Waste Management Division to perform a Site Inspection (SI) of the Marino Property in Middletown, Connecticut. Tasks were conducted in accordance with the ARCS Contract No. 68-W9-0045, the Site Inspection scope of work dated September 3, 1992, and technical specifications provided by EPA under Work Assignment No. 23-1JZZ, which was issued to CDM on September 22, 1992. A Preliminary Assessment (PA) was prepared by Roy F. Weston, Inc. in December 1990. On the basis of the information provided in the PA report, the Marino Property SI was initiated.

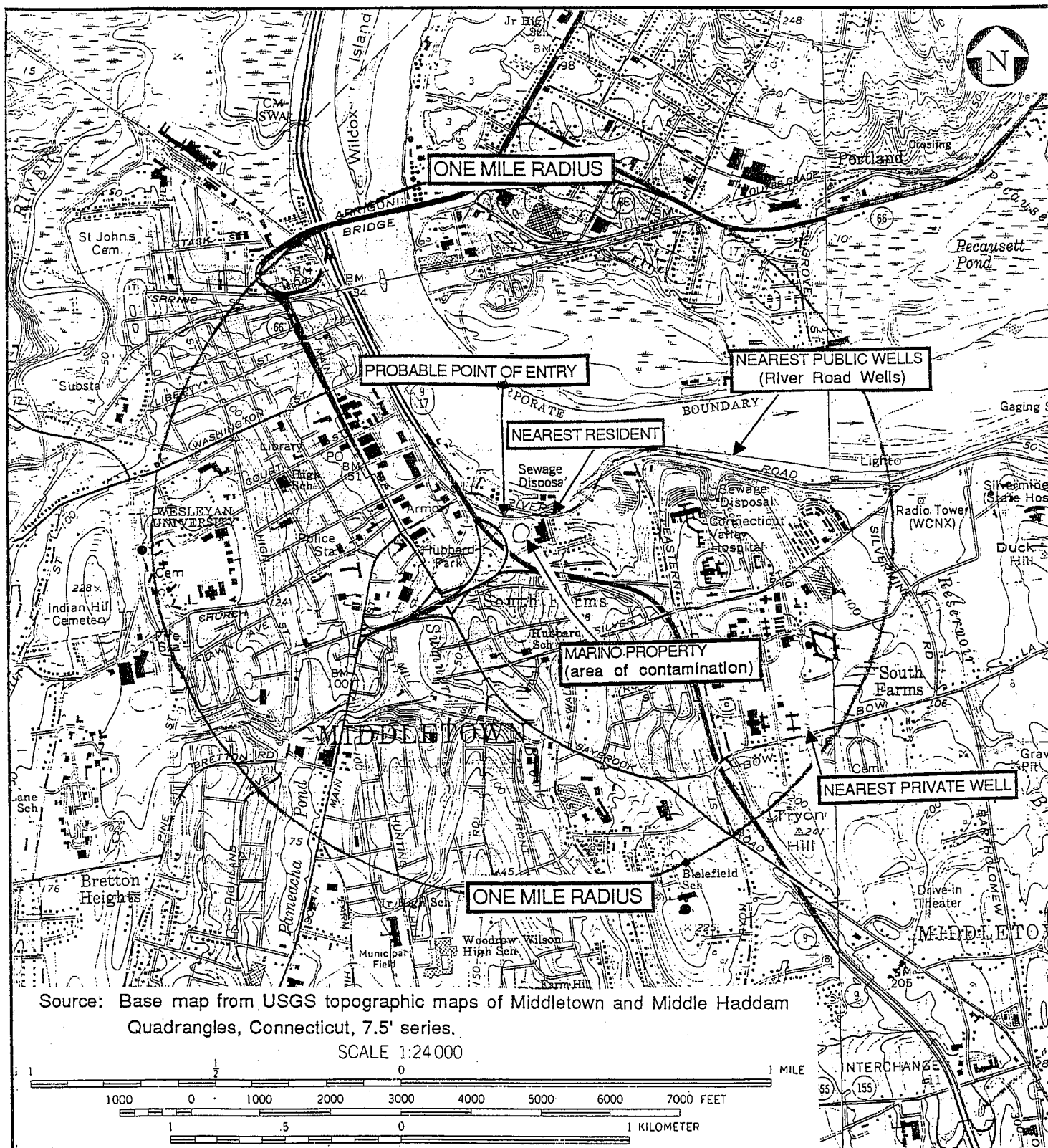
Background information used in the generation of this report was obtained through file searches conducted at EPA, the Connecticut Department of Environmental Protection (CTDEP), telephone interviews with town officials, conversations with persons knowledgeable of the Marino Property, and conversations with other federal, state, and local agencies. Additional information was collected during the CDM onsite reconnaissance on April 22, 1994, and environmental sampling on September 7 and 8, 1994.

This package follows the guidelines developed under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, commonly referred to as Superfund. These documents do 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. SIs 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

Consisting of a total of approximately 10 acres, Marino Property is located at 50 Walnut Street on the southwest corner of Walnut Street and River Road in Middletown, Middlesex County, Connecticut. The latitude is 41° 33' 59" North and the longitude is 72° 39' 05" West (see Figure 1: Location Map and Figure 2: Site Sketch) [2,35].

Four buildings exist on the property and are currently utilized by a number of small businesses. Salvatore Marino, the owner of the property, uses a portion of one of the buildings as an office for his real estate and construction company [2].

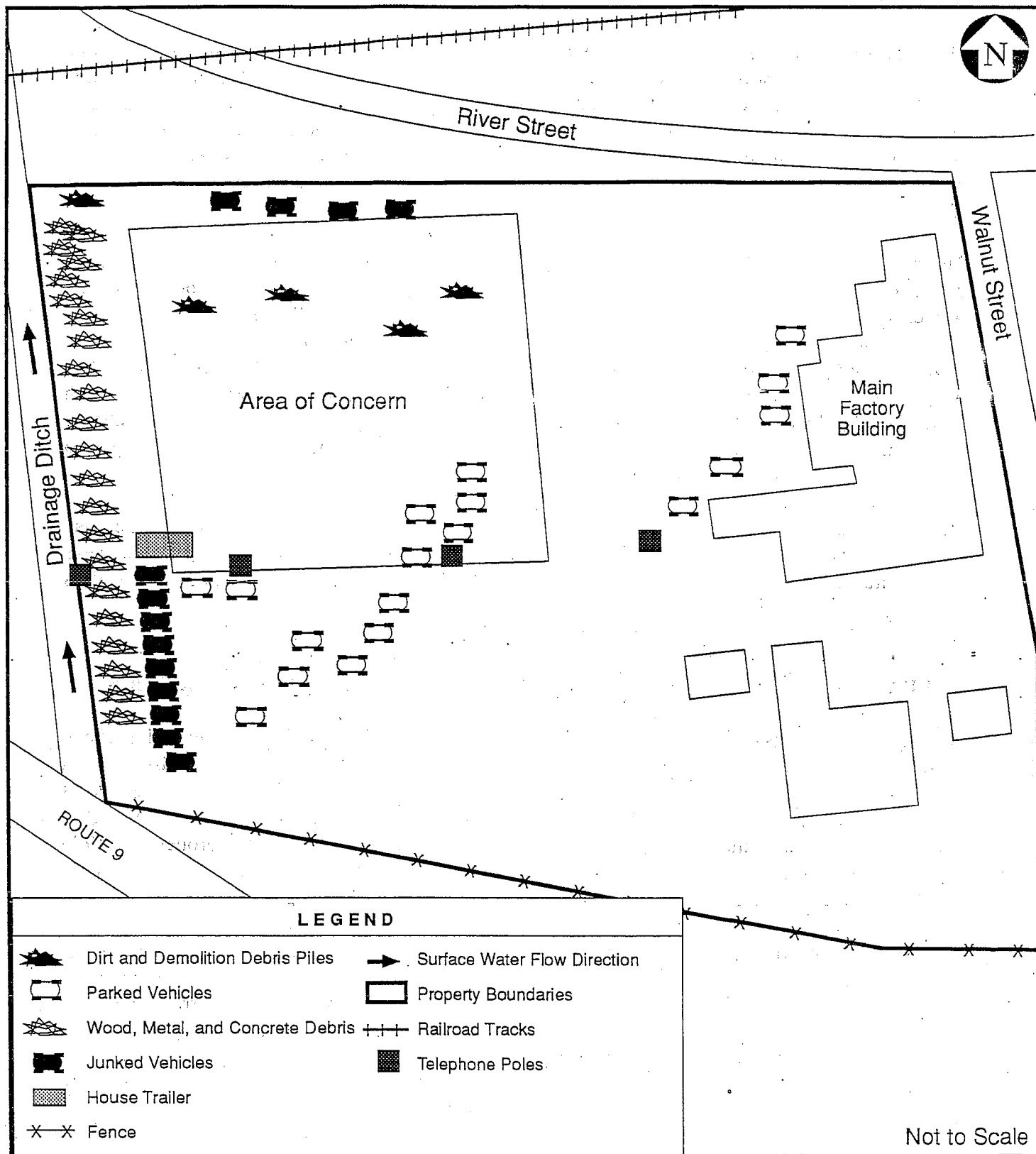


LOCATION MAP **MARINO PROPERTY** **MIDDLETOWN, CONNECTICUT**



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Figure 1



SITE SKETCH
MARINO PROPERTY
MIDDLETOWN, CONNECTICUT



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Figure 2

The area of concern is a 2- to 4-acre portion of the property to the west of the main factory building. That area was a former wetland but was covered with fill by Mr. Marino in the mid-1970s [14]. Junked cars, trucks, trailers, empty paint cans, empty 55-gallon drums, and demolition debris exist throughout the southern, western, and northern edges of the property boundaries. The property is generally level. Catch basins on the paved areas near the factory buildings collect overland flow near the buildings and discharge it to the municipal sewer system [2].

The property is located approximately 600 feet south of the Connecticut River [35]. A drainage ditch, approximately 20 feet deep and 10 feet wide, begins on the southwestern portion of the property, continues along the western edge, and empties into Sumner Brook approximately 100 feet northwest of the property boundaries. Sumner Brook runs perpendicular to the Connecticut River and empties into the Connecticut River shortly downstream. The ditch collects surface water runoff from the highway located above the southwestern portion of the property. The ditch is seasonally flooded [2]. Since the area of concern is completely flat and level, the surface water runoff direction is believed to be radial, with at least the western portion of the area assumed to drain toward the drainage ditch.

Residences are located nearby across Walnut Street, which borders the property to the east. River Road borders the property to the north, the drainage ditch borders the property to the west, and Route 9 borders the property to the south [2,35]. The nearest private groundwater well is located approximately 1 mile southeast of the property [19].

OPERATIONAL AND REGULATORY HISTORY AND WASTE CHARACTERISTICS

Marino Property was originally the site of OMO Manufacturing Company, a rubber and artificial leather factory that was built in the late 1800s. In 1968, the property was purchased by Georgia Bonded Fibers. The following year Hildebrand Industries purchased the property. A few years later, the Connecticut Development Commission obtained the rights to the property through a foreclosure of Hildebrand Industries [2,36]. Salvatore J. Marino purchased the property in 1973 from the Connecticut Development Commission and is the current owner. Mr. Marino leases out portions of the buildings on the property to various small businesses [2].

The area of concern is a 2- to 4-acre portion of the property to the west of the main building. That area was a former wetland and was used by the town as a municipal landfill from the 1930s until 1955 for the deposition of municipal wastes as well as incinerator wastes from the town incinerator. Waste oils, paints, unknown industrial wastes, and refuse from rubber and artificial leather manufacturing processes were also deposited in that area. The area was covered with fill by Mr. Marino in the mid-1970s. The origin of the fill is questionable, as it was apparently meant to go to a landfill north of town [14].

During the CDM onsite reconnaissance, Mr. Marino claimed that the state of Connecticut did extensive altering of the topography on this property when constructing the highway in the 1950s. This included moving dump refuse from an area west of his property onto his property, as well as modifying the course of Sumner Brook and the drainage ditch that runs along the western edge of the property. Mr. Marino indicated that he has not dumped any waste on the property [2].

Table 1 presents identified structures or areas on the Marino Property that are potential sources of contamination, the containment factors associated with each source, and the relative location of each source.

TABLE 1
Source Evaluation for
Marino Property

Potential Source Area	Containment Factors	Spatial Location
Contaminated soil	None	2- to 4-acre parcel of land
Incinerator waste	None	2- to 4-acre parcel of land
Leachate	None	2- to 4-acre parcel of land
Liquid from pail	None	2- to 4-acre parcel of land
Solids inside drums	None	2- to 4-acre parcel of land

[37]

Table 2 summarizes the types of potentially hazardous substances that have been disposed of, used, or stored on the property.

