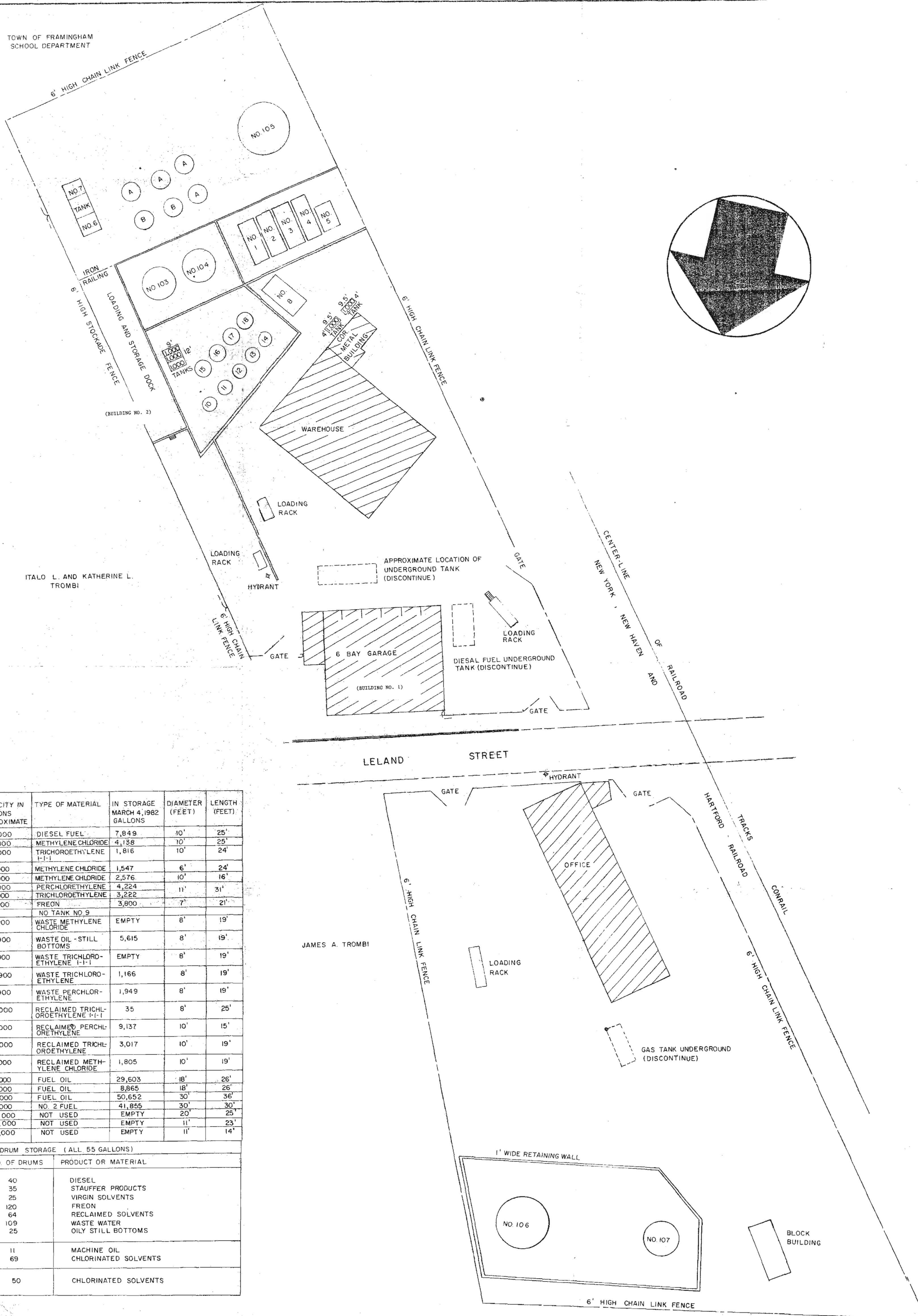


SCANNED

Framingham 3-19174
91-133 Leland St

TOWN OF FRAMINGHAM
SCHOOL DEPARTMENT



TANK NO.	CAPACITY IN GALLONS APPROXIMATE	TYPE OF MATERIAL	IN STORAGE MARCH 4, 1982 GALLONS	DIAMETER (FEET)	LENGTH (FEET)
1	15,000	DIESEL FUEL	7,849	10'	25'
2	15,000	METHYLENE CHLORIDE	4,138	10'	25'
3	15,000	TRICHLOROETHYLENE 1-1-1	1,816	10'	24'
4	5,000	METHYLENE CHLORIDE	1,547	6'	24'
5	10,000	METHYLENE CHLORIDE	2,576	10'	16'
6	10,000	PERCHLOROETHYLENE	4,224	11'	31'
7	10,000	TRICHLOROETHYLENE	3,222		
8	6,000	FREON	3,800	7'	21'
9		NO TANK NO 9			
10	6,900	WASTE METHYLENE CHLORIDE	EMPTY	8'	19'
11	6,900	WASTE OIL - STILL BOTTOMS	5,615	8'	19'
12	6,900	WASTE TRICHLOROETHYLENE 1-1-1	EMPTY	8'	19'
13	6,900	WASTE TRICHLOROETHYLENE	1,166	8'	19'
14	6,900	WASTE PERCHLOROETHYLENE	1,949	8'	19'
15	10,000	RECLAIMED TRICHLOROETHYLENE 1-1-1	35	8'	25'
16	10,000	RECLAIMED PERCHLOROETHYLENE	9,137	10'	15'
17	10,000	RECLAIMED TRICHLOROETHYLENE	3,017	10'	19'
18	10,000	RECLAIMED METHYLENE CHLORIDE	1,805	10'	19'
103	48,000	FUEL OIL	29,603	18'	26'
104	48,000	FUEL OIL	8,865	18'	26'
105	180,000	FUEL OIL	50,652	30'	36'
106	160,000	NO. 2 FUEL	41,855	30'	30'
107	60,000	NOT USED	EMPTY	20'	25'
A	16,000	NOT USED	EMPTY	11'	23'
B	10,000	NOT USED	EMPTY	11'	14'

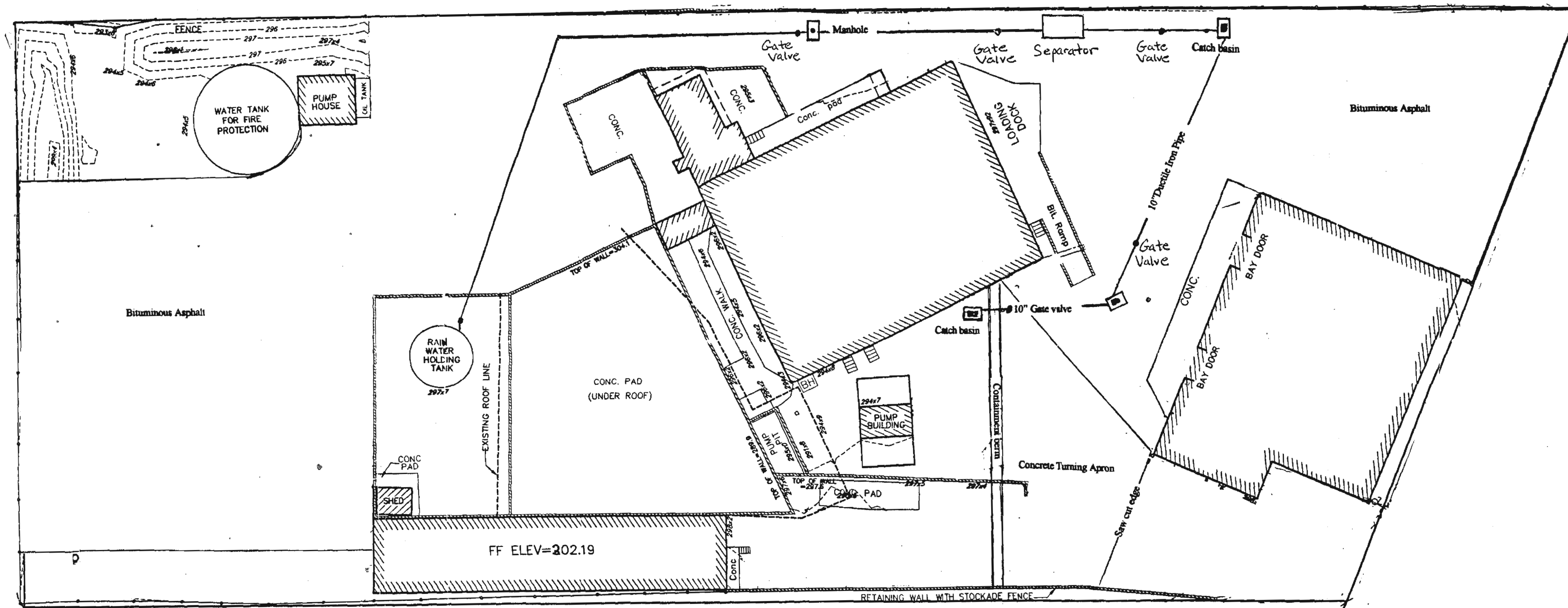
DRUM STORAGE (ALL 55 GALLONS)		
LOCATION	NO OF DRUMS	PRODUCT OR MATERIAL
GARAGE	40	DIESEL
	35	STAUFFER PRODUCTS
	25	VIRGIN SOLVENTS
	120	FREON
	64	RECLAIMED SOLVENTS
	109	WASTE WATER
	25	OILY STILL BOTTOMS
WAREHOUSE	11	MACHINE OIL
	69	CHLORINATED SOLVENTS
DOCK	50	CHLORINATED SOLVENTS

PLAN OF
GENERAL CHEMICAL CORPORATION
132 LELAND STREET
SHOWING LOCATIONS OF TANKS AND BUILDINGS
PREPARED BY: FRAMINGHAM ENGINEERING DEPT.
SCALE: 1" = 20' MARCH 8, 1982
FIELD SURVEY: A.P. & J.C.
DRAFTED BY: J.C.S.

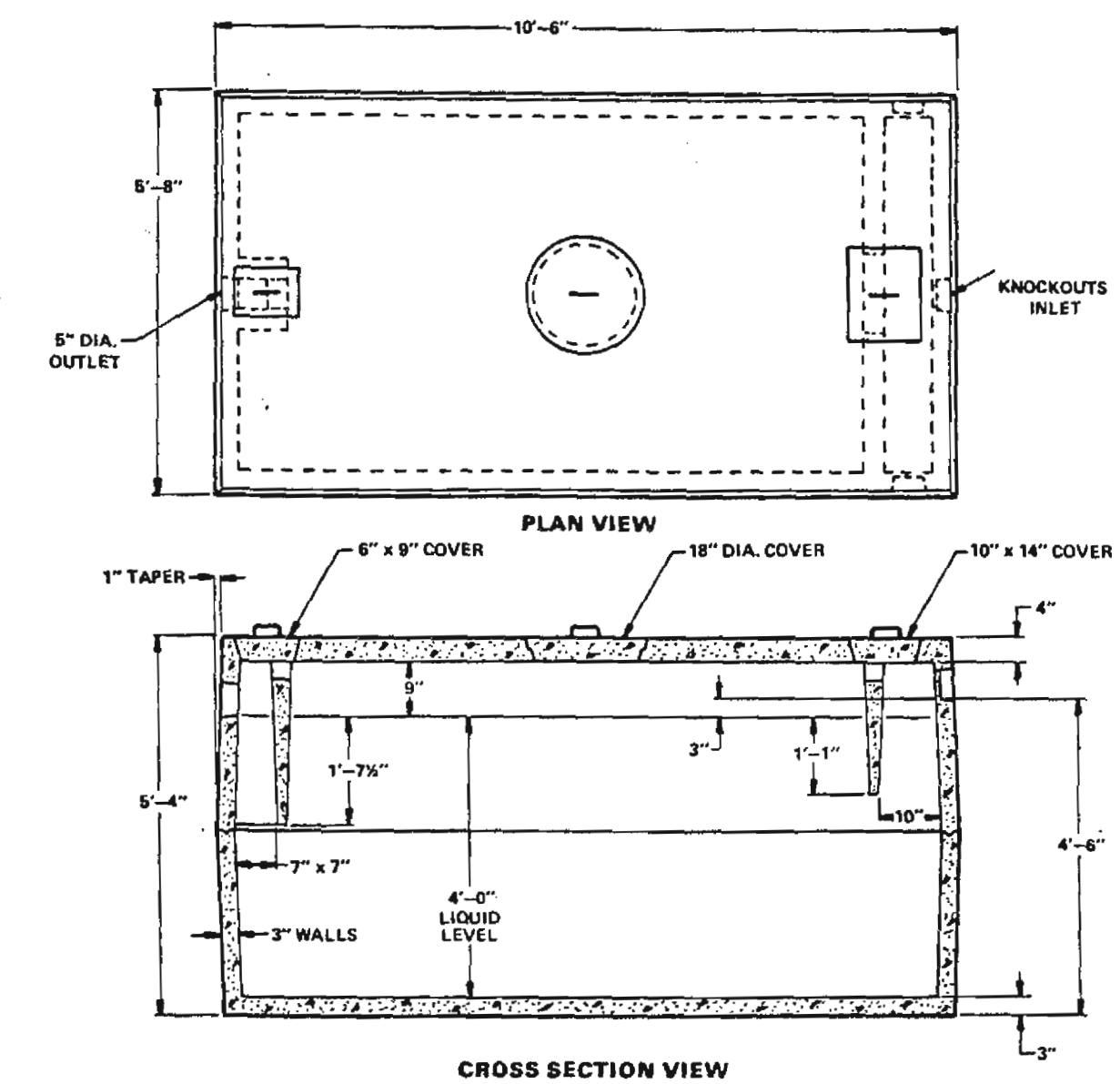
EXHIBIT 2

JOEL SEIFER ET AL.
S AND S ASSOCIATRY

TELEPHONE
COMPANY



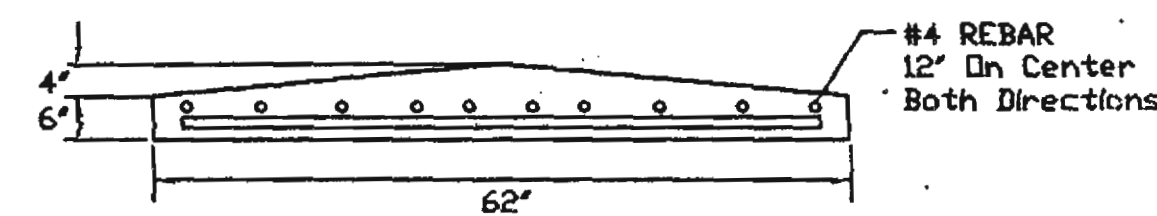
Site Asphalt and Drainage Detail



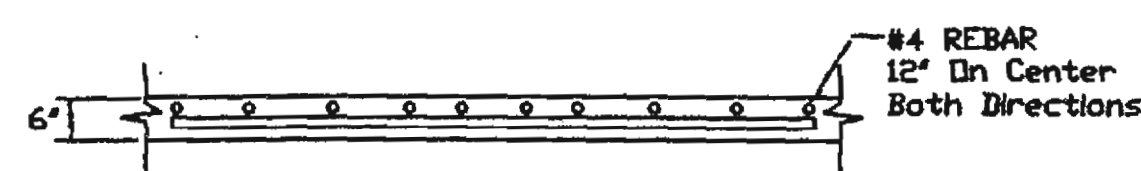
SPECIFICATIONS

CONCRETE MINIMUM STRENGTH - 4,000 P.S.I. @ 28 DAYS
STEEL REINFORCEMENT - 6" x 6" x 10 GAGE STEEL WIRE MESH
DESIGN LOADING - LIGHT DUTY
CONSTRUCTION JOINT - SEALED WITH ASPHALT CEMENT OR EQUIVALENT

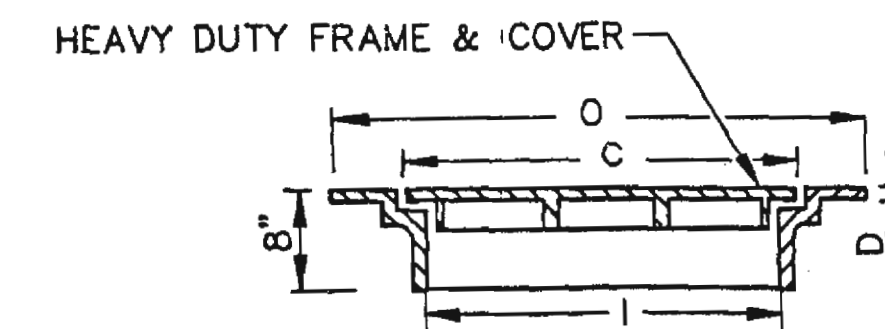
2000 Gallon Oil Water Separator Detail



Containment Dike Detail



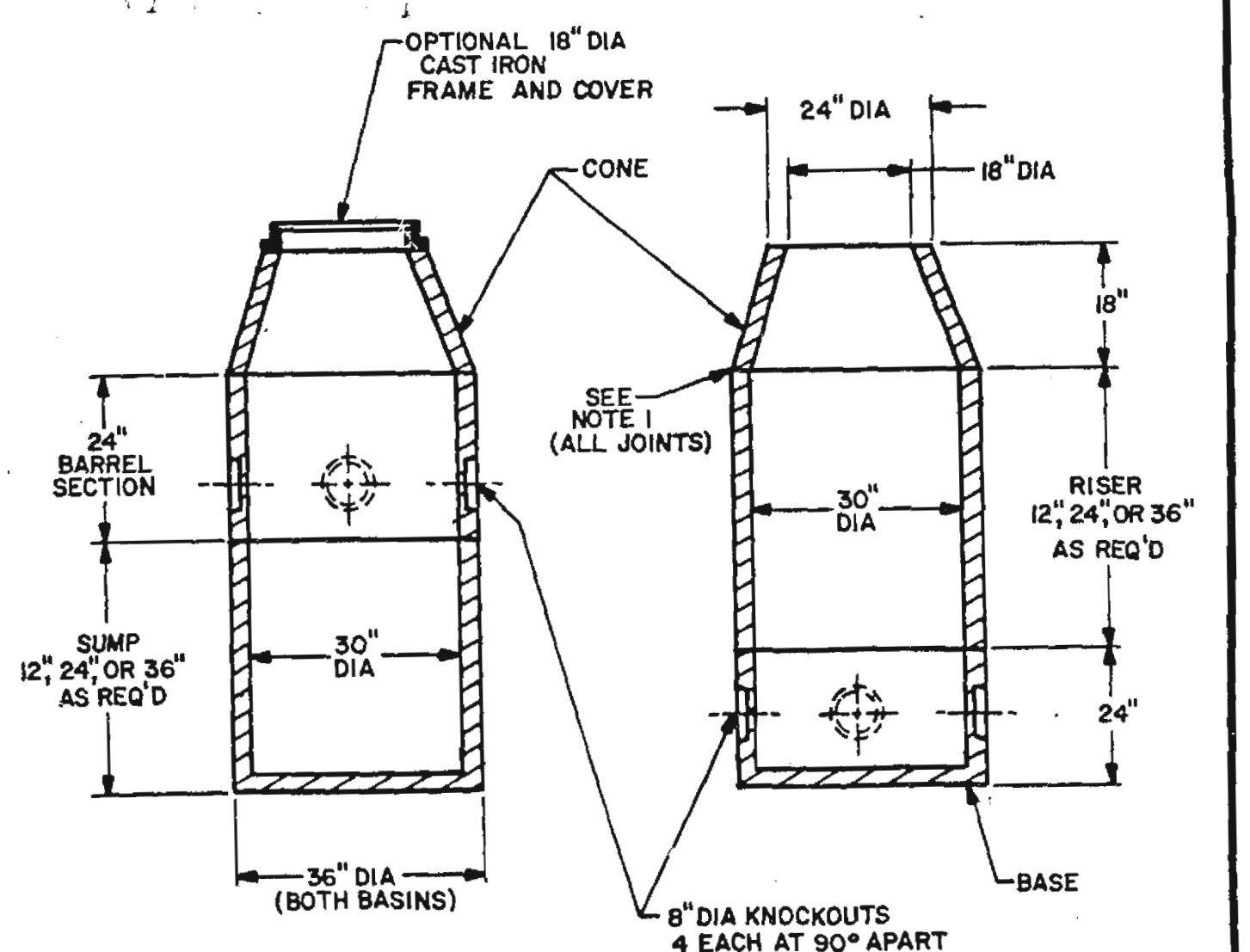
Concrete Reinforcement Detail



NOTE:
CASTINGS SHALL BE DUCTILE IRON FOR AOA AREAS
AND GREY IRON FOR NON-AOA AREAS.

I	D	O	C	APPROX. WT.
18"	1 1/4"	24"	20"	170 LBS.
24"	1 1/2"	32"	26"	427 LBS.
30"	1 3/4"	38"	32"	720 LBS.

Manhole Frame and Cover Detail

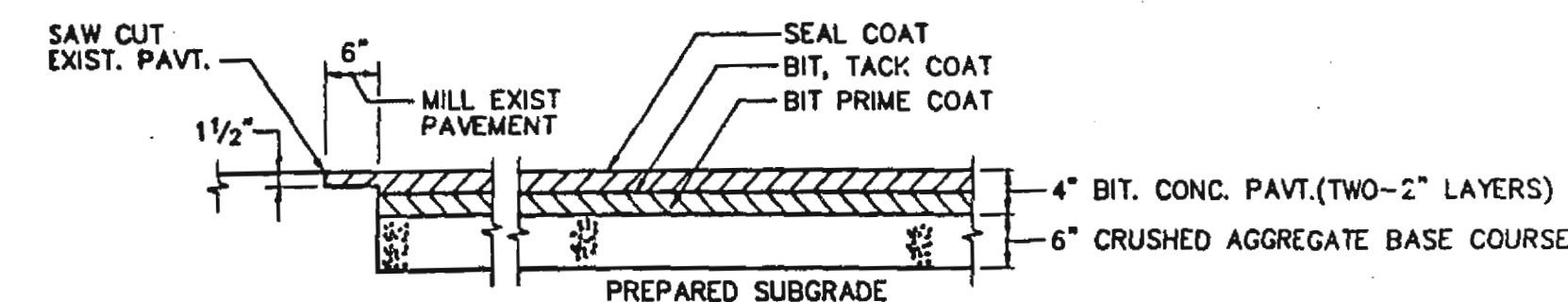


CROSS SECTION VIEWS

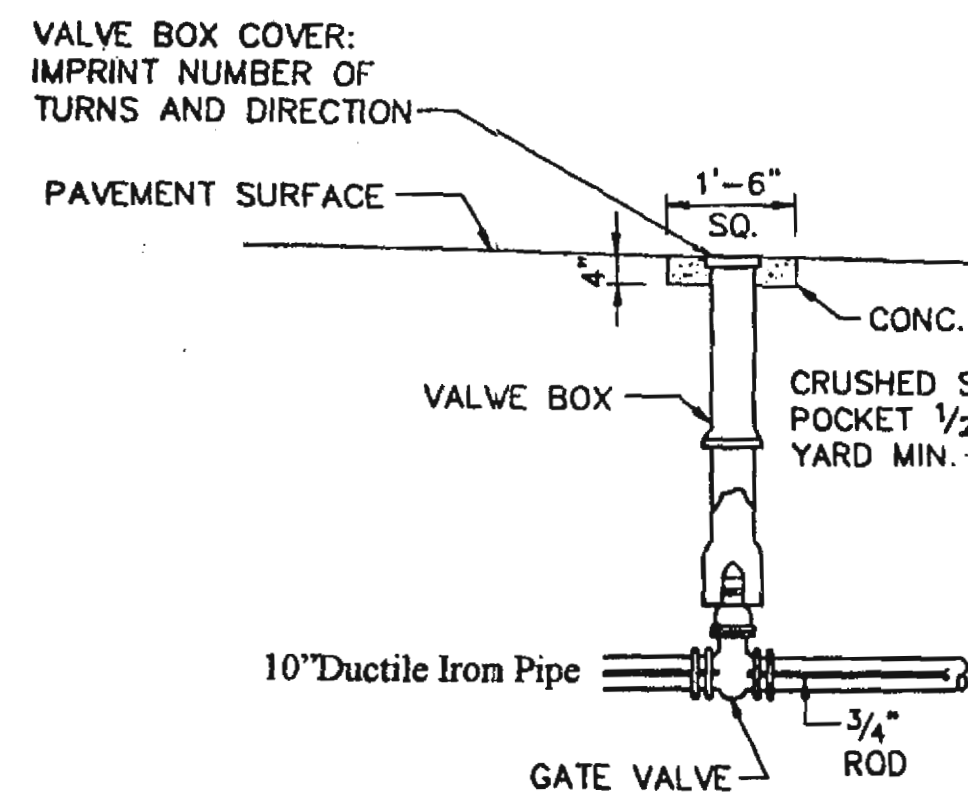
NOTES:
1. 3" FLAT JOINT SEALED WITH BUTYL RESIN OR MORTAR.
2. FLAT CONICAL COVER WITH CLEANOUT CAN BE USED IN PLACE OF CONE, CAST IRON COVER AND FRAME.

Manhole Detail / 5' Diameter

ITEM	MATERIAL LIST
A.	1,500 OIL WATER SEPARATOR
B.	4' X 5' DIA MANHOLE
C.	4' X 5' DIA CATCH BASINS
D.	H-20 MANHOLE COVERS
E.	H-20 CATCHBASIN COVERS
F.	10" DUCTILE IRON PIPING
G.	10" GATE VALVES
H.	GATE VALVE RISERS
I.	4" ELECTRICAL SUBMERSIBLE
J.	4" DUCTILE IRON PIPE
K.	4" GATE VALVE
L.	4" GATE VALVE RISER
M.	4000 PSI CONCRETE
N.	NUMBER 4 REBAR
O.	1/2" X 6" EXPANSION JOINT
P.	3M EXPOXY EXPANSION JOINT
Q.	2.5" BITUMINOUS ASPHALT BINDER
R.	1.5" BITUMINOUS ASPHALT TOP
S.	BITUMINOUS EMULSION

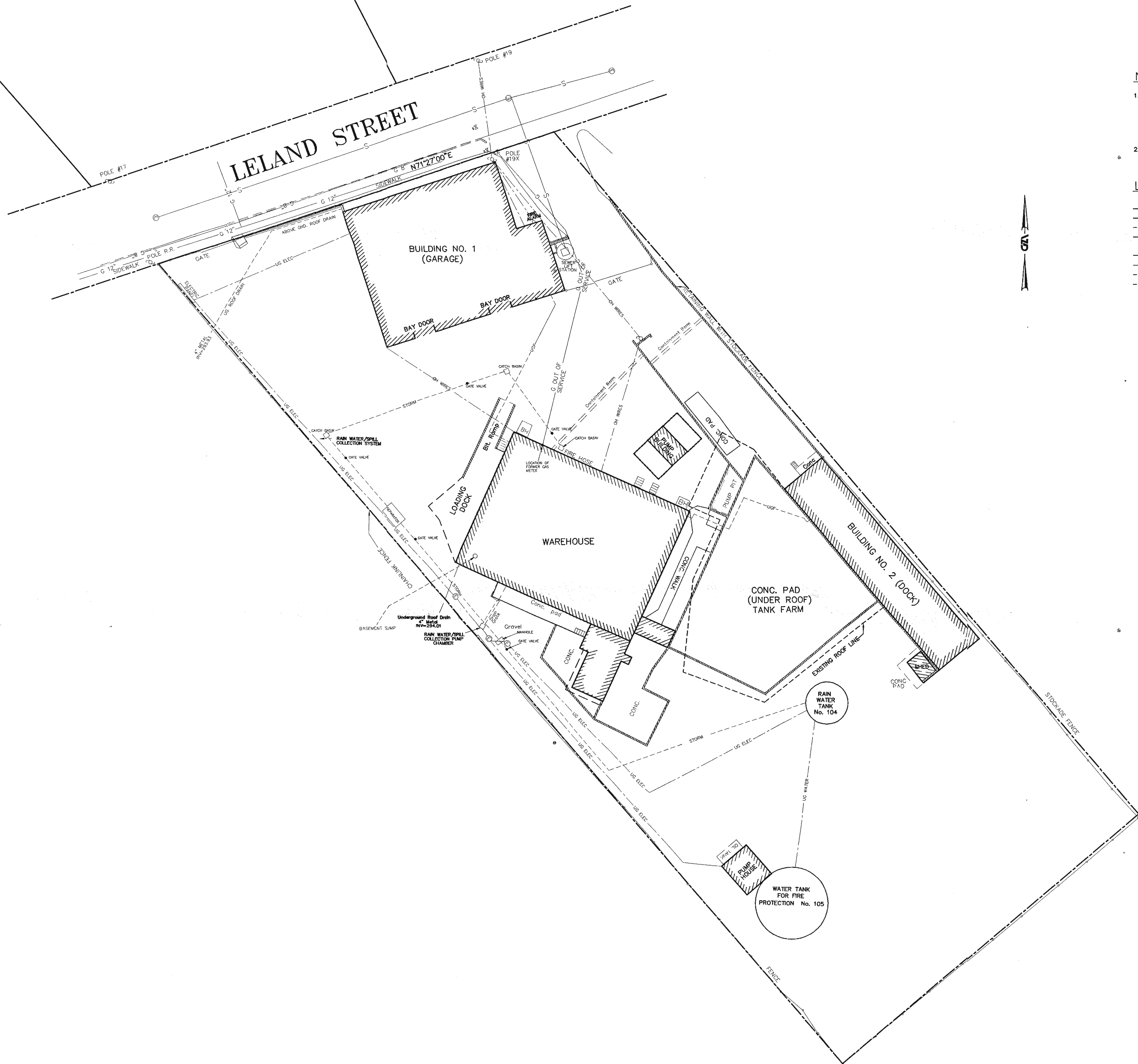


Bituminous Concrete Pavement Detail



10" Gate Valve/Pipe Detail

"AS - BUILT" 11/1/98		DATE	BY	CHKD	APPD	DATE
General Chemical Corporation 133-138 Leland Street Framingham, MA Drainage System Installation						
Prepared By: Global Contracting Services, Inc. 1 Veseyhouse Plaza BOSTON, MASSACHUSETTS Phone (617) 364-0800 Fax (617) 361-3088						
PROPOSED NO. 2090	DRAWING NO.		EXHIBIT 6			
SCALE AS NOTED						



NOTES:

1. BASE PLAN SUPPLIED ON ELECTRONIC "CAD FILES" BY GLM ENGINEERING CONSULTANTS, INC., 175 WASHINGTON STREET, HOLLISTON, MASSACHUSETTS 01746, ENTITLED "EXISTING CONDITIONS PLAN, GENERAL CHEMICAL CORP., LELAND STREET, FRAMINGHAM, MASSACHUSETTS, PREPARED FOR: CDW CONSTRUCTION, INC. 211 SPEEN STREET, FRAMINGHAM, MASSACHUSETTS", ORIGINAL SCALE 1"=20', AND DATED SEPTEMBER 3, 1998, PLAN No. 25,236, SHEET 1 OF 1.

2. THERE IS NO UNDERGROUND PIPING ASSOCIATED WITH WASTE MANAGEMENT OPERATIONS.

LEGEND:

- | | |
|-----------------|---------------------------------|
| — UG WATER | = UNDERGROUND WATER |
| — UG ELEC | = UNDERGROUND ELECTRIC |
| — UG ROOF DRAIN | = UNDERGROUND ROOF DRAIN |
| — S | = SEWER |
| — OH WIRES | = ELECTRIC MANHOLE |
| — G | = OVERHEAD WIRES |
| — UGF | = GAS |
| — STORM | = UNDERGROUND FOAM SYSTEM |
| | = UNDERGROUND STORMWATER SYSTEM |

GENERAL CHEMICAL CORPORATION
LELAND STREET, FRAMINGHAM, MA.

SITE PLAN OF CURRENT
UNDERGROUND UTILITIES

JOB NO.
15861.04

FIGURE NO.

1

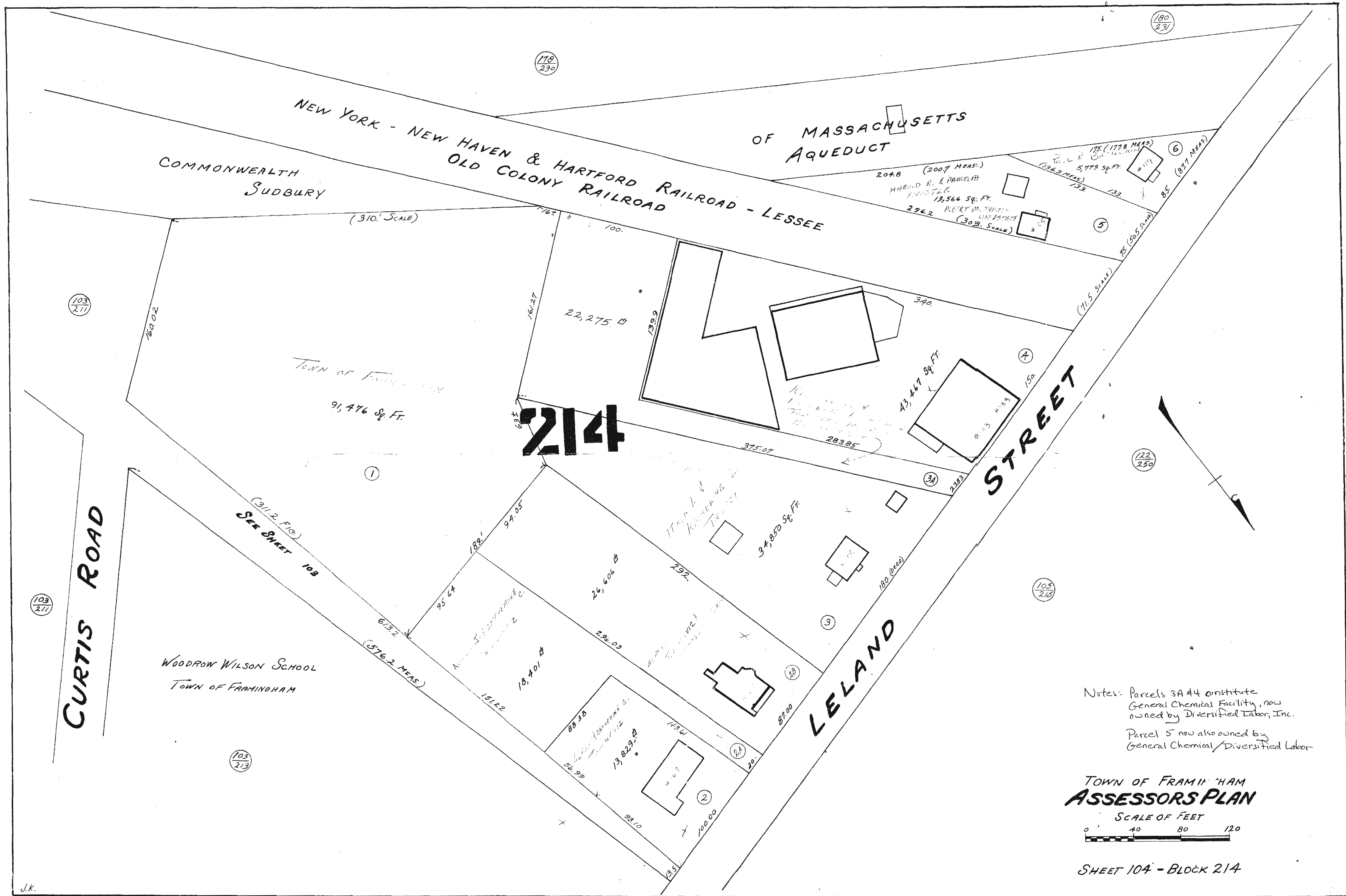
PROJ MGR: PAH
INFORMATION: RHS
BY: RHS
REVIEWED BY: PAH
OPERATOR: MKH
DATE: 10/24/01

SCALE 1"=20'

0 10' 20' 40'

GZA | GZA
GeoEnvironmental, Inc.