TABLE 2
Hazardous Waste Quantity for
Marino Property

Substance	Quantity or Volume/Area	Years of Use/Storage	Years of Disposal	Source Area
Refuse and chemicals from rubber and artificial leather manufacturing process	Unknown	Late 1800s to mid-1960s	Late 1800s to mid-1960s	2- to 4-acre parcel of land
Municipal and incinerator wastes	Unknown	1930s to 1955	1930s to 1955	2- to 4-acre parcel of land
Waste oils and paints	Unknown	Unknown	Unknown	2- to 4-acre parcel of land

[2,14]

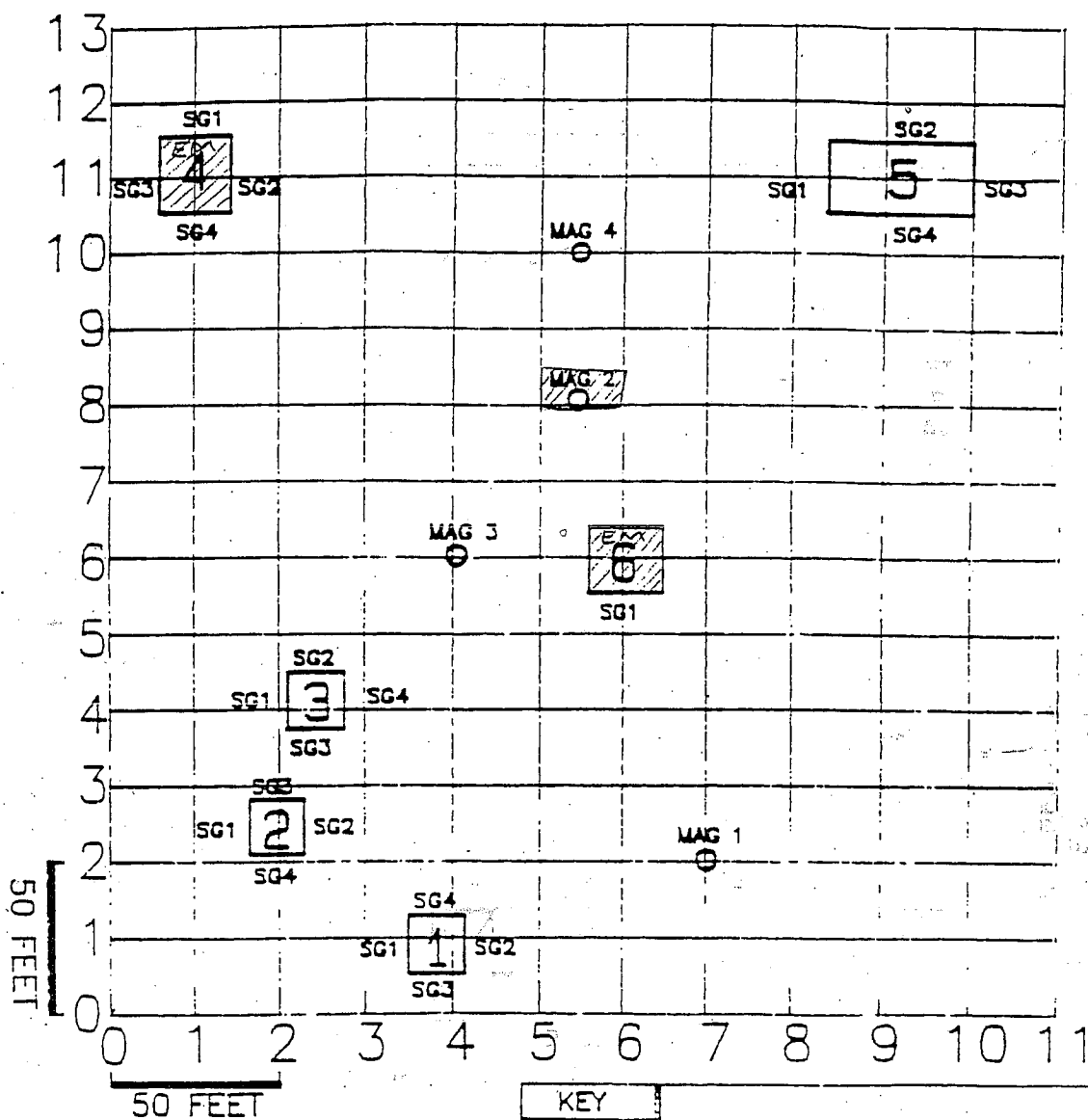
A citizen's complaint alleging past hazardous waste dumping in that area was received by CTDEP, Waste Engineering and Enforcement Division, in May 1983 [5]. In August 1983, an investigation was conducted by CTDEP. At that time, CTDEP collected several samples from the following areas: 1) drums located on the bank of the drainage ditch; 2) surface water in the drainage ditch; 3) leachate from two 3-foot test pits dug at the bank of the drainage ditch; and 4) a two-thirds full can of paint found on the property. All samples were analyzed for volatile organic compounds (VOCs) using a hydrocarbon vapor phase screening device. An EP toxicity test was also performed on the samples. Elevated levels of several contaminants were detected. Details of this sampling event are discussed in the Waste/Source Sampling section of this report [9,14].

In December 1985, Heynen Engineers was retained by a potential buyer of the property to install eight monitoring wells and sample the groundwater in each well for VOCs [20]. Elevated levels of several contaminants were detected during that investigation. Details of this sampling event are discussed in the Groundwater Pathway section of this report [10]. Those monitoring wells have since been destroyed [2].

The Site Remediation and Closure Department of CTDEP received an anonymous complaint in August 1990 that a drum was uncovered during the removal of soils at the property. The soil removal occurred in March 1990. The complainant reported that the damaged drum had a dark, thick liquid flowing out, and that the surrounding soil exhibited a "purplish" color. The drum was immediately reburied at a depth of approximately 6 feet. The complainant also stated that a former employee at the rubber company witnessed the dumping of five to ten chemical liquids on a weekly basis over a period of 20 to 30 years [6].

In October 1990, CTDEP referred the Marino Property to the Response and Prevention Section of EPA for an investigation and possible removal of the buried drums containing chemical liquids [24]. EPA contracted Roy F. Weston, Inc. (Weston) to conduct a Removal Program Preliminary Assessment and Site Investigation of the property. As part of this program, three surface soil samples were collected on the property by Weston (see Figure 3: Site Sketch with Weston Sampling Locations) in November 1990. VOCs, semivolatile organic compounds (SVOCs), and lead were detected. See the Waste/Source Sampling section for details regarding this sampling event [36].

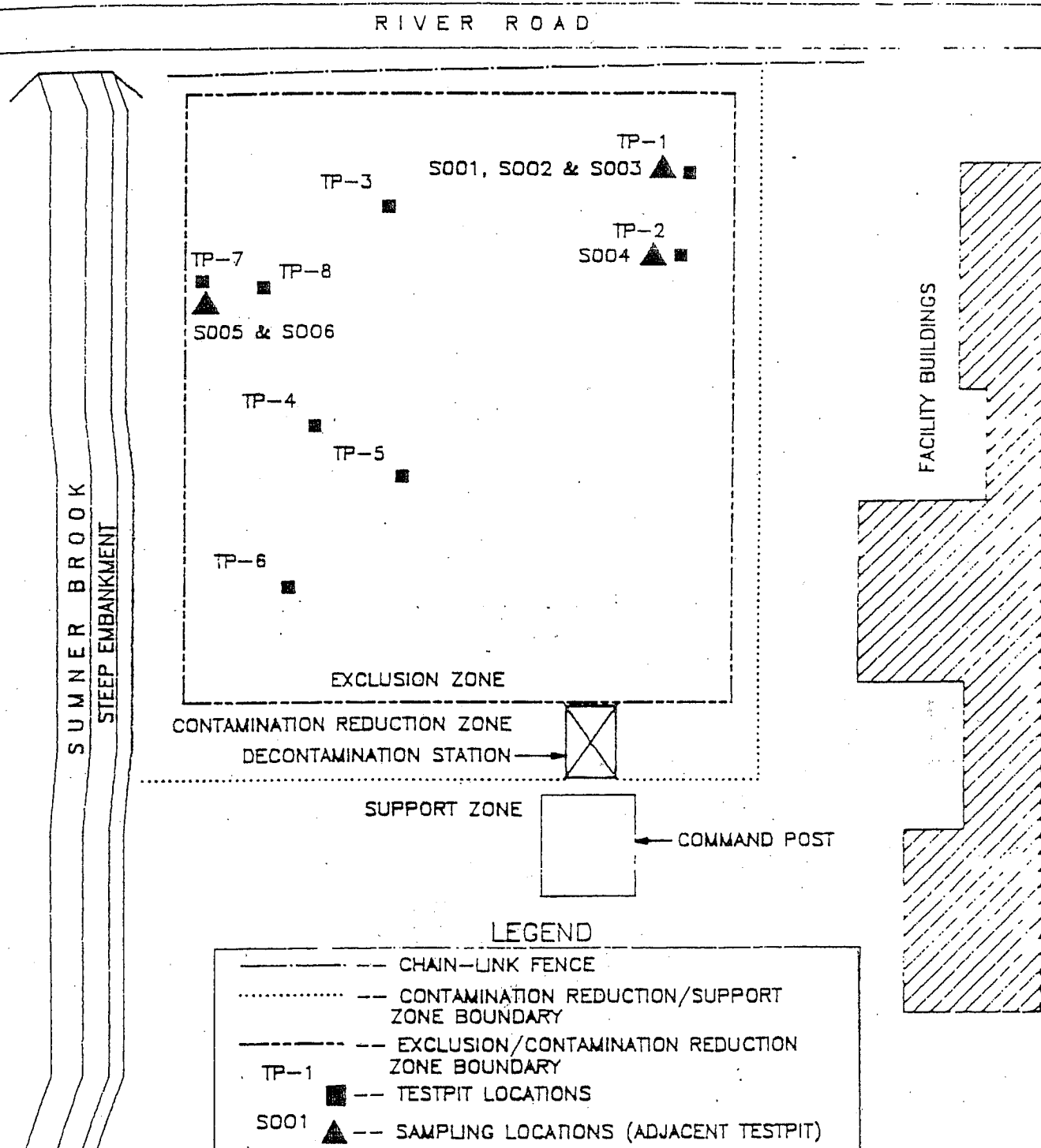
Further investigation conducted by Weston in April 1991 included digging several test pits at depths of 1 to 7 feet and collecting six samples from inside three test pits (see Figure 4: Site Sketch with Weston Sampling Locations). During this investigation, two 55-gallon steel drums were encountered in one of the test pits. One of the drums was filled with rags, while the second drum was crushed to one-third of its original length and contained a red and white solid material. At another test pit location, three crushed 55-gallon drums containing red and white solids were uncovered. Several metal five-gallon pails, some containing a viscous liquid, were also uncovered in another test pit. Black incinerator waste mixed with glass, metal, fiberglass, and other solid waste was discovered in several test pits. In one of the test pits, a viscous colored liquid began to flow into the base of the test pit from the wall of the trench. VOCs,



SITE SKETCH WITH WESTON SAMPLING LOCATIONS
SAMPLES COLLECTED NOVEMBER 1990
MARINO PROPERTY
MIDDLETOWN, CONNECTICUT

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Figure 3



SITE SKETCH WITH WESTON SAMPLING LOCATIONS
SAMPLES COLLECTED APRIL 1991
MARINO PROPERTY
MIDDLETOWN, CONNECTICUT

SVOCs, polychlorinated biphenyls (PCBs), and lead were detected at concentrations greater than three times above background [37]. See the Waste/Source Sampling section for details regarding this sampling event.

EPA entered Marino Property into the CERCLA Information System (CERCLIS) on September 8, 1992. The following CERCLIS facilities are located within a 1-mile radius of Marino Property: Middletown Municipal Landfill (CTD980521116), Portland Landfill (CTD060675543), and Fenner America, Ltd. (CTD052542669) [39]. The following RCRA large quantity generators are located within a 1-mile radius of Marino Property: Connecticut Service Station (CTD000842013), Middletown High School (CTD983902776), Rayco Metal Finishing, Inc. (CTD085068047), Sears Roebuck & Co. (CTD9838871294), Alpha Circuits, Inc. (CTD013134861), EIS Brake Parts Standard Motor Product (CTD980913537), and Fenner America, Ltd. (CTD052542669) [40].

On April 22, 1994, CDM conducted an onsite reconnaissance of Marino Property. Activities included a meeting with Mr. Marino and a walkover of the facility [2]. On September 7 and 8, 1994, CDM conducted onsite groundwater sampling using a Geoprobe® and sediment sampling of the drainage ditch and Sumner Brook. Thirteen samples were collected: three groundwater, seven sediment, one trip blank, and two equipment blanks. In addition, five performance evaluation (PE) samples were collected, all in accordance with the Task Work Plan dated June 1994. All samples were analyzed using EPA Tier II data validation protocols for VOCs, SVOCs, PCBs, pesticides, cyanide, and metals. All data quality objectives were met for this sampling event [2,3,4]. Details of this sampling activity are presented in the Groundwater and Surface Water Pathway sections of this report.

WASTE/SOURCE SAMPLING

In August 1983, CTDEP collected several surface water leachate, and paint samples from various areas near or in the drainage ditch and on the property. Each sample was analyzed for VOCs via a vapor phase screening device. An EP Toxicity test was also performed on the samples. The highest VOC concentrations were detected in a sample collected from a 5-gallon paint can. From this sample, the following compounds were detected: acetone (850 ppm), ethyl benzene (14,000 ppm), xylene (14,000 ppm), methyl ethyl ketone (1,000 ppm), and toluene (750 ppm). Through EP toxicity testing, lead (1,700 ppm) and chromium (170 ppm) were detected from the paint sample. From the leachate sample, barium (28 ppm) and zinc (38 ppm) were also detected [9].

Weston conducted a surface soil sampling program during its investigation in November 1990. Three surface soil samples (EM-6, MAG-2, and EM-4) were collected on the property, and one sample (Lower Bank) was collected in the drainage ditch, all at a depth ranging from 0 to 18 inches below the ground surface. All samples were analyzed for VOCs, SVOCs, and heavy metals through the New England Regional Laboratory. The background or reference sample number is MAG-2. Table 3 summarizes the sampling results collected by Weston in November 1990. A compound or analyte is included in the table if the concentration detected was greater than or equal to three times the background sample concentration. If the compound or analyte was not detected in the background sample, the detection limit (DL) is used as a reference. The

compound or analyte is included in the table if the sample concentration is greater than the DL. The table also lists the source, sample identification number, and reference concentration [36].

TABLE 3

**Summary of Analytical Results
Source Sample Analysis for Marino Property
Samples Collected by Weston in November 1990**

Sample No.	Compound/Analyte	Concentration (mg/kg)	Reference Sample No.	Reference Concentration (mg/kg)	Comments
EM-6	Benzo(a)anthracene	0.33	MAG-2	0.1	3.3 x REF
	Benzo(a)pyrene	0.24	MAG-2	0.05	4.8 x REF
	Bis(2-ethylhexyl) phthalate	77	MAG-2	16	4.8 x REF
	Chrysene	0.34	MAG-2	0.1	3.4 x REF
	Di-n-octyl phthalate	2.8	MAG-2	0.26	11 x REF
	Phenanthrene	0.42	MAG-2	0.22 U	1.9 x DL
	Lead	350	MAG-2	NA	NA

REF = Reference concentration

DL = Detection limit

NA = Not available

U = Indicates the sample was analyzed but not detected and reports the detection value

mg/kg = milligrams per kilogram or parts per million

Note: The precision of entries in the "Comments" column is governed by the rules of significant digits.

[36]

In April 1991, Weston dug several test pits in the area of concern at Marino Property and collected six samples (S001 through S006) from three test pits at depths ranging from 1 to 7 feet below ground surface. All samples were analyzed for VOCs, SVOCs, PCBs, and heavy metals through the New England Regional Laboratory. The background or reference sample number is S006. Table 4 summarizes the sampling results collected by Weston in April 1991.

TABLE 4

Summary of Analytical Results
Source Sample Analysis for Marino Property
Samples Collected by Weston in April 1991

Sample No. /Depth	Compound/Analyte	Concentration (mg/kg)	Reference Sample No.	Reference Concentration (mg/kg)	Comments
S001 1 foot	Ethylbenzene	230	S006	0.25 U	920 x DL
	4-methyl,2-pentanone	11,000	S006	0.75 U	15,000 x DL
	Toluene	13,000	S006	0.25 U	52,000 x DL
	Vinyl acetate	3,100	S006	2.5 U	1,200 x DL
	Total xylenes	1,400	S006	0.25 U	5,600 x DL
	Benzyl butyl phthalate	2,000	S006	7.94 U	250 x DL
	Bis(2-ethylhexyl) phthalate	97,000	S006	230	420 x REF
	Di-n-butyl phthalate	400	S006	7.94 U	50 x DL
	Di-n-octyl phthalate	7,900	S006	7.94 U	1,000 x DL
	1,2,4-trimethylbenzene	370	S006	0.25 U	1,500 x DL
	PCB (Aroclor-1260)	640	S006	160	4.00 x REF
S002 2 feet	Benzene	0.79	S006	0.25 U	3.2 x DL
	2-butanone	29	S006	25 U	1.2 x DL
	1,2-dichlorobenzene	2.9	S006	0.25 U	12 x DL
	Chlorobenzene	0.52	S006	0.25 U	2.1 x DL
	Toluene	36	S006	0.25 U	140 x DL
	4-methyl 2-pentanone	7.7	S006	0.75 U	10 x DL
	Total xylenes	2.0	S006	0.25 U	8.0 x DL
	Di-n-octyl phthalate	31	S006	7.94 U	3.9 x DL
	Lead	1,100	S006	150	7.3 x REF

TABLE 4 (continued)

Sample No.	Compound/Analyte	Concentration (mg/kg)	Reference Sample No.	Reference Concentration (mg/kg)	Comments
S003	4-methyl 2-pentanone	1,200	S006	0.75 U	1,600 x DL
2 feet	Toluene	2,100	S006	0.25 U	8,400 x DL
S004	Toluene	8,900	S006	0.25 U	35,600 x DL
4 feet	Benzyl butyl phthalate	1,000	S006	7.94 U	130 x DL
	Bis(2-ethylhexyl) phthalate	150,000	S006	230	650 x REF
	Di-n-octyl phthalate	9,800	S006	7.94 U	1,200 x DL

REF = Reference concentration

DL = Detection limit

U = Indicates the sample was analyzed but not detected and reports the detection value

mg/kg = milligrams per kilogram or parts per million

Note: The precision of entries in the "Comments" column is governed by the rules of significant digits.

[37]

GROUNDWATER PATHWAY

An unconfined aquifer exists within the surficial deposits at the property. The aquifer is composed of till and fine-grained stratified drift that consists of clay, silt, sand, and gravel. Also present in some areas are organic fibers, wood, and/or peat [7,15]. Fill consisting of sand, silt, gravel, bricks, glass, wood, metal, plastic, ashes, and wire has been deposited in the area of concern at depths ranging from 3 to 20 feet [7].

Horizontal groundwater flow in the unconfined aquifer is believed to be to the north, toward the Connecticut River [35]. Bedrock in the area consists of sedimentary rocks, such as sandstone, siltstone, and shale [15]. The depth to bedrock is up to 60 feet below the ground surface [1]. State groundwater classification in the immediate area of Marino Property is GB, its designated use being for process water and cooling water and not presumed suitable for direct human consumption without prior treatment [36].

The nearest private groundwater well is located approximately 1 mile southeast of the property [19]. An estimated 5,244 people are served by private groundwater sources within 4 miles of the property [12].

A cluster of eight public groundwater wells, known as the River Road Wells, exist at the bank of the Connecticut River, approximately 0.6 mile northeast of the property. These wells are

screened at approximately 60 feet below the ground surface in overburden material. Some of the wells have been in operation since the 1970s, and others were installed in the mid-1980s [23]. The wells are blended with surface water from the Mount Higby Reservoir, which is located outside the 4-mile radius and not in the surface water pathway. Together, the system serves approximately 35,800 people. The River Road Wells serve approximately 75 percent of that population or approximately 26,850 persons [23]. Hydrogeologic studies indicate that approximately 90 percent of the recharge from these wells comes from the Connecticut River [21]. The wells are treated by filtration and chlorination. The combined pumping rate from the wells is 3,000 gallons per minute. The water from these wells has been extensively tested for contamination for more than 20 years, and none has ever been detected [23]. A study is currently under way by CTDEP to determine the radius of the wellhead protection area for these wells. It has tentatively been determined that Marino Property lies outside the boundaries of the wellhead protection area [21].

The only other public groundwater well is a part-time treated well located in Portland, across the Connecticut River, approximately 1.25 mile north of the property. It operates only during the summer months [22]. Two sets of community wells also exist in the town of Middlefield, approximately 3.5 miles from Marino Property [23]. Table 5 lists the public groundwater supplies, including community sources, within 4 miles of Marino Property.

TABLE 5
Public Groundwater Supply Sources within 4 Miles of
Marino Property

Distance from Property (miles)	Source Name	Location of Source (Town)	Estimated Population Served	Source Type
> 0.50 - 1.0	River Road Wells	Middletown	26,850	Overburden
> 1.0 - 2.0	Rivercrest Water Company	Portland	68	Overburden
> 3.0 - 4.0	Sylvan Ridge Condominiums	Middlefield	84	Bedrock
> 3.0 - 4.0	Sugarloaf Terrace Elderly Housing	Middlefield	40	Bedrock

[22,23]

Table 6 lists the estimated drinking water populations served by groundwater sources within 4 miles of Marino Property.

TABLE 6

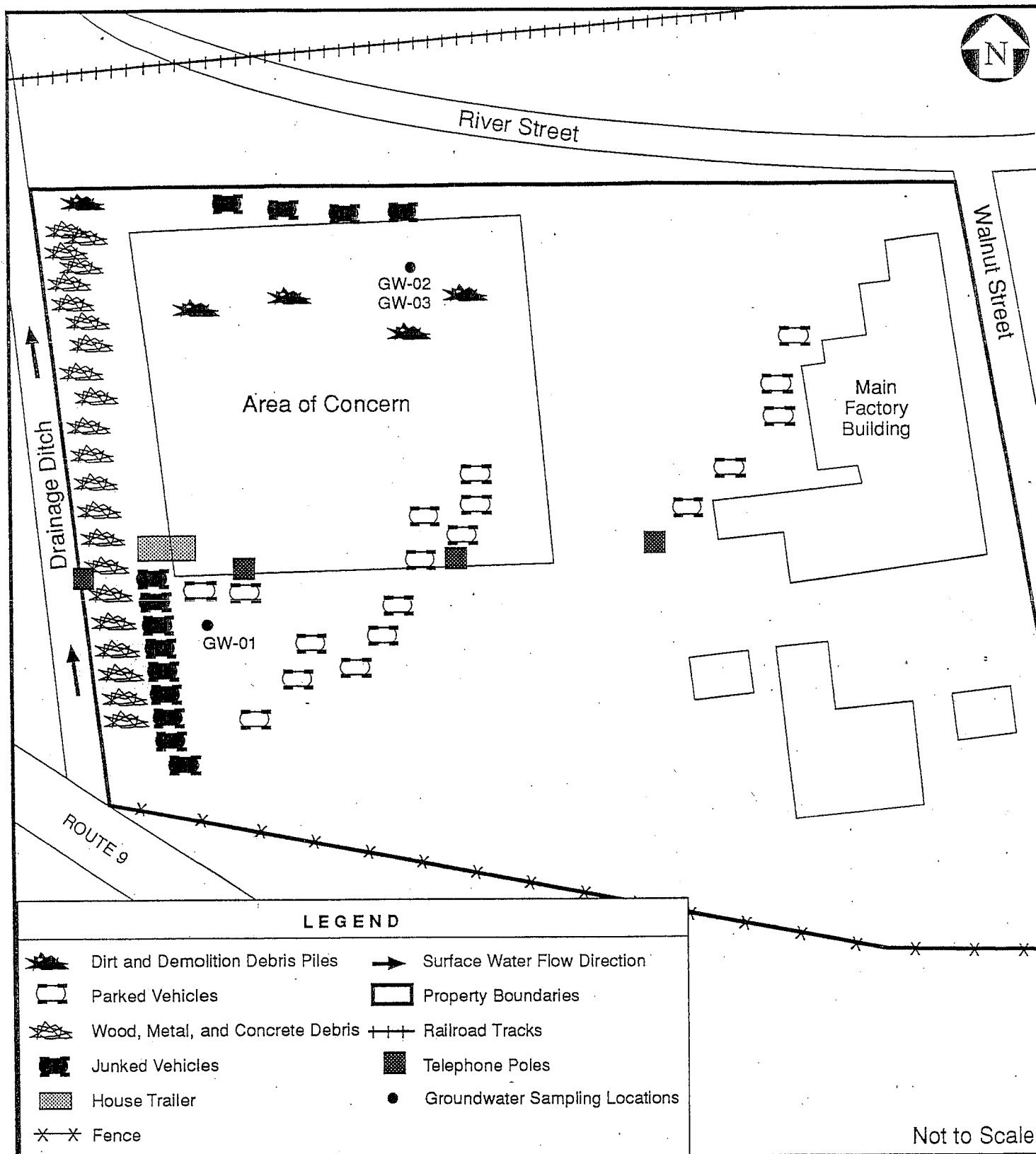
**Estimated Drinking Water Populations Served by Groundwater Sources
within 4 Miles of Marino Property**