REV. NO.	DESCRIPTION	BY	DATE

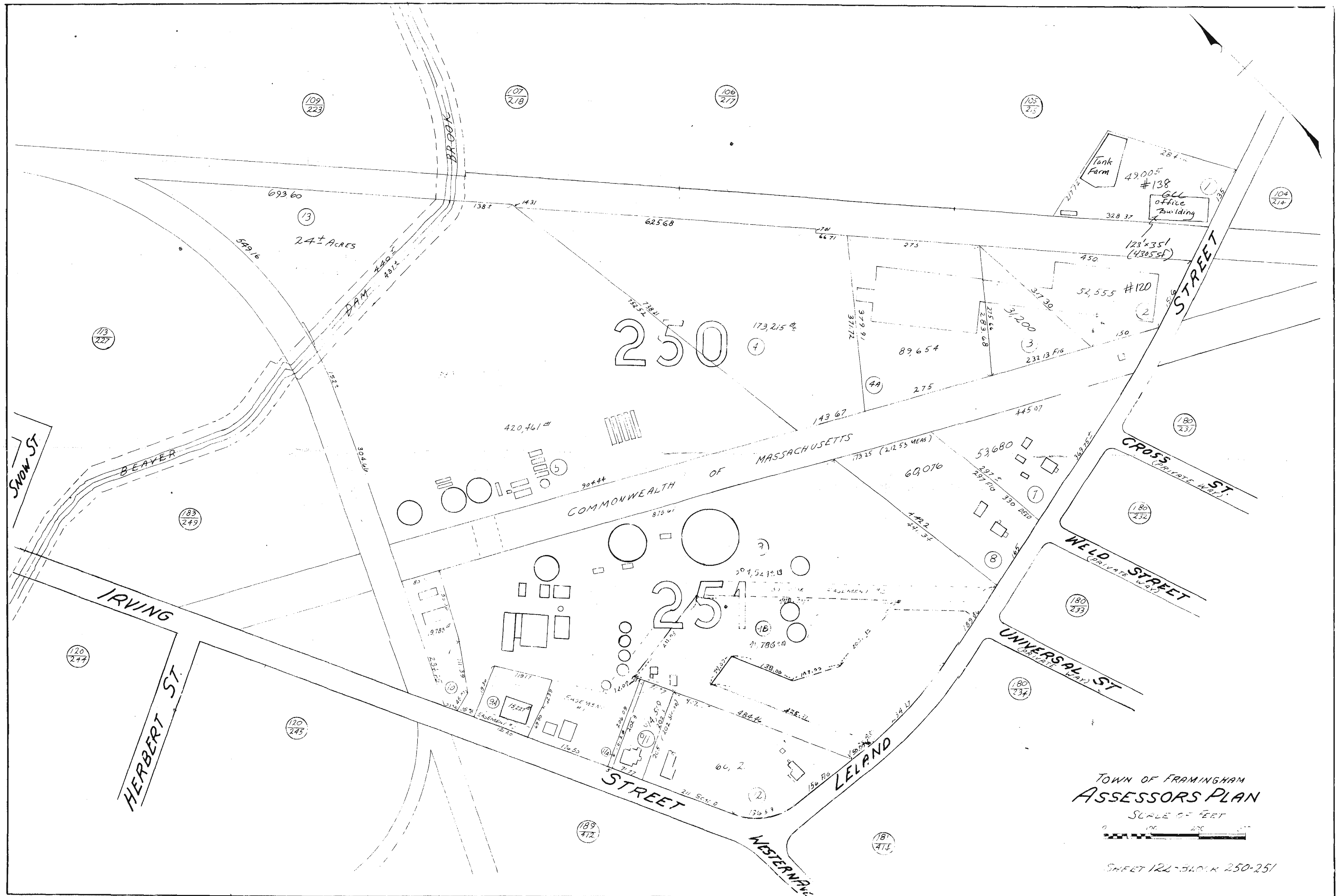


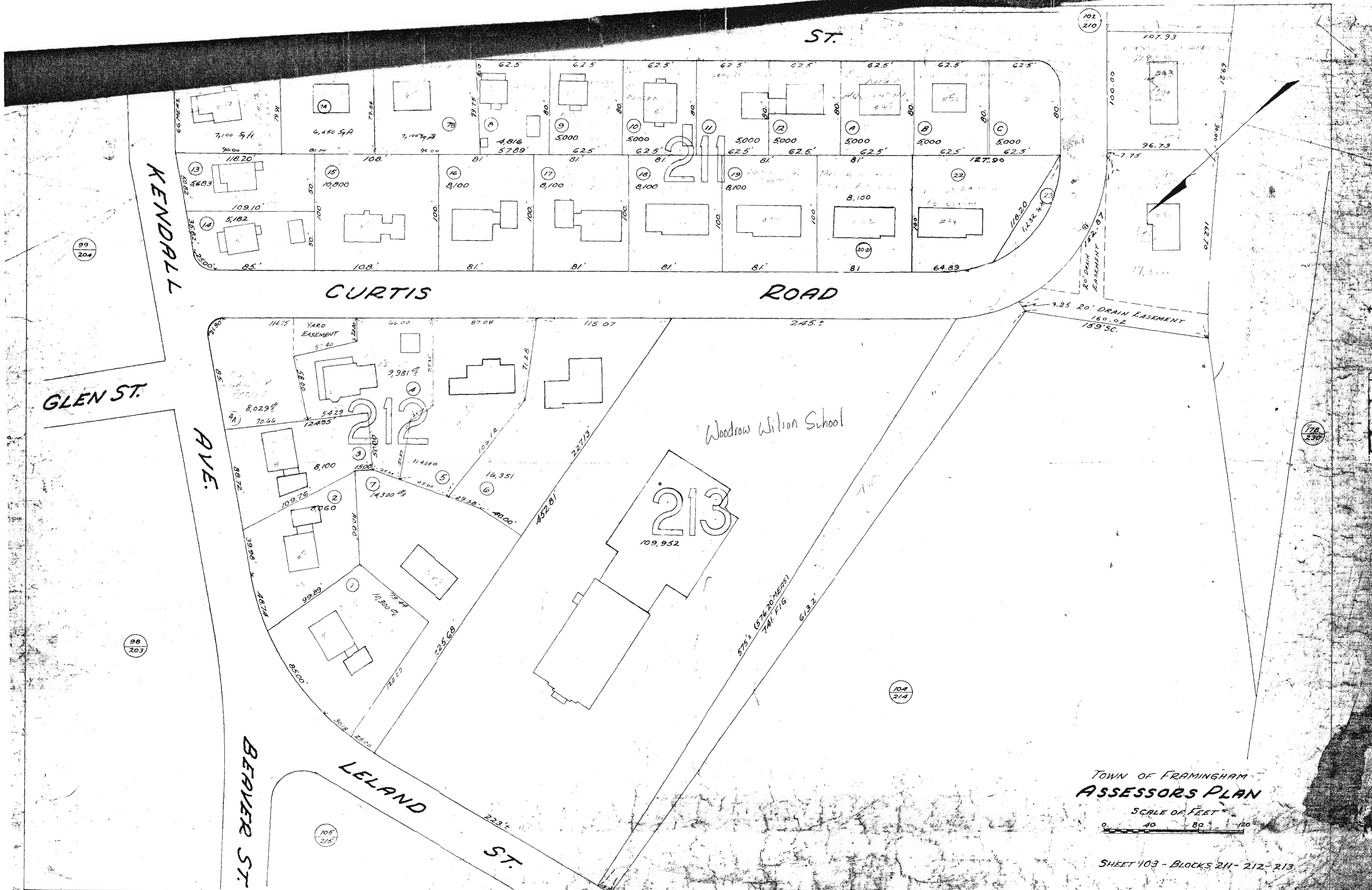
Notes: Parcels 3A 44 constitute
General Chemical Facility, now
owned by Diversified Labor, Inc.
Parcel 5 now also owned by
General Chemical/Diversified Labor

TOWN OF FRAMINGHAM
ASSESSORS PLAN
SCALE OF FEET
0 40 80 120

SHEET 104 - BLOCK 214

J.K.



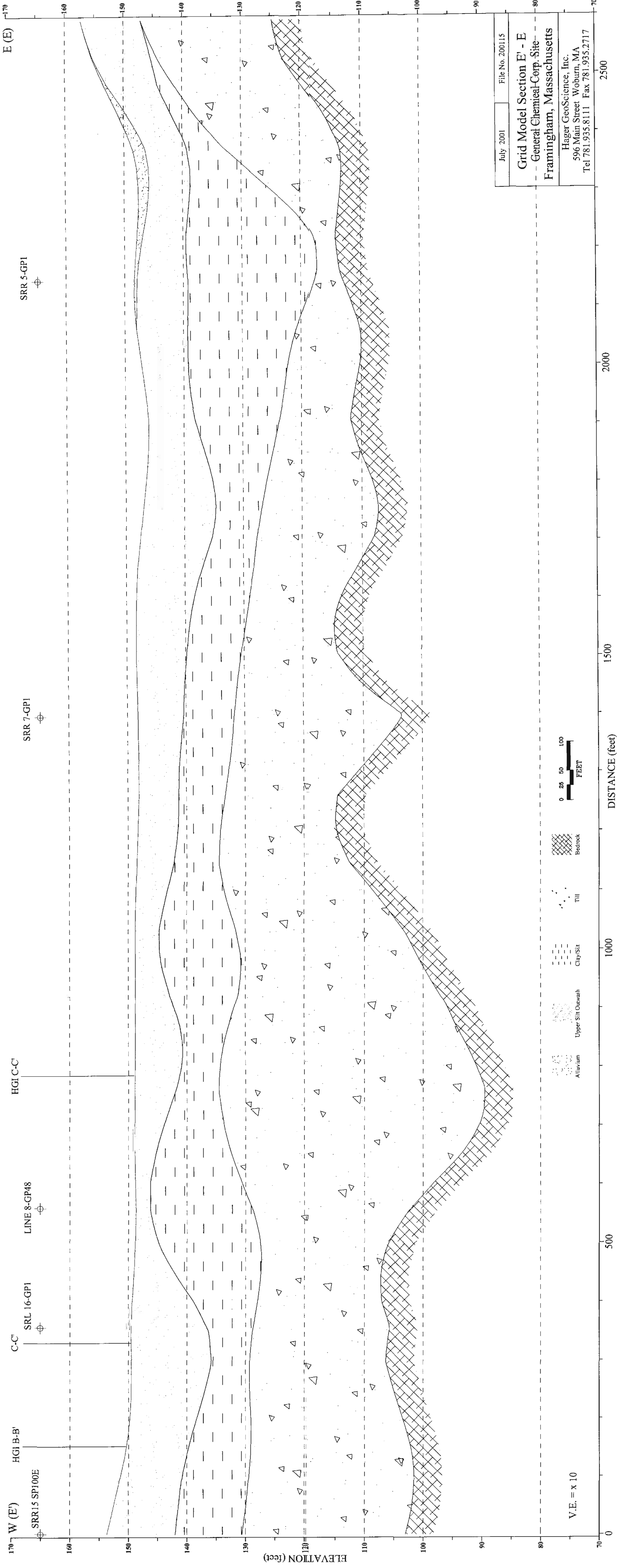
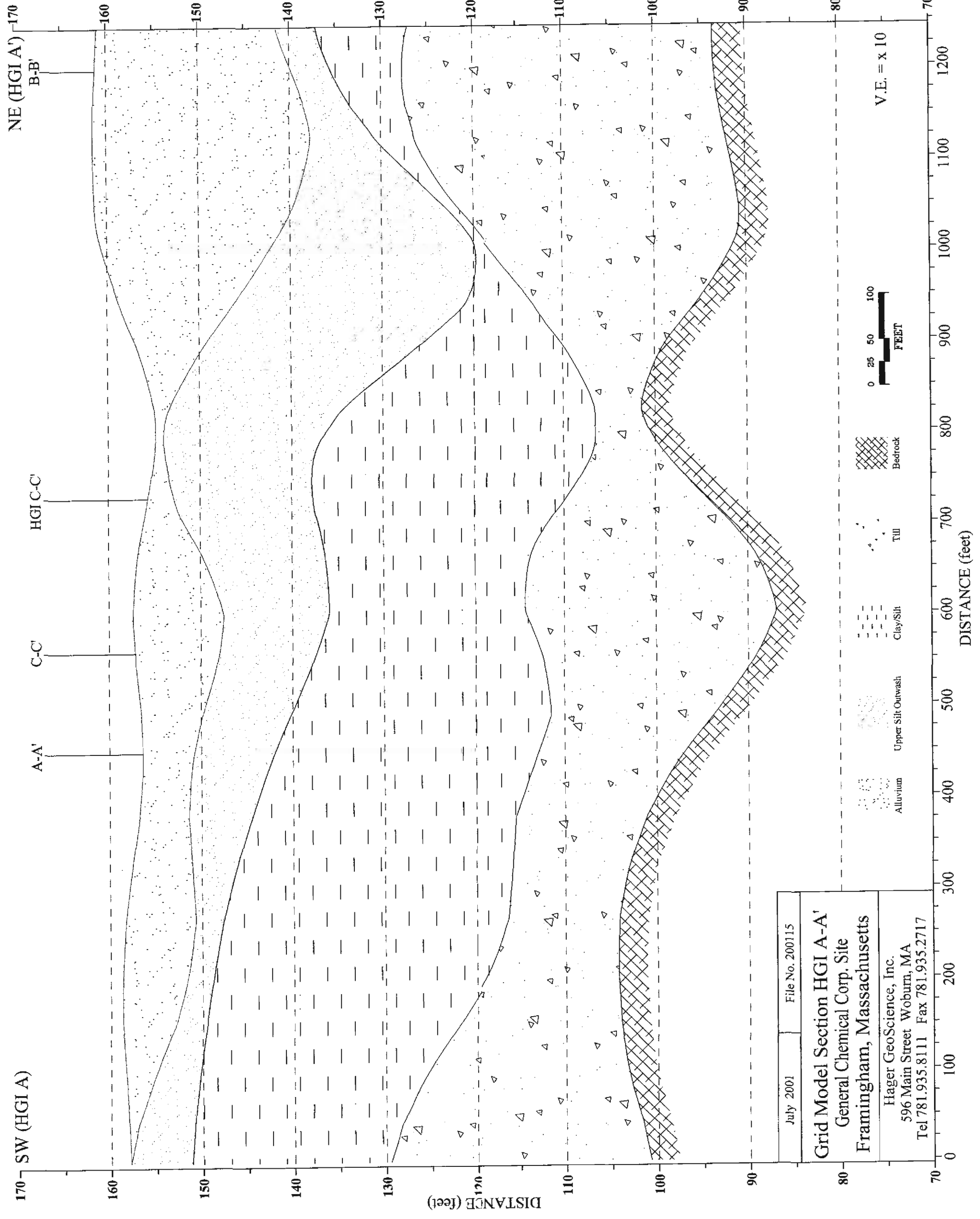
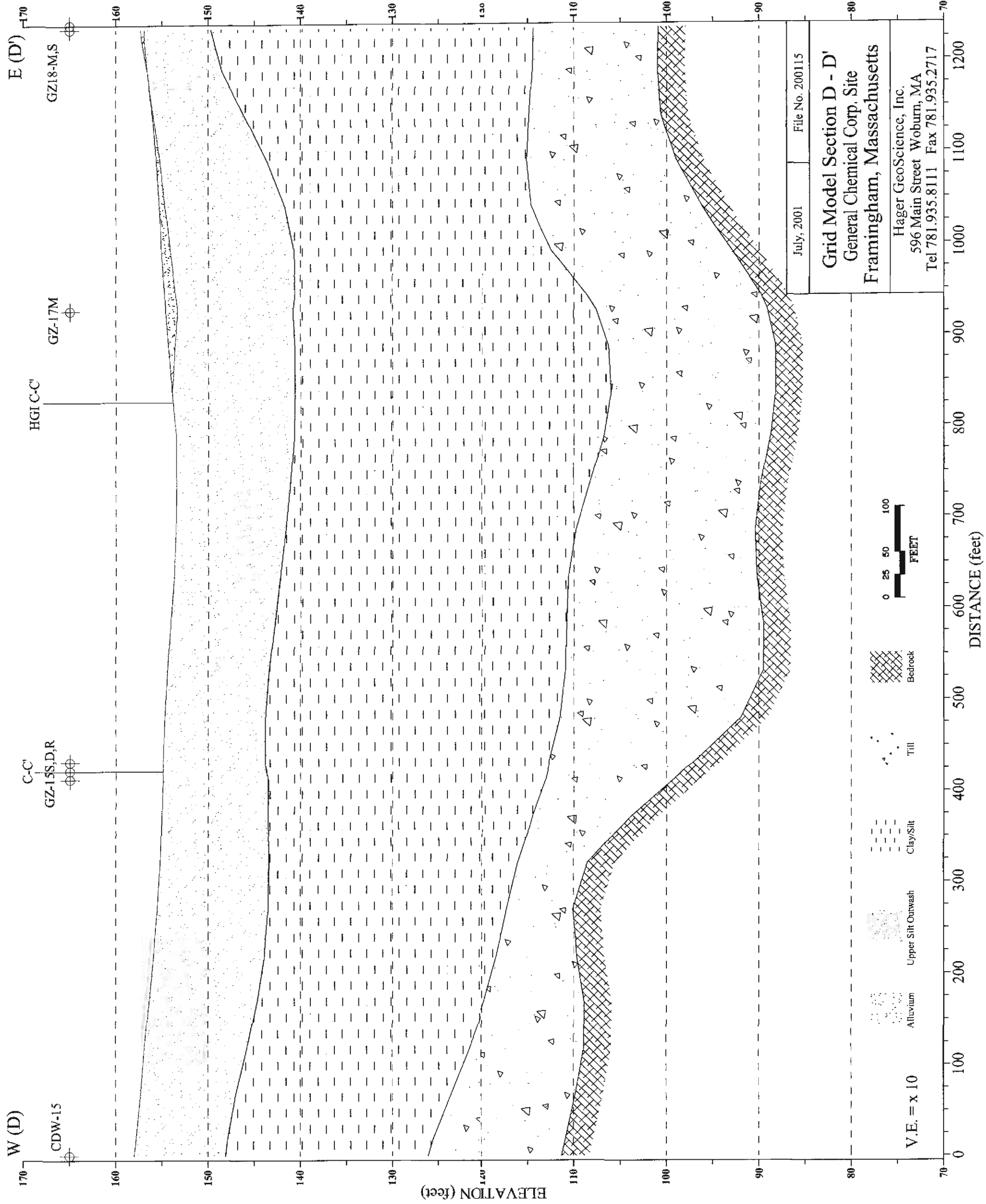


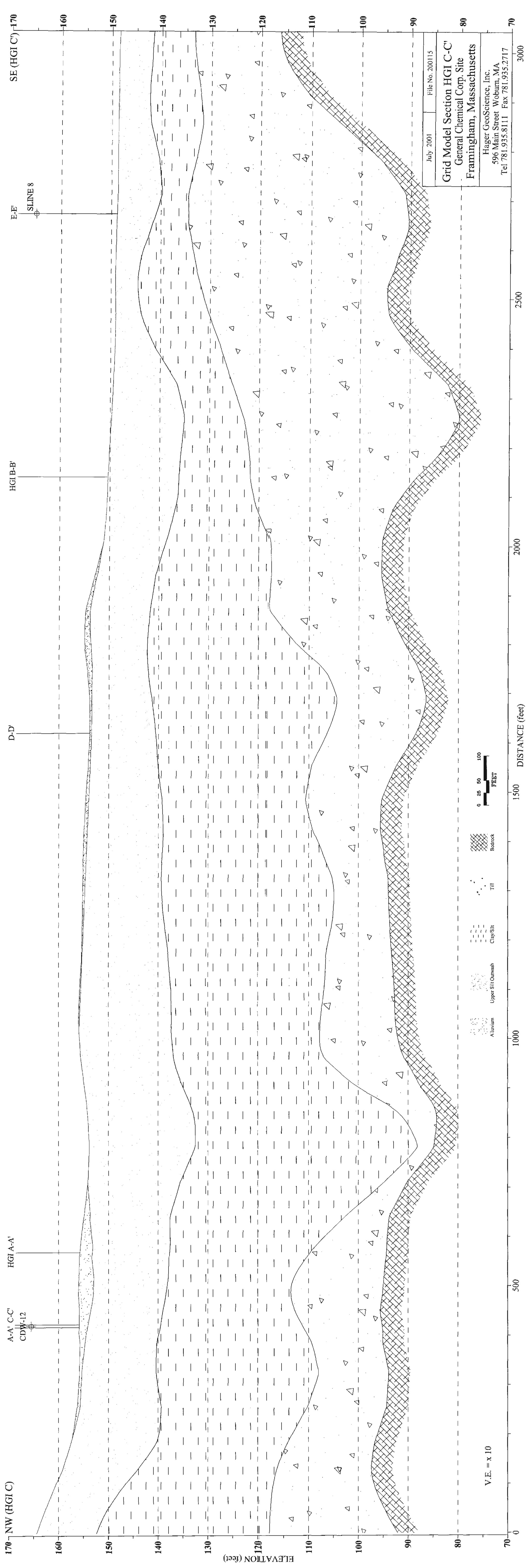
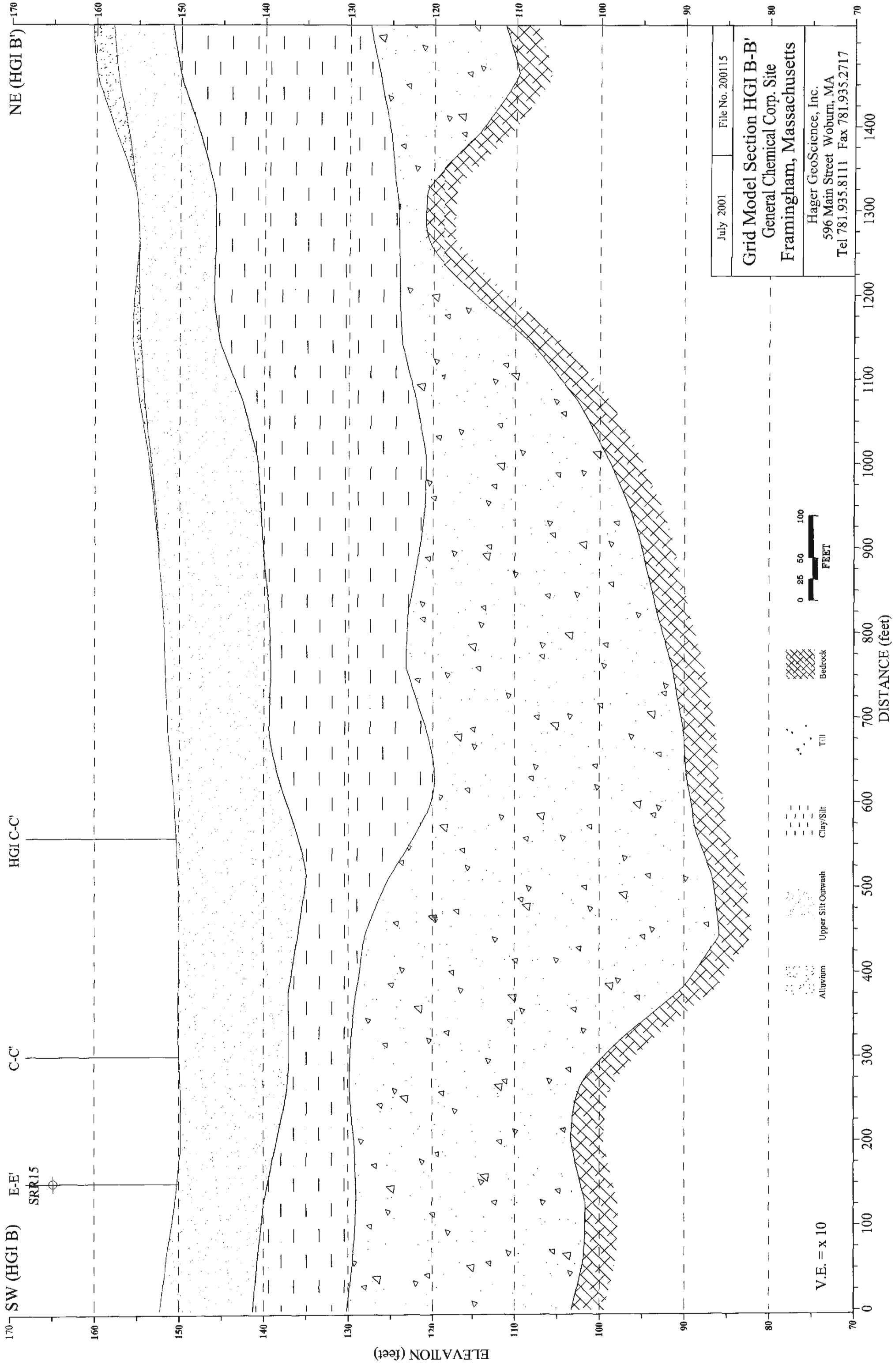
TOWN OF FRAMINGHAM
ASSESSORS PLAN

SCALE OF FEET

0 40 80 120

SHEET 103 - BLOCKS 211 - 212 - 213





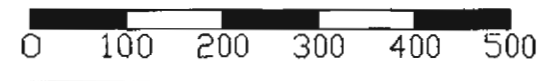


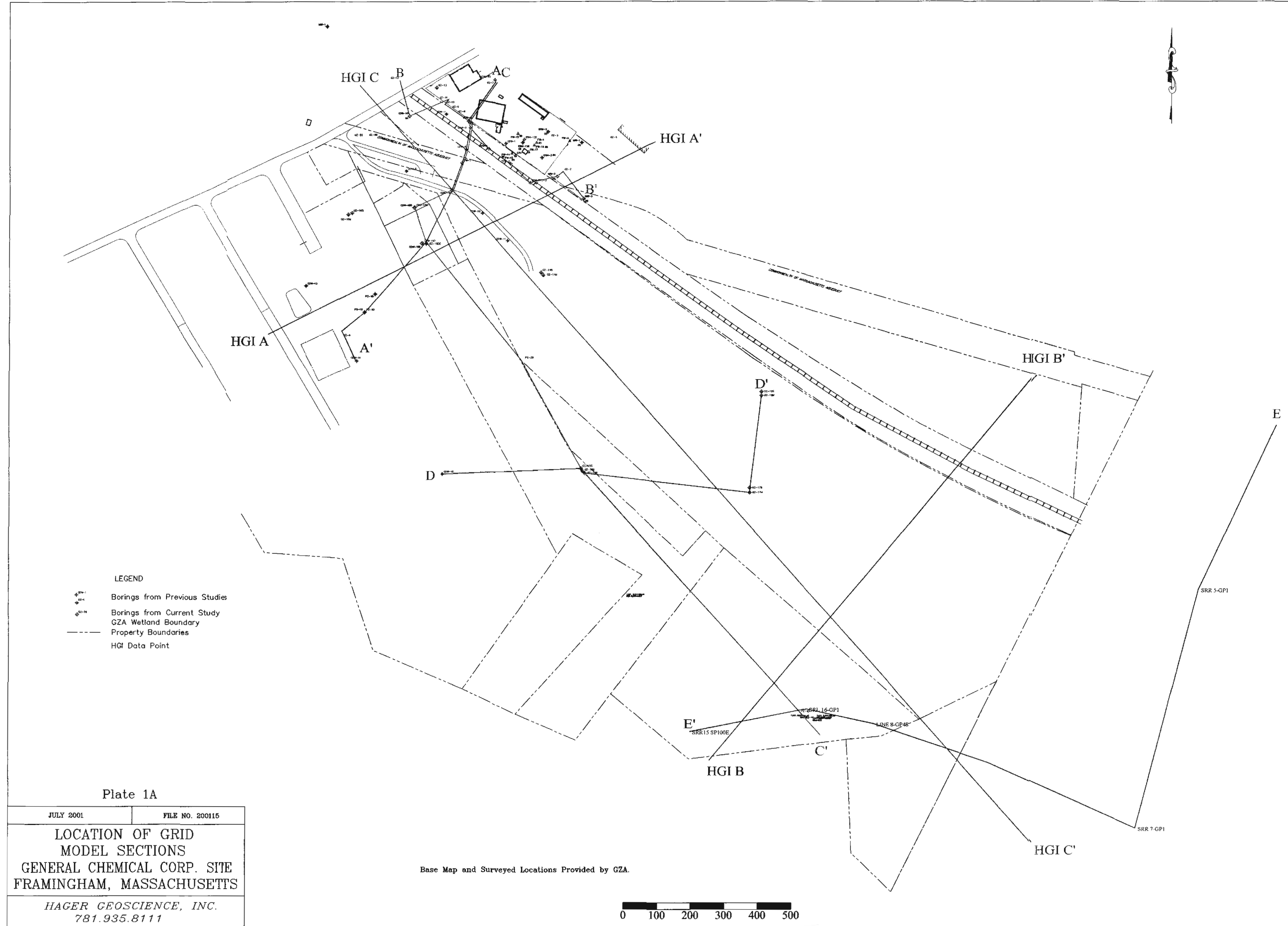
- LEGEND
- Borings from Previous Studies
 - Borings from Current Study
 - GZA Wetland Boundary
 - Property Boundaries
 - HGI Data Point
 - GPS Survey Control Point

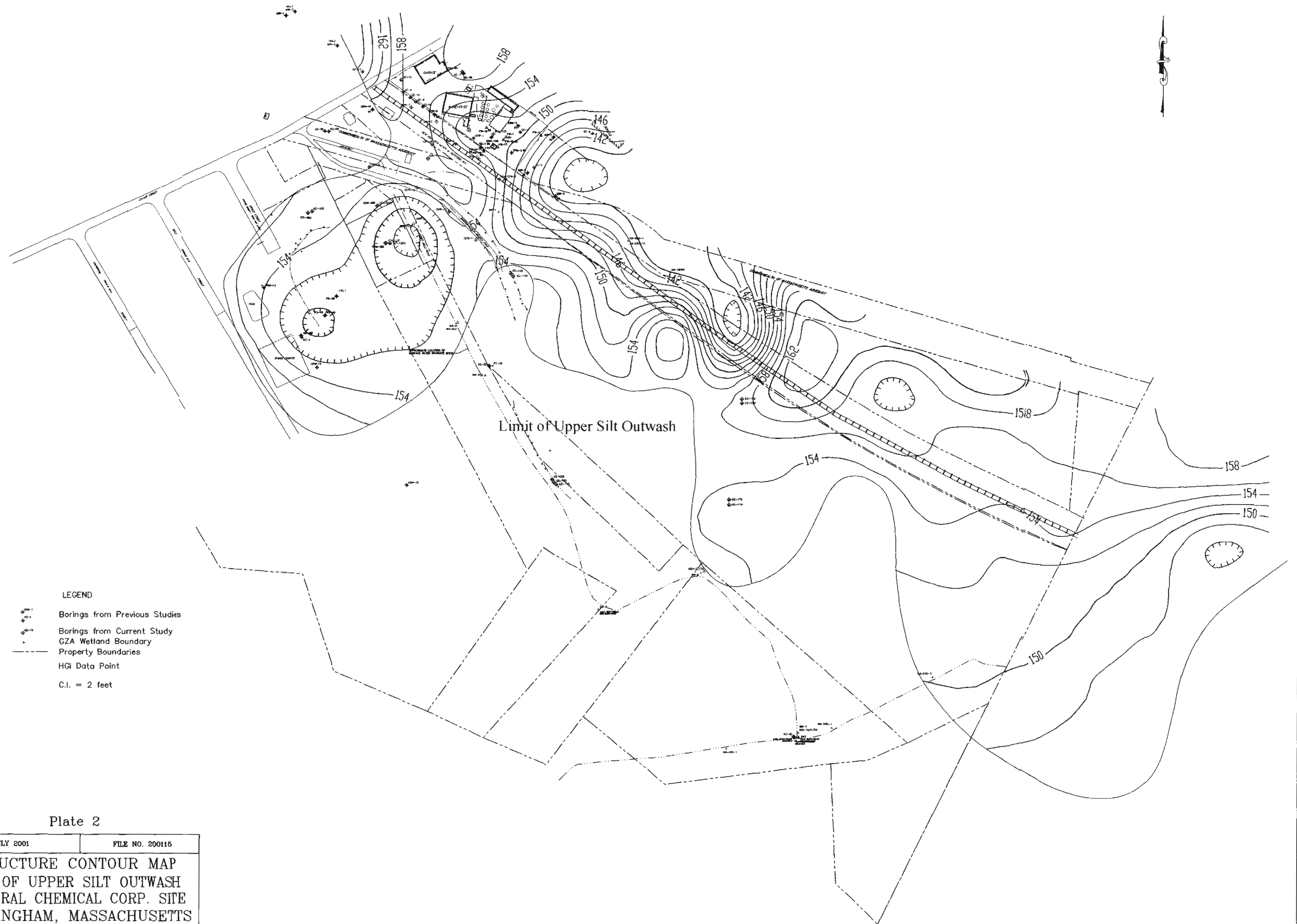
Plate 1

JULY 2001	FILE NO. 200115
LOCATION OF GEOPHYSICAL DATA POINTS GENERAL CHEMICAL CORP. SITE FRAMINGHAM, MASSACHUSETTS	
HAGER GEOSCIENCE, INC. 781.935.8111	

Base Map and Surveyed Locations Provided by GZA.