Radial Distance From Marino Property (miles)	Estimated Population Served by Private Wells	Estimated Population Served by Public Wells	Total Estimated Population Served by Groundwater Sources Within the Ring
0.00 - 0.25	0	0	0
> 0.25 - 0.50	0	0	0
> 0.50 - 1.00	45	26,850	26,895
> 1.00 - 2.00	725	100	825
> 2.00 - 3.00	1,848	0	1,848
> 3.00 - 4.00	2,625	124	2,749
TOTAL	5,243	27,074	32,317

[12,22,23]

In December 1985, Heynen Engineers was retained by a potential buyer of the property to install eight monitoring wells and sample the groundwater for VOCs [20]. Elevated levels of several compounds that were detected during that investigation consist of the following: benzene (from 1 µg/l to 1,956.7 µg/l), ethylbenzene (from 1.3 µg/l to 282.1 µg/l), toluene (from 1.8 µg/l to 11,660.9 µg/l), xylene (from 3.1 µg/l to 674.8 µg/l), trichloroethylene (from 12.7 µg/l to 250.7 µg/l), and carbon tetrachloride (at 32.8 µg/l) [10]. Of the compounds detected during this sampling activity, benzene, ethylbenzene, toluene, and xylene were also found in the Weston source samples, and can therefore be attributed to the site [36,37]. The monitoring wells that were installed for this sampling activity have since been destroyed [2].

On September 7 and 8, 1994, CDM performed groundwater sampling activities at Marino Property using a Geoprobe® (see Figure 5: Site Sketch with CDM Groundwater Sampling Locations). Three groundwater samples were collected (GW-01, GW-02, and GW-03), including one background sample (GW-01). GW-02 and GW-03 are duplicates but, because of slow recharge, only the VOC parameter was collected for sample GW-03. Table 7 provides a sample summary of the CDM groundwater sampling event.



SITE SKETCH WITH CDM GROUNDWATER SAMPLING LOCATIONS
MARINO PROPERTY
MIDDLETOWN, CONNECTICUT

CDM FEDERAL PROGRAMS CORPORATION
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Figure 5

TABLE 7

Sample Summary: Marino Property
Groundwater Samples
Collected by CDM on September 7 and 8, 1994

Sample Location No.	CDM Sample#/ Traffic Report #	Date and Time	Remarks	Sample Source
GW-01	AHY27 (O) MAFJ46(I)	9-8-94 1100	Grab; Screened at 13 to 21 feet below the ground surface	Groundwater background sample collected 270 feet west of the southwestern corner of the main factory building, 31 feet west and 30 feet north of the third telephone pole west of the main factory building
GW-02	AHY28 (O) MAFJ47 (I)*	9-8-94 1200	Grab; Screened at 12 to 20 feet below the ground surface	Groundwater sample collected 60 feet south of the northern property boundary and 212 feet west of the northwest corner of the main factory building
GW-03	AHY29 (O)**	9-8-94 1200	Grab	Duplicate of GW-03 for quality control
EB-GW	AHY25 (O) MAFJ44 (I)	9-8-94 1000	Grab	Groundwater equipment blank

Notes:

I = Inorganic

O = Organic

* = metals only

** = VOC only

[2]

Table 8 summarizes the groundwater sampling results. In both cases, the analyte was not detected in the background sample; therefore, the SDL is used as a reference. The analyte is included in the table when the sample concentration is greater than the SDL. Both analytes detected were not detected in either of the Weston source sampling events and therefore cannot be considered attributable to the site [3,4].

TABLE 8

Summary of Analytical Results
Groundwater Sample Analysis for Marino Property
Samples Collected by CDM on September 7 and 8, 1994

Sample Location No.	Compound/Analyte	Concentration (µg/l)	Reference Concentration (µg/l)	Comments
GW-02	Chromium	45.8	25.7 U	1.78 x SDL
GW-02	Cobalt	18.1 J	12.3 U	1.47 x SDL

SDL = Sample detection limit

U = Indicates the sample was analyzed for but not detected and reports the detection value

J = Quantitation approximate due to limitations identified in quality control review

µg/l = micrograms per liter or parts per billion

Note: The precision of entries in the "Comments" column is governed by the rules of significant digits.

[3,4]

SURFACE WATER PATHWAY

The area of the property lies in the Lower Connecticut River Basin in the Connecticut Valley. The predominant soil group in the area of concern is fine-grain stratified drift, which consists of clay deposited by or in glacial meltwaters [38]. Marino Property is located in a 100-year floodplain [11].

A drainage ditch begins on the southwestern portion of the property and continues along and throughout the western boundary of the property. The ditch is intended to collect surface water runoff from Route 9, which is located above and perpendicular to the southern portion and starting point of the ditch. The ditch empties into Sumner Brook farther northwest of the property, outside the property boundaries [2]. Sumner Brook then empties into the Connecticut River approximately 600 feet north of the property [2,35].

Several catch basins are located near the factory buildings on the property. These catch basins collect stormwater near the buildings and discharge to the municipal sewer system. Because of dry conditions during the site visit, the direction of overland flow could not be determined in the area of concern, but a portion of it is assumed to drain toward the drainage ditch [2].

The primary route of entry of a contaminant to the ditch is via overland flow. The probable point of entry (PPE) of a contaminant into a perennially wet surface water body is Sumner Brook at the confluence with the drainage ditch approximately 500 feet south of the Connecticut River. The distance from the point where the ditch receives overland flow at the property to the point

where the ditch connects with Sumner Brook is approximately 100 feet [2]. The 15-mile downstream surface water pathway continues throughout the Connecticut River and ends at the East Haddam airport [33]. Because the Connecticut River is tidal for approximately 22 miles upstream from the confluence with Sumner Brook, the surface water pathway includes 15 miles north in the Connecticut River, and ends approximately at the Route 3 bridge in the town of Wethersfield [17,32].

The state surface water quality standard for Sumner Brook from the PPE to the Connecticut River is Class C, which is reflective of existing water quality problems. The state goal for Sumner Brook in this area is Class B, reflecting the need to achieve and maintain higher water quality conditions. The state surface water quality standard for the Connecticut River in the area of Sumner Brook is Class SC, which is reflective of coastal waters with existing water quality problems. The state goal for the Connecticut River in this area is Class SB, reflecting the need to achieve and maintain higher water quality conditions [16].

Neither Sumner Brook nor the Connecticut River supply municipal drinking water along the 15-mile surface water pathway [22,23]. The Connecticut Valley Hospital, located in the town of Middletown, uses six reservoirs, all located between 1.75 and 3.25 miles from the property, as its source of drinking water. Combined, these reservoirs serve approximately 2,500 people [23]. The reservoirs are not in the Marino Property surface water pathway [34,35]. Table 9 lists the water bodies within the surface water segment of Marino Property and gives the descriptor, length of reach, flow characteristics, and length of wetlands for each water body.

TABLE 9
Water Bodies within the Surface Water Segment of
Marino Property

Surface Water Body	Descriptor ^a	Length of Reach (miles)	Flow Characteristics (cfs) ^b	Length of Wetlands
Sumner Brook	Small to moderate stream	0.1	<10*	0
Connecticut River	Coastal tidal waters	14.9	Not applicable	3.6 miles

^a Minimal stream. Small to moderate stream. Moderate to large stream. Large stream to river. Very large river. Coastal tidal waters. Shallow ocean zone or Great Lake. Deep ocean zone or Great Lake. Three-mile mixing zone in quiet flowing river.

^b Cubic feet per second.

* The exact flow rate could not be determined.

[2,17,27,28,29,30,31,32,33]

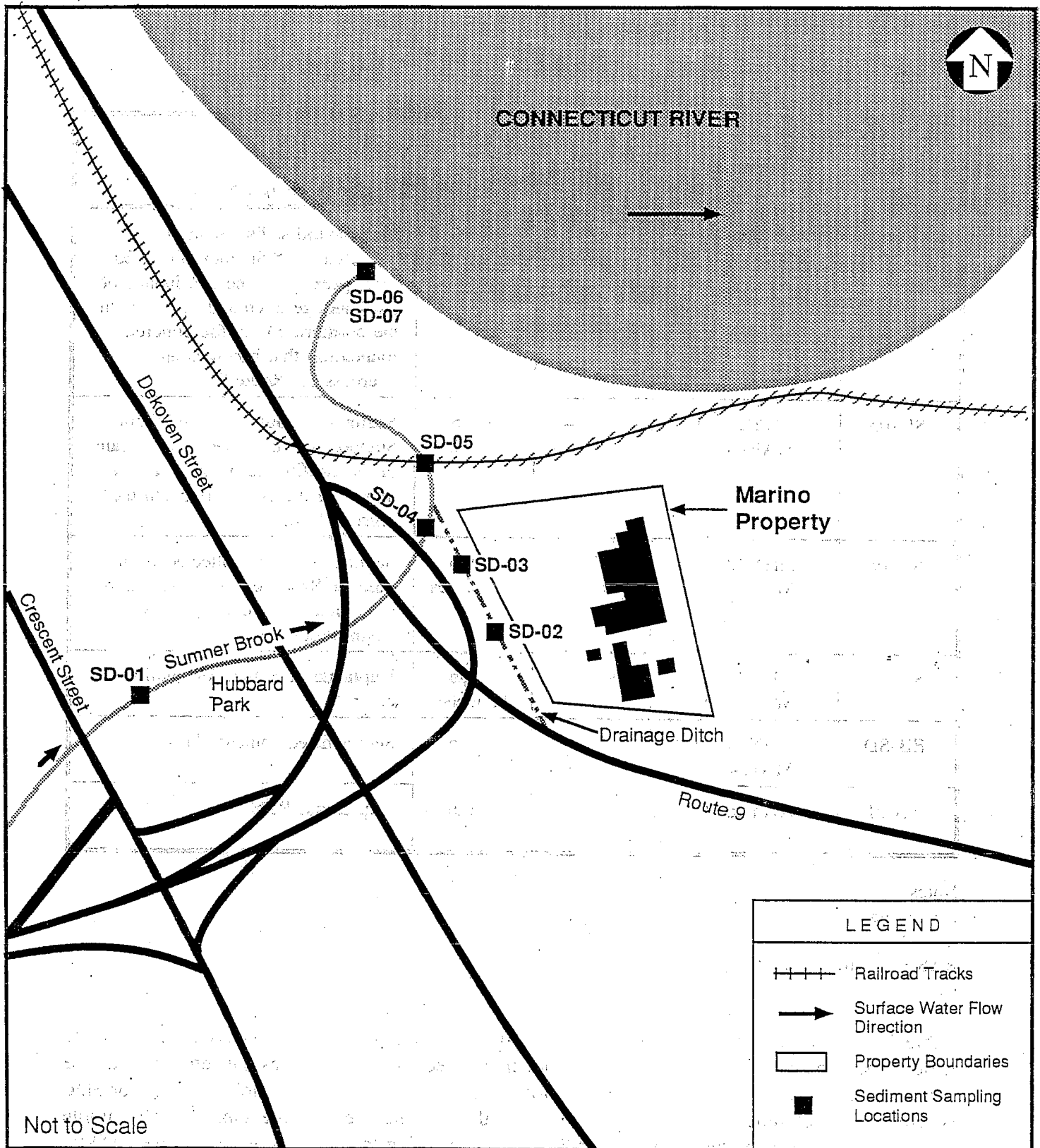
According to the Municipal Executive Director of the City of Middletown, who has lived and worked in the area for over 25 years, Sumner Brook, between the PPE and the Connecticut River, is not a fishery [18]. The Connecticut River is a major fishery, containing such species as white perch, redbreast sunfish, spottail shiner, blueback herring, American shad, pumpkinseed, and others. In recent years, several species of fishes were tested for contamination throughout the Connecticut River. Carp were found to contain high enough PCB levels to warrant a health advisory [25]. Although PCBs have been detected in onsite soil samples at elevated concentrations, it is likely that the numerous industries located on the banks of the Connecticut River have contributed to the contamination.