LEGEND

- Borings from Previous Studies
- Borings from Current Study
- GZA Wetland Boundary
- Property Boundaries
- HGI Data Point
- C.I. = 2 feet

Plate 2

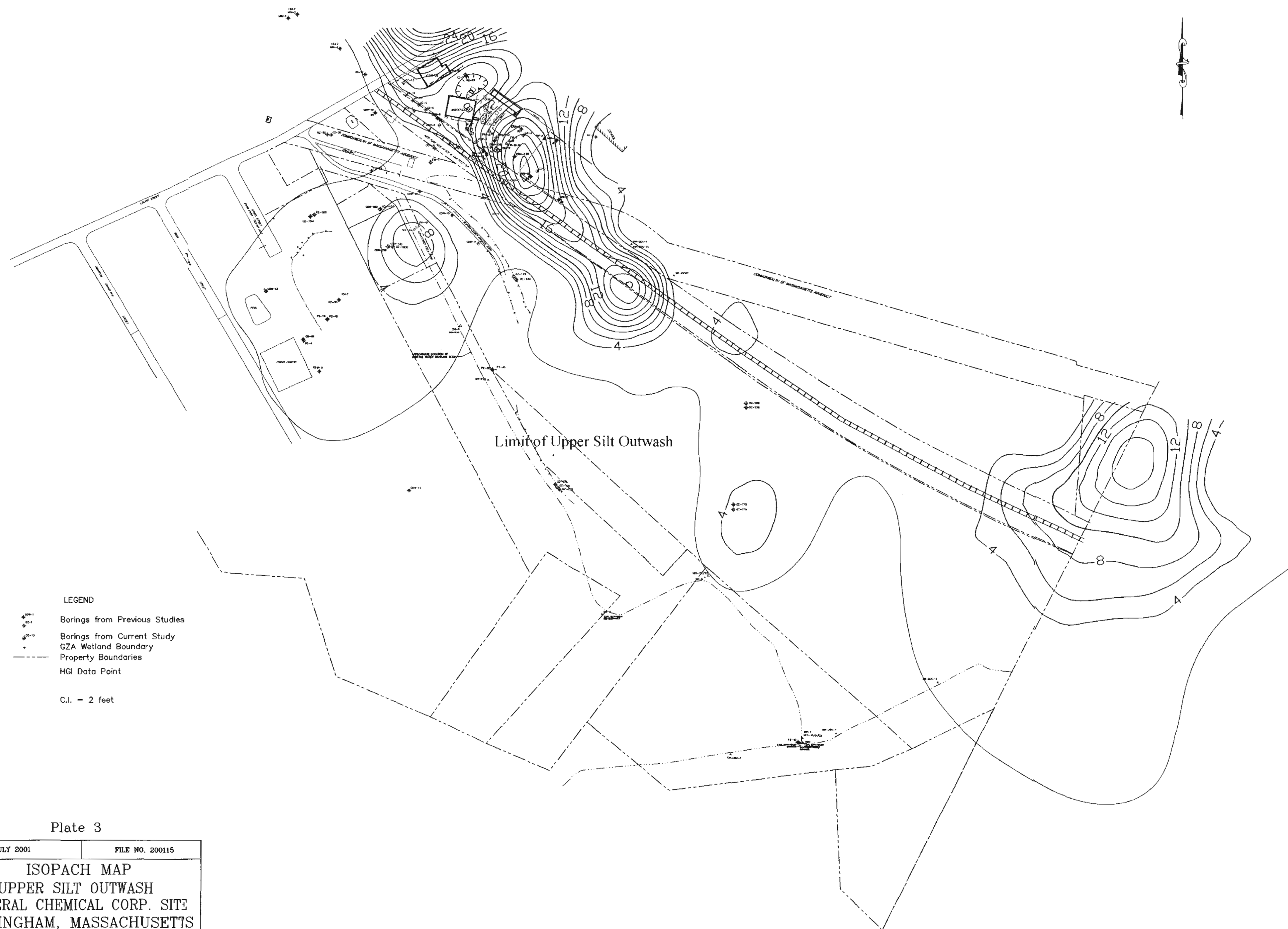
JULY 2001

FILE NO. 200115

STRUCTURE CONTOUR MAP
TOP OF UPPER SILT OUTWASH
GENERAL CHEMICAL CORP. SITE
FRAMINGHAM, MASSACHUSETTS

HAGER GEOSCIENCE, INC.
781.935.8111

0 100 200 300 400 500



LEGEND

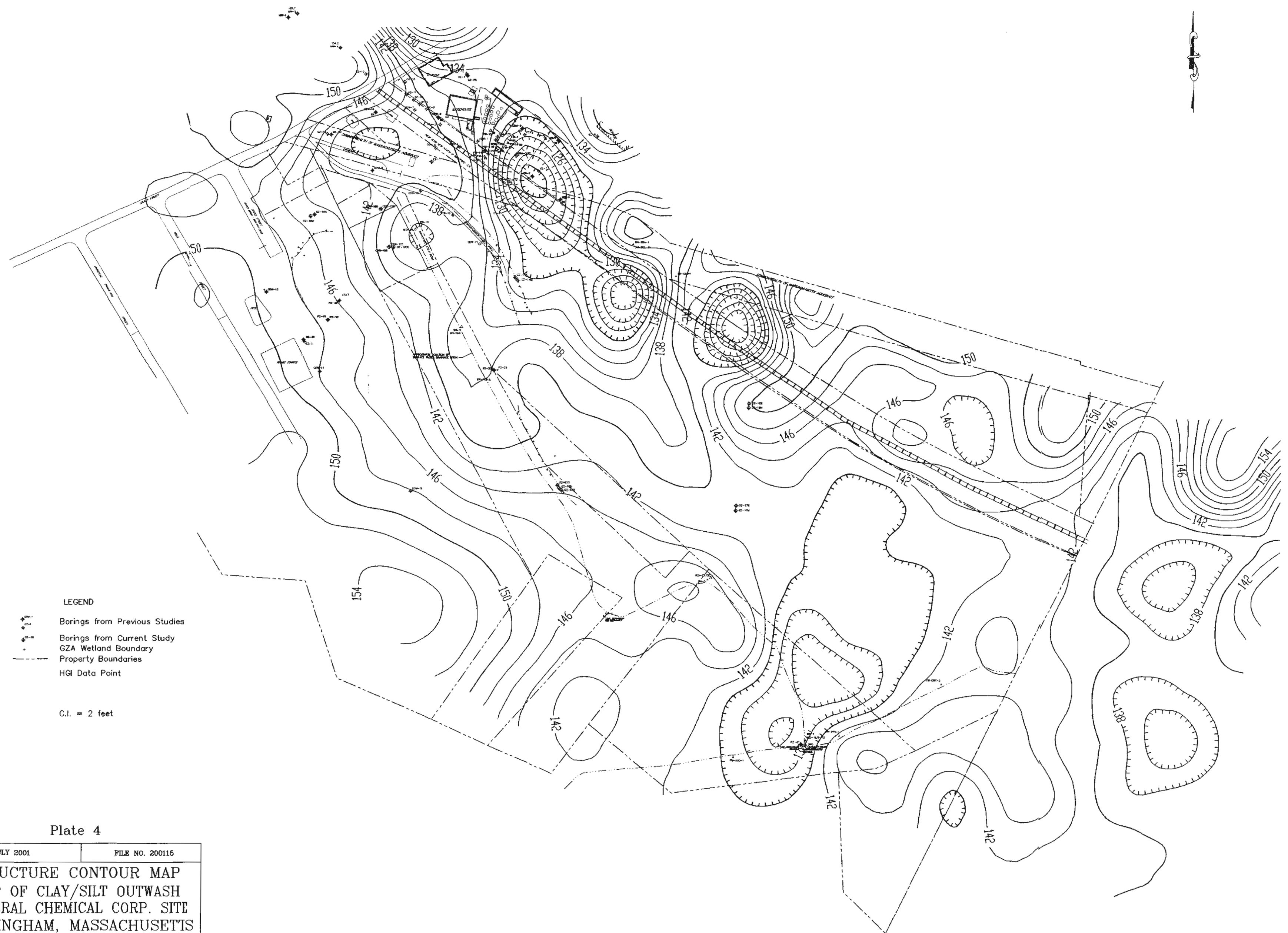
- Borings from Previous Studies
- Borings from Current Study
- GZA Wetland Boundary
- Property Boundaries
- HGI Data Point

C.I. = 2 feet

Plate 3

JULY 2001	FILE NO. 200115
ISOPACH MAP UPPER SILT OUTWASH GENERAL CHEMICAL CORP. SITE FRAMINGHAM, MASSACHUSETTS	
HAGER GEOSCIENCE, INC. 781.935.8111	





LEGEND

- Borings from Previous Studies
- Borings from Current Study
- - - GZA Wetland Boundary
- - - Property Boundaries
- HGI Data Point

C.I. = 2 feet

Plate 4

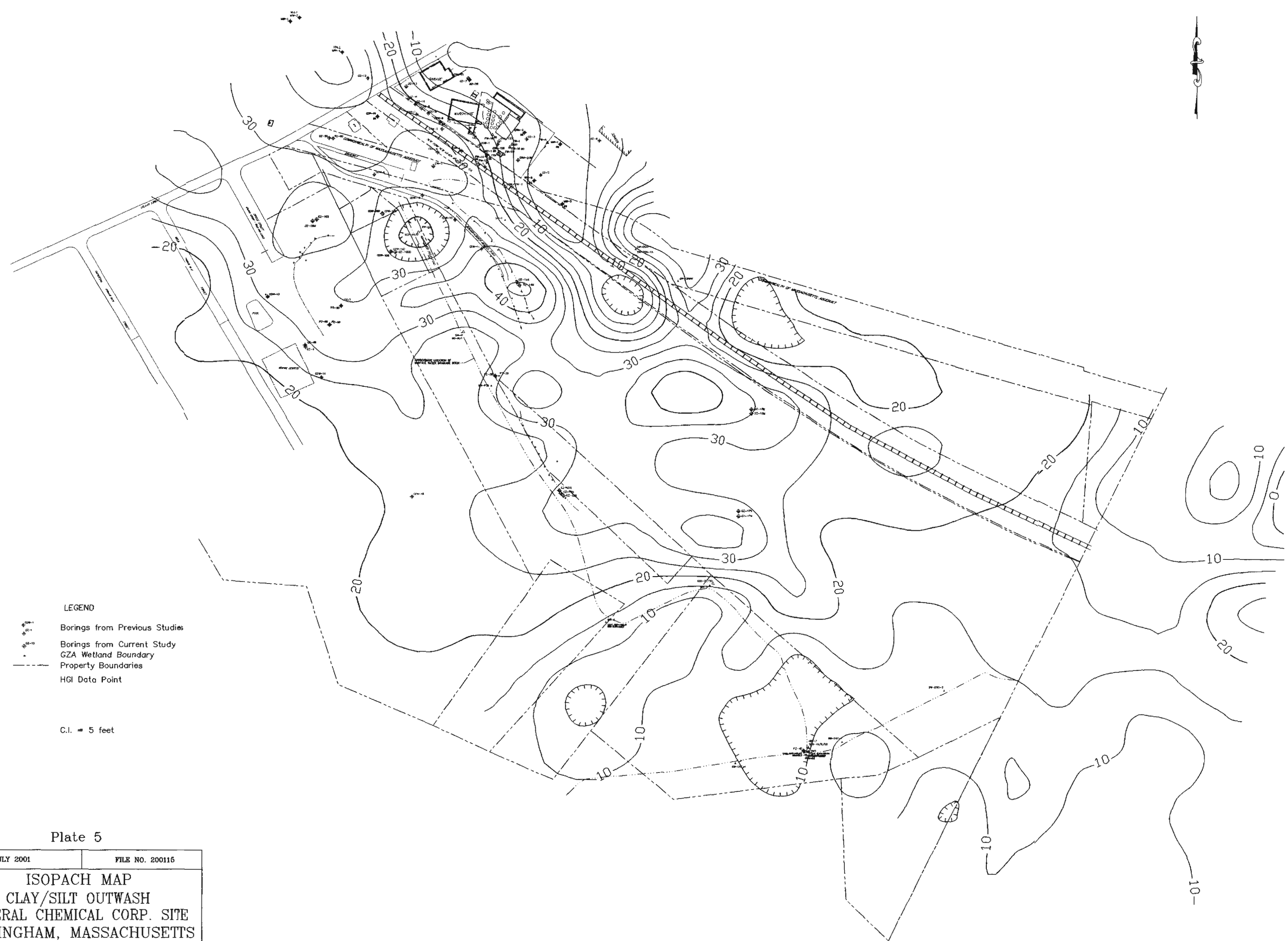
JULY 2001

FILE NO. 200115

STRUCTURE CONTOUR MAP
TOP OF CLAY/SILT OUTWASH
GENERAL CHEMICAL CORP. SITE
FRAMINGHAM, MASSACHUSETTS

HAGER GEOSCIENCE, INC.
781.935.8111





- LEGEND
- Borings from Previous Studies
 - Borings from Current Study
 - GZA Wetland Boundary
 - Property Boundaries
 - HGI Data Point

C.I. = 5 feet

Plate 5

JULY 2001	FILE NO. 200115
ISOPACH MAP CLAY/SILT OUTWASH GENERAL CHEMICAL CORP. SITE FRAMINGHAM, MASSACHUSETTS	
HAGER GEOSCIENCE, INC. 781.935.8111	

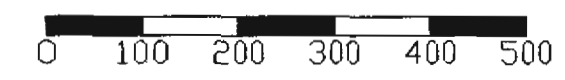




Plate 6

JULY 2001	FILE NO. 200115
STRUCTURE CONTOUR MAP TOP OF TILL GENERAL CHEMICAL CORP. SITE FRAMINGHAM, MASSACHUSETTS	
HAGER GEOSCIENCE, INC. 781.935.8111	

0 100 200 300 400 500



LEGEND

- Borings from Previous Studies
- Borings from Current Study
- GZA Wetland Boundary
- Property Boundaries
- HGI Data Point

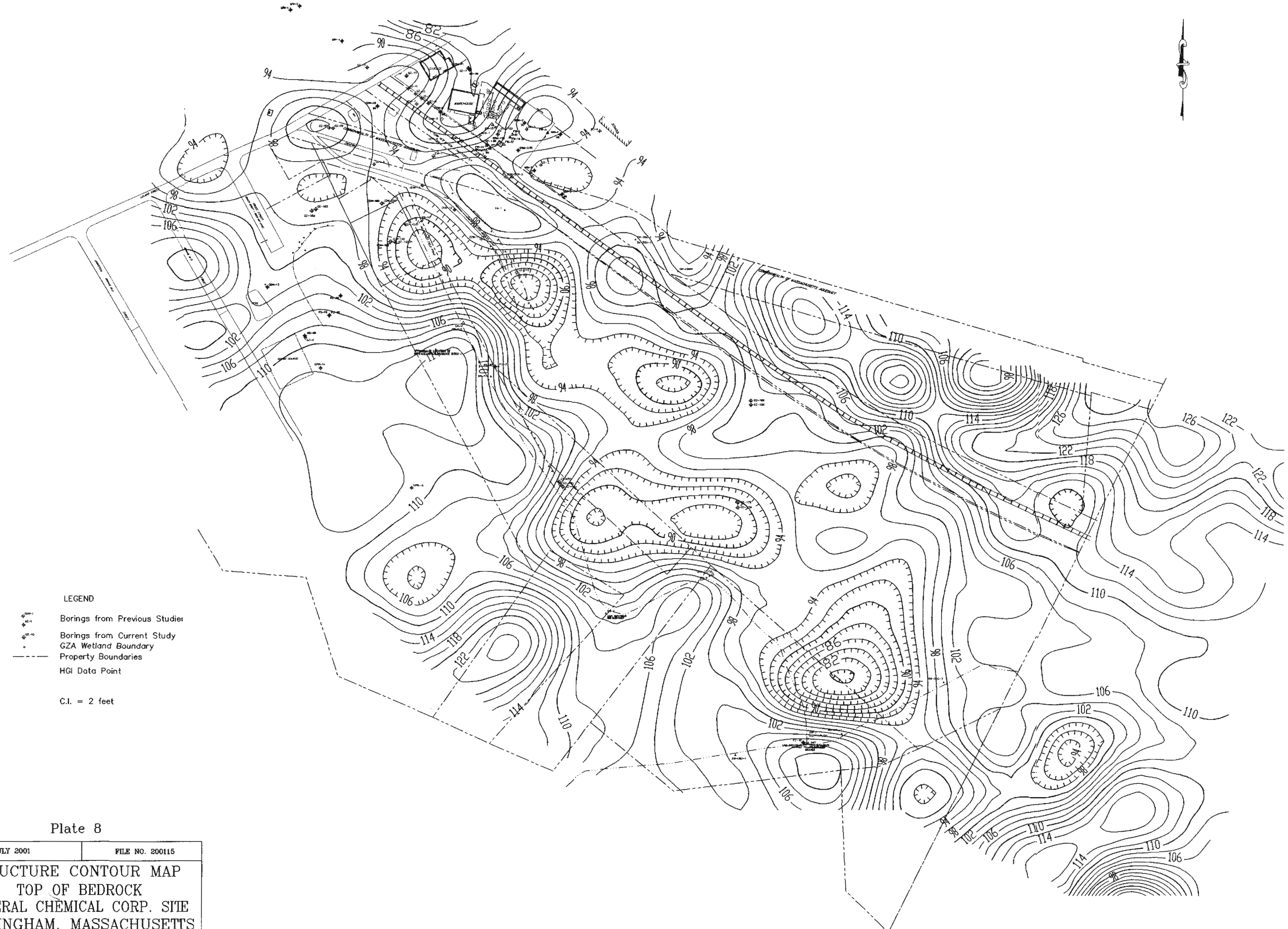
C.I. = 5 feet

AREA OF SPARSE TILL DATA

Plate 7

JULY 2001	FILE NO. 200115
ISOPACH MAP TILL GENERAL CHEMICAL CORP. SITE FRAMINGHAM, MASSACHUSETTS	
HAGER GEOSCIENCE, INC. 781.935.8111	





LEGEND

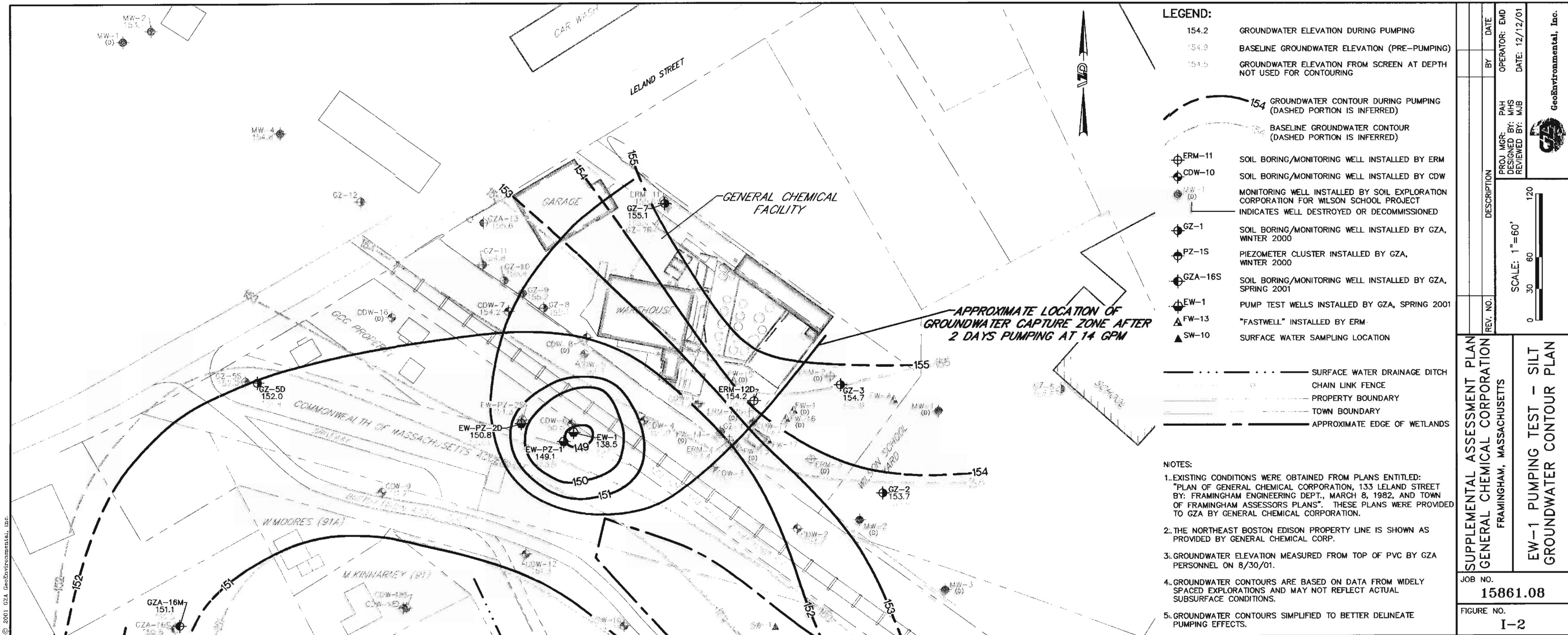
- Borings from Previous Studies
- Borings from Current Study
- GZA Wetland Boundary
- Property Boundary
- HGI Data Point

C.I. = 2 feet

Plate 8

JULY 2001	FILE NO. 200115
STRUCTURE CONTOUR MAP TOP OF BEDROCK GENERAL CHEMICAL CORP. SITE FRAMINGHAM, MASSACHUSETTS	
HAGER GEOSCIENCE, INC. 781.935.8111	

0 100 200 300 400 500



N/A-C

SCANNED
Framingham
91 Leland ST

**SUPPLEMENTAL ASSESSMENT PLAN
GENERAL CHEMICAL CORPORATION
133-135 LELAND STREET
FRAMINGHAM, MASSACHUSETTS
RTN 3-19174
EPA ID # MAD019371079**

VOLUME II OF II

PREPARED FOR:
General Chemical Corporation
Framingham, Massachusetts

PREPARED BY:
GZA GeoEnvironmental, Inc.
Norwood, Massachusetts

December 2001
File No. 15861.08

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APPENDIX D	GZA SUPPLEMENTAL INVESTIGATION BORING LOGS
APPENDIX E	BORING LOGS, PREVIOUS GZA INVESTIGATIONS
APPENDIX F	LABORATORY ANALYTICAL REPORTS-SOIL
APPENDIX G	LABORATORY ANALYTICAL REPORTS-GROUNDWATER
APPENDIX H	GEOPHYSICAL INVESTIGATION REPORT, HAGER GEOSCIENCE
APPENDIX I	HYDROLOGIC TEST DATA, EXTRACTION WELL EW-1
APPENDIX J	RESPONSE TO MWRA COMMENTS

APPENDIX A

LIMITATIONS

LIMITATIONS

1. The conclusions and recommendations submitted in this report are based in part upon the data obtained from a limited number of soil samples from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until further investigation. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the recommendations of this report.
2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more gradual. For specific information, refer to the boring logs.
3. Water level readings have been made in the test pits, borings and/or observation wells at times and under conditions stated on the exploration logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time measurements were made.
4. Except as noted within the text of the report, no quantitative laboratory testing was performed as part of the site assessment. Where such analyses have been conducted by an outside laboratory, GZA GeoEnvironmental, Inc. (GZA) has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.
5. The conclusions and recommendations contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. As indicated within the report, some of these data are preliminary "screening" level data, and should be confirmed with quantitative analyses if more specific information is necessary. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by GZA, and the conclusions and recommendations presented therein modified accordingly.
6. Chemical analyses have been performed for specific parameters during the course of this study, as detailed in the text. It must be noted that additional constituents not searched for during the current study may be present in soil and groundwater at the site.
7. It is recommended that this firm be retained to provide further engineering services during design, implementation, and/or construction of any remedial measures, if necessary. This is to observe compliance with the concepts and recommendations contained herein and to allow design changes in the event that subsurface conditions differ from those anticipated.

APPENDIX B

DETAILED FACILITY HISTORY

LIST OF FIGURES AND EXHIBITS

Figure 1 - Underground Utilities

Figure 2 - Former Conditions

Exhibit 1 - Septic Tank Evaluation

Exhibit 2 - Site Plan dated March 8, 1982

Exhibit 3 - Site Plan dated September, 1984

Exhibit 4 - Selected Photographs taken June, 1984

Exhibit 5 - Original Stormwater System

Exhibit 6 - New Stormwater System

Exhibit 7 - Richard Gardner Letter to EPA dated 6/17/85

Exhibit 8 - Release Summaries from "Spill Book"

FACILITY HISTORICAL INFORMATION

I. OVERVIEW

Historical information presented in this report and on the attached exhibits was compiled by General Chemical Corporation (GCC) over a period of several months. Methods employed included personal interviews, outside research (e.g., at Framingham Town Hall), and review of archived company and employees' personal records relating to operation of the business. Relevant information was also obtained from site investigations, risk evaluations and licensing documents prepared by third parties.

Both current and former employees were interviewed. One of the current employees has been with the company since 1981 and two of the former employees worked at the facility from about 1960. In total, five former employees were contacted for the purpose of obtaining historical information about the facility.

A current Plant Layout is shown on page 9 for purposes of comparison with earlier conditions described below.

II. GENERAL PROPERTY AND OPERATIONAL HISTORY

The facility at 133 Leland St. was built in 1925 and was operated by Gulf Oil Company (Gulf) from 1925 to 1958. During Gulf's occupancy, the facility typically stored 75,000 gallons of gasoline and 500,000 gallons of fuel oil. The plant serviced all the Gulf gas stations from Wellesley to Westboro, Medfield to Maynard and most of the farms in the area. Annual throughput was approximately 2 million gallons of gasoline. Gulf was also in the retail fuel oil business and had a very active reseller business. Approximately 15 retail oil companies picked up oil at this location. In addition to gasoline and fuel oil distribution activities, Gulf was a supplier of motor oil, cutting oil, aerosol sprays and windshield washer. Company vehicles were also serviced within the facility.

Trinity Oil took over the operation from Gulf in 1958. Trinity continued the reseller business and expanded the retail fuel oil business. The retail gasoline business was discontinued. However, one tank continued to be used for storage of gasoline for fueling company cars and trucks. Each of the fifteen oil resellers picked up as many as five loads a day, six days a week. This represented 50-75 trucks per day. To supply this fuel, Trinity and other contract carriers transported oil to the facility 24 hours a day, 7 days a week in 7000-10,000 gallon capacity tank trailers. The reseller

fuel oil business was discontinued about 1978. Trinity Oil moved across the street to 138 Leland in 1979, and was sold in 1999.

General Chemical began operating at the facility in 1960, initially as a distributor of chlorinated and fluorinated solvents. Over the years, the business grew to include not only the primary solvents trichloroethylene, methylene chloride, 1,1,1- trichloroethane; perchloroethylene, and CFC-113 (commonly referred to as freon), but also many branded solvents from manufacturers such as Hi-Grade, Dow, Du Pont, Fine Organics, etc. In addition, the company blended and marketed a variety of specialized solvent products, which normally consisted of primary solvents combined with stabilizers designed for particular applications.

In 1965, General Chemical began to reclaim marketable product from waste solvent, using batch stills. Reclamation capability was significantly enhanced upon the installation of a continuous-feed LUWA (brand name) thin film evaporator in 1979. This upgrade also involved installation of a boiler, chiller, condensers, piping and other equipment to be used in conjunction with the LUWA, as well as construction of an enclosure for the expanded operation.

The company applied for a license under newly promulgated hazardous waste regulations in the late 1970's, began operating under "interim status" and finally received a "Part B" license from DEQE in 1986. (A license was required for solvent reclamation, which was regulated as hazardous waste treatment). Solvent operations (both virgin and reclaim) began to steadily decline around 1991, as various state and federal regulations began to take effect (e.g., ozone depletion and Massachusetts Toxic Use Reduction).

General Chemical then began to change its focus from solvents to hazardous waste management. In addition to recruiting personnel with hazardous waste experience, the company expanded its license in 1995 to manage additional waste types, such as corrosives and wastewater treatment sludges. Several facility improvements were made (from 1993 to 1995) in conjunction with this license renewal. Spill control was enhanced by installing impermeable polymer coatings over existing concrete floor surfaces in the two waste container storage buildings. In the regulated portion of the tank storage area, a new concrete base and dike walls were poured within the existing containment system. These structures were also coated with an impermeable polymer layer. The five regulated hazardous waste tanks were upgraded with new pedestal legs and concrete footings, and the fixed roofs were replaced. In addition, a steel roof was erected over the entire tank farm. The facility's sanitary system was connected to the MWRA sewer, and the existing septic system was decommissioned in February 1994 (a "Septic Tank

Evaluation" is included as Exhibit 1). Finally, fire control was substantially enhanced by the installation of a foam fire suppression system capable of serving all hazardous waste storage areas. This system continues to be inspected and tested quarterly by fire systems specialists.

III. SOLVENT STORAGE

A. TANKS

The storage of solvents in tanks appears to have begun about 1960 with the creation of General Chemical Corporation. Based on the earliest recovered drawing, dated March 8, 1982 and prepared by the Framingham Engineering Department (see Exhibit 2), there were ultimately about 20 above ground tanks assigned to solvent storage. Gasoline storage for company vehicles had been discontinued by this time, but three tanks (103, 104 and 105) were still being used for storage of fuel oil, probably as a supplement to Trinity Oil's fuel oil tanks (106 and 107) located at 138 Leland Street. This 1982 plan indicates that six tanks, designated as A's and B's, were not in use at the time. These were fabricated from sections of tanks that had been removed from the Trinity Oil facility at 138 Leland Street, and moved to 133 Leland Street to accommodate potential future capacity requirements. As shown in a later plan, dated September, 1984 (see Exhibit 3), three of these tanks had been assigned tank numbers (19,20,21) and, according to a current long-term employee, were used to store chlorinated solvents including perchloroethylene and trichloroethylene. The other three tanks were never "piped in" and therefore never used.

In addition to the tanks with number or letter designations, five rectangular 1000-gallon tanks are shown, three within the tank containment walls and two adjacent to the Warehouse "Cor. Metal Building" (in which the LUWA is situated). These tanks, known as "cones" for their bottom configuration, were (and are still) used for temporary storage of solvents. The purpose of the three in the tank farm was to contain waste solvents destined for reclamation, and the other two were for storage of reclaimed solvents before the material was transferred to the larger storage tanks (numbers 15 through 18 at that time). The three within the tank farm were relocated to the north corner of the hazardous waste tank area in 1993 after this section was upgraded with new containment structures. A third cone for reclaimed solvents was added about 1986. See Exhibit 4 for a photograph of the reclaim cone area.

The locations of two "discontinued" underground tanks are shown on the 1982 plan. The one along the side of the "garage" building once stored as much as 1000 gallons of diesel fuel for use by company trucks. The other

tank, shown in front of the garage bay doors, was used by Gulf for waste oils generated in the servicing of their vehicles. This tank, which had a capacity of 500 gallons, was never used by Trinity Oil or General Chemical. Both of these underground tanks were removed in July, 1985.

Tanks no. 8 (freon) and 103 appear to have been removed in the late 1980's. See Exhibit 4 for a photograph of Tank no. 8. Tanks no. 6,7,19,20,21 and the three tanks "A" were removed in 1992. Tanks no. 1 through 5, which had contained diesel fuel and chlorinated solvents, and which were horizontally mounted on concrete saddles, were removed in the fall of 1992. At the same time, the concrete saddles and the retaining walls flanking these tanks (and extending to the south property boundary fence) were also dismantled. See Exhibit 4 for a photograph of Tanks no. 4 and 5, as well as these concrete structures. Tanks no. 104 and 105, which were used earlier for fuel oil, had both been converted to water storage by about 1991.

B. CONTAINERS

Container storage (i.e., 55-gallon drums, 5-gallon pails, etc.) of solvents also dates from about 1960. Virgin solvents were (and are today) stored in the warehouse building, which is where these drums are filled, secured and labeled for commercial distribution. From about 1965, when solvent reclamation operations began, containers of reclaimed solvents have also been stored in the warehouse. Waste solvent storage would have commenced at about the same time, initially in the warehouse. In 1975, waste solvent storage appears to have been relocated to the "garage" (referred to now as Building no. 1). The newly erected "dock" (Building no. 2) began operating as a waste storage unit in 1978. Building no. 1 also contained virgin and reclaimed solvents awaiting shipment until 1994, after which this building has been used exclusively for waste management. Building no. 2, which is adjacent to the tank farm, contains the pumping station for transfer of liquid waste (solvents, oils, coolants, etc.) to the various storage tanks.

IV. SPILL CONTAINMENT AND CONTROL

A. TANK STORAGE AREAS

The tank farm secondary containment structure consists of a concrete base and walls. The walls date back to Gulf ownership, and it is believed the base was installed about 1981. In 1993, a new reinforced concrete containment base and walls were constructed within the existing structure to provide independent spill control in the area containing regulated waste. An impermeable spill barrier coating was then applied to these new structures. It consisted of an epoxy sealant, followed by a polymer

layer designed to resist the most aggressive chemical to be stored (the solvent methylene chloride, commonly used as a paint stripper). In 1997, the remaining tank containment structures were similarly coated, thus providing impermeable containment for 100% of the maximum storage capacity of all the tanks.

There have historically been sumps within the tank farm for containment and control of any spillage. All appear to have been constructed of concrete and are capable of holding at least 50 gallons of material until recovery and/or cleanup. The two newest sumps, in the hazardous waste section, were coated with the same impermeable polymer as the containment base and walls. There is also a sump in the non-hazardous section of the tank farm.

B. OTHER OUTSIDE AREAS

Pavement in its various forms has long been used for spill control. The portion of the facility extending from Leland Street to the tank farm has been paved for as long as any of the individuals interviewed can remember. Recent excavation work has uncovered remnants of asphalt and concrete layers, indicating several previous paving operations.

The containment system for Tanks no. 1-5 (see Exhibit 2) consisted of concrete walls and a base of packed soil. Other tanks in the rear portion of the facility (e.g., no.19,20 & 21) were not equipped with secondary containment structures. By late 1992, which coincided with renewal of the company's hazardous waste facility license, all such tanks had been removed. Spill control at the three reclaim "cones" adjacent to the LUWA processing area was upgraded in 1993 by the addition of concrete retaining walls around the perimeter of their existing concrete base.

The main working portion of the facility yard, encompassing the area from Leland Street to the front of the warehouse, has historically been sloped to a stormwater collection system. The first known system consisted of a network of shallow grated troughs, a small underground drain tank, and both above-ground and underground piping. Collected stormwater was either evaporated or pumped to an above-ground storage tank (Tank no. 104 starting about 1991). Exhibit 5 shows components of the original system, which was in place as early as 1980, and perhaps considerably earlier than that. In 1998, the troughs were replaced by a more traditional stormwater collection system, consisting of interconnected concrete catch basins. This new system also features pressure tested steel piping, an oil/water separator and the ability to contain over 12,000 gallons of rainwater underground. See Exhibit 6 for an as-built drawing of this system.

Both the old and new stormwater systems were designed and operated to additionally provide spill control in the open areas where vehicles are operated, loaded and unloaded. If a release were to occur in this portion of the facility, either system could contain the material pending cleanup. Further, the systems were designed to prevent inadvertent advancement of spilled material through the piping to the tank, where it could potentially contaminate a large volume of clean stormwater. This has always been accomplished by requiring manual pump activation. The new system also has several gate valves, which can be quickly accessed from the surface in order to isolate catch basins and/or piping sections in the event of a release.

The area directly in front of the tank farm, where bulk liquid tankers are loaded and unloaded, has a concrete berm segregating it from other open areas of the facility. Tankers are connected to the storage tanks via a valved pipe manifold arrangement within a small bermed "pit" adjacent to the dike wall. Any spillage at the connection would be contained and cleaned up in this enclosure, which also has a small grated sump. There is an additional concrete pit built into the base of the tanker unloading area. This is occasionally used to contain a filtering drum during bulk unloading operations and provides additional spill control.

C. CONTAINER STORAGE BUILDINGS

All three facility buildings have been used to store chlorinated solvents in some form (see Section III. B), and all have been constructed to provide protection of the environment in the event of a material release.

The warehouse has concrete floors and brick walls, with bermed doorways providing lateral spill control. The only opening in the main section of the warehouse basement floor is a steel tank sump, which was installed for the purpose of collecting groundwater infiltrating the building during the wet season. It is not known how old this sump is. In any case, the groundwater elevation seems to be normally at or above the basement floor level. Because this causes groundwater to be forced into the basement, it also prevents any inadvertently spilled material from going through the floor and reaching the environment. A separate, small section of the basement known as the "sprinkler room" also has a sump. This is a shallow depression which holds any infiltrating water until it is pumped to the main portion of the basement and ultimately to the steel tank sump.

Building no.1 is of concrete and brick construction, while Building no. 2 has walls of cinder block and corrugated metal with a concrete floor. Both of these buildings have berms across their doorway openings. At various times, these berms have been constructed of asphalt, concrete

and/or steel. In conjunction with the facility's license renewal in 1995, the spill containment capability of both waste storage buildings was enhanced with the installation of new berms and impermeable floor coatings. Like the tank farm in 1993, this consisted of an epoxy sealant, followed by a polymer layer designed to withstand any wastes that could be stored.

There are no "floor drains" in any of the facility buildings.

V. RELEASES OF PETROLEUM AND HAZARDOUS MATERIALS

The recording of spill information by General Chemical began about 1983, as evidenced by the oldest entries in the company's "Spill Book", a binder dedicated to spill reports. This is corroborated by a letter from Richard Gardner (owner and treasurer of GCC) to the EPA dated 6/17/85, which summarizes known releases that were not "contained within a building or structure" (see Exhibit 7). Mr. Gardner's letter also refers to "minor leaks", which he did not tabulate for EPA.

To date, a total of 51 releases have been documented in the company's "Spill Book." Of these, 18 were considered reportable to state or federal authorities under regulations in effect at the time. However, very few of these are considered significant (e.g., involving a large volume of material). These are summarized below and their locations are shown on Figure 2, "Site Plan of Former Conditions." A summary of releases documented in the Spill Book is included as Exhibit 8.