On September 7, 1994, CDM performed sediment sampling activities of Sumner Brook and the drainage ditch on the property to determine migration of contaminants from Marino Property to the Connecticut River (see Figure 6: Site Sketch with CDM Sediment Sampling Locations). Seven sediment samples were collected: two background from Sumner Brook (SD-01 and SD-04), two from the drainage ditch (SD-02 and SD-03), and three downgradient from the drainage ditch in Sumner Brook (SD-05, SD-06, and SD-07). SD-07 is a duplicate collected at the confluence with the Connecticut River. Sample SD-05 was collected under an active railroad bridge and next to a drainage swale which carries stormwater from a nearby road to Sumner Brook. Table 10 provides a sample summary of the CDM sediment sampling event.

TABLE 10

**Sample Summary: Marino Property
Sediment Samples
Collected by CDM on September 7, 1994**

Sample Location No.	CDM Sample #/ Traffic Report #	Date and Time	Remarks	Sample Source
SD-01	AHY17 (O) MAFJ36 (I)	9-7-94 1720	Grab 12 inches	Background sediment sample collected from Sumner Brook 100 feet northeast of the Crescent Street bridge and 200 feet southwest of the DeKoven Street bridge
SD-02	AHY18 (O) MAFJ37 (I)	9-7-94 1620	Grab 6 inches	Sediment sample collected from the drainage ditch 50 feet north of the telephone pole located on the drainage ditch bank
SD-03	AHY19 (O) MAFJ38 (I)	9-7-94 1610	Grab 6 inches	Sediment sample collected from the drainage ditch 200 feet north of SD-02



SITE SKETCH WITH CDM SEDIMENT SAMPLING LOCATIONS

MARINO PROPERTY MIDDLETOWN, CONNECTICUT



CDM FEDERAL PROGRAMS CORPORATION
a subsidiary of Camp Dresser & McKee Inc.

Figure 6

TABLE 10 (continued)

Sample Location No.	CDM Sample #/ Traffic Report #	Date and Time	Remarks	Sample Source
SD-04	AHY20 (O) MAFJ39 (I)	9-7-94 1245	Grab 12 inches	Background sediment sample collected from Sumner Brook 20 feet upstream of the confluence of the drainage ditch and in line with the northern end of the concrete foundation that becomes an overpass for Route 9
SD-05	AHY21 (O) MAFJ40 (I)	9-7-94 1215	Grab 12 inches	Sediment sample collected from Sumner Brook 30 feet downstream of the confluence of the drainage ditch and directly underneath the railroad bridge
SD-06	AHY22 (O) MAFJ41 (I)	9-7-94 1130	Grab 12 inches	Sediment sample collected from Sumner Brook on the west side of the brook at the confluence with the Connecticut River
SD-07	AHY23 (O) MAFJ42 (I)	9-7-94 1130	Grab 12 inches	Duplicate of SD-06 for quality control
EB-SD	AHY24 (O) MAFJ43 (I)	9-7-94 1015	Grab	Sediment equipment blank
TB-01	AHY26 (O)	9-7-94 900	Grab	Trip blank, RAS

Notes:

I = Inorganic

O = Organic

RAS = Routine Analytical Services

[2]

Table 11 summarizes the sediment sampling results. A compound or analyte is included in the table if the concentration detected was greater than or equal to three times the reference sample concentration. If a compound or analyte is not detected in the reference sample, the SQL or SDL is used as a reference. The compound or analyte is included in the table if the sample concentration is greater than the SQL or SDL. In comparing the two reference samples (SD-01 and SD-04), SD-04 is located closer to the confluence of Sumner Brook and the drainage ditch. It is therefore more representative of all the upstream sources and is used as the reference sample for Table 11.

TABLE 11

Summary of Analytical Results
Sediment Sample Analysis for Marino Property
Collected by CDM on September 7, 1994

Sample Location No.	Compound/Analyte	Concentration	Reference Concentration	Comments
SD-03	Bis(2-ethylhexyl) phthalate	1,500 µg/kg	400 U µg/kg	3.8 x SQL
	4,4'-DDD	15 J µg/kg	4.0 U µg/kg	3.8 x SQL
	Cadmium	0.97 J mg/kg	0.71 U J mg/kg	1.4 x SDL
	Lead	508 J mg/kg	164 J mg/kg	3.10 x REF
	Mercury	0.3 J mg/kg	0.11 U mg/kg	2.7 x SDL
SD-05	Ethylbenzene	16 µg/kg	13 U µg/kg	1.2 x SQL
	Total xylenes	36 µg/kg	13 U µg/kg	2.8 x SQL
	Naphthalene	1,300 µg/kg	400 U µg/kg	3 x SQL
	2-methylnaphthalene	2,400 µg/kg	400 U µg/kg	6 x SQL
	Acenaphthylene	1,000 µg/kg	400 U µg/kg	3 x SQL
	Acenaphthene	2,200 µg/kg	400 U µg/kg	5.5 x SQL
	Dibenzofuran	620 µg/kg	400 U µg/kg	1.6 x SQL
	Fluorene	2,800 µg/kg	400 U µg/kg	7.0 x SQL
	Phenanthrene	9,600 µg/kg	1,400 µg/kg	6.9 x REF
	Anthracene	1,700 µg/kg	400 U µg/kg	4 x SQL
	Carbazole	870 µg/kg	400 U µg/kg	2 x SQL
	Fluoranthene	8,600 µg/kg	2,200 µg/kg	3.9 x REF
	Pyrene	6,900 J µg/kg	1,900 J µg/kg	3.6 x SQL
	Bis(2-ethylhexyl) phthalate	1,800 µg/kg	400 U µg/kg	5 x SQL
SD-06 (dup of SD-07)	2-methyl naphthalene	500 µg/kg	400 U µg/kg	1 x SQL
	Fluorene	520 µg/kg	400 U µg/kg	1.3 x SQL
	4,4'-DDD	5.7 J µg/kg	4.0 U µg/kg	1.4 x SQL
	Barium	984 J mg/kg	104 J mg/kg	9.46 x REF
	Cadmium	2.3 mg/kg	0.71 U J mg/kg	3.2 x SDL

TABLE 11 (continued)

Sample Location No.	Compound/Analyte	Concentration	Reference Concentration	Comments
SD-06 (continued)	Copper	1,370 mg/kg	390 mg/kg	3.51 x REF
	Lead	865 J mg/kg	164 J mg/kg	5.27 x REF
	Mercury	0.19 J mg/kg	0.11 U mg/kg	1.7 x REF
	Zinc	2,210 J mg/kg	324 J mg/kg	6.82 x REF
SD-07 (dup of SD-06)	4,4'-DDD	14 J µg/kg	4.0 U µg/kg	3.5 x SQL
	4,4'-DDT	6.7 J µg/kg	4.0 U µg/kg	1.7 x SQL
	Barium	688 J mg/kg	104 J mg/kg	6.62 x REF
	Cadmium	2.0 mg/kg	0.71 U J mg/kg	2.8 x SDL
	Lead	548 J mg/kg	164 J mg/kg	3.34 x REF
	Mercury	0.16 J mg/kg	0.11 U mg/kg	1.5 x SDL
	Zinc	1,610 J mg/kg	324 J mg/kg	4.97 x REF

SDL = Sample detection limit.

SQL = Sample quantitation limit

REF = Reference concentration

U = Indicates the sample was analyzed but not detected, and reports the detection value

J = Quantitation approximate due to limitations identified in quality control review

µg/kg = micrograms per kilogram or parts per billion

mg/kg = milligrams per kilogram or parts per million

Note: The precision of entries in the "Comments" column is governed by the rules of significant digits.

[3,4]

Several dumps and old landfills are located in or near Sumner Brook in the vicinity of the PPE. Also, surface water runoff from nearby highways drain to Sumner Brook and the drainage ditch. For these reasons, several compounds/analytes were detected in at least one CDM sediment sample but were not detected in source samples collected by Weston in 1990 and 1991; therefore, their presence might not be attributed to the site. These compounds/analytes include 2-methyl naphthalene, acenaphthene, acenaphthylene, dibenzofuran, fluorene, anthracene, carbazole, fluoranthene, naphthalene, pyrene, 4,4'-DDD, 4,4'-DDT, barium, cadmium, copper, mercury, and zinc. The following compounds/analytes were detected in at least one CDM sediment sample, and were also detected in source samples collected by Weston: bis(2-ethylhexyl)phthalate, ethylbenzene, xylene, 2-methylnaphthalene, phenanthrene, and lead [3,4,36,37].

SOIL EXPOSURE PATHWAY

Approximately 50 people currently work in the buildings located on the property. Seven residences are located within 200 feet of Marino Property to the east of the property boundaries. No residences are located within 200 feet of the area of concern. Marino Property, including the area of concern, is accessible, as no fences completely surround the property. No schools and day-care facilities are located within 200 feet of the property. There are no terrestrial sensitive environments on the property [2,35]. Approximately 9,858 people live within 1 mile travel distance of the property [12].

In November 1990, Weston collected three surface soil samples at a depth ranging from 0 to 18 inches below the ground surface on the property. The samples were analyzed for VOCs, SVOCs, and heavy metals (see Table 3 in the Waste/Source Sampling section for a summary of the analytical results). For sample EM-6, the following compounds/analytes were detected at levels either above the reference values when the reference compounds/analytes were not detected or at least three times above the SQL/SDL when the reference compounds/analytes were detected: benzo(a)anthracene, benzo(a)pyrene, bis(2-ethylhexyl)phthalate, chrysene, di-n-octyl phthalate, phenanthrene, and lead [36].

In April 1991, Weston collected six samples from two test pits on the property. Three of these samples were collected at a depth of 2 feet or less below the ground surface (S001, S002, and S003). The samples were analyzed for VOCs, SVOCs, PCBs, and heavy metals (see Table 4 in the Waste/Source Sampling section for a summary of the analytical results). For sample S001, the following 11 compounds were detected: ethylbenzene, 4-methyl,2-pentanone, toluene, vinyl acetate, total xylenes, benzyl butyl phthalate, bis(2-ethylhexyl)phthalate, di-n-butyl phthalate, di-n-octyl phthalate, 1,2,4-trimethylbenzene, and PCBs. For sample S002, the following nine compounds/analytes were detected: benzene, 2-butanone, 1,2-dichlorobenzene, chlorobenzene, toluene, 4-methyl 2-pentanone, total xylenes, di-n-octyl phthalate, and lead, and for sample S003, two compounds, 4-methyl 2-pentanone and toluene, were detected, all either at levels above the reference values when the reference compounds/analytes were not detected or at least three times above the SQL/SDL when the reference compounds/analytes were detected [37].

AIR PATHWAY

During the CDM site reconnaissance in April 1994 and CDM sampling event in September 1994, Organic Vapor Monitor (OVM) readings were at background levels [2]. The nearest residence to the property is located approximately 50 feet from the property boundaries and 400 feet from the area of concern, across Walnut Street. The nearest school is the Hubbard School, located approximately 0.25 mile from the property [2,35]. A total of 15,356 people live within 4 miles of the property [12]. Table 12 lists the population by distance from the property.

TABLE 12

**Estimated Population within 4 Miles of
Marino Property**

Radial Distance From Marino Property (miles)	Estimated Population
0.00 - 0.25	1,094
> 0.25 - 0.50	2,101
> 0.50 - 1.00	6,663
> 1.00 - 2.00	17,456
> 2.00 - 3.00	14,798
> 3.00 - 4.00	15,356
TOTAL	57,468

[12]

Sensitive environments within 4 miles of Marino Property include a cumulative area of approximately 13.7 square miles of wetlands, a state wildlife refuge and several state endangered and threatened species. A federal threatened species in part also exists [13,34,35]. Table 13 lists the sensitive environments by distance from the property.

TABLE 13

**Sensitive Environments within 4 Miles of
Marino Property**

Radial Distance From Marino Property (miles)	Name of Sensitive Environment	Status of Sensitive Environment
0.50 - 1.00	Sandbar Willow	State Threatened
> 1.00 - 2.00	Cromwell Meadows	State Wildlife Refuge
	Dwarf Bullrush	State Endangered
	Atlantic Sturgeon	State Threatened
	Mountain Sandwort	State Threatened
	American Bittern	State Endangered
	Sandbar Willow	State Threatened
> 2.00 - 3.00	Cromwell Meadows	State Wildlife Refuge
	American Bittern	State Endangered
	Least Bittern	State Threatened
	Blue-Winged Teal	State Threatened
	White Milkweed	State Endangered
	Mountain Sandwort	State Threatened
	Swamp Cottonwood	State Endangered
	Nuttall Milkwort	State Endangered
> 3.00 - 4.00	American Bittern	State Endangered
	Pied-Billed Grebe	State Endangered
	Least Bittern	State Threatened
	Black Rail	State Threatened
	Yellow-Breasted Chat	State Endangered
	Adder's-Tongue	State Threatened
	Mountain Sandwort	State Threatened
	Puritan Tiger Beetle	State Endangered and Federal Threatened in part

[13]

SUMMARY

Marino Property consists of approximately 10 acres and is located at 50 Walnut Street in Middletown, Middlesex County, Connecticut. Marino Property was originally a rubber and artificial leather factory. The factory was built in the late 1800s and operated until the mid-1900s. Salvatore Marino, the current owner of the property, presently leases out most of the four buildings on the property to a number of small businesses. Mr. Marino uses a portion of one of the buildings as an office for his real estate and construction companies.

The area of concern is a 2- to 4-acre portion of the property located to the west of the main factory building. That area used to be a wetlands and was used by the town as a municipal landfill from the 1930s until 1955 for the deposition of municipal wastes, as well as incinerator wastes from the town incinerator. Waste oils, paints, unknown industrial wastes, and refuse from the rubber and artificial leather manufacturing process were also deposited in that area. Mr. Marino covered the area with fill in the mid-1970s.

After receiving a citizen's complaint in 1983 alleging past hazardous waste dumping in the area of concern, the Connecticut Department of Environmental Protection (CTDEP) collected samples from the property and analyzed each sample for volatile organic compounds (VOCs). Elevated levels of several contaminants were detected. In December 1985, Heynen Engineers was retained by a potential buyer of the property to install eight monitoring wells and sample the groundwater in each well for VOCs. Several compounds were detected at elevated concentrations.

In August 1990, CTDEP received an anonymous complaint that an uncontained drum containing a potentially hazardous liquid was uncovered during soil removal at the property. The drum was then apparently immediately reburied. The complainant also confirmed past weekly hazardous waste dumping occurring in the area of concern for 20 to 30 years. Later that year, Roy F. Weston, Inc. was contracted by the Response and Prevention Section of the U.S. Environmental Protection Agency (EPA) to conduct a surface soil sampling program on the property, which included collecting three samples on the property and analyzing for VOCs, semivolatile organic compounds (SVOCs), and heavy metals. Several contaminants were detected.

In April 1991, further investigation by Roy F. Weston, Inc. included digging several test pits, collecting six samples from three of the pits, and analyzing for VOCs, SVOCs, polychlorinated biphenyls (PCBs), and heavy metals. Several contaminants were detected at elevated concentrations.

The nearest private well is located approximately 1 mile southeast of the property. The nearest public groundwater wells are the River Road Wells, a cluster of eight wells beginning approximately 0.6 mile northeast of the property. Combined, the River Road Wells serve approximately 26,850 persons. Approximately 32,317 persons are served by groundwater sources within 4 miles of the property.

On September 7 and 8, 1994, CDM collected groundwater from two locations (including one background) on the property using a Geoprobe. All samples were analyzed for VOCs, SVOCs, PCB, pesticides, metals, and cyanide. Chromium and cobalt were detected in the groundwater sample but neither have been detected at significant concentrations in onsite soil samples.

A drainage ditch begins on the southwestern portion of the property and continues along and throughout the western perimeter of the property. The purpose of the ditch is to collect surface water runoff from Route 9, which is located above and perpendicular to the southern portion and starting point of the ditch. The ditch empties into Sumner Brook further northwest of the property, approximately 100 feet from the property boundaries. Sumner Brook then empties into the Connecticut River approximately 600 feet north of the property.

It has been assumed that at least part of the overland flow from the area of concern discharges to the drainage ditch. The probable point of entry (PPE) of a contaminant into a permanent surface water body via overland flow would be in Sumner Brook at the confluence of the drainage ditch approximately 500 feet south of the property. The PPE of a contaminant into a surface water body via groundwater flow would be in the Connecticut River, directly north of the property. Several catch basins are located near the factory buildings on the property collect stormwater near the buildings and discharge to the municipal sewer department.

On September 7, 1994, CDM collected seven sediment samples (including two background) from Sumner Brook and a drainage ditch on the property. All samples were analyzed for VOCs, SVOCs, PCB, pesticides, metals, and cyanide. Twenty-three compounds/analytes were detected in the sediment samples, six of which can be attributed to the site.

The 15-mile downstream surface water pathway consists of Sumner Brook for 0.1 mile and the Connecticut River for the remainder of the 14.9 miles both upstream and downstream, since the river is tidal. There are of 3.6 miles of wetland frontage that exist along the Connecticut River. There are no drinking water intakes on the 15-mile downstream surface water pathway.

Sumner Brook between the PPE and the Connecticut River is not a fishery. The Connecticut River is a major fishery, containing such species as white perch, redbreast sunfish, spottail shiner, blueback herring, American shad, pumpkinseed, and others. In recent years, several species of fishes were tested for contamination throughout the Connecticut River. Carp were found to contain high enough PCB levels to warrant a health advisory.

Approximately 50 people currently work in the buildings located on the property. Seven residences are located within 200 feet of Marino Property to the east of the property boundaries. No residences are located within 200 feet of the area of concern. Approximately 9,858 people live within 1 mile travel distance of the property. There are no schools, day-care centers or terrestrial sensitive environments on or within 200 feet of the property.

Approximately 57,468 persons live within 4 miles of Marino Property. The Hubbard School is located approximately 0.25 mile from the property. Sensitive environments within 4 miles of Marino Property include a cumulative area of approximately 13.7 square miles of wetlands, a state wildlife refuge, several state threatened and endangered species, as well as a federal threatened species.

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ATTACHMENT A

Marino Property

**Organic Analytical Results and Sample Quantitation Limits
CDM Federal Programs Corporation**

September 7 and 8, 1994

VOLATILE AQUEOUS ANALYSIS

Table III Page 1 of 8

CASE NO: 22640
SDG NO: AHY17SITE: MARINO PROPERTY MIDDLETOWN, CT
LABORATORY: CEIMC CORPORATION

EPA SAMPLE NUMBER:	AHY24	AHY25	AHY26	AHY27	AHY28	AHY29
SAMPLE LOCATION:	EB-SD	EB-GW	TB-01	GW-01	GW-02	GW-03
LABORATORY SAMPLE NUMBER:	940792-08	940792-09	940792-10	940792-11	940792-12	940792-13
SAMPLE TYPE:	Equipment Blank	Equipment Blank	Trip Blank	Routine Sample	Routine Sample	Routine Sample
MATRIX/ANALYSIS:	WATER/LOW	WATER/LOW	WATER/LOW	WATER/LOW	WATER/LOW	WATER/LOW
DILUTION FACTOR:	1.0	1.0	1.0	1.0	1.0	1.0
DATE SAMPLED:	09/07/94	09/08/94	09/07/94	09/08/94	09/08/94	09/07/94
DATE ANALYZED:	09/10/94	09/10/94	09/10/94	09/10/94	09/10/94	09/11/94
VOA						
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	10 U	10 U	1 J	10 U	10 U	10 U
Acetone	10 U	10 U	8 J	10 U	10 U	10 U
Carbon Disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	2 J	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylene (total)	10 U	10 U	10 U	10 U	10 U	10 U

FILENAME: AHY17.SDG DATE: 10/13/94 TIME: 11:50 CADRE 1.92

PAGE: 1

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

SEMIVOLATILE AQUEOUS ANALYSIS

Table III Page 2 of 3

CASE NO: 22640
SDG NO: AHY17SITE: MARINO PROPERTY MIDDLETOWN, CT
LABORATORY: CEIMIC CORPORATION

EPA SAMPLE NUMBER:	AHY24	AHY25	AHY27	AHY28
SAMPLE LOCATION:	EB-SD	EB-GW	GW-01	GW-02
LABORATORY SAMPLE NUMBER:	940792-08	940792-09	940792-11	940792-12
SAMPLE TYPE:	Equipment Blank	Equipment Blank	Routine Sample	Routine Sample
MATRIX/ANALYSIS:	WATER/LOW	WATER/LOW	WATER/LOW	WATER/LOW
DILUTION FACTOR:	1.0	1.0	1.0	1.0
DATE SAMPLED:	09/07/94	09/08/94	09/08/94	09/08/94
DATE EXTRACTED:	09/12/94	09/12/94	09/12/94	09/12/94
DATE ANALYZED:	09/12/94	09/12/94	09/13/94	09/13/94
BNA				
Phenol	10	10	10	10
bis(2-Chloroethyl) ether	10	10	10	10
2-Chlorophenol	10	10	10	10
1,3-Dichlorobenzene	10	10	10	10
1,4-Dichlorobenzene	10	10	10	10
1,2-Dichlorobenzene	10	10	10	10
2-Methylphenol	10	10	10	10
2,2'-oxybis(1-Chloropropane)	10	10	10	10
4-Methylphenol	10	10	10	10
N-Nitroso-di-n-propylamine	10	10	10	10
Hexachloroethane	10	10	10	10
Nitrobenzene	10	10	10	10
Isophorone	10	10	10	10
2-Nitrophenol	10	10	10	10
2,4-Dimethylphenol	10	10	10	10
bis(2-Chloroethoxy) methane	10	10	10	10
2,4-Dichlorophenol	10	10	10	10
1,2,4-Trichlorobenzene	10	10	10	10
Naphthalene	10	10	10	10
4-Chloroaniline	10	10	10	10
Hexachlorobutadiene	10	10	10	10
4-Chloro-3-methylphenol	10	10	10	10
2-Methylnaphthalene	10	10	2	10
Hexachlorocyclopentadiene	10	10	10	10
2,4,6-Trichlorophenol	10	10	10	10
2,4,5-Trichlorophenol	25	25	25	25
2-Chloronaphthalene	10	10	10	10
2-Nitroaniline	25	25	25	25
Dimethylphthalate	10	10	10	2
Acenaphthylene	10	10	10	10
2,6-Dinitrotoluene	10	10	10	10
3-Nitroaniline	25	25	25	25
Acenaphthene	10	10	10	10
2,4-Dinitrophenol	25	25	25	25
4-Nitrophenol	25	25	25	25
Dibenzofuran	10	10	10	10
2,4-Dinitrotoluene	10	10	10	10
Diethylphthalate	7	10	10	10
4-Chlorophenyl-phenyl ether	10	10	10	10
Fluorene	10	10	10	10
4-Nitroaniline	25	25	25	25
4,6-Dinitro-2-methylphenol	25	25	25	25
N-nitrosodiphenylamine	10	10	10	10
4-Bromophenyl-phenylether	10	10	10	10
Hexachlorobenzene	10	10	10	10
Pentachlorophenol	25	25	25	25
Phenanthrene	10	10	10	10
Anthracene	10	10	10	10
Carbazole	10	10	10	10
Di-n-butylphthalate	10	10	10	1
Fluoranthene	10	10	10	10
Pyrene	10	10	10	10
Butylbenzylphthalate	10	10	10	10
3,3'-Dichlorobenzidine	10	10	10	10
Benzo(a)anthracene	10	10	10	10
Chrysene	10	10	10	10
bis(2-Ethylhexyl)phthalate	10	10	2	1
Di-n-octylphthalate	10	10	10	10
Benzo(b)fluoranthene	10	10	10	10
Benzo(k)fluoranthene	10	10	10	10
Benzo(a)pyrene	10	10	10	10
Indeno(1,2,3-cd)pyrene	10	10	10	10
Dibenz(a,h)anthracene	10	10	10	10
Benzo(g,h,i)perylene	10	10	10	10