February, 1984

A tank overflow resulted in the release of approximately 50 gallons of virgin methylene chloride. Details of this incident could not be found. However, the material was reportedly contained and cleaned up within the concrete structures of the tank farm.

June 4, 1984

A cylindrical container used for drying reclaimed solvents was over pressurized during steam regeneration of the internal desiccant. As a result, an estimated 2000 pounds of molecular sieve desiccant and 40 gallons of water (with trace solvent contamination) were spilled. The release area included a concrete pad and adjacent gravel area underlain with clay. Concrete berms reportedly contained the spill for clean-up. This release necessitated implementation of the facility's contingency plan, and a detailed report was submitted to DEQE on June 5, 1984 in accordance with 310 CMR 30.524.

June 27, 1990

A tank overflow occurred during the pumping of drums from Building no. 2 (the "dock") to storage tank no. 14. The release, which was estimated to be 200-250 gallons of waste oil, was caused by a faulty tank float gage. All material was contained and cleaned up within the concrete containment structures.

March 18, 1992

Approximately 75 gallons of 1,1,1-trichloroethylene were reportedly released within the tank farm. No details of the incident are available, other than a "Notice of Responsibility" letter from DEP dated April 2, 1992. However, a notation in the "Spill Book" indicates that the release was contained and cleaned up within the diked tank farm.

July 9, 1992

A release of approximately 300 gallons of waste tar was initiated by a drum collapsing and causing adjacent drums on pallets to topple. This occurred within Building no. 1, the "garage", which was equipped with a concrete floor and spill berms. The material was contained and promptly cleaned up within the building.

JOHN REGAN ENTERPRISES INC.
BOX 5003
WAYLAND, MASS., 01778

508-655-5779

FEB 17, 1994

GENERAL CHEMICAL CORP.
133 LELAND STREET
FRAMINGHAM, MASS., 01701

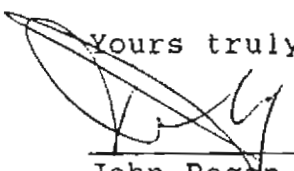
ATTN; DONALD McCORMACK

RE; SEPTIC TANK EVALUATION, 133 LELAND STREET, FRAMINGHAM.

On this date we pumped out the septic tank and ran a ribbon snake out the outlet pipe.

By this process, we determined this is a 500 gallon tank with one leaching trench, approximately forty eight feet long.

Yours truly,



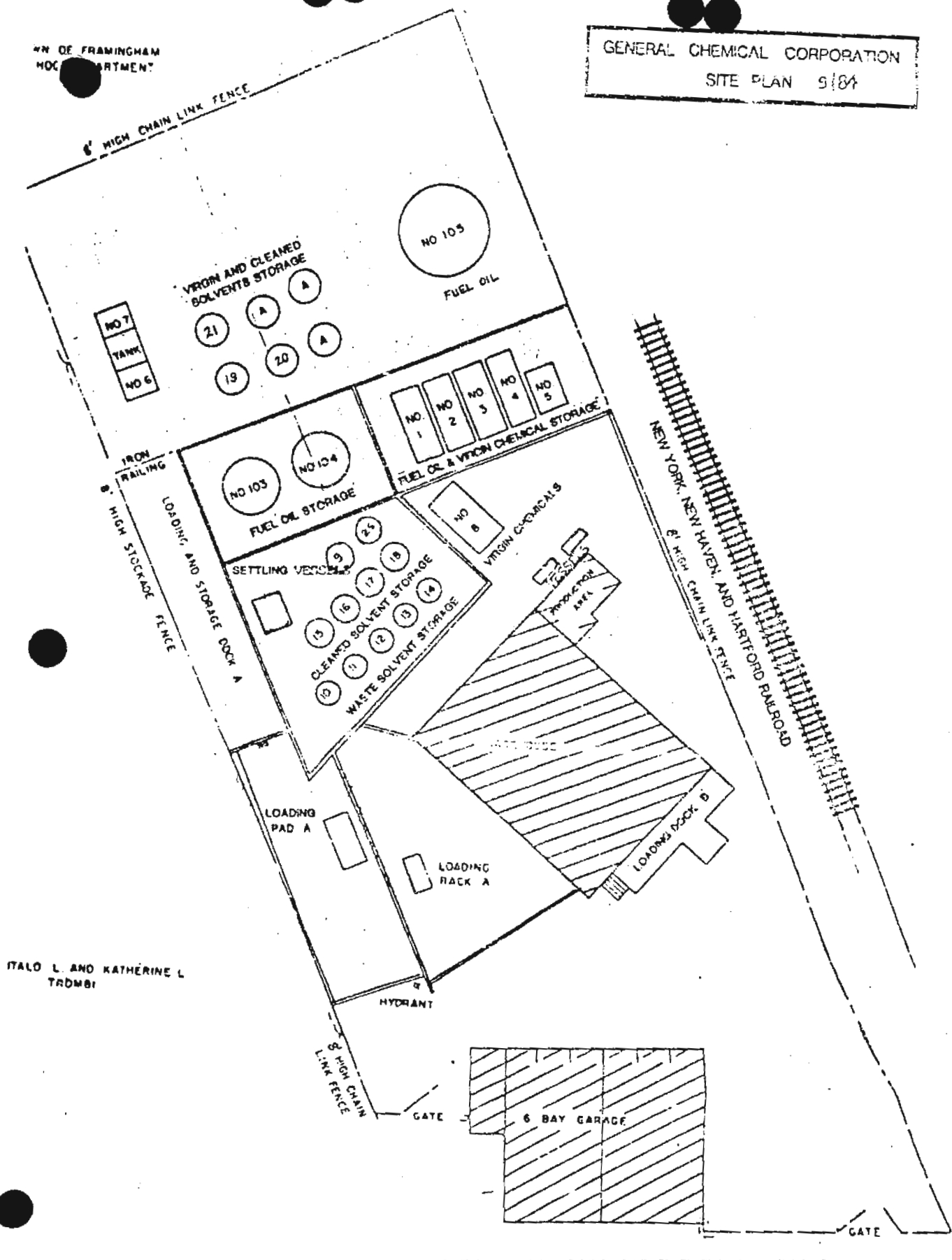
John Regan, Pres.
John Regan Ent., Inc.

RECEIVED
JAN 3 2002
DEP
NORTHEAST REGIONAL OFFICE

Exhibit 1

44 DE FRAMINGHAM
HOC DEPARTMENT

GENERAL CHEMICAL CORPORATION
SITE PLAN 5/84



ITALO L. AND KATHERINE L.
TRONBI

LELAND

STREET

Exhibit 4
SELECTED PHOTOGRAPH
June, 1984



Tank no. 8 viewed from the south



NW corner of tank farm dike wall, and a reclaim solvent "cone" (with ladder)



Tanks no. 4 and 5 on concrete saddles. Also shows concrete retaining walls which flank Tanks 1 through 3.



GENERAL CHEMICAL CORPORATION

P.O. Box 608 • 133-138 Leland Street • Framingham, Massachusetts 01701

Telephone 617/872-5000

June 17, 1985

U.S. Environmental Protection Agency
Waste Management Division
JFK Federal Building-Rm 1900
Boston, MA 02203

Attn: Robin Lind

Dear Ms. Lind:

On May 6, 1985, General Chemical Corp. received from EPA a request for information pursuant to §3007 of the Resource Conservation and Recovery Act, 42 U.S.C. §6927, and §104 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §9604.

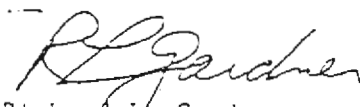
This letter is in response to that request. The information requested is included in the enclosed tables: General Chemical Corp. Solid Waste Management Units; and General Chemical Corp. Units From Which There Have Been Releases of Hazardous Wastes or Hazardous Constituents. Note that these tables are organized according to the paragraph numbers of EPA's letter. A map of GCC's facility at 133 Leland Street, Framingham is also enclosed. Exhibit numbers refer to the exhibits in GCC's Part B application of October 1984 (subsequently updated.)

In compiling this information, we have included all known releases of hazardous substances which were not wholly contained within a building or structure. We have not included the occasional minor leaks of less than one gallon from pumps, valves, piping, or drums which have occurred at the facility over the years. Nor have we included any information regarding the storage of #2 fuel oil (home heating oil) on the property. We have been advised by our major supplier that #2 fuel oil contains no hazardous constituents, and therefore its storage does not apply for these purposes.

Please contact me if you have any questions regarding this submission.

Sincerely,

GENERAL CHEMICAL CORP.



Richard L. Gardner
Treasurer

RLG/w

cc: Linda Benevides; DEQE

enc:

Exhibit 7 (5 pages)

GENERAL CHEMICAL CORPORATION
HAZARDOUS MATERIAL RELEASES
CHART NO. 1 - COMMERCIAL SOLVENTS - REPORTABLE

<u>Date of Release</u>	<u>Material Released</u>	<u>Quantity (Gal.)</u>	<u>Description Of Incident</u>	<u>Disposition</u>
5/2/83	1,1,1-Tri-chloroethane	10	Tank overflow	No documentation available
5/12/83	Freon	-	Vandalism - valve opened by intruder	Contained and cleaned up within the tank farm
2/-/84	Methylene Chloride	50	Cause unknown	Contained and cleaned up within the tank farm
6/04/84	Water with trace solvents	40	Bursting of dessicant cylinder used for solvent drying. Caused by valve malfunction. Approximately 2000 lb dessicant was released as well as water.	A complete report was made to DEQE. All materials were contained within a bermed area and promptly cleaned up by GCC personnel.
12/7/84	1,1,1-Tri-chloroethane	3.5	Spill near LUWA recycling area.	Cleaned up within concrete slab area
6/20/85	1,1,1-Tri-chloroethane	15	Overfilling of delivery truck.	Cleaned up within paved area.
4/08/86	Perchloroethylene		Bottom valve left open when truck was loaded.	Noticed right away- No additional info (presumed to have been minor spill).
9/12/86	Perchloroethylene	5-10	Drain line at bulk loading rack not fully closed.	Contained within bermed area. Promptly cleaned up.
11/07/86	Methylene - Chloride	2	Spill - no other details available.	Promptly cleaned up on concrete slab.
9/10/87	Methylene - Chloride	10	Spilled from turned over drum.	Contained and drummed.
8/26/88	Methylene - Chloride	40	Leak - no other details available.	Leak corrected and material cleaned up by GCC personnel.
3/18/92	1,1,1-Tri-chloroethane	75	Released into tank farm - no further details available.	Contained and cleaned up within the diked tank farm.
1/09/95	Perchloroethylene	10-15	Overfilling of storage tank caused by frozen liquid level.	Contained and promptly cleaned up within paved/bermed area.

GENERAL CHEMICAL CORPORATION
HAZARDOUS MATERIAL RELEASES
CHART NO. 2 - COMMERCIAL SOLVENTS - NON REPORTABLE

<u>Date of Release</u>	<u>Material Released</u>	<u>Quantity (Gal.)</u>	<u>Description of Incident</u>	<u>Disposition</u>
01/02/85	Methylene Chloride	40-50	Holding vessel over-filled.	Contained and cleaned up within diked tank farm.
06/07/85	1,1,1-Tri-chloroethane	20-25	Spill due to valve left open during transfer.	Contained and cleaned up within diked tank farm.
07/09/87	Methylene Chloride blend	10	Rupture of storage tank piping.	Promptly cleaned up within diked area.
12/04/89	Freon	25	Spillage during filling of Freon storage tank.	Contained and cleaned up within diked tank farm.
07/27/90	1,1,1-Tri-Chloroethane	5-10	Failure of pump seal in tank farm.	Contained and promptly cleaned up within diked area.
01/28/92	Perchloroethylene	10	Valve left open during pumping from recycling area to tank.	Contained within warehouse on concrete floor.

GENERAL CHEMICAL CORPORATION
HAZARDOUS WASTE RELEASES
CHART NO. 3 - HAZARDOUS WASTE - REPORTABLE

Date of Release	Material Released	Quantity (Gal.)	Description of incident	Disposition
12/03/85	Waste Perchloroethylene	--	1 Drum slipped from forklift in front of warehouse and spilled onto yard area.	Cleaned up and drummed.
12/12/85	Waste oil/MC mixture	15	Valve left open while filling waste tank (#10).	Cleaned up within the diked tank farm - DEQE (DEP) on site.
04/10/89	Waste Perchloroethylene	15	Small Container slipped off pallet in loading yard.	Immediately cleaned up from paved yard area.
12/07/94	Waste mixture of Trichloroethylene, oil, water and 1,1,1-Trichloroethane	30	Leaking drum within trailer awaiting offloading(parked). Trailor owned/operated by outside hauler. Two releases; one within paved/bermed area of facility the other on dirt parking area at 138 Leland Street.	Both areas cleaned up promptly. Bobcat used to remove contaminated soil. LSP hired and written report sent to DEP.
8/20/99	"Coolant" (oil,water, ethylene glycol,etc)	20	Valve failure - hose partially disconnected during loading of tank trailer	Contained and cleaned up in paved,bermed area

GENERAL CHEMICAL CORPORATION
HAZARDOUS MATERIAL RELEASES
CHART NO. 4 - HAZARDOUS WASTE - NON-REPORTABLE

Date of Release	Material Released	Quantity (Gal.)	Description of Incident	Disposition
08/23/84	Waste Tri-chloroethylene	10-15	Spill-No additional details available.	Contained and cleaned up in tank farm.
11/01/84	Waste Perchloroethylene	-	1 drum (quantity not specified) tipped over.	Contained and cleaned up immediately within the "garage" storage building.
10/29/85	Waste oil (still bottoms)	5	Splashed out of open tanker hatch.	Cleaned up in LUWA area.
08/17/86	F-listed wastewater	5-10	Bung of steel drum broke while cap being tightened. (bung at base of drum.	Promptly cleaned up on pavement. contents transferred to new drum.
08/14/86	F-listed wastewater	5	Tank trailer over-filled.	Cleaned up promptly within diked area.
01/30/87	Waste Tri-chloroethylene	20	Quick-connect hose fitting malfunctioned during loading of waste tanker.	Promptly cleaned up within diked offloading area.
02/01/87	Waste Perchloroethylene	20-25	Caused by unsecured filter cap during pumping of material in recycling room.	Promptly cleaned up. Contained within LUWA room on concrete slab.
08/13/87	Waste Perchloroethylene	15	Small intermediate waste tank (cone) overfilled.	Promptly cleaned up within diked tank farm.
08/25/87	Waste oil/water mixture.	2	Spillage occurred during loading of waste tanker.	Promptly cleaned up on paved area.
08/28/87	Waste Perchloroethylene	10	Spillage occurred while filling waste cone.	Promptly cleaned up within diked tank farm.
02/17/89	Mixture of waste 1,1,1-Tri-chloroethane and oil	50-75	Flexible hose disconnected while pumping material into waste storage tank.	Contained within tank farm dike and cleaned up GCC personnel.

GENERAL CHEMICAL CORPORATION
HAZARDOUS MATERIAL RELEASES
CHART NO. 4 - HAZARDOUS WASTE - NON-REPORTABLE

Date of Release	Material Released	Quantity (Gal.)	Description of Incident	Disposition
06/27/90	Waste oil	200-250	Storage tank float malfunctioned while pumping from drums to the waste oil storage tank.	Contained within tank farm dike. Cleaned up by GCC personnel.
07/26/90	F-listed wastewater	15-20	Drum tipped over in storage garage.	Contained and cleaned up within bermed/concrete floored building.
01/25/91	Wastewater/oil mixture	25-30	Valve malfunctioned during offloading of waste tanker.	Contained and cleaned up within diked offloading area.
06/06/91	Waste Perchloroethylene	10	Overfilling of waste settling tank (cone)	Immediately cleaned up within diked tank farm.
12/20/91	Waste oil	3-5	Tank connecting hose not fully drained prior to disconnecting from valve.	Promptly cleaned up within diked tank farm.
07/09/92	Waste Tar	300	Drum collapsed, causing other drums to topple off pallets.	Totally contained within the storage room on bermed/concrete floor.
11/25/92	Waste oil/water mixture	less than 10	Drum fell off pallet while being moved via forklift.	Contained on concrete bermed area; Promptly cleaned up.
01/13/93	Oily solids	7-9	Drum fell from forklift "grabber" attachment while being moved from "dock" storage to roll-off area.	Contained on concrete surface and re-drummed.
08/12/93	Oily sludge	less than 10	Drum fell from forklift "grabber" while being moved to "dock" storage.	Promptly cleaned up on paved area

GENERAL CHEMICAL CORPORATION
HAZARDOUS MATERIAL RELEASES
CHART NO. 4 - HAZARDOUS WASTE - NON-REPORTABLE

<u>Date of Release</u>	<u>Material Released</u>	<u>Quantity (Gal.)</u>	<u>Description of Incident</u>	<u>Disposition</u>
03/17/94	Oily liquid	3	Leakage caused by incomplete seal of roll-off container door gasket.	Contained/ cleaned within concrete/ bermed storage area.
05/28/94	Incinerator ash containing chromium	1-2 pounds	Ash dust became airborne and exited storage building during material consolidation.	Operation halted until dust could be controlled.
10/13/94	Oily sludge	5	Drum fell off pallet while being moved by forklift.	Promptly cleaned up within paved bermed area.
12/21/94	Waste oil/water mixture	5	Drum fell off pallet while being moved by forklift.	Contained and cleaned up on paved bermed area.
8/28/95	Waste oil/water	5	Off loading of bulk tank truck	Contained and cleaned up in loading pit sump
12/6/95	Waste oil/water	2	Off loading of bulk tank truck	Promptly cleaned up with absorbent pads
8/1/96	Ink sludge (non-reg)	100	Drums in garage fell- cause unknown	Contained and cleaned up on impervious floor

**GENERAL CHEMICAL CORP. (GCC)
SOLID WASTE MANAGEMENT UNITS
133 LELAND STREET, FRAMINGHAM, MA**

1a. SWU name and map location	1b. type of unit, dimensions	1c. Dates in use	1d. Quantity and types(s) of waste	1e. Dates, quantity, and type(s) of any known releases	1f. Information, data and documentation concerning any releases	1g. Corrective action measures or mitigating measures
Dumpster (S1)	Solid waste dumpster (BFT), 6' x 8'	1965-present	Solid waste (no hazardous waste)	None	None	None
Six Bay garage (S2)	Waste drum storage area, 32' x 58', see Exhibit D4.	1975-present	Spent halogenated solvents, waste water, still bottoms—maximum 22,000 gallons	None	None	None
Loading dock A (S3)	Waste drum storage area, 100' x 20', See Exhibit D4.	1978-present	Spent halogenated solvents, waste water, still bottoms—maximum 22,000 gallons	None	None	None
Production & drying area (S4)	Solvent distillation building, 25' x 15' and surrounding area, 40' x 60'	1978-present	Spent halogenated solvents, waste water, still bottoms—maximum approximately 500 gallons	Rupture of dryer 6/4/86, 2000 lbs. desiccant and 40 gals. water containing halogenated solvent traces	Reported to DECE by phone 6/4/84; follow-up reports on 6/5/84, 7/19/84. Cleanup verified by DECE 6/4/85	Contained, absorbed and cleaned up. Drying operation discontinued, pending system redesign & DECE approval.
Warehouse (S5)	Drum warehouse, 60' x 80'	1960-present	Spent halogenated solvents, waste water, still bottoms—maximum licensed storage 22,000 gallons—actual waste storage is none	None	None	None
Laboratory (S6)	Quality control laboratory 9' x 30'	1981-present	Samples of F001-F019, M001-M004, D001-D017 wastes. Maximum quantity approximately 10 gallons	None	None	None
Waste storage tanks (S7) (Tanks #10-14)	5 tanks, 7500 gallons each. See Exhibit D12	1979-present	Spent halogenated solvents, still bottoms. Maximum quantity 37,500 gallons	None	None	None

GENERAL CHEMICAL CORP. (CCC)
SOLID WASTE TREATMENT UNITS
133 LEAND STREET, FRAMINGHAM, MA

1a. SUT name and map location	1b. Type of unit, dimensions	1c. Dates in use	1d. Quantity and type(s) of waste	1e. Dates, quantity, and type(s) of any known releases	1f. Information; date and documentation concerning any releases	1g. Corrective action measures or mitigating measures
Waste settling vessels (S8)	Pass-through of spent halogenated solvents. See Exhibits D4, D14	1979-present	Spent halogenated solvents. Maximum quantity 4300 gallons	None	None	none
Loading rack A (S9)	Rack for bulk loading of solvents and still bottoms. 7'x12'	1979-present	Still bottoms. Maximum quantity approximately 600 gallons	None	None	None
Loading pad A (S10)	Solvents and spent solvents bulk unloading area. 30'x90'	1982-present	Spent halogenated solvents. Maximum quantity approximately 500 gallons	None	None	None
Waste oil tank (S11)	Underground tank	Prior to 1958-1974. Discontinued in 1974. CCC intends to remove this tank during 1985.	Waste engine oil	None	None	None
Lead Sludge (S12)	N/A	Prior to 1958. Believe prior to 1940.	Lead sludge from gasoline tanks buried by Gulf Oil	See 1d.	See 1d.	None

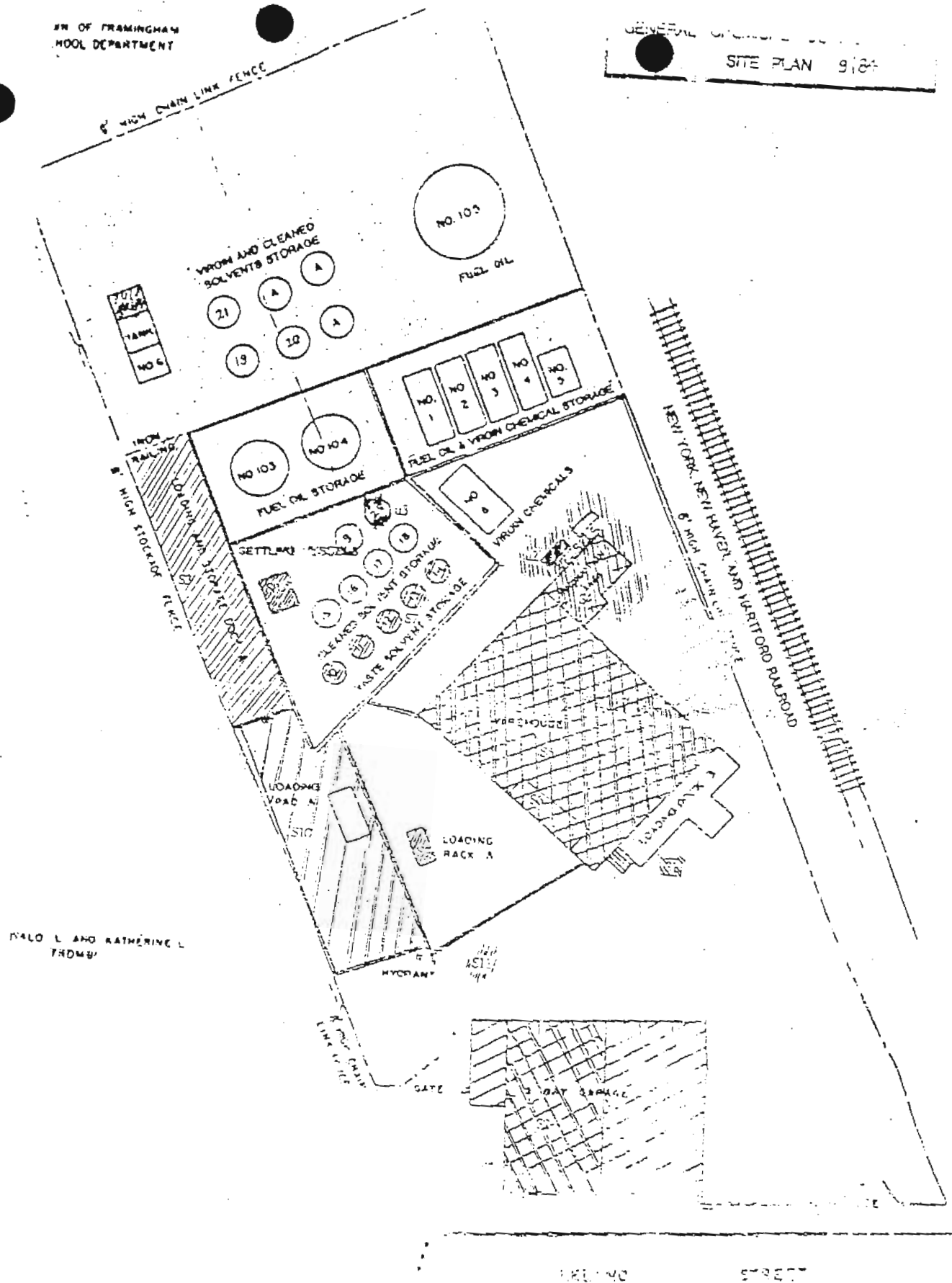
Location unknown, but believed to be within tank farm areas containing tanks 103 & 104, 15, and 18 & 25.

GENERAL CHEMICAL CORP. (CCC)
UNITS FROM WHICH THERE HAVE BEEN RELEASES OF HAZARDOUS WASTES OR HAZARDOUS CONSTITUENTS
133 LELAND STREET, FRANKLIN, MA

2a. Unit name & map location	2b. Type of unit, dimensions	2c. Dates in use	2d. Quantity & type(s) of hazardous substances	2e. Dates, quantity & type(s) of known release(s)	2f. Information, data, & documentation concerning any releases	2g. Corrective action measures or mitigating measures
Tank 7 (U1)	Solvent storage tank, 10 1/2' diameter x 15' long	1964-present	Halogenated solvents, maximum 9900 gallons	Spill from tank overflow, 5/83. Approximately 10 gallons of 111 trichloroethane.	Reported to DOE 5/83-telephone	Contained, absorbed, & cleaned up.
Reclaimed solvent settling vessel (U2)	Settling vessel for reclaimed solvent, 3' x 10'	1979-present	Halogenated solvents, maximum 1200 gallons	Spill from valve opened by intruder 5/12/83. Approx. 50 gallons of trichlorotrifluoroethane	Reported to DOE 5/12/83-telephone. Clean up verified by DOE 5/12/83, after conducting air & soil testing	Contained, absorbed, and cleaned up. Adopted more stringent security precautions.
Tank 25 (U3)	Solvent storage tank, 11' diameter x 11' high	1984-present	Halogenated solvents, maximum 8800 gallons	Spill from tank overflow, 2/84. Approx. 50 gallons of methylene chloride.	Reported to DOE 2/84-telephone	Contained, absorbed, and cleaned up. Adopted two man rule for off-loading solvents.

IN OF FRAMINGHAM
MOOL DEPARTMENT

GENERAL OFFICE
SITE PLAN 9184



MALE L AND KATHERINE L
TRDMV

FIGURE 2

APR 24
1971
UNITED STATES
DEPARTMENT OF JUSTICE

APPENDIX C

TAX MAPS

APPENDIX D

GZA SUPPLEMENTAL INVESTIGATION BORING LOGS

One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

Drafting Co. D.L. Maher
John Gorglia
GZA Rep. Keith Rudman
Date Start 03/20/01 End 03/21/01
Location See Exploration Location Plan
GS. Elev. Datum Other

Casing HSA
Sampler Split Spoon
1-1/4"/7-1/4"
1-3/8"/2"
140
30"

Groundwater Readings
Date Time Depth Casing Stab. Time
None Recorded

D E P T H	C A L S O N W H G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S	6" Road Box
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data				
5		S-1	24/16	0-2	4-7	1.8	Medium dense, light gray/brown, fine to medium SAND, little Clayey Silt, trace Gravel, fragments of Cement.	FILL		Grout 0-1'
					9-12			2±		Bentonite 1'-1.5'
		S-2	24/17	2-4	4-7	5.2	Wet, medium dense, light brown, fine to medium SAND and Clayey SILT, trace Gravel.	SAND & SILT		Sand Pack 1.5'-14'
					7-9			4±		
		S-3	24/18	4-6	6-9	0.7	Wet, medium dense, light brown, fine to medium SAND, trace Gravel.	SAND		2" PVC Wellscreen 1.5'-11.5'
10					11-9			6±		
		S-4	24/21	6-8	5-8	18.4	Top 2": Wet, medium dense, black, fine to medium Sand, light brown fine Sand, some Clayey Silt. Bottom 2": Wet, medium dense, laminated, 1/4" thick, black/iron oxides.	SILTY SAND		
					6-5					
		S-5	24/16.5	8-10	1-2	1.9	Wet, medium dense, laminated, 1/4" thick, light brown/gray, fine to medium SAND, some Clayey Silt.			
					11-7			10±		
15		S-6	24/18	10-12	6-5	2.5	Wet, medium dense, light brown, fine SAND, and Clayey SILT.	SAND & SILT		
					5-6					
		S-7	24/24	12-14	5-5	0.7	Wet, medium dense, light brown, fine SAND, and Clayey Silt.			
					5-5					
							Bottom of Boring at 14'.			8" Sump
20										
25										

Notes:

- Stratification lines represent approximate boundaries between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated.
- Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
- Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limits (0.1 ppmv).
3. Sample collected and sent to laboratory for voc analysis.
4. Shaded samples were submitted for analysis via EPA Method 8260



One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

Checked By:

Drilling Co.	D.L. Maher		
Foreman	John Gorglia		Type
GZA Rep.	Keith Rudman		1.D./O.D.
Date Start	03/27/01	End	03/27/01
Location	See Exploration Location Plan		Hammer Fall
GS. Elev.	Datum		Other

Casing	Sampler
HSA/Drive Wash	
4-1/4"/8-1/4"	
-	
-	

Groundwater Readings

Date	Time	Depth	Casing	Stab. Time

D E P T H	C A S I N G	B L O W S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S	<
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Notes:

1. Stratification lines represent approximate boundaries between soil types; transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
2. Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).

One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

D.P. Co. D.L. Maher
F. John Gorglia
GZA Rep. Keith Rudman
Date Start 03/27/01 End 03/27/01
Location See Exploration Location Plan
GS. Elev. Datum Other

Casing
HSA/Drive Wash
4-1/4"/8-1/4"/4"
Split Spoon
1-3/8"/2"
300#
140
30"

Groundwater Readings				
Date	Time	Depth	Casing	Stab. Time
04/03/01		3.18	2.50	
04/11/01		3.18	2.50	

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
		S-1	24/8.5	0-2	1-7	0	Dry, medium dense, black/dark Topsoil, fine to coarse SAND.		
					11-12				
		S-2	24/6.5	2-4	11-4	0	Wet, loose, brown, fine to coarse SAND, trace Gravel		
					3-2				
5		S-3	24/3.0	4-6	1-1	0	Wet, loose, brown, fine to coarse SAND, trace Gravel.		
					1-1				
		S-4	24/4.0	6-8	1-1	0	Wet, loose, brown, fine to coarse SAND, some Gravel.		
					1-1				
		S-5	24/4.0	8-10	1-1	0	Wet, loose, brown, fine to coarse SAND.		
10					1/12"				
15									
		S-6	24/10	15-17	1-1	0	Wet, loose, brown, fine to coarse SAND, little Clay & Silt, laminated 1"-6" in thickness.		
					2-2				
20									
		S-7	24/12	20-22	3-2	0	Wet, loose, brown/light gray, fine to medium SAND, little Silt & Clay at bottom of sample, laminated 1/4"-4" in thickness.		
					5-10				
25									
		S-8	24/12	25-27	11-11	0	Wet, very stiff, gray SILT & CLAY.		
					15-13				
		S-9	24/18	29-31	8-7	0	Wet, medium dense, fine to medium SAND.		

Notes:

1. Identification lines represent approximate boundaries between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated.
2. Situations of groundwater may occur due to factors other than those present at the time measurements were made.
3. Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).
4. Changed sample interval just this time to raise casing (HSA) higher. Still every 5".
5. Approximately at 70' BGS there was auger refusal and had to switch to Drive + Wash.
6. Shaded samples were submitted for analysis via EPA Method 8260



One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
					11-15		Light brown/gray, some SILT & CLAY, laminated 1/4"-2" in thickness.	SILT & CLAY	
								33±	
35		S-10	24/24	34-36	7-8	0	Wet, medium dense, light brown, fine SAND, some Clayey Silt, trace Silty Clay. Laminated 1/4" greater in thickness, trace of Silty Clay came from laminated layer 1" thick.	SILTY SAND	6
					12-14			36±	
40		S-11	24/24	39-41	10-10	0	Wet, medium dense, light brown, fine SAND, and Clayey Silt.	SAND & SILT	
					12-16				
45		S-12	24/24	44-46	10-11	0	Wet, medium dense, gray, fine SAND, and Clayey Silt.		
					11-14			48±	
50		S-13	24/24	49-51	15-14	0	Wet, very stiff, dark gray Clayey SILT, laminated a layer of Silt & Clay, 3/4" in thickness 12" from top of sample.	CLAYEY SILT	
					11-11			50±	
55		S-14	24/17	54-56	8-9	0	Wet, very stiff, dark gray Clayey SILT, and SILT & CLAY, trace fine Sand.	CLAY & SILT	
					11-15				
60		S-15	24/14	59-61	7-12	0	Top 8": Wet, medium dense, gray Clayey SILT. Bottom 6": Wet, medium dense, brown/light brown fine to coarse SAND, little Silt, trace Gravel.		
					11-17			60±	
								SAND	
		S-16	24/9	64-66	7-7	0	Wet, medium dense, light gray/light brown, fine to coarse SAND, little Silt, trace Gravel.		6

Notes:

5. Shaded samples were submitted for analysis via EPA Method 8260
6. Sample was submitted for Total Organic Carbon analysis.



GZA GeoEnvironmental, Inc.
Engineers/Scientists

General Chemical Corporation

One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

Boring No. GZ-15S

Page No. 1 of 1

File No. 15861.08

Checked By:

Drilling Co. D.L. Maher
Foreman John Gorglia
GZA Rep. Keith Rudman
Date Start 04/18/01 End 04/18/01
Location See Exploration Location Plan
GS. Elev. Datum

Type
I.D./O.D.
Hammer Wt.
Hammer Fall
Other

Casing
HSA/Drive Wash
4-1/4"/8-1/4"/4"

Sampler
-
-
-
-

Groundwater Readings

Date	Time	Depth	Casing	Stab. Time

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification Refer to GZ-15RA and GZ-15RB for Soil Descriptions.	Stratum Description	N O T E S	Locking Casing
		No.	Pen./ Rec.	Depth (ft.)	Blows/6"	Field Test Data				
										Bentonite Seal 0-1'
										Sand Pack 1'-14'
										2" PVC Wellscreen 4'-14'
5										
10										
15										
20										
25										

Notes:

- Stratification lines represent approximate boundaries between soil types. transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
- Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).



GZA GeoEnvironmental, Inc.

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GZ-15S

[illegible]

Notes:

Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).

[illegible]

Notes:

Framingham, Massachusetts

Drill Co.	D. L. Maher		Type
Foot	John Bralin		1 D/O D.
GZA Rep.	Kate Heller/Keith Rudman		
Date Start	04/13/01	End 04/13/01	Hammer Wt.
Location	See Exploration Location		Hammer Fall
GS. Elev.	Datum		Other

Casing	Sampler
See Remarks	Split Spoon
	1-3/8" ID
	140#
	30"

Groundwater Readings				
Date	Time	Depth	Casing	Stab Time

[illegible]

Notes:

1. Delineation lines represent approximate boundaries between soil types; transitions may be gradual. Water level readings have been made at times and under conditions stated.
2. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
3. Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).
4. HSA to 35' bgs. No samples taken; pulled augers, Grove 4" casing to fill.

Notes:

4. Drove casing to 35.5', washed out with water a 3-3/4" roller bit. (Used ~ 80 gallons water).
5. Drove casing to 40', washed out with water and rollerbit. (Used ~70 gallons water). Hole would not stay open past 39'; drove spoon 3' to get through wash material.
6. Drove casing to top of rock, washed out with water and rollerbit. (Used ~40 gallons water)
7. HQ core = 2.5' (see times under field test data). Used 250 gallons water.
8. A1-45.3' core barrel sunk approximately 3" (clay present on bottom of core sample).
9. HQ core = 5.25' (see times under field test data). Used 380 gallons water.
10. HQ core = 2.2' (see times under field test data). Used 200 gallons of water.
11. Shaded samples were submitted for analysis via EPA Method 8260
12. Sample was submitted for Total Organic Carbon analysis.

GZ-15RA

GZA GeoEnvironmental, Inc.
Engineers/Scientists

General Chemical Corporation

Boring No. GZ-15RB
Page No. 1 of 2
File No. 15861.08
Checked By:

One Edgewater Drive
Norwood, Massachusetts 02062

Framingham, Massachusetts

Drilling Co. D. L. Maher
Foreman John Bralin
GZA Rep. Kate Heller/Keith Rudman
Date Start 04/10/01 End 04/12/01
Location See Exploration Location Plan
GS. Elev. Datum

Type
I.D./O.D.
Hammer Wt.
Hammer Fall
Other

Casing
See Remarks
Sampler
Split Spoon
1-3/8"/2"
140#
30"

Groundwater Readings
Date Time Depth Casing Stab. Time

D E P T H	C B A L S O N W H G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
							NO SAMPLES TAKEN UNTIL 4.5'±. SAMPLES S-1, S-2 FOR GZ-15RA.	SAND & GRAVEL	1 2 3
5		S-3	24/16	4.5-6.5	12-9	0.0	Top 12": Wet, medium dense, brown, fine to coarse SAND, trace Silt, trace(-) fine Gravel (some small Root strands). Bottom 4": Wet, medium dense, brown/gray, fine to coarse SAND, trace Silt.	SAND	5
		S-4	24/9	6.5-8.5	1-15	0.0	S-4: Wet, medium dense, brown/gray, fine to medium SAND, trace Silt, trace(-) fine Gravel.		
		S-5	24/8	8.5-10.5	15-8	0.0	Top 4": Wet, medium dense, brown/gray, fine to medium SAND, trace Silt (S-5A). Bottom 4": Wet, very stiff, gray CLAY & SILT (S-5B).		
10					7-12	0.0		CLAY AND SILT	4
		S-6	24/16	15-17	9-9	0.0	Very stiff, gray CLAY & SILT.		
					9-13				
20		S-7	24/14	20-22	3-8	0.0	Stiff, gray CLAY & SILT.		
					6-7				
25		S-8	24/14	25-27	5-7	0.0	Stiff, gray CLAY & SILT.		
					6-8				

Notes:

- Stratification lines represent approximate boundaries between soil types; transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
- Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).
- HSA 0'-8.5'. Augers grinding 0'-4' suspected cobble/boulder.
- Drove 6" casing to 9'; 4" casing to 15'; used standard drilling mud with 3-3/8" rollerbit to wash cuttings. Hole open depths greater than 15 bgs with weight of mud.
- Sample was submitted for Total Organic Carbon analysis.

One Edgewater Drive
Norwood, Massachusetts 02062

General Chemical Corporation

133-138 Leland Street

Drawing No. GZ-16S
 Page No. 1 of 1
 File No. 15861.08
 Checked By: _____

Drilling Co.	D.L. Maher		Type
Foreman	John Gorglia		I.D./O.D.
GZA Rep.	Keith Rudman		
Date Start	04/02/01	End	04/03/01
Location	See Exploration Location Plan		Hammer Wt.
GS. Elev.	Datum		Hammer Fall
			Other

Casing	Sampler
HSA/Drive Wash	-
4-1/4"/8-1/4"	.
-	-
-	.

Groundwater Readings				
Date	Time	Depth	Casing	Stab. Time
04/11/01		4.98	2.05	

[illegible]

Notes:

1. Stratification lines represent approximate boundaries between soil types; transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
2. Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).

One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

Drilling Co.		D.L. Maher		Casing		Sampler		Groundwater Readings			
Man		John Gorglia		HSA/Drive Wash		Split Spoon		Date	Time	Depth	Casing
Rep.		Keith Rudman		4-1/4"/8-1/4"/4"		1-3/8"/2"		04/11/01		5.50	2.31
Date Start		03/29/01		Type		140					
Location		See Exploration Location Plan		ID/O.D		30"					
GS Elev.		Datum		Hammer Wt.		Other					
				Hammer Fall							

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen/ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
5		S-1	24/13	0-2	2-2	0	Dry, loose, brown, fine to coarse SAND, Root (Topsoil)	SAND	Locking Casing 2-44'
					3-4				
		S-2	24/15	2-4	5-7	0	Wet, medium dense, brown, fine to medium SAND.		
					9-9				
		S-3	24/24	4-6	9-8	0	Wet, medium dense, fine to medium SAND, little coarse SAND, laminated Iron Oxide stains.		
10					9-10			9± SAND & SILT 10±	Bentonite Grout 0-36'
		S-4	24/16	6-8	4-8	0	Wet, medium dense, light brown/brown, fine to medium SAND, little coarse Sand, Iron Oxide stains.		
					7-8				
		S-5	24/24	8-10	2-8	0	Top 12": Wet, medium dense, light brown, fine to medium SAND, trace coarse Sand. Bottom 12": Gray, fine SAND and Clayey SILT.		
					6-8				
15								SILT & CLAY	
		S-6	24/24	14-16	10-13	0	Wet, very stiff, gray SILT & CLAY, laminated 1/16"-1/4" in thickness.		
					14-18				
20		S-7	24/20	19-21	10-10	0	Wet, very stiff, Gray SILT & CLAY.		
					12-12				
25		S-8	24/24	24-26	6-8	0	Wet, very stiff, Gray SILT & CLAY.		
					10-16				
		S-9	24/24	29-31	9-9	0	Top 12": Wet, very stiff, gray, fine to medium SAND, some Silt. Bottom 12": Gray SILT & CLAY.	29± SILT & SAND	

- Notes:
- Stratification lines represent approximate boundaries between soil types; transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
 - Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).
 - Shaded samples were submitted for analysis via EPA Method 8260.



One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

D E P T H	C B S O N W H G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
					18-17			SILT & CLAY 31'±	
35		S-10	24/19	34-36	17-20	0	Wet, hard, gray Clayey SILT, laminated 1/16"-1/4" in thickness.		
					27-23				
40		S-11	24/20	39-41	12-12	0	Wet, very stiff, gray Clayey SILT.	CLAYEY SILT	Bentonite Grout 0-36'
					10-12				Bentonite Seal 36'-38'
45		S-12	24/20	44-46	10-7	0	Wet, very stiff, gray Clayey SILT.		Sand Pack 38'-50'
					9-12				2" PVC Wellscreen 40'-50'
50		S-13	24/24	49-51	10-15 30-40	0	Wet, hard, gray Clayey SILT, and Gravel.		
		S-14	17/9	50-51.41	26-37 100/5"	0	Wet, hard, gray Clayey SILT, and Gravel.	TILL	
							Equipment refusal at at 51.41'		
55									
60									

Notes:

3. Shaded samples were submitted for analysis via EPA Method 8260



133-138 Leland Street

Groundwater Readings				
Date	Time	Depth	Casing	Stab. Time
04/11/01		5.65	2.19	

2. Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).

One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

Drilling Co.		D.L. Maher		Casing		Sampler		Groundwater Readings				
Foreman		John Gorglia		Type		HSA/Drive Wash		Date	Time	Depth	Casing	Stab. Time
GZA Rep.		Keith Rudman		I.D./O.D.		4-1/4"/8-1/4"/4"		04/11/01		4.83	2.26	
Date Start		04/03/01		End		04/04/01						
Location		See Exploration Location Plan		Hammer Wt.		300#						
GS. Elev.		Datum		Other								

D E P T H	C B A L S O N W H G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S	Locking Casing 2.47'
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data				
5		S-1	24/17	0-2	3-7	0	Top 13": Dry, medium dense, gray SILT, some fine to medium Sand. Bottom: Fibrous PEAT.	SILT 1±		Bentonite Grout 0-36'
					3-3			PEAT		
		S-2	24/14	2-4	1-2	0	Top 5": Moist, loose Fibrous PEAT. Bottom 9": Brown, fine to medium SAND, and Silt.	3±		
					2-3					
		S-3	24/24	4-6	5-12	0	Wet, medium dense, brown, fine to medium SAND, some Silt.		4	
10					13-14					
		S-4	24/24	6-8	12-12	0	Wet, medium dense, light brown, fine to medium SAND, some Silt, trace coarse Sand.	SILTY SAND		
					11-11					
		S-5	24/13	8-10	5-7	0	Wet, medium dense, gray, fine to medium SAND, and SILT, trace coarse Sand.			
					6-7					
15								14±		
		S-6	24/15	14-16	7-8	0	Wet, very stiff, gray Clayey SILT, little fine to medium SAND, Root fragments.			
					8-8					
20		S-7	24/20	19-21	7-7	0	Wet, stiff, gray Clayey SILT.	CLAYEY SILT		
					7-9					
25		S-8	24/24	24-26	8-8	0	Wet, very stiff, light brown/gray Clayey SILT, and Clay, laminated 1/8"-1" in thickness.		4	
					11-12					
		S-9	24/12	29-31	12-8	0	See description on page 2.			

Notes:

- Stratification lines represent approximate boundaries between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
- Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).
- Shaded samples were submitted for analysis via EPA Method 8260
- Sample was submitted for Total Organic Carbon analysis.



C P T H	B A S I C S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S	
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data				
							S-9, Top 4": Wet, very stiff, gray Clayey SILT. Bottom 8": Light brown, laminated Silt, thin layers of fine to medium Sand. 1/4"	CLAYEY SILT		
35		S-10	24/17.5	34-36	8-7 7-5	0	Top 7": Wet, stiff, light brown Clayey SILT. Bottom 10.5": Gray Clayey SILT			
40		S-11	24/24	39-41	6-4 4-6	0	Wet, medium stiff, light brown/gray Clayey SILT.			
45		S-12	24/15	44-46	9-11 10-10	0	Wet, very stiff, gray Clayey SILT and layers of Silt & Clay, 1/4"-1/2" thick, laminated.			
50		S-13	24/11	49-51	27-23 40-35	0	Top 4": Wet, very dense, gray Clayey SILT. Bottom 7": Fine to coarse SAND, and Silt, trace Gravel.			TILL
							Bottom of Boring at 51'			
55										
60										

Notes:

3. Shaded samples were submitted for analysis via EPA Method 8260.
4. Sample was submitted for Total Organic Carbon analysis.

GZA GeoEnvironmental, Inc.
Engineers/Scientists

General Chemical Corporation

Boring No. GZ-18S
Page No. 1 of 1
File No. 15861.08
Checked By:

One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

Drilling Co.		D.L. Maher		Type	Casing	Sampler	Groundwater Readings				
Foreman	John Gorglia	I.D./O.D.	HSA/Drive Wash		-	Date	Time	Depth	Casing	Stab. Time	
GZA Rep.	Keith Rudman		4-1/4"/8-1/4"		04/11/01		5.18	2.26			
Date Start	04/09/01	End	04/09/01	Hammer Wt.							
Location	See Exploration Location Plan			Hammer Fall							
GS. Elev.	Datum			Other							

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
							Refer to GZ-18M for Soil Descriptions.		Locking Casing 2.24' Bentonite Seal 0-2' Sand Pack 2'-14' 2" PVC Wellscreen 4'-14'
5							Bottom of Boring at 14'.		
10									
15									
20									
25									

Notes:

1. Stratification lines represent approximate boundaries between soil types. transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
2. Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).



GZA GeoEnvironmental, Inc.

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GZ-18S

One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

Drill Co.	D.L. Maher	Type	Casing	Sampler	Groundwater Readings				
					Date	Time	Depth	Casing	Stab. Time
For	John Gorglia	I.D./O.D.	HSA/Drive Wash	Split Spoon	04/01/01		2.61	2.26	
GZA Rep.	Keith Rudman		4-1/4"/8-1/4"/4"	1-3/8"/2"					
Date Start	04/05/01	End	300#	140					
	04/09/01			30"					
Location	See Exploration Location Plan		Hammer Wt.						
GS. Elev.	Datum		Hammer Fall						
			Other						

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen / Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
		S-1	24/10	0-2	2-2	0	Dry, loose, fine to medium SAND, little coarse Sand, trace Gravel, trace Silt. Roots.	FILL	
					2-2			2'±	
		S-2	24/11	2-4	1-2	0	Moist, loose, light brown, fine to medium SAND, some Silt, trace Gravel, layer of fine grained Peat.	SILTY SAND	
					1-2			4'±	
5		S-3	24/24	4-6	7-12	0	Wet, medium dense, light brown/brown, fine to medium SAND, little coarse Sand. Bottom: Gray SILT, little fine Sand, layer of Fibrous Peat.	SAND SILTY	
					17-18			5'±	
		S-4	24/24	6-8	7-13	0	Top 4": Wet, medium dense, fine to medium SAND, little fine grained Peat, trace Gravel. Middle 15": Gray SILT and fine to medium Sand. Bottom 5": Gray, fine to coarse SAND, and Silt.	SAND	
					12-13			6'±	
		S-5	24/13	8-10	1-7	0	Top 6": Wet, medium dense, gray/brown, fine to coarse SAND, some Silt. Middle 2": Brown, fine to medium SAND, trace coarse Sand. Bottom 5": Gray, fine to medium SAND, little coarse Sand, and Silt.	SAND & SILT	
10					10-13			7'±	
								12'±	
15		S-6	24/18.5	14-16	6-5	0	Wet, stiff, gray Clayey SILT, laminated, 1/4"-1/2" thickness.		
					6-9				
20		S-7	24/21.5	19-21	6-6	0	Wet, stiff, gray Clayey SILT, laminated.	CLAYEY SILT	
					7-7				
								24'±	
25		S-8	24/24	24-26	4-6	0	Top 2": Wet, stiff, light brown, Clayey Silt Middle 20": light brown Silt, and fine Sand Bottom 2": Brown, fine SAND, and Silt with Iron Oxide stains.	SAND & SILT	
					6-5				
								28'±	
		S-9	24/16	29-31	4-8	0	Wet, very stiff, light brown Clayey SILT, laminated with 1/8"-1/4" in thickness.	CLAYEY SILT	

- 1 Stratification lines represent approximate boundaries between soil types; transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
- 2 Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).
- 3 Shaded samples were submitted for analysis via EPA Method 8260.

One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

D E P T H	C A L S O N W G S	Sample Information				Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data		
					10-12			
35		S-10	24/16	34-36	7-8	0	Wet. Very Stiff. light brown. Clayey SILT, laminated with 1/8" - 1/4" in thickness.	
					10-10			
40		S-11	24/15.5	39-41	10-10	0	Wet. Very Stiff. Gray, SILT & CLAY, laminated 1/16" - 1/2" in thickness.	
					12-17			
45		S-12	24/20	44-46	15-24 32-50	0	Wet. Dense. Gray. Top 6" Gray, Clayey SILT, Bottom 6", Gray, fine to coarse SAND, and Silt, little Gravel	
		S-12A	17/5	45.5-46.41	100/5"	0	12-A Wet. Dense. Gray, fine to coarse SAND, and Silt, some Gravel.	
							Equipment refusal at 46.41'.	
50								
55								
60								

Notes:



One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

D.L. Maher
John Gralia
Type
I.D./O.D.
Hammer Wt.
Hammer Fall
Other

Kate Heller/Keith Rodman
Date Start 04/19/01 End 04/26/01
Location See Exploration Location Plan
GS Elev. Datum

Casing
4"
Split Spoon
1-3/8"/2"
300#
30"

Groundwater Readings

Date	Time	Depth	Casing	Stat. Time
None Recorded				

D E P T H	C A S I N G	B L O W S	Sample Information				Sample Description & Classification	Stratum Description	N O T E S
			No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data		
			S-1	24/12	0-2	1-1	0.0	Top 3": Wet, very loose, dark brown TOPSOIL. Bottom 9": Wet, loose, brown, fine to coarse SAND, trace Silt.	
						3-5			
			S-2	24/16	2-4	7-7	0.0	Wet, medium dense, brown, fine to coarse SAND, trace Silt.	
						6-5			
5			S-3	24/18	4-6	3-5	0.0	Wet, medium dense, brown, fine to coarse SAND, trace(-) Silt, trace(-) fine Gravel.	
						8-10			
			S-4	24/12	8-10	2-2	7.4	Wet, loose, brown, fine to medium SAND, trace(+) Silt, trace(-) fine Gravel.	
10						3-4			
			S-5	24/18	13-15	11-12	32.4	Very stiff, gray, Clayey SILT (bottom of spoon SILT & CLAY).	
15						12-14			
			S-6	24/16	18-20	7-8	89.1	Very stiff, gray, SILT & CLAY.	
20						9-12			
			S-7	24/16	23-25	8-11	45.6	Very stiff, gray, SILT & CLAY.	
25						11-12			
			S-8	24/16	26.5-28.5	12-14	82.8	Very stiff, gray, SILT & CLAY (two 1/4" thick fine SAND lenses 5" from bottom of sample).	
						12-15			

Stratification lines represent approximate boundaries between soil types; transitions may be gradual. Water level readings have been made at times and under conditions stated.
Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.

- Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limit (0.1 ppmv).
- Washed cuttings using heavy weight drilling mud (S-6 - 1.65) 700 lbs. bentonite, 50 lbs. Super Gel X.
- Shaded samples were submitted for analysis via EPA Method 8260
- Sample was submitted for Total Organic Carbon analysis.



One Edgewater Drive
Norwood, Massachusetts 02062

133-138 Leland Street

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
35		S-9	24/12	33-35	11-11	59.0	Very stiff, gray, SILT & CLAY (6" from bottom fine SAND, little Silt lenses - 1/4" thick).	SILT & CLAY	Bentonite Grout 0-33.5'
					12-13				Bentonite Seal 33.5-36'
									Sand Pack 36-50.5'
40		S-10	24/12	38-40	20-21	100+	Hard, gray, Clayey SILT, little medium to fine Sand at top of sample.		38'±
					23-24				6 7 8
		S-11	24/13	40-42	21-25	135.00	Hard, gray, Clayey SILT.		
					19-19				
		S-12	24/11.5	42-44	18-19	220.00	Hard, gray, Clayey SILT, lamination layers of Silt & Clay, 1/8"-1/4".	CLAYEY SILT	
					19-21				
45		S-13	24/14	44-46	17-18	127.00	Hard, gray, Clayey SILT.		
					19-19				
		S-14	24/14	46-48	18-20	143.00	Hard, gray, Clayey SILT. At bottom 1/4" layer of SILT & CLAY.		
					20-21				
		S-15	24/11.5	48-50	15-20	140.00	Hard, gray, Clayey SILT, laminated 1/8"-1/4" in thickness with Silt & Clay.		
50					17-18				
		S-16	24/12	50-52	18-17	80.00	Hard, gray, Clayey SILT, laminated 1/8"-1/4" with Silt & Clay. Thin layer of fine SAND.		
					17-19				
		S-17	11/0	52-52.91	15-100/5"	N/A	A piece of GRAVEL and coarse SAND in the spoon.		Bentonite Chips 50.5-54'
55							Casing refusal at 54'.		
60									

Notes:

- Shaded samples were submitted for analysis via EPA Method 8260
- PID Headspace of drilling fluid is < 1 ppin.
- Used Sudan 4 to check for the presence of DNAPL.
- Changed the heavyweight drilling mud to a fresh batch.



GZA GeoEnvironmental, Inc. Engineers/Scientists		General Chemical Corporation		Boring No. EW-1	
One Edgewater Drive Norwood, Massachusetts 02062		Framingham, Massachusetts		Page No. 1 of 2	
Drilling Co. D.L. Maher		Casing Drive and Wash 4" / 12"		File No. 15861-08	
Drillman John Graglia		Sampler Split Spoon 1.3/8" / 2"		Checked By:	
GEA Rep. Keith Rudman		Type I.D./O.D. 4" / 4"		Groundwater Readings	
Date Start 04/26/01		End 05/02/01		Date	
Location See Exploration Location Plan		Hammer Wt. 140#		Time	
GS Elev. Datum		Other 30"		Depth	
				Casing	
				Stub Time	

D E P T H	C A S I N G	B L O W S	Sample Information				Sample Description & Classification	Stratum Description	N O T E S	
			No.	Pen./ Rec.	Depth (Ft.)	Blows/6"				Field Test Data
5			S-1	24/4	0-2	1-1	0	Dry, very loose TOPSOIL, lgh brown, fine SAND, Roots.	SAND	2' Stickup
						2-3				
			S-2	24/7	2-4	1-3	0	Moist, loose, light brown, fine SAND, some Silt, trace Clay, trace Organic Silt. (Bottom of sample wet)	SILTY SAND	
						2-2				
10			S-3	24/18	4-6	5-9	0	Wet, medium dense, light brown, fine to medium SAND, and Silt, layer of Organic Silt.	SAND	6
						13-16				
			S-4	24/24	6-8	7-10	2.0	Wet, medium dense, light brown/gray layers 1/4" - 1/2" thickness, fine to coarse SAND, and Silt.		
						10-11				
15			S-5	24/24	8-10	7-10	4.0	Wet, medium dense, light brown, fine to coarse SAND, and Silt.		3
						13-10				
			S-6	24/20	10-12	7-8	300.0	Wet, medium dense, brown, fine to medium SAND, some Silt, black stains.	SILTY SAND	
						11-16				
20			S-7	24/4	12-14	20-26	33.0	Dense, gray, fine to coarse SAND, and Silt, little Clay, trace Gravel.		35 x 6" Dia S.S. Channel Pack Screen (10'-45')
						29-26				
			S-8	24/11	14-16	18-20	156.0	Top 6": Dense, gray, fine to coarse SAND, and Silt, little Clay, Gravel. Bottom 5": Brown, fine to coarse SAND, and Silt.	SAND AND SILT	
						53-26				
25			S-9	24/16.5	16-18	11-17	160.0	Top 6.5": Wet, medium dense, black, fine to medium SAND, and Silt. Bottom 10": Brown, fine to medium SAND, and Silt.		
						11-14				
			S-10	24/12	18-20	4-9	148.0	Wet, medium dense, fine to coarse SAND, and Silt; layered (top layer black 3"; bottom of sample Clayey Silt, iron oxide stains).	CLAYEY SILT	
						11-9				
			S-11	24/14	20-22	8-11	115.0	Wet, very stiff, gray, Clayey SILT, laminated with fine Sand, iron oxide stains.		
						14-13				
			S-12	24/13	22-24	10-16	189.3	Medium dense, gray, fine Silty SAND, trace Clay, grading to 1.5". Heavily iron-stained band, fine Silty Sand. Bottom 9" gray, fine Silty SAND, no noted structure, trace medium Sand, trace Clay.	SILTY SAND	
						16-16				
			S-13	24/15	24-26	13-15	217.4	S-13: Wet, medium dense, gray, fine Silty SAND, trace Gravel interlaminated to interbedded with fine to coarse Silty SAND, Sand and Clay, some minor iron-oxide.		
						17-23				
			S-14	24/15	26-28	11-18	263.0	S-14: Wet, medium dense, gray-brown, laminated to interbedded, very fine to fine Silty SAND inter-laminated/interbedded with fine to medium SAND and CLAY. One medium SAND bed approximately 1" thick, heavily iron-stained.		
						18-23				
			S-15	24/18	28-30	15-20	465.0	S-15: Gray-brown to brown, very fine to fine SAND interbedded with Silty, very fine to fine SAND, trace		
						20-23				

Notes:

- Stratification lines represent approximate boundaries between soil types; transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
- Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv); ND indicates below detection limit (<0.1 ppmv).
- Had drillers change heavy weight drilling fluid <20.0 ppm.
- Shaded samples were submitted for analysis via EPA Method 8260.
- BOLD samples were submitted for EPA EPH/VPH analysis.
- Sample was submitted for Total Organic Carbon analysis.



GZA GeoEnvironmental, Inc.

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EW-1

One Edgewater Drive
Norwood, Massachusetts 02062

Framingham, Massachusetts

DEPTH	C.B.A.L.S.O.N.W.G.S	Sample Information					Sample Description & Classification	Stratum Description	NOTES
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
35		S-16	24/14	30-32	14-19	273.0	Clay. One 2" heavily iron-stained band of fine SAND at tip of spoon. S-16: Brown to orange-brown, fine SAND and Silty SAND, interlaminated, some deeply iron-stained laminations of fine SAND, one 3/4" bed of medium to coarse SAND (no iron staining).	SILTY SAND	6
					23-25		S-17: Wet, brown to iron stained, fine Silty SAND. First 8" spoon brown grading to heavily iron-stained for remaining 9" of sample. No laminations or bedding noted.		
		S-17	24/17	32-34	17-20	154.6	S-18: Wet, brown to iron stained, fine Silty SAND, thinly laminated with alternating laminations of iron stained and brown SAND.		
					19-25		S-19: Wet, gray-brown to iron stained, fine Silty SAND, laminated (alternating laminations of brown to iron-stained SAND), trace fine Gravel near bottom of spoon, trace Clay laminations.		
		S-18	24/13	34-36	18-23	62.1	S-20: Wet, brown to iron stained, fine Silty SAND laminated with red-brown to brown, Silty SAND, some trace Gravel.		
					21-24				
40		S-19	24/12	36-38	17-19	17.0		40' ±	3
					28-28				
		S-20	24/16	38-40	15-22	4.3			
					27-27				
45		S-21	24/18	40-42	18-22	71.6	Wet, dense, light brown, fine SAND and SILT, trace Clay.	SAND AND SILT	35' x 6" Dia. S. S. Channel Pack Screen (10.1'-45.1')
					26-35				
		S-22	24/16	42-44	21-25	91.5	Wet, very dense, light brown-gray, fine SAND and SILT on top, slowly transitioning into Silt, trace(-) fine Sand at the bottom, trace Clay.	44' ±	
					30-39				
50		S-23	24/13	44-46	16-20	33.0	Wet, dense, gray Clayey SILT.	CLAYEY SILT	1.8' S. Steel Sump 45.1'-46.9'
					25-25				
		S-24	24/13	46-48	20-20	30.0	Wet, very dense, Clayey SILT.	48' ±	
					40-42				
55		S-25	24/11	48-50	30-26	21.0	Wet, dense, gray, fine to coarse SAND and SILT, some fine Gravel.	TILL	
					18-16				
		S-26	24/9.5	50-52	26-36	31.0	Wet, very dense, gray, fine to coarse SAND and SILT, some fine Gravel.		
					39-22				
60		S-27	24/13	52-54	30-38	2.8	Wet, very dense, same as above, more compact, gray, fine to coarse SAND and SILT, some fine Gravel.		
					59-68				
60		S-28	4/1	57-57.33	103/4"	NM	Same as above. Equipment Refusal at 57.33'.		

Notes:

- Had drillers change heavy weight drilling fluid <20.0 ppm.
- Shaded samples were submitted for analysis via EPA Method 8260
- BOLD samples were submitted for EPA EPH/VPH analysis.
- Sample was submitted for Total Organic Carbon analysis.

Drilling Co.	D.L. Maher	Casing	Sampler	Groundwater Readings				
Operator	John Graglia	Type	Drive Wash	Date	Time	Depth	Casing	Stab. Time
Geol. Rep.	Keith Rudman	I.D./O.D.	4"					
Date Start	05/02/01	End	05/03/01					
Location	See Exploration Location Plan	Hammer Wt.	300#					
GS. Elev.	Datum	Hammer Fall	30"					
		Other						

[illegible]

2 Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv). ND indicates below detection limits (0.1 ppmv).

One Edgewater Drive
Norwood, Massachusetts 02062

Framingham, Massachusetts

D E P T H	C A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
							REFER TO EW-1 BORING LOG		
35							Bottom of Boring at 45'		
40							Bottom of Boring at 45'		
45							Bottom of Boring at 45'		
50							Bottom of Boring at 45'		
55							Bottom of Boring at 45'		
60							Bottom of Boring at 45'		

One Edgewater Drive
Norwood, Massachusetts 02062

Framingham, Massachusetts

Drilling Co. D.L. Maher
John Graglia
Rep. Keith Rudman
Date Start 05/02/01 End 05/03/01
Location See Exploration Location Plan
GS. Elev. Datum

Type
I.D./O.D.
Hammer Wt.
Hammer Fall
Other

Casing
Drive Wash
4"
300#
30"

Sampler
-
-
-
-
-

Groundwater Readings

Date	Time	Depth	Casing	Stab. Time

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
							REFER TO EW-1 BORING LOG		
5							Bottom of Boring at 18'		
10							Bottom of Boring at 18'		
15							Bottom of Boring at 18'		
20							Bottom of Boring at 18'		
25							Bottom of Boring at 18'		

Notes:

1. Stratification lines represent approximate boundaries between soil types; transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to factors other than those present at the time measurements were made.
2. Field testing results represent total organic vapor levels, referenced to a benzene standard, measured in the headspace of sealed soil sample jars using an organic vapor meter equipped with a photoionization detector (PID) and 11.7 eV lamp. Results in parts per million by volume (ppmv); ND indicates below detection limits (0.1 ppmv).

Framingham, Massachusetts

Casing	Sampler
Drive Wash	-
4"	-
300#	-
30"	-

Groundwater Readings		
Depth	Casing	Stab. Time

Notes:

- 

APPENDIX E

BORING LOGS, PREVIOUS GZA INVESTIGATIONS

Framingham, Massachusetts

Groundwater Readings

Groundwater Readings				
Date	Time	Depth	Casing	Stab Time
12/22/99	1300	8.08'	Out	48 Hrs.

Notes:

1. Field testing results represent total organic vapor levels referenced to a benzene standard, measured in the headspace of sealed soil sample jars using a PE Photovac Model No. 3020.
 2. Photoionization Air Monitor Results in parts per million volume/volume (ppmv); ND indicates nothing detected (<0.1 ppmv).
 3. Stratification lines represent approximate boundaries between soil types. Transitions may be gradual. 4. Used drilling mud to flush out cuttings.
 4. Strong solvent-like odor. 5. Sample 4-5 was wet. 6. Changed mud at 8'.
 7. began using the saturated sand sampler at 5-6' (10'). 8. Changed mud at beginning of 12-15-99.
 9. Flushed mud at 15' (486 ppmv). Flushed out hole with new mud before sampling.
 10. All soil samples were submitted for analysis via EPA Method 8260.

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Framingham, Massachusetts

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
		S-10	60/54	30-35	7-8	326	S-10E (30-31'): Light brown, fine SAND.	SAND	4
					7-8	217	S-10D (31-32'): Light brown, fine SAND.		
						102	S-10C (32-33'): Light brown, fine SAND.		
						151	S-10B (33-34'): Light brown, fine SAND.		
35						137	S-10A (34-35'): Top 6": Light brown, fine SAND. S-10A: Bottom 6": Light brown SILT.		11
		S-11	24/14	35-37	9-9	476	S-11B (35-36'): Medium dense, light brown, fine SAND, little Silt.	SAND AND SILT	12
					9-12	494	S-11A (36-37'): Medium dense, light brown, fine SAND, trace(+) Silt.		4
		S-12	24/19	37-39	7-8	44.9	S-12: Medium dense, light brown, fine SAND and SILT.		
					9-10				
40		S-13	24/14	39-41	10-12	6.5	Medium dense, light brown, SILT, some fine Sand (1" layer of Clayey Silt 7" from bottom of spoon).	SILT	13
					12-13				
		S-14	24/17	41-43	10-10	2.2	Medium dense, light brown, SILT, trace(+) fine Sand, trace(-) Clay.		
					11-15				
		S-15	60/35	43-48	14-19	6.5	S-15E (43-44'): Light brown, SILT and fine SAND.	SILT AND SAND	14
45					21-29	105	S-15D (44-45'): Light brown, SILT and fine SAND, trace(+) Clay (bottom 1" Clayey Silt).		15
						96.8	S-15C (45-46'): Light brown to light grayish-brown, Clayey SILT.	CLAYEY SILT	
		S-16	60/12	48-53	19-25	1198	S-16E (48-49'): Light brown to light grayish-brown, Clayey SILT.	CLAYEY SILT	16
50					30-34				
		S-17	24/15	53-55	15-13	28.6	Very stiff, light brownish-gray, Clayey SILT, trace(+) coarse Sand, trace(-) Gravel.	TILL	17
55					11-14				
		S-18	24/12	55-57	18-18	0.7	Dense, gray, fine to medium SAND, trace(+) Silt, trace(+) Gravel.		
					21-26				
		S-19	24/20	57-59	56-50	ND	Top 2": Very dense, gray, SILT, some coarse Sand, trace(+) Clay. Bottom 18": Very dense, gray, fine to coarse SAND and SILT, little Gravel, trace(+) Clay (1" layer of Gravel 7" from bottom of spoon).		18
					66-82				
60		S-20	24/21	59-61	87-140	0.2	S-20: Hard, brownish-gray, SILT & CLAY, little Sand, little Gravel.		19
					188-215				20
		S-21	24/18	61-63	74-135	ND	Top 14": Hard, brownish-gray, CLAY & SILT, little Sand, trace(+) Gravel. Bottom 4": Fine SAND and SILT.		
					135-200				
		S-22	24/15	63-65	51-56	ND	Hard, brownish-gray, CLAY & SILT, some Sand, little Gravel (lenses of fine Sand throughout).		
					100-122				

Notes:

- Hydrophobic dye showed evidence of DNAPL based on slight color change in water.
- Set 6" casing at 43'. Switched to weighted mud to flush out cuttings.
- Tip of saturated sand sampler was plugged with till (PID reading = 911 ppmv).
- 4" casing set at 57.5'. Weighted mud flushed out of hole with grout. 6" casing removed from hole. Grout allowed to cure - drilling resumed on 12/20/99.
- Continued drilling via open hole using water and a 3-3/4" roller bit.
- Resumed use of 2" split spoon for sampling.
- Resumed using the saturated sand sampler at S-15 (43').
- Used 2" split spoon.
- Seen observed in S-11A.
- Seen observed in S-15D.
- Used a 3" split spoon to collect sample S-20.



GZA GeoEnvironmental, Inc.