FILENAME: AHY17.SDG DATE: 10/13/94 TIME: 11:30 CADRE 1.92

PAGE: 1

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

Sample Location	EB SD	EB GW	GW 01	GW 02	
Traffic Report Number	AIY24	AIY25	AIY27	AIY28	
Remarks	Equip. blank	Equip. blank			
Sampling Date	07 Sep 94	08 Sep 94	08 Sep 97	08 Sep 94	
Extraction Date	10 Sep 94	10 Sep 94	10 Sep 94	10 Sep 94	
Analysis Date	19 Sep 94	19 Sep 94	19 Sep 94	19 Sep 94	
Dilution Factor	10	10	10	10	
PCB STRENGTH COMPONENT	CRQL				
alpha BHC	0.05	0.05 U	0.05 U	0.05 U	
beta BHC	0.05	0.05 U	0.05 U	0.05 U	
delta BHC	0.05	0.05 U	0.05 U	0.05 U	
gamma BHC (Lindane)	0.05	0.05 U	0.05 U	0.05 U	
Heptachlor	0.05	0.05 U	0.05 U	0.05 U	
Aldrin	0.05	0.05 U	0.05 U	0.05 U	
Heptachlor epoxide	0.05	0.05 U	0.05 U	0.05 U	
Endosulfan I	0.05	0.05 U	0.05 U	0.05 U	
Dieldrin	0.10	0.10 U	0.10 U	0.10 U	
4,4' DDE	0.10	0.10 U	0.10 U	0.10 U	
Endrin	0.10	0.10 U	0.10 U	0.10 U	
Endosulfan II	0.10	0.10 U	0.10 U	0.10 U	
3,3' DDD	0.10	0.10 U	0.10 U	0.10 U	
4' Endosulfan sulfate	0.10	0.10 U	0.10 U	0.10 U	
3,4' DDT	0.10	0.10 U	0.10 U	0.10 U	
Methoxychlor	0.50	0.50 U	0.50 U	0.50 U	
Endrin ketone	0.10	0.10 U	0.10 U	0.10 U	
Endrin aldehyde	0.10	0.10 U	0.10 U	0.10 U	
alpha-Chlordane	0.05	0.05 U	0.05 U	0.05 U	
gamma-Chlordane	0.05	0.05 U	0.05 U	0.05 U	
Toxaphene	50	50 U	50 U	50 U	
Aroclor-1016	10	10 U	10 U	10 U	
Aroclor 1221	20	20 U	20 U	20 U	
Aroclor 1232	10	10 U	10 U	10 U	
Aroclor 1242	10	10 U	10 U	10 U	
Aroclor-1248	10	10 U	10 U	10 U	
Aroclor 1254	10	10 U	10 U	10 U	
Aroclor 1260	10	10 U	10 U	10 U	

U - The compound was not detected. The associated numerical value is the compound quantitation limit
CRQL - Contract Required Detection Limit

VOLATILE SOIL ANALYSIS

Table III Page 4 of 8

CASE NO: 22640
SDG NO: AHY17SITE: MARINO PROPERTY MIDDLETOWN, CT
LABORATORY: CEIMIC CORPORATION

EPA SAMPLE NUMBER:	AHY17	AHY18	AHY19	AHY20	AHY21	AHY22
SAMPLE LOCATION:	SD-01	SD-02	SD-03	SD-04	SD-05	SD-06
LABORATORY SAMPLE NUMBER:	940792-01	940792-02	940792-03	940792-04	940792-05	940792-06
SAMPLE TYPE:	Routine Sample	Routine Sample	Routine Sample	Routine Sample	Routine Sample	Routine Sample
MATRIX/ANALYSIS:	SOIL/LOW	SOIL/LOW	SOIL/LOW	SOIL/LOW	SOIL/LOW	SOIL/LOW
DILUTION FACTOR:	1.0	1.0	1.0	1.0	1.0	1.0
DATE SAMPLED:	09/07/94	09/07/94	09/07/94	09/07/94	09/07/94	09/07/94
DATE ANALYZED:	09/10/94	09/10/94	09/10/94	09/10/94	09/10/94	09/12/94
PERCENT SOLID:	78	82	80	75	90	65
VOA						
Chloromethane	13	12	12	13	11	15
Bromomethane	13	12	12	13	11	15
Vinyl Chloride	13	12	12	13	11	15
Chloroethane	13	12	12	13	11	15
Methylene Chloride	10	10	12	13	11	10
Acetone	16	12	15	26	12	49
Carbon Disulfide	13	12	12	13	11	15
1,1-Dichloroethene	13	12	12	13	11	15
1,1-Dichloroethane	13	12	12	13	11	15
1,2-Dichloroethene (total)	13	12	12	13	11	15
Chloroform	13	12	12	13	11	15
1,2-Dichloroethane	13	12	12	13	11	15
2-Butanone	13	4	12	13	4	14
1,1,1-Trichloroethane	13	12	12	13	11	15
Carbon Tetrachloride	13	12	12	13	11	15
Bromodichloromethane	13	12	12	13	11	15
1,2-Dichloropropane	13	12	12	13	11	15
cis-1,3-Dichloropropene	13	12	12	13	11	15
Trichloroethene	13	12	12	13	11	15
Dibromochloromethane	13	12	12	13	11	15
1,1,2-Trichloroethane	13	12	12	13	11	15
Benzene	13	12	12	13	11	15
trans-1,3-Dichloropropene	13	12	12	13	11	15
Bromoform	13	12	12	13	11	15
4-Methyl-2-Pentanone	13	12	12	13	11	15
2-Hexanone	13	12	12	13	11	15
Tetrachloroethene	13	12	12	13	11	15
1,1,2,2-Tetrachloroethane	13	12	12	13	11	15
Toluene	13	12	12	8	2	15
Chlorobenzene	13	12	12	13	11	15
Ethylbenzene	13	12	12	13	16	15
Styrene	13	12	12	13	11	15
Xylene (total)	13	12	12	13	36	15

FILENAME: AHY17.SDG DATE: 10/13/94 TIME: 11:28 CADRE 1.92

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

VOLATILE SOIL ANALYSIS

Table 1: Page 5 of 8
SITE: MARINO PROPERTY MIDDLETOWN, CT
LABORATORY: GEIMIC CORPORATIONCASE NO: 22640
SDG NO: AHY17

EPA SAMPLE NUMBER:	AHY23
SAMPLE LOCATION:	SD-07
LABORATORY SAMPLE NUMBER:	940792-07
SAMPLE TYPE:	Routine Sample
MATRIX/ANALYSIS:	SOIL/LOW
DILUTION FACTOR:	1.0
DATE SAMPLED:	09/07/94
DATE ANALYZED:	09/12/94
PERCENT SOLID:	71

VOA

Chloromethane	14	UJ
Bromomethane	14	U
Vinyl Chloride	14	U
Chloroethane	14	U
Methylene Chloride	10	J
Acetone	46	U
Carbon Disulfide	14	U
1,1-Dichloroethene	14	U
1,1-Dichloroethane	14	U
1,2-Dichloroethene (total)	14	U
Chloroform	14	U
1,2-Dichloroethane	14	U
2-Butanone	12	J
1,1,1-Trichloroethane	14	U
Carbon Tetrachloride	14	U
Bromodichloromethane	14	U
1,2-Dichloropropane	14	U
cis-1,3-Dichloropropene	14	U
Trichloroethene	14	U
Dibromochloromethane	14	U
1,1,2-Trichloroethane	14	U
Benzene	14	U
trans-1,3-Dichloropropene	14	U
Bromoform	14	U
4-Methyl-2-Pentanone	14	U
2-Hexanone	14	U
Tetrachloroethene	14	U
1,1,2,2-Tetrachloroethane	14	U
Toluene	14	U
Chlorobenzene	14	U
Ethylbenzene	14	U
Styrene	14	U
Xylene (total)	14	U

FILENAME: AHY17.SDG DATE: 10/13/94 TIME: 11:28 CADRE 1.92

Water units are reported in ug/L.
Soil units are reported in ug/kg.

SEMIVOLATILE SOIL ANALYSIS

Table III Page 5 of 8

CASE NO: 22640
SDG NO: AHY17SITE: MARINO PROPERTY MIDDLETOWN, CT
LABORATORY: CEIMIC CORPORATION

EPA SAMPLE NUMBER: SAMPLE LOCATION: LABORATORY SAMPLE NUMBER: SAMPLE TYPE: MATRIX/ANALYSIS: DILUTION FACTOR: DATE SAMPLED: DATE EXTRACTED: DATE ANALYZED: PERCENT SOLID:	AHY17 SD-01 940792-01 Routine Sample SOIL/LOW 1.0 09/07/94 09/11/94 09/14/94 79	AHY18 SD-02 940792-02 Routine Sample SOIL/LOW 1.0 09/07/94 09/11/94 09/14/94 82	AHY19 SD-03 940792-03 Routine Sample SOIL/LOW 1.0 09/07/94 09/11/94 09/21/94 77	AHY20 SD-04 940792-04 Routine Sample SOIL/LOW 1.0 09/07/94 09/11/94 09/15/94 82	AHY21/DL SD-05 940792-05 Routine Sample SOIL/LOW 1.0/10.0 09/07/94 09/11/94 09/15/94 81	AHY22 SD-06 940792-05 Routine Sample SOIL/LOW 1.0 09/07/94 09/11/94 09/15/94 73
BNA						
Phenol	170	J	400	U	420	U
bis(2-Chloroethyl) ether	410	U	400	U	400	U
2-Chlorophenol	410	U	400	U	400	U
1,3-Dichlorobenzene	410	U	400	U	400	U
1,4-Dichlorobenzene	410	U	400	U	400	U
1,2-Dichlorobenzene	410	U	400	U	400	U
2-Methylphenol	63	J	400	U	400	U
2,2'-oxybis(1-Chloropropane)	410	U	400	U	400	U
4-Methylphenol	230	J	400	U	400	U
N-Nitroso-di-n-propylamine	410	U	400	U	400	U
Hexachloroethane	410	U	400	U	400	U
Nitrobenzene	410	U	400	U	400	U
Isophorone	410	U	400	U	400	U
2-Nitrophenol	410	U	400	U	400	U
2,4-Dimethylphenol	410	U	400	U	400	U
bis(2-Chloroethoxy) methane	410	U	400	U	400	U
2,4-Dichlorophenol	410	U	400	U	400	U
1,2,4-Trichlorobenzene	410	U	400	U	400	U
Naphthalene	410	U	400	U	50	J
4-Chloroaniline	410	U	400	U	400	U
Hexachlorobutadiene	410	U	400	U	400	U
4-Chloro-3-methylphenol	410	U	400	U	400	U
2-Methylnaphthalene	410	U	400	U	280	J
Hexachlorocyclopentadiene	410	U	400	U	400	U
2,4,6-Trichlorophenol	410	U	400	U	400	U
2,4,5-Trichlorophenol	1000	U	960	U	970	U
2-Chloronaphthalene	410	U	400	U	400	U
2-Nitroaniline	1000	J	960	U	970	U
Dimethylphthalate	410	U	400	U	400	U
Acenaphthylene	82	J	47	J	84	J
2,6-Dinitrotoluene	410	U	400	U	400	U
3-Nitroaniline	1000	U	960	U	970	U
Acenaphthene	410	U	98	J	290	J
2,4-Dinitrophenol	1000	U	960	U	970	U
4-Nitrophenol	1000	U	960	U	970	U
Dibenzofuran	410	U	60	J	58	J
2,4-Dinitrotoluene	410	U	400	U	420	U
Diethylphthalate	410	U	400	U	420	U
4-Chlorophenyl-phenyl ether	410	U	400	U	400	U
Fluorene	98	J	190	J	240	J
4-Nitroaniline	1000	U	960	U	970	U
4,6-Dinitro-2-methylphenol	1000	U	960	U	970	U
N-nitrosodiphenylamine	410	U	400	U	400	U
4-Bromophenyl-phenylether	410	U	400	U	400	U
Hexachlorobenzene	410	U	400	U	400	U
Pentachlorophenol	1000	U	960	U	970	U
Phenanthrene	1200	U	1500	U	1400	U
Anthracene	190	J	330	J	340	J
Carbazole	120	J	370	J	210	J
Di-n-butylphthalate	410	U	400	U	400	U
Fluoranthene	1700	U	1900	U	2200	U
Pyrene	1900	J	2100	J	1900	J
Butylbenzylphthalate	410	U	400	U	400	U
3,3'-Dichlorobenzidine	410	U	400	U	400	U
Benzo(a)anthracene	830	U	930	U	1100	U
Chrysene	970	U	1200	U	1200	U
bis(2-Ethylhexyl)phthalate	110	J	300	J	340	J
Di-n-octylphthalate	410	UJ	400	UJ	400	UJ
Benzo(b)fluoranthene	930	U	1100	U	690	U
Benzo(k)fluoranthene	99	J	120	J	310	J
Benzo(a)pyrene	740	U	770	U	980	U
indeno(1,2,3-cd)pyrene	610	U	540	U	600	U
Dibenz(a,h)anthracene	62	J	53	J	420	U
Benzo(g,h,i)perylene	640	U	520	U	630	U

FILENAME: AHY17.SDG DATE: 10/13/94 TIME: 11:27 CADRE 1.92

PAGE:

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

CASE NO: 22640
SDG NO: AHY17SITE: MARINO PROPERTY MIDDLETON, CT
LABORATORY: CEIMIC CORPORATION

EPA SAMPLE NUMBER:	AHY23				
SAMPLE LOCATION:	SD-07				
LABORATORY SAMPLE NUMBER:	940792-07				
SAMPLE TYPE:	Routine Sample				
MATRIX/ANALYSIS:	SOIL/LOW				
DILUTION FACTOR:	1.0				
DATE SAMPLED:	09/07/94				
DATE EXTRACTED:	09/11/94				
DATE ANALYZED:	09/15/94				
PERCENT SOLID:	71				
BNA					
Phenol	460	U			
bis(2-Chloroethyl) ether	460	U			
2-Chlorophenol	460	U			
1,3-Dichlorobenzene	460	U			
1,4-Dichlorobenzene	460	U			
1,2-Dichlorobenzene	460	U			
2-Methylphenol	460	U			
2,2'-oxybis(1-Chloropropane)	460	U			
4-Methylphenol	54	J			
N-Nitroso-di-n-propylamine	460	U			
Hexachloroethane	460	U			
Nitrobenzene	460	U			
Isophorone	460	U			
2-Nitrophenol	460	U			
2,4-Dimethylphenol	51	J			
bis(2-Chloroethoxy) methane	460	U			
2,4-Dichlorophenol	460	U			
1,2,4-Trichlorobenzene	460	U			
Naphthalene	230	J			
4-Chloroaniline	460	U			
Hexachlorobutadiene	460	U			
4-Chloro-3-methylphenol	460	U			
2-Methylnaphthalene	380	J			
Hexachlorocyclopentadiene	460	U			
2,4,6-Trichlorophenol	460	U			
2,4,5-Trichlorophenol	1100	U			
2-Chloronaphthalene	460	U			
2-Nitroaniline	1100	U			
Dimethylphthalate	460	U			
Acenaphthylene	96	J			
2,6-Dinitrotoluene	460	U			
3-Nitroaniline	1100	U			
Acenaphthene	340	J			
2,4-Dinitrophenol	1100	U			
4-Nitrophenol	1100	U			
Dibenzofuran	91	J			
2,4-Dinitrotoluene	460	U			
Diethylphthalate	460	U			
4-Chlorophenyl-phenyl ether	460	U			
Fluorene	400	J			
4-Nitroaniline	1100	U			
4,6-Dinitro-2-methylphenol	1100	U			
N-nitrosodiphenylamine	460	U			
4-Bromophenyl-phenylether	460	U			
Hexachlorobenzene	460	U			
Pentachlorophenol	1100	U			
Phenanthrene	1100				
Anthracene	270	J			
Carbazole	110	J			
Di-n-butylphthalate	460	U			
Fluoranthene	1200				
Pyrene	1300	J			
Butylbenzylphthalate	460	U			
3,3'-Dichlorobenzidine	460	U			
Benzo(a)anthracene	580				
Chrysene	710				
bis(2-Ethylhexyl)phthalate	310	J			
Di-n-octylphthalate	460	U			
Benzo(b)fluoranthene	570				
Benzo(k)fluoranthene	160	J			
Benzo(a)pyrene	490				
Indeno(1,2,3-cd)pyrene	320	J			
Dibenz(a,h)anthracene	460	U			
Benzo(g,h,i)perylene	370	J			

FILENAME: AHY17.SDG DATE: 10/13/94 TIME: 11:27 CADRE 1.92

PAGE: 2

Water units are reported in ug/L.
Soil units are reported in ug/Kg.

Sato Manno Property
Laboratory CEMAC Corp
Box 770023 OV05
P.O. Box 270023 SR WK4

CLP PLSTICIDE/PCB ORGANIC ANALYSIS
CASE 22640 SDG AIY17
SOIL ANALYTICAL RESULTS (ug/kg)

Table III Page 8 of 8

Sample Location	SD 01	SD 02	SD 03	SD 04	SD 05	SD 06	SD 07
Traffic Report Number	AIY17	AIY18	AIY19	AIY20	AIY21	AIY22	AIY23
Remarks							
Sampling Date	07-Sep-94	07-Sep-94	07-Sep-94	07-Sep-94	07-Sep-94	07-Sep-94	07-Sep-94
Extraction Date	11-Sep-94	11-Sep-94	11-Sep-94	11-Sep-94	11-Sep-94	11-Sep-94	11-Sep-94
Analysis Date	17-Sep-94	16-Sep-94	16-Sep-94	17-Sep-94	17-Sep-94	17-Sep-94	17-Sep-94
Dilution Factor	10	10	10	10	10	10	10
Percent Solid	79%	82%	77%	82%	81%	73%	77%
POLYCHLORINATED BIPHENYLS (PCB)							
alpha BHC	21 U	21 U	22 U	21 U	21 U	23 U	24 U
beta BHC	21 U	21 U	22 U	21 U	21 U	23 U	24 U
delta BHC	21 U	21 U	22 U	21 U	21 U	23 U	24 U
gamma BHC (lindane)	21 U	21 U	22 U	21 U	21 U	23 U	24 U
Heptachlor	21 U	21 U	22 U	21 U	21 U	23 U	24 U
Aldrin	21 U	21 U	22 U	21 U	21 U	23 U	24 U
Heptachlor epoxide	21 U	21 U	22 U	21 U	21 U	23 U	24 U
Dieldrin	21 U	21 U	22 U	21 U	21 U	23 U	24 U
4,4' DDE	42 U	40 U	43 U	40 U	40 U	45 U	46 U
Endrin	42 U	40 U	43 U	40 U	40 U	45 U	46 U
Endosulfan II	42 U	40 U	43 U	40 U	40 U	45 U	46 U
4,4' DDD	42 U	40 U	43 U	40 U	40 U	45 U	46 U
Endosulfan sulfate	42 U	40 U	43 U	40 U	40 U	45 U	46 U
4,4' DDT	42 U	40 U	43 U	40 U	40 U	45 U	46 U
Methoxychlor	21 U	21 U	22 U	21 U	21 U	23 U	24 U
Endrin ketone	42 U	40 U	43 U	40 U	40 U	45 U	46 U
Endrin aldehyde	42 U	40 U	43 U	40 U	40 U	45 U	46 U
alpha Chlordane	21 U	21 U	22 U	21 U	21 U	23 U	24 U
gamma Chlordane	21 U	21 U	22 U	21 U	21 U	23 U	24 U
Toxaphene	210 U	210 U	220 U	210 U	210 U	230 U	240 U
Atto bar 1016	42 U	40 U	43 U	40 U	40 U	45 U	46 U
Atto bar 1221	85 U	81 U	87 U	81 U	82 U	91 U	94 U
Atto bar 1232	42 U	40 U	43 U	40 U	40 U	45 U	46 U
Atto bar 1242	42 U	40 U	43 U	40 U	40 U	45 U	46 U
Atto bar 1248	42 U	40 U	43 U	40 U	40 U	45 U	46 U
Atto bar 1254	42 U	40 U	43 U	40 U	40 U	45 U	46 U
Atto bar 1260	42 U	40 U	43 U	40 U	40 U	45 U	46 U

Sample results are reported on dry weight basis
J - The associated numerical value is an estimated quantity
U - The compound was not detected. The associated numerical value is the compound quantitation limit
UJ - The compound was not detected. The compound quantitation limit is an estimated value
... The blank space indicates the compound was not detected

ATTACHMENT B

Marino Property

**Inorganic Analytical Results and Sample Detection Limits
CDM Federal Programs Corporation**

September 7 and 8, 1994

Sample Location	EB-SD	EB-GW	GW-01	GW-02
Traffic Report Number	MAF J43	MAF J44	MAF J46	MAF J47
Remarks	Equip. Blank	Equip. Blank		
Sampling Date	07-Sep-94	07-Sep-94	07-Sep-94	07-Sep-94
Dilution Factor	1.0	1.0	1.0	1.0
INORGANIC ANALYTES				
	IDL (ug/L)	CRDL (ug/L)		
Aluminum	32.9	200	32.9 U	15800
Antimony	28.4	60	28.4 U	28.4 U
Arsenic	2.8	10	2.8 U	2.8 U
Barium	10.6	200	10.6 U	469
Beryllium	1.6	5	1.6 U	2.9 J
Cadmium	3.0	15	3.0 UJ	3.0 UJ
Calcium	79.1	5000	159	102000
Chromium	4.0	10	4.0 U	45.8
Cobalt	12.3	50	12.3 U	18.1 J
Copper	1.9	25	1.9 U	41.2
Iron	7.9	100	84.6	54100
Lead	1.1	3	1.1 UJ	39.9 J
Magnesium	51.9	5000	51.9 U	23100
Manganese	1.3	15	1.3 U	1100
Mercury	0.2	0.2	0.2 UJ	0.20 UJ
Nickel	17.3	40	17.3 U	41.8
Potassium	289.0	5000	289 U	17200 J
Selenium	1.7	5	1.7 U	1.7 U
Silver	1.8	10	1.8 U	1.8 U
Sodium	84.8	5000	86.7 J	49700
Thallium	3.6	10	3.6 UJ	6.3 UJ
Vanadium	5.5	50	5.5 U	30.1
Zinc	5.1	20	7.4 J	124.0
Cyanide	5.0	10	5.0 U	

Analytical Method

P ICP/Flame, AA

CV Cold Vapor

C Manual

Spectrophotometric

Analysis

J - The associated numerical value is an estimated quantity

U - The analyte was not detected. The associated numerical value is the analyte detection limit.

UJ - The analyte was not detected. The analyte detection limit is an estimated value.

IDL - Instrument Detection Limit

CRDL - Contract Required Detection Limit

CLP INORGANIC ANALYSIS
CASE 22640, SDG MAF J36
SOIL ANALYTICAL RESULTS (mg/Kg)

Site: Marino Property
Laboratory: Associated Laboratories, Inc.
Disk: 7710023-DV06
File: 22640MSR.WK4

Sample Location	SD-01	SD-02	SD-03	SD-04	SD-05	SD-06	SD-07
Traffic Report Number	MAF J36	MAF J37	MAF J38	MAF J39	MAF J40	MAF J41	MAF J42
Remarks							Dup MAF J41
Sampling Date	07-Sep-94	07-Sep-94	07-Sep-94	07-Sep-94	07-Sep-94	07-Sep-94	07-Sep-94
Percent Solid	80.4%	81.4%	74.1%	84.6%	81.8%	74.0%	70.3%
Dilution Factor	1.0	1.0	1.0/P(Pb)=10	1.0	1.0	1.0	1.0
INORGANIC ANALYTES							
Aluminum	4940	3620	5990	6230	3900	6990	6400
Antimony	6.9	6.9	7.4	6.7	6.4	7.6	7.6
Arsenic	0.68	0.68	1.2	0.66	1.3	2.0	0.93
Barium	37.5	31.2	112	104	54.3	984	688
Beryllium	0.85	0.41	0.73	0.64	0.65	0.84	0.66
Cadmium	0.72	0.73	0.97	0.71	0.68	2.3	2.0
Calcium	1490	2390	2520	1650	1020	3320	3540
Chromium	11.7	16.0	18.7	14.0	14.0	30.9	24.5
Cobalt	4.0	4.3	6.8	5.0	7.2	6.7	6.7
Copper	1960	25.8	92.3	390	954	1370	921
Iron	19300	9920	18400	14500	15800	15700	13900
Lead	47.5	26.2	503	164	80.5	865	548
Magnesium	2250	1680	2630	2670	1860	7030	5270
Manganese	153	110	194	206	163	287	239
Mercury	0.10	0.09	0.3	0.11	0.10	0.19	0.16
Nickel	13.5	6.5	16	14.3	14.1	42.6	31.6
Potassium	392	152	515	670	311	772	757
Selenium	0.41	1.0	0.44	0.73	0.38	0.45	1.8
Silver	0.43	0.44	0.47	0.43	0.73	0.98	0.48
Sodium	154	207	193	142	79.6	104	112
Sulfur	1.3	0.88	2.1	1.7	1.2	0.96	0.97
Thallium	14.3	16.3	20.5	23.7	15.5	22.4	20.4
Vanadium	553	84.9	259	324	468	2210	1610
Zinc	1.5	1.5	1.7	1.7	1.5	1.6	1.7
Cyanide							

Sample Results are reported on dry weight basis.

J - The associated numerical value is an estimated quantity.

UJ - The analyte was not detected. The associated numerical value is the analyte detection limit.

UJ - The analyte was not detected. The analyte detection limit is an estimated value.

Analytical Method

P ICP

CV Cold Vapor

C Manual

Spectrophotometric

Analysis