GAI5861.1QTN15861-08 PAD/Boring Logs/Old Boring Logs/GZ-1.xls/LOG2

GZ-1

Framingham, Massachusetts

Notes:

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Framingham, Massachusetts

Checked By:

Drilling Co.	GZA Drilling, Inc.		Type
Foreman	Ron Holman		1.D./O.D.
GZA Rep.	Chris Watrous		
Date Start	12/27/99	End	12/29/99
Location	See Exploration Location Plan		Hammer Fall
GS Elev.	Datum		Other

Casing	Sampler
Casing	Split Spoon
4"	1-3/8"
140#	140#
	30"

Groundwater Readings				
Date	Time	Depth	Casing	Stab. Time
12/27/99	-	7.0	In	1 1/2 Hr.
01/06/00	08:30	9.5	Out	1 Week

DEPTH Feet	C.B. ALSON WGS	Sample Information					Sample Description & Classification	Stratum Description	NOTES	Road Box
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data				
5		S-1	24/16	0-2	8-3	1.2	Loose, brown, fine SAND and SILT, trace(-) Organics.		1 2 3 4	Cement 0-0.5'
					3-4					
10		S-2	24/18	5-7	3-7	0.4	Medium dense, yellow-brown, fine to medium SAND and SILT, trace(-) Clay, trace(+) Gravel.		5	2" PVC Riser 0-62'
					12-15					
15		S-3	60/56	10-15	3-6	0.1	S-3 (10-11'): Medium dense, brown, fine to coarse SAND, some Silt.	SAND		Benseal Grout 0.5-59'
					8-11					
20		S-4	60/50	15-20	5-9	ND	SAND, some Silt. S-4A (15-16'): Medium dense, brown, fine to coarse SAND, some Silt. S-4B (16-17'): Medium dense, black, fine to coarse SAND, little Silt, trace(-) Gravel. S-4C (17-18'): Medium dense, black, fine to coarse SAND, little Silt, trace(-) Gravel. S-4D (18-19'): Medium dense, black, fine to coarse SAND, trace(-) Silt, trace(+) Gravel. S-4E (19-20'): Medium dense, black, fine to coarse SAND, trace(-) Silt, trace(+) Gravel.			
					8-9	ND				
						ND				
						ND				
						ND				
25		S-5	60/51	20-25	9-7	0.9	S-5A (20-21'): Medium dense, brown, fine to medium SAND, little Gravel, trace(-) Silt. S-5B (21-22'): Medium dense, brown, fine to medium SAND, little Gravel, trace(-) Silt. S-5C (22-23'): Medium dense, brown, fine to coarse SAND, some Gravel, trace(-) Silt. S-5D (23-24'): Medium dense, brown, fine SAND, some medium to coarse Sand, trace(+) Silt. S-5E (24-25'): Medium dense, brown, fine SAND, some medium to coarse Sand, trace(+) Silt.			
					8-10	1.8				
						2.5				
						1.7				
						2.5				
		S-6	60/55	25-30	8-9	19.8	S-6A (25-26'): Medium dense, brown, fine to coarse SAND, trace(+) Silt. S-6B (26-27'): Medium dense, brown, fine to coarse SAND, some Silt, trace(-) Gravel. S-6C (27-28'): Medium dense, brown, fine to coarse SAND, some Silt, trace(-) Gravel. S-6D (28-29'): Medium dense, brown, fine SAND, some medium to coarse Sand, trace(+) Silt. S-6E (29-30'): Medium dense, gray, fine SAND.	SILTY SAND		
					13-14	10.2				
						12.0				
						14.4				
						10.9				

Notes:

1. See Boring Log GZ-1 for notes 1 and 2.
3. Used 6-1/4" hollow stem augers to 30'; changed to 4" casing and advanced to 67'; split spoon sample collected from 67'-69'.
4. Sampled 0'-10' using split spoon; sampled 10'-50' using saturated sand samples; sampled 50'-69' using split spoon.
5. Spoon wet at 7'.
6. Shaded samples were submitted for analysis via EPA Method 8260

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Framingham, Massachusetts

D E P T H	C B N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
35		S-7	60/48	30-35	9-6	2.2	little Silt, trace(+) coarse Sand. S-7A (30-31'): Medium dense, gray, fine SAND, little Silt, trace(+) coarse Sand. S-7B (31-32'): Medium dense, gray, fine SAND, little Silt, trace(+) coarse Sand. S-7C (32-33'): Medium dense, gray, fine SAND, little Silt, trace(+) coarse Sand. S-7D (33-34'): Medium dense, gray, fine SAND, little Silt, trace(+) coarse Sand. S-7E (34-35'): Medium dense, gray, fine SAND, little Silt.	SAND	Stainless Steel Riser 0-62'
					9-8	1.0			
						ND			
						ND			
						0.9			
		S-8	60/58	35-40	5-6	0.7	S-8A (35-36'): Medium dense, gray, fine SAND, some coarse Silt, trace(+) Silt. S-8B (36-37'): Medium dense, gray, fine to medium SAND, trace(+) Silt. S-8C (37-38'): Medium dense, gray, fine to medium SAND, trace(+) Silt. S-8D (38-39'): Medium dense, gray-brown, fine SAND, some Silt. S-8E (39-40'): Medium dense, gray-brown, fine SAND, some Silt.		
					9-18	2.0			
						1.0			
						0.8			
						0.6			
40		S-9	60/32	40-45	9-8	ND	S-9A (40-41'): Medium dense, gray-brown, fine SAND, some coarse Sand, trace(+) Silt. S-9B (41-42'): Medium dense, gray-brown, fine SAND, some coarse Sand, trace(+) Silt. S-9C (42-43'): Medium dense, gray-brown, fine SAND, some Silt.	SILTY SAND 43±	
					12-12	ND			
						ND			
45		S-10	60/40	45-50	12-13	0.4	S-10A (45-46'): Dense, gray-brown, fine SAND, some coarse Sand, trace(+) Silt. S-10B (46-47'): Dense, gray-brown, fine SAND, some coarse Sand, trace(+) Silt. S-10C (47-48'): Dense, gray-brown, fine to medium SAND, little Silt. S-10D (48-49'): Dense, gray-brown, fine to medium SAND, little Silt.	SAND	
					18-17	0.5			
						0.3			
						0.6			
50		S-11	24/20	50-52	6-1	2.5	S-11A (50-51'): Loose, gray, fine SAND, little Silt. S-11B (51-52'): Loose, gray, fine SAND, little Silt.		Benseal Grout 0-5.50'
					1-1	2.8			
55		S-12	24/22	55-57	10-11	ND	S-12A (55-56'): Medium dense, gray, SILT, some fine Sand. S-12B (56-57'): Dense, gray SILT, trace(-) fine Sand.	56±	
					13-12	ND			
		S-13	24/10	57-59	17-8	ND	S-13 (57-58'): Medium dense, gray, SILT, little fine Sand.		
					9-10				
60		S-14	24/14	60-62	16-16	ND	S-14 (60-61'): Medium dense, gray, SILT, little fine Sand, trace(-) Clay.	SILT	Bentonite Seal 59-61'
					15-18				
		S-15	24/12	62-64	12-14	ND	S-15A (62-63'): Medium dense, gray, SILT, little Clay, trace(-) Gravel. S-15B (63-64'): No recovery.		
					15-19				

Note:

Framingham, Massachusetts

Notes:

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Framingham, Massachusetts

Drilling Co. GZA Drilling, Inc.
For: Ron Holman
GZ: Chris Watrous
Date Start: 01/06/00 End: 01/07/00
Location: See Exploration Location Plan
GS Elev.: Datum
Type: I.D./O.D.
Hammer Wt.:
Hammer Fall:
Other:Casing
Casing: 4"
Sampler
Split Spoon
1-3/8"
140#
30'Groundwater Readings
Date: 01/06/00
Time: 9:00
Depth: -6
Casing: Out
Stab Time: 1/2 Hr
1 Week

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S	Road Box
		No.	Pen / Rec.	Depth (ft.)	Blows/6"	Field Test Data				
5		S-1	24/14	0-2	25-28	13.7	Dense, brown, fine to coarse SAND, some Gravel, trace(-) Silt, trace(-) Brick.	SAND		Cement 0-0.5'
					20-23					2" PVC Riser 0-47
										Benseal Grout 1-36
10		S-2	24/16	5-7	3-3	26.7	Loose, light brown, fine to coarse SAND and SILT, trace(+) Gravel.	SAND AND SILT		
					7-9					
15		S-3	24/12	10-12	5-7	2,000	S-3 (10-11'): Medium dense, brown, fine to medium SAND, trace(+) Silt.	SAND		
					6-8					
		S-4	24/20	12-14	6-2	2,000	S-4A (12-13'): Medium dense, brown, fine to coarse SAND, trace(+) Silt.			
					8-7	2,000	S-4B (13-14'): Medium dense, brown, fine to coarse SAND, trace(-) Silt, trace(+) Gravel			
20		S-5	24/16	15-17	3-4	2,000	S-5A (15-16'): Loose, brown, fine to medium SAND little coarse Sand, trace(-) Silt.	SAND		
					2-6		S-5B (16-17'): Loose, brown, fine to coarse SAND, trace(+) Gravel, trace(-) Silt.			
		S-6	24/18	17-19	4-3	2,000	S-6A (17-18'): Loose, brown, fine to coarse SAND, trace Silt.			
					2-3	1,825	S-6B (18-19'): Loose, brown, fine to medium SAND, trace(+) Silt.			
25		S-7	24/20	20-22	10-6	1,183	S-7A (20-21'): Medium dense, brown, fine to medium SAND, trace Silt.	Silty Sand		
					6-8	203	S-7B (21-22'): Medium dense, fine to coarse SAND, some Silt.			
		S-8	24/6	22-24	3-6	983	S-8A (22-23'): Loose, brown, fine to coarse SAND, some Silt.			
					4-5					
		S-9	24/24	25-27	5-6	83	S-9A (25-26'): Medium dense, brown, fine to coarse SAND, little Silt, trace(-) Gravel.			
					5-9	180	S-9B (26-27'): Medium dense, brown, fine to coarse SAND and GRAVEL, trace(-) Silt.			
		S-10	24/20	27-29	8-9	494	S-10A (27-28'): Medium dense, brown, fine to medium SAND, some coarse Sand, trace(-) Silt.			
						891	S-10B (28-29'): Medium dense, brown, fine to coarse SAND, some Silt, trace(+) Gravel.			

Notes:

- See Boring Log GZ-1 for notes 1 and 2.
- Used 6-1/4" hollow stem augers to 40'; changed to 4" casing and advanced to 52'; split spoon sample collected from 52'-54'.
- Sampled using consecutive split spoons for continuous sampling.
- Strong solvent-like odor.
- Sample S-2 was wet.
- and samples were submitted for analysis via EPA Method 8260.



GZA Geoenvironmental, Inc.

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GZ-3

Boring No.	GZ-4	
Page No.	2	of 2
File No.	15861.23	
Checked By:		

[illegible]

Notes:

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Framingham, Massachusetts

Drilling Co. GZA Drilling, Inc.
For: AJ Augustine
G: Chris Watrous
Date Start: 01/03/00 End: 01/04/00
Location: See Exploration Location Plan
GS. Elev.: DatumType: I.D./O.D.
Hammer Wt.
Hammer Fall
Other:Casing: HSA
4-1/4" 77-1/8"
Sampler: Split Spoon
1-3/8"
140#
30"

Groundwater Readings

Date	Time	Depth	Casing	Stab	Time

DEPTH Feet	C.B. S.O. N.W. H.G.S.	Sample Information					Sample Description & Classification	Stratum Description	Notes
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
5		S-1	24/10	0-2	3-5	0.5	S-1A (0-1'): Medium dense, brown, fine to coarse SAND, little Gravel, trace(-) Silt.	SAND	1 2 3 4
					10-12				
10		S-2	24/6	5-7	2-1	ND	S-2A (5-6'): Very loose, gray, fine SAND, some Silt, trace(+) coarse Sand, trace(+) Gravel.	10±	5
					1-2				
20		S-3	60/36	10-15	1-3	0.8	S-3A (10-11'): Very loose, gray, fine SAND, some Silt, trace(+) Gravel.	SAND & SILT	15±
					3-3	1.0	S-3B (11-12'): Loose, gray brown, fine to medium SAND and SILT, trace(-) Gravel, trace(+) Organics.		
						2.1	S-3C (12-13'): Loose, brown, fine SAND, some Silt, trace(-) Organics.		
25		S-4	60/58	15-20	10-10	1.1	S-4A (15-16'): Medium dense, brown, fine to medium SAND, trace(+) Silt, trace(-) Wood.	SAND	NO EQUIPMENT INSTALLED
					10-7	ND	S-4B (16-17'): Medium dense, tan, fine to coarse SAND, little Silt, trace(+) Gravel.		
						0.9	S-4C (17-18'): Medium dense, tan, fine to coarse SAND, little Silt, trace(+) Gravel.		
						1.5	S-4D (18-19'): Medium dense, brown, fine to coarse SAND, little Gravel, trace(-) Silt.		
		S-5	24/12	20-22	1-2	0.7	S-5A (20-21'): Loose, gray, fine to coarse SAND, trace(+) Silt.	SAND	
					2-2				
		S-6	24/10	22-24	1-2	0.8	S-6A (22-23'): Loose, tan, fine to coarse SAND, trace(+) Silt, trace(-) Gravel.		
					1-2				
		S-7	24/24	25-27	1-3	1.2	S-7A (25-26'): Loose, brown, fine SAND, trace(+) Silt.		
					2-4	0.7	S-7B (26-27'): Loose, gray, fine to coarse SAND, trace(+) Silt.		
		S-8	24/24	27-29	1-2	0.7	S-8A (27-28'): Loose, gray, fine to coarse SAND, trace(-) Silt.		
					2-3	0.7	S-8B (28-29'): Loose, gray, fine to coarse SAND, trace(-) Silt.		

Notes:

- See Boring Log GZ-1 for notes 1 and 2.
- Used 6-1/4" hollow stem augers to 40', auger refusal at 42'.
- Split spoon sampling 0-10'; saturated sand sampler 10'-20'; split spoon sampling 20-40'
- Saturated sand sampler wet at 10'.
- Refusal at 42'. Broke cutter head attempting to drill through refusal; moved boring location 2' because casing could not be advanced due to cutter head piece in bottom of boring.
- Field sample was submitted for EPA EPH/VPH analysis.



GZA GeoEnvironmental, Inc.

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GZ-4RA

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Framingham, Massachusetts

DEPTH	C B A S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	NOTES
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
35		S-9	24/NR	30-32	6-7	-	No recovery.	SAND	NO EQUIPMENT INSTALLED
					7-7	-			
40		S-10	24/24	35-37	9-10	0.8	S-10A (35-36'): Medium dense, gray, fine to coarse SAND, some Silt, trace(+) Gravel.	37± SAND AND SILT	
					6-7	0.9	S-10B (36-37'): Medium dense, gray, fine SAND and SILT, little Gravel, trace(-) Clay.		
		S-11	24/24	37-39	13-27	0.8	S-11A (37-38'): Medium dense, gray, fine SAND and SILT, little Gravel, trace(-) Clay.		
				14-12	0.8	S-11B (38-39'): Medium dense, gray, fine SAND and SILT, little Gravel, trace(-) Clay.			
45		S-12	11/6	40-41	6-100/5"	0.8	S-12A (40-41'): Medium dense, gray, fine SAND and SILT, little Gravel, trace(-) Clay.		
							Refusal at 42'.		
60									

Notes:

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Framingham, Massachusetts

Drilling Co. GZA Drilling, Inc.
Foreman Al Augustine
GZA Rep. Chris Watrous
Date 01/04/00 End 01/06/00
Location See Exploration Location Plan
GS Elev. Datum
Type I.D./O.D.
Hammer Wt.
Hammer Fall
Other

Casing
Casing 4"
140#
Sampler
Split Spoon
1-3/8"
140#
30"

Groundwater Readings
Date Time Depth Casing Stab. Time
01/18/00 8.5' Out 1 Week

Depth (Feet)	Casing No.	Pen./ Rec.	Depth (Feet)	Blows/6"	Field Test Data	Sample Description & Classification	Stratum Description	Notes	Road Box
5						NO SAMPLES COLLECTED FROM 0'-30'. REFER TO GZA BORING LOG GZ-4RA FOR SUBSURFACE INFORMATION TO 30'			Cement 0-0.5'
11									2" PVC Riser 0-58'
14									Benseal Grout 0.5-4.5'
15									
19									
10									
15									
20									
33									
50									
39									
15									
30									
5									
57									
50									
47									
20									
49									
66									
52									
50									
65									
25									
129									
140									
108									
90									
87									
82									

Notes:

- See Boring Log GZ-1 for notes 1 and 2.
- Used 4-1/4" hollow stem augers to 5'; drove 4" casing from 5' to 48' (to bedrock).
- Rock coring began at 48'; coring difficult from 48'-58' (bent rock core); replaced core and advanced to 63'.
- Approximately 300 gallons of drilling water were lost during rock coring.
- From 58' to 63' bedrock was competent (some fracturing). Recovery was good.



GZA GeoEnvironmental, Inc.

G:\15861\1QT\15861-08 PAD\Boring Logs\OldBoringLogs\GZ-4R.XLS\LOG1

GZ-4R

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Framingham, Massachusetts

DEPTH	C B S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	NOTES
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
35	76	S-1	24/6	30-32	4-3	1.1	S-1A (30-31'): Loose, gray, fine to coarse SAND, trace(+) Silt.	SAND	
	63				3-4	-			
	50								
	77								
	79								
	65								
	75								
	81								
	83								
	76								
40	91	S-2	24/10	40-42	7-10	0.9	S-2A (40-41'): Medium dense, gray, SILT, some fine to coarse Sand, little Gravel, trace(-) Clay.	SANDY SILT	
	57				10-8	-			
	74								
	84								
	86								
45		S-3	24/NR	45-47	28-17	-	No Recovery.	TILL	
					13-14	-			
		S-4	24/12	47-49		0.9			
					20-100/4" Min/Ft	RQD			
50		C-1	30/24	49-51.5	5:45	0	SCHIST: Hard, gray, black, and white; fine to coarse grained, mod. dip foliation, very closely to closely spaced, iron oxide stains, vertical joints/fractures.	BEDROCK	
					4:30				
		C-2	30/24	51.5-53	4:17	0			
					5:30				
		C-3	12/12	53-54	5:45	0			
55		C-4	30/18	54-56.5	5:15	0	Top 10' of BEDROCK highly fractured.	BEDROCK	
					8:11				
		C-5	18/18	56.5-58	9:10	0			
					6:10				
		C-6	60/52	58-63	5:30	28			
60					7:20		Very hard, quartz rich zone at 58'-62' Sediment-filled fractures at 59', 61', and 62'.	BEDROCK	
					5:30				
					3:30				
					3:00				
							Bottom of Boring at 63'.		

Notes:

GZA GeoEnvironmental, Inc. Engineers/Scientists		General Chemical Corporation		Boring No. <u>GZ-55</u> Page No. <u>1</u> of <u>1</u> File No. <u>15861.23</u> Checked By: <u>KAT</u>																																																																																																																																																																																																												
320 Needham Street Newton Upper Falls, Massachusetts 02464		Framingham, Massachusetts																																																																																																																																																																																																														
Drilling Co. <u>GZA Drilling, Inc.</u> Driller <u>Ron Holman</u> Log Rep. <u>Paul Lockwood</u> Date Start <u>12/28/99</u> End <u>12/28/99</u> Location <u>See Exploration Location Plan</u> GS. Elev. <u>Datum</u>		Type <u>I.D./O.D.</u> Hammer Wt. <u>140#</u> Hammer Fall <u>30"</u> Other		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Casing</th> <th colspan="2">Sampler</th> </tr> <tr> <td>HSA</td> <td>Split Spoon</td> <td></td> <td></td> </tr> <tr> <td>4-1/4"/7-1/8"</td> <td>1-3/8"/2"</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Casing		Sampler		HSA	Split Spoon			4-1/4"/7-1/8"	1-3/8"/2"																																																																																																																																																																																																	
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GZA GeoEnvironmental, Inc.
Engineers/Scientists

General Chemical Corporation

Framingham, Massachusetts

Boring No. GZ-5D
Page No. 1 of 2
File No. 15861.23
Checked By:

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Drilling Co. GZA Drilling, Inc.

Foreman Ron Holman

GZA Rep. Paul Lockwood

Date Start 12/28/99 End 12/28/99

Location See Exploration Location Plan

GS. Elev. Datum

Type
I.D./O.D.
Hammer Wt.
Hammer Fall
Other

Casing
HSA
4-1/4"/7-1/8"
140#
30"

Sampler
Split Spoon
1-3/8"/2"
-
-

Groundwater Readings

Date	Time	Depth	Casing	Stab. Time
12/28/99	1600	~8.5'	Out	1/2 Hr
01/10/00	1400	6.20	PVC	13 Days

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S	Flush-Mounted Road Box Locking Plug
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data				
							REFER TO GZA BORING LOG GZ-5S FOR SOIL DESCRIPTION FROM 0-18'.	FILL	1	Cement 0-0.5' 2" PVC Riser 0-34' Grout 1-30'
									2	
							Wet, medium dense, fine to coarse SAND, trace(+) Silt, trace(-) Gravel. Tip: Olive, SILT.	SILT		
							Wet, very stiff, brown-olive, SILT, little Clay.	SAND		
							Wet, very stiff, olive gray, SILT, trace(-) fine Gravel.	SILT		
							Wet, hard, gray, SILT and CLAY, trace Gravel.	TILL		

- Notes:
- See Boring Log GZ-1 for notes 1 and 2.
 - Unable to collect sample from 20' due to "blown sands."
 - Due to blow in sands augered to 25'.
 - Auger refusal at 20.5'. Moved boring 4' east.
 - Shaded samples were submitted for analysis via EPA Method 8260.



GZA GeoEnvironmental, Inc.

G:\15861.1\Q\15861-08.PAD\Boring Logs\OldBoringLogs\GZ-5D.XLS\LOG1

GZ-5D

GZA GeoEnvironmental, Inc.
Engineers/Scientists
320 Needham Street
Newton Upper Falls, Massachusetts 02464

General Chemical Corporation
Framingham, Massachusetts

Boring No. GZ-6
Page No. 1 of 1
File No. 15861.23
Checked By:

Drilling Co. GZA Drilling, Inc.
Foreman Al Augustine
GZA Rep. Chris Watrous
Date Start 12/27/99 End 12/27/99
Location See Exploration Location Plan
GS. Elev. Datum

Type I.D./O.D.
Hammer Wt. Hammer Fall
Other

Casing HSA
4-1/4"/7-5/8"

Sampler Split Spoon
1-3/8"
140#
30"

Groundwater Readings

Date	Time	Depth	Casing	Stab. Time
12/27/99	12:15	11.5'	Out	1/2 Hr.
01/12/00		10.56	Out	1 Week

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S	Road Box
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data				
5		S-1	24/14	1-3	11-17	0.3	Dense, brown, fine to coarse SAND, trace(-) Gravel, trace(+) Silt.	PAVEMENT		1 Cement 0-1' 2 Bentonite Seal 1-3' 2" PVC Riser 0-10' Filter Sand 3-20'
						20-9				
10		S-2	24/12	5-7	10-23	ND	Very dense, tan, fine to coarse SAND, little Silt, trace(-) Gravel.	SAND		
						30-23				
15		S-3	24/8	10-12	12-14	ND	Medium dense, brown, fine to coarse SAND, trace(+) Gravel, trace(-) Silt.			2" PVC Wellscreen 10-20'
						13-14				
20		S-4	24/12	15-17	8-10	ND	Medium dense, brown, fine to coarse SAND, trace(+) Silt.			
						12-12				
25		S-5	24/24	20-22	7-6	ND	Medium dense, brown, fine to coarse SAND and GRAVEL, trace(+) Silt.	SAND AND GRAVEL		
						9-16				
						Bottom of Boring at 22'				

Notes:

- See Boring Log GZ-1 for notes 1 and 2.
- Sample S-3 was wet.
- Shaded samples was submitted for analysis via EPA Method 8260.

GZA GeoEnvironmental, Inc.

G:\15861.1\QT15861-08.PAD\Boring Logs\OldBoringLogs\1QT23B06.XLS\LOG1

GZ-6

GZA GeoEnvironmental, Inc.
Engineers/Scientists

General Chemical Corporation

Boring No. GZ-7
Page No. 1 of 2
File No. 15861.23
Checked By

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Frammingham, Massachusetts

Drilling Co.		GZA Drilling, Inc.		Casting		Sampler		Groundwater Readings				
For		Al Augustine		HSA		Split Spoon		Date	Time	Depth	Casing	Stub Time
GZA		Sue Bator		4.1/4"-7.5/8"		1-3/8"/2"						
Date Start		12/21/99		End 12/22/99		140#						
Location		See Exploration Location Plan		Hammer Wt		30"						
GS. Elev.		Datum		Other								

DEPTH	CASSING	Sample Information					Sample Description & Classification	Stratum Description	NOTES	Flush-Mounted Road Box		
		No	Pen / Rec.	Depth (Ft.)	Blows/6"	Field Test Data						
5		S-1	24/13	0-2	8-13	3.4	Medium dense, brown to light brown, fine to coarse SAND and SILT, trace(+) Gravel, trace(+) Clay.	6" CONCRETE	1			Cement 0-1
					17-20			SAND AND SILT	2			2" PVC Riser 0-38"
								3.5±				
10		S-2	24/17	5-7	16-24	16.5	Dense, light brown, fine to coarse SAND, some Silt, trace(-) Gravel, trace(-) Clay.	SILTY SAND	3			Grout 1-34"
					22-21							
								8.5±				
15		S-3	24/19	10-12	4-5	1.9	Medium dense, light brown, fine SAND and SILT	SAND AND SILT				
					6-6							
								13.5±				
20		S-4	24/19	15-17	4-3	9.9	Loose, light brown, fine SAND, some Clayey Silt trace(-) coarse Sand.	SILTY SAND				
					5-7							
25		S-5	60/36	20-25	6-10	16.3	S-5A (20-21'): Light brown, fine SAND, some Silt		4			
					12-17	3.1	S-5B (21-22'): Light brown, fine SAND, some Silt, trace(-) Gravel.					
						0.8	S-5C (22-23'): Light brown, fine SAND, some Silt.					
						0.8	S-5D (23-24'): Light brown, fine SAND, some Silt.					
							25±					
30		S-6	24/15	25-27	5-3	2.0	Medium light brown, SILT & CLAY, some fine Sand. Bottom 2": Gray CLAY & SILT.	SILT & CLAY	5			
					3-2							
		S-7	24/21	27-29	5-4	0.3						
					4-5							
		S-8	24/10	29-31	4-13	0.3		Very stiff, gray, CLAY & SILT, little Sand, trace(-) Gravel.				

Notes:

- See Boring Log GZ-1 for notes 1 and 2.
- Bottom 6" of sample S-2 were wet.
- Used the saturated sand sampler at S-5.
- Resumed using the 2" split spoon for sampling.
- Selected samples were submitted for analysis via EPA Method 8260.



GZA GeoEnvironmental, Inc.

G:\15861.1\QTS\15861-08 PAD\Boring Logs\OldBoringLogs\GZ-7.XLS[LOG1]

GZ-7

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Framingham, Massachusetts

[illegible]

Notes:

320 Needham Street
Newton Upper Falls, Massachusetts 02464

General Chemical Corporation

Framingham, Massachusetts

Boring No.	GZ-7R		
Page No.	1	of	3
File No.	15861.23		
Checked By			

Drilling Co.	GZA Drilling, Inc.
For	Ron Holman
G	Paul Lockwood
Date Start	01/03/00 End
Location	See Exploration Location Plan
GS Elev	Datum

Type
I.D./O.D
Hammer Wt.
Hammer Fall
Other

Casing
Drive & Wash
4"/4.5"
300#
24"

Sampler
Split Spoon
1-3/8" / 2"
140#
30"

Groundwater Readings		
Depth	Casing	Stab. Time

Date	Time	Depth	Casing	Stab. Time

D	C	B	Sample Information				
E	A	L	No.	Pen / Rec.	Depth (ft.)	Blows/6"	Field Test Data
P	S	O					
T	N	W					
H	G	S					

[illegible]

Stratum Description	NOTES	Road Box
------------------------	-------	----------

[illegible]

REFER TO GZA BORING LOG GZ-7 FOR
SAMPLE DESCRIPTION OF MATERIAL
FROM 0'-43' BELOW EXISTING GRADE.

Notes:

1 See Boring Log GZ-1 for notes 1 and 2

3 Drove and washed 5' ahead of casing due to dense till (34'-81').

D E P T H	C O N D I T I O N S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data			
		S-6	24/12	65-66.2	54-60	ND	Hard SILT & CLAY, trace fine to coarse Gravel, trace(-) Sand.		
					100/2"				2" PVC Riser 6.92'
70		S-7	24/18	70-72	27-42	ND	Top 12": Hard CLAY & SILT, trace(-) Sand, trace(-) coarse Gravel. Bottom 6": SILT & CLAY, trace Sand, trace(-) fine Gravel.		Bentonite Grout 1.79'
					80-141				
75		S-8	6/6	75-75.5	100/6"	ND	Hard, brownish-gray, CLAY & SILT, trace(-) Gravel, Sand.	TILL	
80		S-9	5/5	80-80.4	100/5"		Hard, brownish-gray, CLAY & SILT, trace(-) Gravel, Sand.	81.5 ±	Bentonite Seal 79.31'
					min/sec	RQD			Filter Sand 81.92'
		C-1		81.8-86.8	3:35	78	Hard, light gray to pinkish gray, fine to coarse grained, slight, shallow to steep foliation. GRANODIORITE, moderately fractured, slightly weathered, shallow to moderately dipping, slightly weathered to iron-oxide stained joints/fractures		
					3:25				
85					3:27				
					3:25				
					3:29				
		C-2		86.8-91.8	3:50	36	Hard GRANODIORITE, highly fractured, with 1.2" thick veins of Quartzite.		
					3:42				
90					3:55		Iron-Oxide stained at 90.6'-91.8'; micaceous, slightly pitted, slightly clay coated, moderately dipping joints/fractures	BEDROCK	
					4:05				
					4:30				
		C-3		91.8-96.8	3:45	96	Hard GRANODIORITE, slightly fractured, stained, shallow to steep, sl. Weath. To iron-oxide stained, slightly clay coated, joints/fractures, good RQD.		2" PVC Wellscreen 92.07'
					4:20				
95					5:35				
					5:48				
					5:52				
							Bottom of Boring at 97'		

Notes:

- For rock core sample C-1 is 405/60 = 68%
- RQD for rock core sample C-2 is 14/60 = 23%
- RQD for rock core sample C-3 is 53/60 = 88%

GZA GeoEnvironmental, Inc.
Engineers/Scientists

General Chemical Corporation

Boring No. PZ-3D
Page No. 1 of 1
File No. 15861.23
Checked By:

320 Needham Street
Newton Upper Falls, Massachusetts 02464

Framingham, Massachusetts

Drilling Co.			Casing		Sampler		Groundwater Readings				
GZA Terminator			-		Geoprobe		Date	Time	Depth	Casing	Stab. Time
Foreman Bill Meadows			-		-						
GZA Rep. Bill Meadows			-		-						
Date Start 12/17/99 End 12/17/99			-		-						
Location See Exploration Location Plan			-		-						
GS. Elev. Datum			-		-						
			Other								

D E P T H	C B A L S O N W G S	Sample Information					Sample Description & Classification	Stratum Description	N O T E S	Stick-up
		No.	Pen./ Rec.	Depth (Ft.)	Blows/6"	Field Test Data				
5		S-1	24/16	0-2	-	0.6	Brown, fine to coarse SAND, little Gravel, trace(+) Silt, trace(-) Clay, trace(-) Organic Matter.	SAND	1	
									2	
		S-2	24/18	2-4	-	1.8	Top 8": Brown, SILT and fine to coarse SAND, trace(+) Clay, trace(-) Gravel. Bottom 10": Dark brown, PEAT.	2± SILT AND SAND 3±	3	
		S-3	24/16	4-6	-	1.9	Dark brown, PEAT.			
		S-4	24/16	6-8	-	2.1	Top 2.5": Brown, fine to coarse SAND, trace(-) Gravel. Bottom 13.5": Dark brown, PEAT.	PEAT		
10		S-5	24/24	8-10	-	2.2	Top 3.5": Gray, fine SAND. Bottom 20.5": Dark brown, PEAT.			
		S-6	24/10	10-12	-	1.9	Gray, fine to coarse SAND, little Silt.	10±		0.5" Steel Riser 0-18'
		S-7	24/23	12-14	-	1.3	Orange-brown to light grayish-brown, fine to medium SAND, trace(-) Silt.			
		S-8	24/14	14-16	-	2.0	Light grayish-brown, fine to medium SAND, trace(-) Silt.	SAND		
		S-9	24/0	16-18	-	-	No recovery.			
20		S-10	24/23	18-20	-	36.5	Top 21.5": Light grayish-brown, fine to medium SAND, trace(-) Silt. Bottom 1.5": Gray, Clayey SILT, trace(+) coarse Sand.			0.5" Steel Wellscreen 18-20'
							Bottom of Boring at 20'.			
25										

Notes:

- See Boring Log GZ-1 for notes 1 and 2.
- Sample S-2 was wet.

APPENDIX F

LABORATORY ANALYTICAL REPORTS - SOIL

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

T. Headerly (Drobat)

Project Name: General Chemical
Project No.: 15861.08

Date Received: 3/23/01
Date Reported: 4/26/01
Work Order No.: 0103-00131

Sample ID: GZ-13(S-4)
Sample Date: 3/20/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		81.9	%	TAJ	3/26/01
VOLATILE ORGANICS	EPA 8260			NCS	3/27/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	3/27/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	3/27/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	3/27/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	3/27/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	3/27/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	3/27/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	3/27/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	3/27/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	3/27/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	3/27/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	3/27/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	3/27/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	3/27/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	3/27/01
cis-1,2-Dichloroethene	EPA 8260	490	ug/kg	NCS	3/27/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	3/27/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	3/27/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	3/27/01
1,1,1-Trichloroethane	EPA 8260	140	ug/kg	NCS	3/27/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	3/27/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	3/27/01
Benzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	3/27/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	3/27/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	3/27/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	3/27/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0103-00131

Sample ID: GZ-13(S-4)
 Sample Date: 3/20/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	3/27/01
Toluene	EPA 8260	< 100	ug/kg	NCS	3/27/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	3/27/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	3/27/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	3/27/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	3/27/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	3/27/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	3/27/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	3/27/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	3/27/01
Styrene	EPA 8260	< 100	ug/kg	NCS	3/27/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	3/27/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	3/27/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	3/27/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	3/27/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	3/27/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	3/27/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	3/27/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	94.6	% R	NCS	3/27/01
***Toluene-D8	EPA 8260	95.8	% R	NCS	3/27/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0103-00131

Sample ID: GZ-13(S-4)
Sample Date: 3/20/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	97.4	% R	NCS	3/27/01
Preparation		20	DF	NCS	3/27/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0103-00131

Sample ID: TRIP BLANK
 Sample Date: 3/20/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	3/23/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	3/23/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	3/23/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	3/23/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	3/23/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	3/23/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	3/23/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	3/23/01
Acetone	EPA 8260	<25	ug/L	NCS	3/23/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	3/23/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
2-Butanone	EPA 8260	<25	ug/L	NCS	3/23/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	3/23/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	3/23/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	3/23/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
Benzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	3/23/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	3/23/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	3/23/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Toluene	EPA 8260	<1.0	ug/L	NCS	3/23/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	3/23/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	3/23/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	3/23/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0103-00131

Sample ID: TRIP BLANK
 Sample Date: 3/20/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	3/23/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Styrene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	3/23/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	3/23/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	3/23/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	3/23/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	3/23/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/23/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	95.5	% R	NCS	3/23/01
***Toluene-D8	EPA 8260	93.0	% R	NCS	3/23/01
***4-Bromofluorobenzene	EPA 8260	88.2	% R	NCS	3/23/01
Preparation		1.0	DF	NCS	3/23/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0103-00131

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 03/23/01 via x GZA courier, EC, FEDEX, or hand delivered.

The temperature of the temperature blank, x cooler air was 5.7 degrees C. No cooling materials were used. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

Attach QC 8260 03/23/01 - G
Attach QC 8260 03/27/01 - S

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0103-00131

Data Authorized By: Wave

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 3/23/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	103	65-127	4.63	20
Trichloroethene	97.5	87-105	8.55	20
Toluene	99.0	86-105	3.46	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
Dibromofluoromethane	99.8	80-114		80-120
Toluene-D8	93.0	88-110		81-117
4-Bromofluorobenzene	91.7	86-115		80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 3/27/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	102	70-130	11.7	35
Trichloroethene	102	70-130	15.1	35
Toluene	96.3	70-130	13.7	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114		80-120
Toluene-D8		88-110		81-117
4-Bromofluorobenzene		86-115		80-120

(for lab use only)

GZAP003

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

P.Drobat

Project Name: General Chemical
Project No.: 15861.08

Date Received: 3/28/01
Date Reported: 4/26/01
Work Order No.: 0103-00170

Sample ID: GZ-14M(S-17)
Sample Date: 3/26/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		86.4	%	TAJ	3/30/01
VOLATILE ORGANICS	EPA 8260			NCS	4/09/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/09/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/09/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/09/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/09/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/09/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/09/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/09/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/09/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Trichloroethene	EPA 8260	BMQL(81)	ug/kg	NCS	4/09/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/09/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/09/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0103-00170

Sample ID: GZ-14M(S-17)
 Sample Date: 3/26/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/09/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Tetrachloroethene	EPA 8260	280	ug/kg	NCS	4/09/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/09/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/09/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/09/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	97.8	% R	NCS	4/09/01
***Toluene-D8	EPA 8260	95.8	% R	NCS	4/09/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0103-00170

Sample ID: GZ-14M(S-17)
Sample Date: 3/26/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
***4-Bromofluorobenzene Preparation	EPA 8260	95.2 20	% R DF	NCS NCS	4/09/01 4/09/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0103-00170

Sample ID: GZ-14M(S-18B)
 Sample Date: 3/26/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		88.1	%	TAJ	3/30/01
VOLATILE ORGANICS	EPA 8260			NCS	4/09/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/09/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/09/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/09/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/09/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/09/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/09/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/09/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/09/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/09/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/09/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/09/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Tetrachloroethene	EPA 8260	BMQL(90)	ug/kg	NCS	4/09/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0103-00170

Sample ID: GZ-14M(S-18B)
 Sample Date: 3/26/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/09/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/09/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/09/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	89.1	% R	NCS	4/09/01
***Toluene-D8	EPA 8260	98.8	% R	NCS	4/09/01
***4-Bromofluorobenzene	EPA 8260	88.8	% R	NCS	4/09/01
Preparation		20	DF	NCS	4/09/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0103-00170

Sample ID: GZ-14M(S-19)
 Sample Date: 3/26/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		88.6	%	TAJ	3/30/01
VOLATILE ORGANICS	EPA 8260			NCS	4/09/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/09/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/09/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/09/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/09/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/09/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/09/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/09/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/09/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/09/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/09/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/09/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0103-00170

Sample ID: GZ-14M(S-19)
 Sample Date: 3/26/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/09/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/09/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/09/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	97.3	% R	NCS	4/09/01
***Toluene-D8	EPA 8260	94.9	% R	NCS	4/09/01
***4-Bromofluorobenzene	EPA 8260	86.1	% R	NCS	4/09/01
Preparation		20	DF	NCS	4/09/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0103-00170

Sample ID: TRIP BLANK
 Sample Date: 3/26/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	3/29/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	3/29/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	3/29/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	3/29/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	3/29/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	3/29/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	3/29/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	3/29/01
Acetone	EPA 8260	<25	ug/L	NCS	3/29/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	3/29/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
2-Butanone	EPA 8260	<25	ug/L	NCS	3/29/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	3/29/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	3/29/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	3/29/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
Benzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	3/29/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	3/29/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	3/29/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Toluene	EPA 8260	<1.0	ug/L	NCS	3/29/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	3/29/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	3/29/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	3/29/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0103-00170

Sample ID: TRIP BLANK
 Sample Date: 3/26/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	3/29/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Styrene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	3/29/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	3/29/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	3/29/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	3/29/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	3/29/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	3/29/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	101	% R	NCS	3/29/01
***Toluene-D8	EPA 8260	95.1	% R	NCS	3/29/01
***4-Bromofluorobenzene	EPA 8260	101	% R	NCS	3/29/01
Preparation		1.0	DF	NCS	3/29/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0103-00170

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 03/29/01 via ☒ GZA courier, ☐ EC, ☐ FEDEX, or ☐ hand delivered.

The temperature of the ☐ temperature blank, ☒ cooler air was 5.6 degrees C. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

The above samples have been evaluated for the presence of the target analytes to one-half the reporting (quantitation) limit and are reported, when detected, as below method quantitation levels (BMQL).

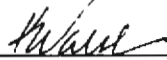
Attach QC 8260 03/29/01 - S
Attach QC 8260 04/09/01 - G

GZA GeoEnvironmental, Inc.
ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0103-00170

Data Authorized By: _____



% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
ENVIRONMENTAL CHEMISTRY LABORATORY
320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 3/29/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	107	65-127	4.58	20
Trichloroethene	96.5	87-105	1.95	20
Toluene	99.0	86-105	2.37	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	94.1	80-114		80-120
Toluene-D8	95.3	88-110		81-117
4-Bromofluorobenzene	99.9	86-115		80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/9/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	98.0	70-130	13.1	35
Trichloroethene	98.5	70-130	12.3	35
Toluene	110	70-130	13.1	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	109	80-120
Toluene-D8		88-110	96.3	81-117
4-Bromofluorobenzene		86-115	86.2	80-120

W.O. # 0103-00170
(for lab use only)

[illegible]

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

T. Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 4/17/01
Date Reported: 4/30/01
Work Order No.: 0104-00082

Sample ID: GZ-15RS-10
Sample Date: 4/11/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		89.0	%	TAJ	4/19/01
VOLATILE ORGANICS	EPA 8260			NCS	4/18/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/18/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/18/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/18/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/18/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/18/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/18/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/18/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/18/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/18/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/18/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/18/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/18/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/18/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/18/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/18/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/18/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00082

Sample ID: GZ-15RS-10
 Sample Date: 4/11/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/18/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/18/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/18/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/18/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/18/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/18/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/18/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/18/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/18/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/18/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/18/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	112	% R	NCS	4/18/01
***Toluene-D8	EPA 8260	98.9	% R	NCS	4/18/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00082

Sample ID: GZ-15RS-10
Sample Date: 4/11/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	99.0	% R	NCS	4/18/01
Preparation		20	DF	NCS	4/18/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00082

Sample ID: GZ-15RS-12
 Sample Date: 4/13/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		90.6	%	TAJ	4/19/01
VOLATILE ORGANICS	EPA 8260			NCS	4/26/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/26/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/26/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/26/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/26/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/26/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/26/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/26/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/26/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/26/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/26/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/26/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/26/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/26/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/26/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/26/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/26/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/26/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/26/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/26/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/26/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/26/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/26/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/26/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/26/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/26/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/26/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00082

Sample ID: GZ-15RS-12
 Sample Date: 4/13/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/26/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/26/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/26/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/26/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/26/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/26/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/26/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/26/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/26/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	99.2	% R	NCS	4/26/01
***Toluene-D8	EPA 8260	98.1	% R	NCS	4/26/01
***4-Bromofluorobenzene	EPA 8260	98.9	% R	NCS	4/26/01
Preparation		20	DF	NCS	4/26/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00082

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 04/17/01 via x GZA courier, EC, FEDEX, or hand delivered.

The temperature of the x temperature blank, cooler air was 5.3 degrees C. No cooling materials were used. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

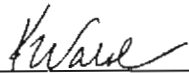
Attach QC 8260 04/18/01 - G
Attach QC 8260 04/26/01 - G

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00082

Data Authorized By: 

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/18/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	107	70-130	5.26	35
Trichloroethene	110	70-130	5.75	35
Toluene	110	70-130	2.37	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	104	80-120
Toluene-D8		88-110	96.1	81-117
4-Bromofluorobenzene		86-115	92.9	80-120

GZA GEOENVIRONMENTAL, INC
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/26/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	92.5	70-130	4.12	35
Trichloroethene	106	70-130	3.47	35
Toluene	104	70-130	7.88	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	116	80-120
Toluene-D8		88-110	96.6	81-117
4-Bromofluorobenzene		86-115	93.1	80-120

CHAIN-OF-CUSTODY RECORD

W.O. # 0104-0082
(for lab use only)

[illegible]

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

P.Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 4/02/01
Date Reported: 4/26/01
Work Order No.: 0104-00004

Sample ID: GZ-16M(S-5)
Sample Date: 3/29/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		77.8	%	TAJ	4/03/01
VOLATILE ORGANICS	EPA 8260			NCS	4/09/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/09/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/09/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/09/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/09/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/09/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/09/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/09/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/09/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/09/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/09/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/09/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00004

Sample ID: GZ-16M(S-5)
 Sample Date: 3/29/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/09/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/09/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/09/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/09/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/09/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/09/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/09/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/09/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	98.0	% R	NCS	4/09/01
***Toluene-D8	EPA 8260	102	% R	NCS	4/09/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00004

Sample ID: GZ-16M(S-5)
Sample Date: 3/29/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	92.3	% R	NCS	4/09/01
Preparation		20	DF	NCS	4/09/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00004

Sample ID: GZ-16M(S-11)
 Sample Date: 3/30/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		83.1	%	TAJ	4/03/01
VOLATILE ORGANICS	EPA 8260			NCS	4/10/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/10/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/10/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/10/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/10/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/10/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/10/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/10/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/10/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/10/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/10/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/10/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/10/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/10/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/10/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00004

Sample ID: GZ-16M(S-11)
 Sample Date: 3/30/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/10/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/10/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/10/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/10/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	101	% R	NCS	4/10/01
***Toluene-D8	EPA 8260	98.9	% R	NCS	4/10/01
***4-Bromofluorobenzene	EPA 8260	92.3	% R	NCS	4/10/01
Preparation		20	DF	NCS	4/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00004

Sample ID: GZ-16M(S-14)
 Sample Date: 3/30/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		85.9	%	TAJ	4/03/01
VOLATILE ORGANICS	EPA 8260			NCS	4/10/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/10/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/10/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/10/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/10/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/10/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/10/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/10/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/10/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/10/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/10/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/10/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/10/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/10/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/10/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00004

Sample ID: GZ-16M(S-14)
 Sample Date: 3/30/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/10/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/10/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/10/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/10/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	104	% R	NCS	4/10/01
***Toluene-D8	EPA 8260	96.7	% R	NCS	4/10/01
***4-Bromofluorobenzene	EPA 8260	96.9	% R	NCS	4/10/01
Preparation		20	DF	NCS	4/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00004

Sample ID: TRIP BLANK
 Sample Date: 3/30/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	4/12/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	4/12/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	4/12/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	4/12/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	4/12/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	4/12/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	4/12/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	4/12/01
Acetone	EPA 8260	<25	ug/L	NCS	4/12/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	4/12/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
2-Butanone	EPA 8260	<25	ug/L	NCS	4/12/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/12/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	4/12/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	4/12/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
Benzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/12/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	4/12/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	4/12/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Toluene	EPA 8260	<1.0	ug/L	NCS	4/12/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	4/12/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/12/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	4/12/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00004

Sample ID: TRIP BLANK
 Sample Date: 3/30/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	4/12/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Styrene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	4/12/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	4/12/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	4/12/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	4/12/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	4/12/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/12/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	95.1	% R	NCS	4/12/01
***Toluene-D8	EPA 8260	98.8	% R	NCS	4/12/01
***4-Bromofluorobenzene	EPA 8260	96.6	% R	NCS	4/12/01
Preparation		1.0	DF	NCS	4/12/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00004

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 04/2/01 via x GZA courier, EC, FEDEX, or hand delivered.

The temperature of the temperature blank, x cooler air was 3.1 degrees C. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

Attach QC 8260 04/09/01 - G
Attach QC 8260 04/10/01 - G
Attach QC 8260 04/12/01 - G

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00004

Data Authorized By: _____

K. W. A. S. L.

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/9/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	98.0	70-130	13.1	35
Trichloroethene	98.5	70-130	12.3	35
Toluene	110	70-130	13.1	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	109	80-120
Toluene-D8		88-110	96.3	81-117
4-Bromofluorobenzene		86-115	86.2	80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/10/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	99.3	70-130	2.54	35
Trichloroethene	105	70-130	3.05	35
Toluene	117	70-130	0.07	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	103	80-120
Toluene-DB		88-110	93.6	81-117
4-Bromofluorobenzene		86-115	89.6	80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/12/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	106	70-130	7.13	35
Trichloroethene	108	70-130	4.05	35
Toluene	111	70-130	1.89	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	106	80-120
Toluene-D8		88-110	94.0	81-117
4-Bromofluorobenzene		86-115	95.0	80-120

CHAIN-OF-CUSTODY RECORD

W.O. # 0107-0009
(for lab use only)

[illegible]

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

P.Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 4/05/01
Date Reported: 4/26/01
Work Order No.: 0104-00033

Sample ID: GZ-17M(S-6)
Sample Date: 4/03/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		76.0	%	TAJ	4/06/01
VOLATILE ORGANICS	EPA 8260			NCS	4/10/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/10/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/10/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/10/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/10/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/10/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/10/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/10/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/10/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/10/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/10/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/10/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/10/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00033

Sample ID: GZ-17M(S-6)
 Sample Date: 4/03/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/10/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/10/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/10/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/10/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/10/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/10/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/10/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	119	% R	NCS	4/10/01
***Toluene-D8	EPA 8260	100	% R	NCS	4/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00033

Sample ID: GZ-17M(S-6)
Sample Date: 4/03/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	95.3	% R	NCS	4/10/01
Preparation		20	DF	NCS	4/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00033

Sample ID: GZ-17M(S-12)
 Sample Date: 4/03/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		75.3	%	TAJ	4/06/01
VOLATILE ORGANICS	EPA 8260			NCS	4/12/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/12/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/12/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/12/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/12/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/12/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/12/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/12/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/12/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/12/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/12/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/12/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/12/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/12/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/12/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/12/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/12/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/12/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/12/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00033

Sample ID: GZ-17M(S-12)
 Sample Date: 4/03/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/12/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/12/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/12/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/12/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/12/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Naphthalene	EPA 8260	330	ug/kg	NCS	4/12/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	110	% R	NCS	4/12/01
***Toluene-D8	EPA 8260	104	% R	NCS	4/12/01
***4-Bromofluorobenzene	EPA 8260	99.5	% R	NCS	4/12/01
Preparation		20	DF	NCS	4/12/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00033

Sample ID: GZ-17M(S-13)
 Sample Date: 4/03/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		89.7	%	TAJ	4/06/01
VOLATILE ORGANICS	EPA 8260			NCS	4/12/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/12/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/12/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/12/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/12/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/12/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/12/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/12/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/12/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/12/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/12/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/12/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/12/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/12/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/12/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/12/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/12/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/12/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/12/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00033

Sample ID: GZ-17M(S-13)
 Sample Date: 4/03/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/12/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/12/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/12/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/12/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/12/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/12/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/12/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/12/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	87.6	% R	NCS	4/12/01
***Toluene-D8	EPA 8260	98.3	% R	NCS	4/12/01
***4-Bromofluorobenzene	EPA 8260	100	% R	NCS	4/12/01
Preparation		20	DF	NCS	4/12/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00033

Sample ID: TRIP BLANK
 Sample Date: 4/03/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	4/11/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	4/11/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	4/11/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	4/11/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	4/11/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	4/11/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	4/11/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	4/11/01
Acetone	EPA 8260	<25	ug/L	NCS	4/11/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	4/11/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
2-Butanone	EPA 8260	<25	ug/L	NCS	4/11/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/11/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	4/11/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	4/11/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
Benzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/11/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	4/11/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	4/11/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Toluene	EPA 8260	<1.0	ug/L	NCS	4/11/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	4/11/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/11/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	4/11/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00033

Sample ID: TRIP BLANK
 Sample Date: 4/03/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	4/11/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Styrene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	4/11/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	4/11/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	4/11/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	4/11/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	4/11/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/11/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	109	% R	NCS	4/11/01
***Toluene-D8	EPA 8260	101	% R	NCS	4/11/01
***4-Bromofluorobenzene	EPA 8260	102	% R	NCS	4/11/01
Preparation		1.0	DF	NCS	4/11/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00033

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 04/5/01 via x GZA courier, EC, FEDEX, or hand delivered.

The temperature of the temperature blank, x cooler air was 7.8 degrees C. No cooling materials were used. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

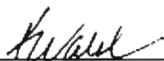
Attach QC 8260 04/10/01 - G
Attach QC 8260 04/11/01 - G
Attach QC 8260 04/12/01 - G

GZA GeoEnvironmental, Inc.
ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00033

Data Authorized By: _____



% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/10/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	99.3	70-130	2.54	35
Trichloroethene	105	70-130	3.05	35
Toluene	117	70-130	0.07	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	103	80-120
Toluene-D8		88-110	93.6	81-117
4-Bromofluorobenzene		86-115	89.6	80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/11/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	96.3	85-127	1.62	20
Trichloroethene	103	87-105	3.77	20
Toluene	104	86-105	0.26	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	99.8	80-114		80-120
Toluene-D8	95.7	88-110		81-117
4-Bromofluorobenzene	89.6	86-115		80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/12/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	106	70-130	7.13	35
Trichloroethene	108	70-130	4.05	35
Toluene	111	70-130	1.89	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	106	80-120
Toluene-D8		88-110	94.0	81-117
4-Bromofluorobenzene		86-115	95.0	80-120

CHAIN-OF-CUSTODY RECORD

W.O. # 0104-00033
(for lab use only)

[illegible]

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

P.Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 4/07/01
Date Reported: 4/26/01
Work Order No.: 0104-00041

Sample ID: GZ-18M(S-5)
Sample Date: 4/05/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		85.3	%	TAJ	4/10/01
VOLATILE ORGANICS	EPA 8260			NCS	4/13/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/13/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/13/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/13/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/13/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/13/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/13/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/13/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/13/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/13/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/13/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/13/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/13/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/13/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00041

Sample ID: GZ-18M(S-5)
 Sample Date: 4/05/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/13/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/13/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/13/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/13/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/13/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	106	% R	NCS	4/13/01
***Toluene-D8	EPA 8260	97.7	% R	NCS	4/13/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00041

Sample ID: GZ-18M(S-5)
Sample Date: 4/05/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	98.4	% R	NCS	4/13/01
Preparation		20	DF	NCS	4/13/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00041

Sample ID: GZ-18M(S-11)
 Sample Date: 4/05/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		77.4	%	TAJ	4/10/01
VOLATILE ORGANICS	EPA 8260			NCS	4/13/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/13/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/13/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/13/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/13/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/13/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/13/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/13/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/13/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/13/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/13/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/13/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/13/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/13/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/13/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00041

Sample ID: GZ-18M(S-11)
 Sample Date: 4/05/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/13/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/13/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/13/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/13/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	88.0	% R	NCS	4/13/01
***Toluene-D8	EPA 8260	99.1	% R	NCS	4/13/01
***4-Bromofluorobenzene	EPA 8260	95.6	% R	NCS	4/13/01
Preparation		20	DF	NCS	4/13/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00041

Sample ID: GZ-18M(S-12A)
 Sample Date: 4/05/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		89.2	%	TAJ	4/10/01
VOLATILE ORGANICS	EPA 8260			NCS	4/13/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	4/13/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	4/13/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	4/13/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	4/13/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	4/13/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	4/13/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	4/13/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	4/13/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	4/13/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	4/13/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
cis-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	4/13/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Benzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	4/13/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	4/13/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Toluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	4/13/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	4/13/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00041

Sample ID: GZ-18M(S-12A)
 Sample Date: 4/05/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	4/13/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	4/13/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Styrene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	4/13/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	4/13/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	4/13/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	4/13/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	4/13/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	91.7	% R	NCS	4/13/01
***Toluene-D8	EPA 8260	97.2	% R	NCS	4/13/01
***4-Bromofluorobenzene	EPA 8260	94.0	% R	NCS	4/13/01
Preparation		20	DF	NCS	4/13/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00041

Sample ID: TRIP BLANK
 Sample Date: 4/05/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	4/17/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	4/17/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	4/17/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	4/17/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	4/17/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	4/17/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	4/17/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	4/17/01
Acetone	EPA 8260	<25	ug/L	NCS	4/17/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	4/17/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
2-Butanone	EPA 8260	<25	ug/L	NCS	4/17/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/17/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	4/17/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	4/17/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Benzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	4/17/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	4/17/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Toluene	EPA 8260	<1.0	ug/L	NCS	4/17/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	4/17/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	4/17/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00041

Sample ID: TRIP BLANK
 Sample Date: 4/05/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	4/17/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Styrene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	4/17/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	4/17/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	4/17/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	96.9	% R	NCS	4/17/01
***Toluene-D8	EPA 8260	96.2	% R	NCS	4/17/01
***4-Bromofluorobenzene	EPA 8260	96.1	% R	NCS	4/17/01
Preparation		1.0	DF	NCS	4/17/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00041

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 04/7/01 via x GZA courier, EC, FEDEX, or hand delivered.

The temperature of the temperature blank, x cooler air was 5.4 degrees C. No cooling materials were used. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

Attach QC 8260 04/13/01 - G
Attach QC 8260 04/17/01 - G

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00041

Data Authorized By: 

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/13/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	100	70-130	0.08	35
Trichloroethene	104	70-130	1.01	35
Toluene	107	70-130	4.52	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	118	80-120
Toluene-D8		88-110	95.6	81-117
4-Bromofluorobenzene		86-115	98.5	80-120

GZA GEOENVIRONMENTAL, INC
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/17/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	108	65-127	3.77	20
Benzene	107	87-118	0.47	20
Toluene	103	86-105	0.36	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	106	80-114		80-120
Toluene-D8	98.0	88-110		81-117
4-Bromofluorobenzene	88.6	86-115		80-120

CHAIN-OF-CUSTODY RECORD

W.O. # 0104-00041
(for lab use only)

[illegible]

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

T.Haderle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 4/23/01
Date Reported: 5/03/01
Work Order No.: 0104-00120

Sample ID: GZ-19DD S-8
Sample Date: 4/20/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		75.8	%	TAJ	4/24/01
VOLATILE ORGANICS	EPA 8260			NCS	5/02/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	5/02/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	5/02/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	5/02/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	5/02/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	5/02/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	5/02/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	5/02/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	5/02/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	5/02/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,1-Dichloroethane	EPA 8260	190	ug/kg	NCS	5/02/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	5/02/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/02/01
cis-1,2-Dichloroethene	EPA 8260	100	ug/kg	NCS	5/02/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	5/02/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	5/02/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Benzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Trichloroethene	EPA 8260	1100	ug/kg	NCS	5/02/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	5/02/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	5/02/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00120

Sample ID: GZ-19DD S-8
 Sample Date: 4/20/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Toluene	EPA 8260	< 100	ug/kg	NCS	5/02/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	5/02/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Tetrachloroethene	EPA 8260	7700	ug/kg	NCS	5/02/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	5/02/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	5/02/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Styrene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	5/02/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/02/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	5/02/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	114	% R	NCS	5/02/01
***Toluene-D8	EPA 8260	95.6	% R	NCS	5/02/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00120

Sample ID: GZ-19DD S-8
Sample Date: 4/20/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
***4-Bromofluorobenzene	EPA 8260	99.1	% R	NCS	5/02/01
Preparation		20	DF	NCS	5/02/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00120

Sample ID: GZ-19DD S-6
Sample Date: 4/20/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		76.8	%	TAJ	4/24/01
VOLATILE ORGANICS	EPA 8260			NCS	5/02/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	5/02/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	5/02/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	5/02/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	5/02/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	5/02/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	5/02/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	5/02/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	5/02/01
1,1-Dichloroethene	EPA 8260	100	ug/kg	NCS	5/02/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	5/02/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,1-Dichloroethane	EPA 8260	120	ug/kg	NCS	5/02/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	5/02/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/02/01
cis-1,2-Dichloroethene	EPA 8260	560	ug/kg	NCS	5/02/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	5/02/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	5/02/01
1,1,1-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Benzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Trichloroethene	EPA 8260	1600	ug/kg	NCS	5/02/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	5/02/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	5/02/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Toluene	EPA 8260	< 100	ug/kg	NCS	5/02/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	5/02/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Tetrachloroethene	EPA 8260	9900	ug/kg	NCS	5/02/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/02/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00120

Sample ID: GZ-19DD S-6
 Sample Date: 4/20/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	5/02/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	5/02/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Styrene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	5/02/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	5/02/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/02/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	5/02/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	5/02/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/02/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	97.8	% R	NCS	5/02/01
***Toluene-D8	EPA 8260	98.4	% R	NCS	5/02/01
***4-Bromofluorobenzene	EPA 8260	103	% R	NCS	5/02/01
Preparation		20	DF	NCS	5/02/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00120

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 04/23/01 via ☒ GZA courier, ☐ EC, ☐ FEDEX, or ☐ hand delivered.

The temperature of the ☒ temperature blank, ☐ cooler air was 7.1 degrees C. No cooling materials were used. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

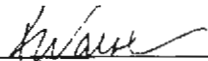
2. EPA Method 8260

Attach QC 8260 05/02/01 - G

GZA GeoEnvironmental, Inc.
ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00120

Data Authorized By: 

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

**EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX**

QUALITY CONTROL

DATE: 5/2/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	112	70-130	2.71	35
Benzene	110	70-130	0.91	35
Toluene	105	70-130	1.70	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	112	80-120
Toluene-D8		88-110	98.1	81-117
4-Bromofluorobenzene		86-115	97.4	80-120

CHAIN-OF-CUSTODY RECORD

W.O. #

6104-0020
(for lab use only)

[illegible]

GZAP003

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

P.Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 4/27/01
Date Reported: 5/08/01
Work Order No.: 0104-00163

Sample ID: GZ-19DD(S12)
Sample Date: 4/23/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		82.0	%	TAJ	4/30/01
VOLATILE ORGANICS	EPA 8260			NCS	5/03/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	5/03/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	5/03/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	5/03/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	5/03/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	5/03/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	5/03/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	5/03/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	5/03/01
1,1-Dichloroethene	EPA 8260	470	ug/kg	NCS	5/03/01
Dichloromethane	EPA 8260	1200	ug/kg	NCS	5/03/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	5/03/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,1-Dichloroethane	EPA 8260	430	ug/kg	NCS	5/03/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	5/03/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/03/01
cis-1,2-Dichloroethene	EPA 8260	540	ug/kg	NCS	5/03/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	5/03/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/03/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	5/03/01
1,1,1-Trichloroethane	EPA 8260	1200	ug/kg	NCS	5/03/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/03/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	5/03/01
Benzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
Trichloroethene	EPA 8260	4800	ug/kg	NCS	5/03/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/03/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	5/03/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	5/03/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	5/03/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/03/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00163

Sample ID: GZ-19DD(S12)
 Sample Date: 4/23/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Toluene	EPA 8260	< 100	ug/kg	NCS	5/03/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	5/03/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	5/03/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/03/01
Tetrachloroethene	EPA 8260	16000	ug/kg	NCS	5/03/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	5/03/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/03/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	5/03/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	5/03/01
Styrene	EPA 8260	< 100	ug/kg	NCS	5/03/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	5/03/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	5/03/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/03/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	5/03/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	5/03/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	5/03/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/03/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	102	% R	NCS	5/03/01
***Toluene-D8	EPA 8260	100	% R	NCS	5/03/01
***4-Bromofluorobenzene	EPA 8260	99.5	% R	NCS	5/03/01
Preparation		20	DF	NCS	5/03/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00163

Sample ID: TRIP BLANK
 Sample Date: 4/23/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/04/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	5/04/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	5/04/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	5/04/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	5/04/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	5/04/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	5/04/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	5/04/01
Acetone	EPA 8260	<25	ug/L	NCS	5/04/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	5/04/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
2-Butanone	EPA 8260	<25	ug/L	NCS	5/04/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/04/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	5/04/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	5/04/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
Benzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/04/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	5/04/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Toluene	EPA 8260	<1.0	ug/L	NCS	5/04/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	5/04/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/04/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	5/04/01
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00163

Sample ID: TRIP BLANK
 Sample Date: 4/23/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	5/04/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Styrene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	5/04/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	5/04/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	5/04/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	5/04/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	5/04/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/04/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	108	% R	NCS	5/04/01
***Toluene-D8	EPA 8260	102	% R	NCS	5/04/01
***4-Bromofluorobenzene	EPA 8260	96.6	% R	NCS	5/04/01
Preparation		1.0	DF	NCS	5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00163

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 04/27/01 via ☒ GZA courier, ☐ EC, ☐ FEDEX, or ☐ hand delivered.

The temperature of the ☐ temperature blank, ☒ cooler air was 2.3 degrees C. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

Attach QC 8260 05/03/01 - G
Attach QC 8260 05/04/01 - S

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00163

Data Authorized By: *M. Wain*

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 5/3/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
Benzene	114	70-130	9.21	35
Chlorobenzene	111	83-120	5.18	35
Toluene	114	70-130	1.60	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	109	80-120
Toluene-D8		88-110	95.1	81-117
4-Bromofluorobenzene		86-115	96.1	80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 5/4/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	105	65-127	4.32	20
Benzene	102	87-118	1.83	20
Toluene	102	86-105	1.23	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	108	80-114		80-120
Toluene-D8	104	88-110		81-117
4-Bromofluorobenzene	95.5	86-115		80-120

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

T. Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 5/03/01
Date Reported: 5/15/01
Work Order No.: 0105-00029

Sample ID: EW-1-S-6(10-12")
Sample Date: 4/27/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		84.6	%	TAJ	5/04/01
EXTRACTABLE PETROLEUM HYDROCARBONS (and PAHs)				OMS	5/09/01
Unadjusted C11-C22 Aromatic Fraction	MADEP	2.9	mg/kg	OMS	5/09/01
C9-C18 Aliphatic Fraction	MADEP	4.0	mg/kg	OMS	5/09/01
C19-C36 Aliphatic Fraction	MADEP	14	mg/kg	OMS	5/09/01
C11-C22 Aromatics (excludes target PAHs)	MADEP	2.9	mg/kg	OMS	5/09/01
Surrogates:	MADEP				
***1-Chlorooctadecane (aliphatic): 40-116%R	MADEP	68.4	%R	OMS	5/09/01
***p-Terphenyl (aromatic): 50-135%R	MADEP	73.9	%R	OMS	5/09/01
TARGETED PAH ANALYTES	MADEP				
Naphthalene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
2-Methylnaphthalene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Acenaphthylene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Acenaphthene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Fluorene	MADEP	<0.30	mg/kg	OMS	5/09/01
Phenanthrene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [a] Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Chrysene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [b] Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [k] Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [a] Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Indeno [1,2,3-cd] Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Dibenzo [a,h] Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [g,h,i] Perylene	MADEP	<0.30	mg/kg	OMS	5/09/01
Extraction	SONICATION	1.0	DF	LAF	5/04/01
Sample information can be found on the COC.					
The method statement is on the final page.					
VOLATILE PETROLEUM HYDROCARBONS				TAJ	5/11/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00029

Sample ID: EW-1-S-6(10-12')
Sample Date: 4/27/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Unweighted Concentrations:					
C5-C8 Aliphatics	MADEP	3.1	mg/kg	TAJ	5/11/01
C9-C12 Aliphatics	MADEP	35	mg/kg	TAJ	5/11/01
C9-C10 Aromatics (excludes targeted analytes)	MADEP	16	mg/kg	TAJ	5/11/01
Surrogate:					
***2,5-Dibromotoluene (PID)	MADEP	101	% R	TAJ	5/11/01
***2,5-Dibromotoluene (FID)	MADEP	106	% R	TAJ	5/11/01
Preparation	MADEP	1.0	DF	TAJ	5/11/01
VOLATILE ORGANICS					
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	5/04/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	5/04/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	5/04/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	5/04/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	5/04/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	5/04/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	5/04/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	5/04/01
1,1-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	5/04/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	5/04/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
cis-1,2-Dichloroethene	EPA 8260	200	ug/kg	NCS	5/04/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	5/04/01
1,1,1-Trichloroethane	EPA 8260	140	ug/kg	NCS	5/04/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Benzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Trichloroethene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	5/04/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00029

Sample ID: EW-1-S-6(10-12')
 Sample Date: 4/27/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Toluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	5/04/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Tetrachloroethene	EPA 8260	140	ug/kg	NCS	5/04/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	5/04/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	5/04/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Styrene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	5/04/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,4-Trimethylbenzene	EPA 8260	130	ug/kg	NCS	5/04/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	5/04/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	104	% R	NCS	5/04/01
***Toluene-D8	EPA 8260	101	% R	NCS	5/04/01

GZA GeoEnvironmental, Inc.
ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00029

Sample ID: EW-1-S-6(10-12')
Sample Date: 4/27/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
***4-Bromofluorobenzene Preparation	EPA 8260	104 20	% R DF	NCS NCS	5/04/01 5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00029

Sample ID: EW-1-S-10(18-20')
 Sample Date: 4/27/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		80.7	%	TAJ	5/04/01
EXTRACTABLE PETROLEUM HYDROCARBONS (and PAHs)				OMS	5/09/01
Unadjusted C11-C22 Aromatic Fraction	MADEP	<2.0	mg/kg	OMS	5/09/01
C9-C18 Aliphatic Fraction	MADEP	<2.0	mg/kg	OMS	5/09/01
C19-C36 Aliphatic Fraction	MADEP	<2.0	mg/kg	OMS	5/09/01
C11-C22 Aromatics (excludes target PAHs)	MADEP	<2.0	mg/kg	OMS	5/09/01
Surrogates:	MADEP				
***1-Chlorooctadecane (aliphatic): 40-116%R	MADEP	58.5	%R	OMS	5/09/01
***p-Terphenyl (aromatic): 50-135%R	MADEP	59.7	%R	OMS	5/09/01
TARGETED PAH ANALYTES	MADEP				
Naphthalene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
2-Methylnaphthalene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Acenaphthylene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Acenaphthene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Fluorene	MADEP	<0.30	mg/kg	OMS	5/09/01
Phenanthrene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [a] Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Chrysene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [b] Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [k] Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [a] Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Indeno [1,2,3-cd] Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Dibenzo [a,h] Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [g,h,i] Perylene	MADEP	<0.30	mg/kg	OMS	5/09/01
Extraction	SONICATION	1.0	DF	LAF	5/04/01
Sample information can be found on the COC.					
The method statement is on the final page.					
VOLATILE PETROLEUM HYDROCARBONS				TAJ	5/11/01
Unweighted Concentrations:					
C5-C8 Aliphatics	MADEP	0.85*	mg/kg	TAJ	5/11/01
C9-C12 Aliphatics	MADEP	1.1	mg/kg	TAJ	5/11/01
C9-C10 Aromatics	MADEP	0.62	mg/kg	TAJ	5/11/01
(excludes targeted analytes)					
Surrogate:					
***2,5-Dibromotoluene (PID)	MADEP	97.6	% R	TAJ	5/11/01
***2,5-Dibromotoluene (FID)	MADEP	88.7	% R	TAJ	5/11/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00029

Sample ID: EW-1-S-10(18-20')
 Sample Date: 4/27/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
Preparation	MADEP	1.0	DF	TAJ	5/11/01
VOLATILE ORGANICS	EPA 8260			NCS	5/04/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	5/04/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	5/04/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	5/04/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	5/04/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	5/04/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	5/04/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	5/04/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	5/04/01
1,1-Dichloroethene	EPA 8260	100	ug/kg	NCS	5/04/01
Dichloromethane	EPA 8260	490	ug/kg	NCS	5/04/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	5/04/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1-Dichloroethane	EPA 8260	200	ug/kg	NCS	5/04/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	5/04/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
cis-1,2-Dichloroethene	EPA 8260	1000	ug/kg	NCS	5/04/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	5/04/01
1,1,1-Trichloroethane	EPA 8260	1400	ug/kg	NCS	5/04/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Benzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Trichloroethene	EPA 8260	600	ug/kg	NCS	5/04/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	5/04/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	5/04/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Toluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	5/04/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Tetrachloroethene	EPA 8260	2000	ug/kg	NCS	5/04/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00029

Sample ID: EW-1-S-10(18-20')
 Sample Date: 4/27/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	5/04/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	5/04/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Styrene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	5/04/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	5/04/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	117	% R	NCS	5/04/01
***Toluene-D8	EPA 8260	102	% R	NCS	5/04/01
***4-Bromofluorobenzene	EPA 8260	101	% R	NCS	5/04/01
Preparation		20	DF	NCS	5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00029

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 05/3/01 via x GZA courier, EC, FEDEX, or hand delivered. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

Attach QC 8260 05/04/01 - G

3. MADEP EPH

Attach QC EPH 05/04/01 - Solid

MA DEP EPH Method Statement:

The containers were: X Satisfactory, Broken, Leaking.

Were all QA/QC procedures required by the EPH Method followed?

Yes X No Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes X No Were any significant modifications made to the EPH method, as specified in Section 11.3? Yes X No

As required by the method, the following statements apply;

1. The solvent extraction methods utilized have been demonstrated to achieve the required performance levels through the initial demonstration of capabilities study.
2. Baseline blank correction is routinely performed.
3. The C11-C22 aromatic range is corrected for the 17 target polynuclear aromatic hydrocarbons (PAHs).
4. The reported surrogates are also the fractionation surrogates.

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00029

The signature of the report indicates the following attestation (as required by the MA DEP Method);

I attest under the pains and penalties of perjury, that based upon inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is to the best of my knowledge and belief, accurate and complete.

4. MADEP VPH

* Fraction C5-C8 Aliphatic contains volatile compounds not associated with petroleum.

Attach QC VPH 05/11/01 - Solid

MA DEP VPH Method Statement:

The containers were: ☒ Satisfactory, ☐ Broken, ☐ Leaking

Were all QA/QC procedures required by the VPH Method followed?

Yes ☒ No ☐

Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes ☒ No ☐

Were any significant modifications made to the VPH method, as specified in Section 11.3? Yes ☒ No ☐

The following conditions apply to the Method;

1. The three fractions recorded are corrected for the target analytes and groups (section 11.2.3).

The signature of the report indicates the following attestation (as required by the MA DEP Method);

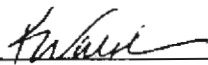
I attest under the pains and penalties of perjury, that based upon inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is to the best of my knowledge and belief, accurate and complete.

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00029

Data Authorized By: 

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 106 SOUTH STREET, HOPKINTON, MA 01748 (508) 435-9244
 MASSACHUSETTS LABORATORY I.D. NO. MA092

MADEP VPH / ME DEP 4.2.17 GRO / EPA 8015B - GRO / 8021B
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 5/11/01 Solid

METHOD BLANK	AQUEOUS ug/L-PPB	SOLID mg/kg - PPM
HYDROCARBON FRACTIONS		
C5-C8 ALIPHATICS	<5.0	<0.5
C9-C12 ALIPHATICS	<5.0	<0.5
C9-C10 AROMATICS	<5.0	<0.5
TOTAL UNWEIGHTED CONC.		
TARGET COMPOUNDS		
METHYL TERT BUTYL ETHER	<2.0	<0.25
BENZENE	<0.5	<0.05
TOLUENE	<0.5	<0.05
ETHYL BENZENE	<0.5	<0.05
M&P-XYLENES	<0.5	<0.05
O-XYLENE	<0.5	<0.05
1,2,4-TRIMETHYLBENZENE	<0.5	<0.05
NAPHTHALENE	<1.0	<0.10

SURROGATE	%RECOV.	LIMITS-AQ.	LIMITS-SOL.
***2,5-DIBROMOTOLUENE (FID)	114.2	85-120	74-125
***2,5-DIBROMOTOLUENE (PID)	112.8	80-120	74-125

MATRIX SPIKE/DUPLICATE SPIKE	RECOV. %	LIMITS-AQ.	LIMITS-SOL.
Toluene MS	85	70-125	65-125
Toluene DS	82	70-125	65-125
Toluene % Difference	3.59	20	35

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 106 SOUTH STREET, HOPKINTON, MA 01748 (508) 435-9244
 MASSACHUSETTS LABORATORY I.D. NO. MA092

MADEP EPH
EXTRACTABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

EXT. DATE: 05/04/2001 Solid

METHOD BLANK	AQUEOUS ug/L-PPB	SOLID mg/kg - PPM
UNWEIGHTED CONC.		
C9-C18 ALIPHATICS	<50	<1.0
C19-C36 ALIPHATICS	<50	<1.0
C10-C22 AROMATICS	<100	<2.0
TOTAL UNWEIGHTED CONC.	<50	<1.0
WEIGHTED CONC.		
C9-C18 ALIPHATICS (0.05 MULT.)	<2.5	<0.05
C19-C36 ALIPHATICS (0.005 MULT.)	<0.25	<0.005
C10-C22 AROMATICS (1.0 MULT.)	<100	<2.0
TOTAL WEIGHTED CONC.	<0.25	<0.005
TARGET COMPOUNDS		
NAPHTHALENE	<10	<0.30
2-METHYLNAPHTHALENE	<10	<0.30
1-METHYLNAPHTHALENE	<10	<0.30
ACENAPHTHYLENE	<10	<0.30
ACENAPHTHENE	<10	<0.30
FLUORENE	<10	<0.30
PHENANTHRENE	<10	<0.30
ANTHRACENE	<10	<0.30
FLUORANTHENE	<10	<0.30
PYRENE	<10	<0.30
BENZO(a)ANTHRACENE	<10	<0.30
CHRYSENE	<10	<0.30
BENZO(b)FLUORANTHENE	<10	<0.30
BENZO(k)FLUORANTHENE	<10	<0.30
BENZO(a)PYRENE	<10	<0.30
INDENO(1,2,3-cd)PYRENE	<10	<0.30
DIBENZO(a,h)ANTHRACENE	<10	<0.30
BENZO(g,h,i)PERYLENE	<10	<0.30

SURROGATE	%RECOV.	LIMITS-AQ.	LIMITS-SOL.
***1-CHLORO-OCTADECANE (AL)	48.7	40-130	40-116
***p-TERPHENYL(AR)	55.8	50-123	50-135

MATRIX SPIKE/DUPLICATE SPIKE	RECOV.%	LIMITS-AQ.	LIMITS-SOL.
EICOSANE (AL) MS	82.8	40-130	40-116
EICOSANE (AL) MSD	84.2	40-130	40-116
EICOSANE % DIFFERENCE	1.62	35	45
FLUORANTHENE (AR) MS	59.7	50-123	50-135
FLUORANTHENE (AR) MSD	62.5	50-123	50-135
FLUORANTHENE % DIFFERENCE	4.50	35	45

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 5/4/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	100	70-130	1.92	35
Trichloroethene	108	70-130	3.75	35
Toluene	101	70-130	4.45	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	108	80-120
Toluene-D8		88-110	97.8	81-117
4-Bromofluorobenzene		86-115	100	80-120

CHAIN-OF-CUSTODY RECORD

W.O. # 0105-0029
(for lab use only)

[illegible]

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

T.Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 5/04/01
Date Reported: 5/23/01
Work Order No.: 0105-00035

Sample ID: EW-1(S-15)
Sample Date: 5/01/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
PERCENT SOLID		75.3	%	TAJ	5/07/01
EXTRACTABLE PETROLEUM HYDROCARBONS (and PAHs)				OMS	5/09/01
Unadjusted C11-C22 Aromatic Fraction	MADEP	<2.0	mg/kg	OMS	5/09/01
C9-C18 Aliphatic Fraction	MADEP	<2.0	mg/kg	OMS	5/09/01
C19-C36 Aliphatic Fraction	MADEP	<2.0	mg/kg	OMS	5/09/01
C11-C22 Aromatics (excludes target PAHs)	MADEP	<2.0	mg/kg	OMS	5/09/01
Surrogates:	MADEP				
***1-Chlorooctadecane (aliphatic): 40-116%R	MADEP	54.1	%R	OMS	5/09/01
***p-Terphenyl (aromatic): 50-135%R	MADEP	24.3	* %R	OMS	5/09/01
TARGETED PAH ANALYTES	MADEP				
Naphthalene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
2-Methylnaphthalene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Acenaphthylene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Acenaphthene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Fluorene	MADEP	<0.30	mg/kg	OMS	5/09/01
Phenanthrene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [a] Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Chrysene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [b] Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [k] Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [a] Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Indeno [1,2,3-cd] Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Dibenzo [a,h] Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [g,h,i] Perylene	MADEP	<0.30	mg/kg	OMS	5/09/01
Extraction	SONICATION	1.0	DF	AHW	5/07/01
Sample information can be found on the COC.					
The method statement is on the final page.					
VOLATILE ORGANICS	EPA 8260			NCS	5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00035

Sample ID: EW-1(S-15)
 Sample Date: 5/01/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Dichlorodifluoromethane	EPA 8260	< 200	ug/kg	NCS	5/04/01
Chloromethane	EPA 8260	< 400	ug/kg	NCS	5/04/01
Vinyl Chloride	EPA 8260	< 200	ug/kg	NCS	5/04/01
Bromomethane	EPA 8260	< 200	ug/kg	NCS	5/04/01
Chloroethane	EPA 8260	< 200	ug/kg	NCS	5/04/01
Trichlorofluoromethane	EPA 8260	< 400	ug/kg	NCS	5/04/01
Diethylether	EPA 8260	< 100	ug/kg	NCS	5/04/01
Acetone	EPA 8260	< 1000	ug/kg	NCS	5/04/01
1,1-Dichloroethene	EPA 8260	230	ug/kg	NCS	5/04/01
Dichloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/kg	NCS	5/04/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
2-Butanone	EPA 8260	< 1000	ug/kg	NCS	5/04/01
2,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
cis-1,2-Dichloroethene	EPA 8260	470	ug/kg	NCS	5/04/01
Chloroform	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Tetrahydrofuran	EPA 8260	< 200	ug/kg	NCS	5/04/01
1,1,1-Trichloroethane	EPA 8260	3900	ug/kg	NCS	5/04/01
1,1-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Carbon Tetrachloride	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dichloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Benzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Trichloroethene	EPA 8260	3200	ug/kg	NCS	5/04/01
1,2-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromodichloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,4-Dioxane	EPA 8260	< 10000	ug/kg	NCS	5/04/01
Dibromomethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	5/04/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Toluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	5/04/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Tetrachloroethene	EPA 8260	4200	ug/kg	NCS	5/04/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	5/04/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00035

Sample ID: EW-1(S-15)
 Sample Date: 5/01/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	5/04/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Styrene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	5/04/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	5/04/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	117	% R	NCS	5/04/01
***Toluene-D8	EPA 8260	104	% R	NCS	5/04/01
***4-Bromofluorobenzene	EPA 8260	102	% R	NCS	5/04/01
Preparation		20	DF	NCS	5/04/01
VOLATILE PETROLEUM HYDROCARBONS				TAJ	5/11/01
Unweighted Concentrations:					
C5-C8 Aliphatics	MADEP	5.3*	mg/kg	TAJ	5/11/01
C9-C12 Aliphatics	MADEP	< 0.50	mg/kg	TAJ	5/11/01
C9-C10 Aromatics	MADEP	< 0.50	mg/kg	TAJ	5/11/01
(excludes targeted analytes)					
Surrogate:					
***2,5-Dibromotoluene (PID)	MADEP	90.5	% R	TAJ	5/11/01

GZA GeoEnvironmental, Inc.
ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00035

Sample ID: EW-1(S-15)
Sample Date: 5/01/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
***2,5-Dibromotoluene (FID)	MADEP	85.0	% R	TAJ	5/11/01
Preparation	MADEP	1.0	DF	TAJ	5/11/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00035

Sample ID: EW-1(S-27)
Sample Date: 5/01/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
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PERCENT SOLID		88.6	%	TAJ	5/07/01
EXTRACTABLE PETROLEUM HYDROCARBONS (and PAHs)				OMS	5/09/01
Unadjusted C11-C22 Aromatic Fraction	MADEP	<2.0	mg/kg	OMS	5/09/01
C9-C18 Aliphatic Fraction	MADEP	<2.0	mg/kg	OMS	5/09/01
C19-C36 Aliphatic Fraction	MADEP	<2.0	mg/kg	OMS	5/09/01
C11-C22 Aromatics (excludes target PAHs)	MADEP	<2.0	mg/kg	OMS	5/09/01
Surrogates:	MADEP				
***1-Chlorooctadecane (aliphatic): 40-116%R	MADEP	50.3	%R	OMS	5/09/01
***p-Terphenyl (aromatic): 50-135%R	MADEP	37.8	* %R	OMS	5/09/01

TARGETED PAH ANALYTES	MADEP				
Naphthalene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
2-Methylnaphthalene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Acenaphthylene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Acenaphthene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Fluorene	MADEP	<0.30	mg/kg	OMS	5/09/01
Phenanthrene (Diesel PAH)	MADEP	<0.30	mg/kg	OMS	5/09/01
Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [a] Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Chrysene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [b] Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [k] Fluoranthene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [a] Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Indeno [1,2,3-cd] Pyrene	MADEP	<0.30	mg/kg	OMS	5/09/01
Dibenzo [a,h] Anthracene	MADEP	<0.30	mg/kg	OMS	5/09/01
Benzo [g,h,i] Perylene	MADEP	<0.30	mg/kg	OMS	5/09/01
Extraction	SONICATION	1.0	DF	AHW	5/07/01

Sample information can be found on the COC.
The method statement is on the final page.

VOLATILE PETROLEUM HYDROCARBONS-and ANALYTES				TAJ	5/15/01
Unweighted Concentrations:					
C5-C8 Aliphatics	MADEP	<0.50	mg/kg	TAJ	5/15/01
C9-C12 Aliphatics	MADEP	<0.50	mg/kg	TAJ	5/15/01
C9-C10 Aromatics	MADEP	<0.50	mg/kg	TAJ	5/15/01
(excludes targeted analytes)					
Surrogate:					
***2,5-Dibromotoluene (PID)	MADEP	100	% R	TAJ	5/15/01
***2,5-Dibromotoluene (FID)	MADEP	103	% R	TAJ	5/15/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00035

Sample ID: EW-1(S-27)
 Sample Date: 5/01/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
TARGETED VPH ANALYTES					
Methyl-Tert-Butyl-Ether	MADEP	<0.25	mg/kg	TAJ	5/15/01
Benzene	MADEP	<0.050	mg/kg	TAJ	5/15/01
Toluene	MADEP	<0.050	mg/kg	TAJ	5/15/01
Ethylbenzene	MADEP	<0.050	mg/kg	TAJ	5/15/01
m&p-Xylene	MADEP	<0.050	mg/kg	TAJ	5/15/01
o-Xylene	MADEP	<0.050	mg/kg	TAJ	5/15/01
Naphthalene	MADEP	<0.10	mg/kg	TAJ	5/15/01
Preparation	MADEP	1.0	DF	TAJ	5/21/01
VOLATILE ORGANICS					
Dichlorodifluoromethane	EPA 8260	<200	ug/kg	NCS	5/04/01
Chloromethane	EPA 8260	<400	ug/kg	NCS	5/04/01
Vinyl Chloride	EPA 8260	<200	ug/kg	NCS	5/04/01
Bromomethane	EPA 8260	<200	ug/kg	NCS	5/04/01
Chloroethane	EPA 8260	<200	ug/kg	NCS	5/04/01
Trichlorofluoromethane	EPA 8260	<400	ug/kg	NCS	5/04/01
Diethylether	EPA 8260	<100	ug/kg	NCS	5/04/01
Acetone	EPA 8260	<1000	ug/kg	NCS	5/04/01
1,1-Dichloroethene	EPA 8260	<100	ug/kg	NCS	5/04/01
Dichloromethane	EPA 8260	<100	ug/kg	NCS	5/04/01
Methyl-Tert-Butyl-Ether	EPA 8260	<200	ug/kg	NCS	5/04/01
trans-1,2-Dichloroethene	EPA 8260	<100	ug/kg	NCS	5/04/01
1,1-Dichloroethane	EPA 8260	<100	ug/kg	NCS	5/04/01
2-Butanone	EPA 8260	<1000	ug/kg	NCS	5/04/01
2,2-Dichloropropane	EPA 8260	<100	ug/kg	NCS	5/04/01
cis-1,2-Dichloroethene	EPA 8260	<100	ug/kg	NCS	5/04/01
Chloroform	EPA 8260	<100	ug/kg	NCS	5/04/01
Bromochloromethane	EPA 8260	<100	ug/kg	NCS	5/04/01
Tetrahydrofuran	EPA 8260	<200	ug/kg	NCS	5/04/01
1,1,1-Trichloroethane	EPA 8260	<100	ug/kg	NCS	5/04/01
1,1-Dichloropropene	EPA 8260	<100	ug/kg	NCS	5/04/01
Carbon Tetrachloride	EPA 8260	<100	ug/kg	NCS	5/04/01
1,2-Dichloroethane	EPA 8260	<100	ug/kg	NCS	5/04/01
Benzene	EPA 8260	<100	ug/kg	NCS	5/04/01
Trichloroethene	EPA 8260	<100	ug/kg	NCS	5/04/01
1,2-Dichloropropane	EPA 8260	<100	ug/kg	NCS	5/04/01
Bromodichloromethane	EPA 8260	<100	ug/kg	NCS	5/04/01
1,4-Dioxane	EPA 8260	<10000	ug/kg	NCS	5/04/01
Dibromomethane	EPA 8260	<100	ug/kg	NCS	5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00035

Sample ID: EW-1(S-27)
 Sample Date: 5/01/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/kg	NCS	5/04/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Toluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
2-Hexanone	EPA 8260	< 200	ug/kg	NCS	5/04/01
1,3-Dichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Tetrachloroethene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Dibromochloromethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/kg	NCS	5/04/01
Chlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Ethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
m&p-Xylene	EPA 8260	< 100	ug/kg	NCS	5/04/01
o-Xylene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Styrene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromoform	EPA 8260	< 200	ug/kg	NCS	5/04/01
Isopropylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/kg	NCS	5/04/01
Bromobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
n-Propylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
2-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
4-Chlorotoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
tert-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
sec-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
p-Isopropyltoluene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
n-Butylbenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/kg	NCS	5/04/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Hexachlorobutadiene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Naphthalene	EPA 8260	< 100	ug/kg	NCS	5/04/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/kg	NCS	5/04/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	100	% R	NCS	5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00035

Sample ID: EW-1(S-27)
Sample Date: 5/01/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
***Toluene-D8	EPA 8260	102	% R	NCS	5/04/01
***4-Bromofluorobenzene	EPA 8260	106	% R	NCS	5/04/01
Preparation		20	DF	NCS	5/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00035

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 05/4/01 via x GZA courier, EC, FEDEX, or hand delivered.

The temperature of the temperature blank, x cooler air was 3.9 degrees C. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

Attach QC 8260 05/04/01 - G

3. MADEP EPH

The low surrogate recoveries in the above samples were not confirmed as matrix interference by re-analysis due to expiration of holding time.

Attach QC EPH 05/07/01 - Solid

MA DEP EPH Method Statement:

The containers were: x Satisfactory, Broken, Leaking.

Were all QA/QC procedures required by the EPH Method followed?
Yes x No

Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes No x (see comment above)

Were any significant modifications made to the EPH method, as specified in Section 11.3? Yes x No

As required by the method, the following statements apply;

1. The solvent extraction methods utilized have been demonstrated to achieve the required performance levels through the initial demonstration of capabilities study.
2. Baseline blank correction is routinely performed.

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00035

3. The C11-C22 aromatic range is corrected for the 17 target polynuclear aromatic hydrocarbons (PAHs).

4. The reported surrogates are also the fractionation surrogates.

The signature of the report indicates the following attestation (as required by the MA DEP Method);

I attest under the pains and penalties of perjury, that based upon inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is to the best of my knowledge and belief, accurate and complete.

4. MADEP VPH

* Fraction C5-C8 Aliphatic contains volatile compounds not associated with petroleum.

Attach QC VPH 05/11/01 - Solid
Attach QC VPH 05/15/01 - Solid

MA DEP VPH Method Statement:

The containers were: ☒ Satisfactory, ☐ Broken, ☐ Leaking

Were all QA/QC procedures required by the VPH Method followed?
Yes ☒ No ☐

Were all performance/acceptance standards for the required QA/QC procedures achieved? Yes ☒ No ☐

Were any significant modifications made to the VPH method, as specified in Section 11.3? Yes ☒ No ☐

The following conditions apply to the Method;

1. The three fractions recorded are corrected for the target analytes and groups (section 11.2.3).

The signature of the report indicates the following attestation (as required by the MA DEP Method);

I attest under the pains and penalties of perjury, that based upon inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is to the best of my knowledge and belief, accurate and complete.

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00035

Data Authorized By: _____

[Signature]

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

**EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX**

QUALITY CONTROL

DATE: 5/4/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	100	70-130	1.92	35
Trichloroethene	108	70-130	3.75	35
Toluene	101	70-130	4.45	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	108	80-120
Toluene-D8		88-110	97.8	81-117
4-Bromofluorobenzene		86-115	100	80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 106 SOUTH STREET, HOPKINTON, MA 01748 (508) 435-9244
 MASSACHUSETTS LABORATORY I.D. NO. MA092

**MADEP EPH
 EXTRACTABLES IN AQUEOUS AND/OR SOLID MATRIX**

QUALITY CONTROL

EXT. DATE: 5/7/2001

Solid

METHOD BLANK	AQUEOUS ug/L-PPB	SOLID mg/kg · PPM
UNWEIGHTED CONC.		
C9-C18 ALIPHATICS	<50	<1.0
C19-C36 ALIPHATICS	<50	<1.0
C10-C22 AROMATICS	<100	<2.0
TOTAL UNWEIGHTED CONC.	<50	<1.0
WEIGHTED CONC.		
C9-C18 ALIPHATICS (0.05 MULT.)	<2.5	<0.05
C19-C36 ALIPHATICS (0.005 MULT.)	<0.25	<0.005
C10-C22 AROMATICS (1.0 MULT.)	<100	<2.0
TOTAL WEIGHTED CONC.	<0.25	<0.005
TARGET COMPOUNDS		
NAPHTHALENE	<10	<0.30
2-METHYLNAPHTHALENE	<10	<0.30
1-METHYLNAPHTHALENE	<10	<0.30
ACENAPHTHYLENE	<10	<0.30
ACENAPHTHENE	<10	<0.30
FLUORENE	<10	<0.30
PHENANTHRENE	<10	<0.30
ANTHRACENE	<10	<0.30
FLUORANTHENE	<10	<0.30
PYRENE	<10	<0.30
BENZO(a)ANTHRACENE	<10	<0.30
CHRYSENE	<10	<0.30
BENZO(b)FLUORANTHENE	<10	<0.30
BENZO(k)FLUORANTHENE	<10	<0.30
BENZO(a)PYRENE	<10	<0.30
INDENO(1,2,3-cd)PYRENE	<10	<0.30
DIBENZO(a,h)ANTHRACENE	<10	<0.30
BENZO(g,h,i)PERYLENE	<10	<0.30

SURROGATE	%RECOV.	LIMITS-AQ.	LIMITS-SOL.
***1-CHLORO-OCTADECANE (AL)	61.6	40-130	40-116
***p-TERPHENYL(AR)	50.4	50-123	50-135

MATRIX SPIKE/DUPLICATE SPIKE	RECOV.%	LIMITS-AQ.	LIMITS-SOL.
EICOSANE (AL) MS	82.8	40-130	40-116
EICOSANE (AL) MSD	84.2	40-130	40-116
EICOSANE % DIFFERENCE	1.62	35	45
FLUORANTHENE (AR) MS	59.7	50-123	50-135
FLUORANTHENE (AR) MSD	62.5	50-123	50-135
FLUORANTHENE % DIFFERENCE	4.50	35	45

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 106 SOUTH STREET, HOPKINTON, MA 01748 (508) 435-9244
 MASSACHUSETTS LABORATORY I.D. NO. MA092

**MADEP VPH / ME DEP 4.2.17 GRO / EPA 8015B - GRO / 8021B
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX**

QUALITY CONTROL

DATE: 5/11/01 Solid

METHOD BLANK	AQUEOUS ug/L-PPB	SOLID mg/kg - PPM
HYDROCARBON FRACTIONS		
C5-C8 ALIPHATICS	<5.0	<0.5
C9-C12 ALIPHATICS	<5.0	<0.5
C9-C10 AROMATICS	<5.0	<0.5
TOTAL UNWEIGHTED CONC.		
TARGET COMPOUNDS		
METHYL TERT BUTYL ETHER	<2.0	<0.25
BENZENE	<0.5	<0.05
TOLUENE	<0.5	<0.05
ETHYL BENZENE	<0.5	<0.05
M&P-XYLENES	<0.5	<0.05
O-XYLENE	<0.5	<0.05
1,2,4-TRIMETHYLBENZENE	<0.5	<0.05
NAPHTHALENE	<1.0	<0.10

SURROGATE	%RECOV.	LIMITS-AQ.	LIMITS-SOL.
***2,5-DIBROMOTOLUENE (FID)	114.2	85-120	74-125
***2,5-DIBROMOTOLUENE (PID)	112.8	80-120	74-125

MATRIX SPIKE/DUPLICATE SPIKE	RECOV. %	LIMITS-AQ.	LIMITS-SOL.
Toluene MS	85	70-125	65-125
Toluene DS	82	70-125	65-125
Toluene % Difference	3.59	20	35

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 106 SOUTH STREET, HOPKINTON, MA 01748 (508) 435-9244
 MASSACHUSETTS LABORATORY I.D. NO. MA092

**MADEP VPH / ME DEP 4.2.17 GRO / EPA 8015B - GRO / 8021B
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX**

QUALITY CONTROL

DATE: 5/15/01 Solid

METHOD BLANK	AQUEOUS ug/L-PPB	SOLID mg/kg - PPM
HYDROCARBON FRACTIONS		
C5-C8 ALIPHATICS	<5.0	<0.5
C9-C12 ALIPHATICS	<5.0	<0.5
C9-C10 AROMATICS	<5.0	<0.5
TOTAL UNWEIGHTED CONC.		
TARGET COMPOUNDS		
METHYL TERT BUTYL ETHER	<2.0	<0.25
BENZENE	<0.5	<0.05
TOLUENE	<0.5	<0.05
ETHYL BENZENE	<0.5	<0.05
M&P-XYLENES	<0.5	<0.05
O-XYLENE	<0.5	<0.05
1,2,4-TRIMETHYLBENZENE	<0.5	<0.05
NAPHTHALENE	<1.0	<0.10

SURROGATE	%RECOV.	LIMITS-AQ.	LIMITS-SOL.
***2,5-DIBROMOTOLUENE (FID)	113.1	85-120	74-125
***2,5-DIBROMOTOLUENE (PID)	111.1	80-120	74-125

MATRIX SPIKE/DUPLICATE SPIKE	RECOV. %	LIMITS-AQ.	LIMITS-SOL.
Toluene MS	100	70-125	65-125
Toluene DS	99	70-125	65-125
Toluene % Difference	1.01	20	35

CHAIN-OF-CUSTODY RECORD

W.O. # 0105-0055
(for lab use only)

[illegible]

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65 NY:11148

CERTIFICATE OF ANALYSIS

Client: GZA GeoEnvironmental, Inc.	Laboratory Job Number: L0104246
Address: 106 South Street	Invoice Number: 50090
Hopkinton, MA 01748	Date Received: 10-MAY-01
Attn: Sampling & Receiving	Date Reported: 16-MAY-01
Project Number: 15861.08	Delivery Method: Alpha
Site: GENERAL CHEMICAL CORP	

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L0104246-01	EW-1 (S-5)	FRAMINGHAM, MA
L0104246-02	EW-1 (S-18)	FRAMINGHAM, MA
L0104246-03	GZ-14M (S-10)	FRAMINGHAM, MA
L0104246-04	GZ-14M (S-16)	FRAMINGHAM, MA
L0104246-05	GZ-14M (S-19)	FRAMINGHAM, MA
L0104246-06	GZ-15R (S-4)	FRAMINGHAM, MA
L0104246-07	GZ-15R (S-9)	FRAMINGHAM, MA
L0104246-08	GZ-15R (S-12)	FRAMINGHAM, MA
L0104246-09	GZ-17M (S-3)	FRAMINGHAM, MA
L0104246-10	GZ-17M (S-8)	FRAMINGHAM, MA
L0104246-11	GZ-17M (S-13)	FRAMINGHAM, MA
L0104246-12	GZ-19DD (S-6)	FRAMINGHAM, MA

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized by: Scott McLean

Scott McLean - Laboratory Director
This document electronically signed

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-01
EW-1 (S-5)

Sample Matrix: SOIL

Condition of Sample: Satisfactory

Number & Type of Containers: 1-Glass

Date Collected: 26-APR-2001 00:00

Date Received : 10-MAY-2001

Date Reported : 16-MAY-2001

Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	83.	%	0.10	30 2540G		0511 21:19	CY
Total Organic Carbon	0.084	%	0.012	13		0514 14:50	AB

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-02

EW-1 (S-18)

Sample Matrix: SOIL

Condition of Sample: Satisfactory

Number & Type of Containers: 1-Glass

Date Collected: 30-APR-2001 00:00

Date Received : 10-MAY-2001

Date Reported : 16-MAY-2001

Field Prep: None

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	80.	%	0.10	30 2540G		0511 21:19 CY	
Total Organic Carbon	0.012	%	0.012	13		0514 14:50 AB	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-03
GZ-14M (S-10)
Sample Matrix: SOIL

Date Collected: 21-MAR-2001 00:00
Date Received : 10-MAY-2001
Date Reported : 16-MAY-2001

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Solids, Total	72.	%	0.10	30 2540G	0511 21:19	CY
Total Organic Carbon	0.027	%	0.013	13	0514 14:50	AB

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-04
GZ-14M (S-16)
Sample Matrix: SOIL

Date Collected: 23-MAR-2001 00:00
Date Received : 10-MAY-2001
Date Reported : 16-MAY-2001

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	85.	%	0.10	30 2540G		0511 21:19 CY	
Total Organic Carbon	0.023	%	0.011	13		0514 14:50 AB	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-05
GZ-14M (S-19)
Sample Matrix: SOIL

Date Collected: 26-MAR-2001 00:00
Date Received : 10-MAY-2001
Date Reported : 16-MAY-2001

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	87.	%	0.10	30 2540G		0511 21:19	CY
Total Organic Carbon	0.034	%	0.011	13		0514 14:50	AB

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-06
GZ-15R (S-4)
Sample Matrix: SOIL

Date Collected: 10-APR-2001 00:00
Date Received : 10-MAY-2001
Date Reported : 16-MAY-2001

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	84.	%	0.10	30 2540G			0511 21:19 CY
Total Organic Carbon	0.131	%	0.011	13			0514 14:50 AB

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-07
GZ-15R (S-9)
Sample Matrix: SOIL

Date Collected: 10-APR-2001 00:00
Date Received : 10-MAY-2001
Date Reported : 16-MAY-2001

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	77.	%	0.10	30 2540G		0511 21:19	CY
Total Organic Carbon	0.064	%	0.013	13		0514 14:50	AB

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-08 Date Collected: 10-APR-2001 00:00
GZ-15R (S-12) Date Received : 10-MAY-2001
Sample Matrix: SOIL Date Reported : 16-MAY-2001
Condition of Sample: Satisfactory Field Prep: None
Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	94.	%	0.10	30 2540G		0511 21:19 CY	
Total Organic Carbon	0.128	%	0.010	13		0514 14:50 AB	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-09
GZ-17M (S-3)
Sample Matrix: SOIL

Date Collected: 03-APR-2001 00:00
Date Received : 10-MAY-2001
Date Reported : 16-MAY-2001

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	83.	%	0.10	30 2540G			0511 21:19 CY
Total Organic Carbon	0.410	%	0.012	13			0514 14:50 AB

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-10
GZ-17M (S-8)
Sample Matrix: SOIL

Date Collected: 03-APR-2001 00:00
Date Received : 10-MAY-2001
Date Reported : 16-MAY-2001

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE		ID
					PREP	ANAL	
Solids, Total	76.	%	0.10	30 2540G			0511 21:19 CY
Total Organic Carbon	0.078	%	0.013	13			0524 14:50 AB

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-11
GZ-17M (S-13)
Sample Matrix: SOIL

Date Collected: 03-APR-2001 00:00
Date Received : 10-MAY-2001
Date Reported : 16-MAY-2001

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Solids, Total	78.	%	0.10	30 2540G	0511 21:19	CY
Total Organic Carbon	0.076	%	0.012	13	0514 14:50	AB

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L0104246-12 Date Collected: 20-APR-2001 00:00
GZ-19DD (S-6) Date Received : 10-MAY-2001
Sample Matrix: SOIL Date Reported : 16-MAY-2001
Condition of Sample: Satisfactory Field Prep: None
Number & Type of Containers: 1-Glass

PARAMETER	RESULT	UNITS	RDL	REF METHOD	DATE PREP ANAL	ID
Solids, Total	75.	%	0.10	30 2540G	0511 21 19 CY	
Total Organic Carbon	0.053	%	0.013	13	0514 14:50 AB	

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L0104246

Parameter	Value 1	Value 2	RPD	Units
Solids, Total for sample(s) 01-12 (L0104246-12, WG82596)				
Solids, Total	75.	75.	0	%
Total Organic Carbon for sample(s) 01-12 (L0104246-09, WG82740)				
Total Organic Carbon	0.410	0.422	3	%

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH SPIKE ANALYSES

Laboratory Job Number: L0104246

Parameter	% Recovery
Total Organic Carbon LCS for sample(s) 01-12 (WG82740)	
Total Organic Carbon	97

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH BLANK ANALYSIS

Laboratory Job Number: L0104246

PARAMETER	RESULT	UNITS	RDL	REF METHOD	ID	DATE	
						PREP	ANAL
Blank Analysis for sample(s) 01-12							
Total Organic Carbon	ND	%	0.010	13		0514 14:50	AB

ALPHA ANALYTICAL LABORATORIES
ADDENDUM I

REFERENCES

13. Determination of Total Organic Carbon in Sediment. U.S. EPA, Region II. July 27, 1988.
30. Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.

METHOD Method number by which analysis was performed.

ID Initials of the analyst.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

CHAIN-OF-CUSTODY RECORD

W.O. # Q105-22276
(for lab use only)

[illegible]

CHAIN-OF-CUSTODY RECORD

ALPHA

W.O. # 0105-02076
(for lab use only)

[illegible]

APPENDIX G

LABORATORY ANALYTICAL REPORTS – GROUNDWATER

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

P. Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 4/30/01
Date Reported: 5/16/01
Work Order No.: 0104-00181

Sample ID: GZ-13
Sample Date: 4/26/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/10/01
Dichlorodifluoromethane	EPA 8260	< 200	ug/L	NCS	5/10/01
Chloromethane	EPA 8260	< 400	ug/L	NCS	5/10/01
Vinyl Chloride	EPA 8260	< 200	ug/L	NCS	5/10/01
Bromomethane	EPA 8260	< 200	ug/L	NCS	5/10/01
Chloroethane	EPA 8260	< 200	ug/L	NCS	5/10/01
Trichlorofluoromethane	EPA 8260	< 400	ug/L	NCS	5/10/01
Diethylether	EPA 8260	< 500	ug/L	NCS	5/10/01
Acetone	EPA 8260	< 2500	ug/L	NCS	5/10/01
1,1-Dichloroethene	EPA 8260	< 100	ug/L	NCS	5/10/01
Dichloromethane	EPA 8260	< 100	ug/L	NCS	5/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 200	ug/L	NCS	5/10/01
trans-1,2-Dichloroethene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,1-Dichloroethane	EPA 8260	1200	ug/L	NCS	5/10/01
2-Butanone	EPA 8260	< 2500	ug/L	NCS	5/10/01
2,2-Dichloropropane	EPA 8260	< 100	ug/L	NCS	5/10/01
cis-1,2-Dichloroethene	EPA 8260	17000	ug/L	NCS	5/10/01
Chloroform	EPA 8260	< 100	ug/L	NCS	5/10/01
Bromochloromethane	EPA 8260	< 100	ug/L	NCS	5/10/01
Tetrahydrofuran	EPA 8260	< 1000	ug/L	NCS	5/10/01
1,1,1-Trichloroethane	EPA 8260	4400	ug/L	NCS	5/10/01
1,1-Dichloropropene	EPA 8260	< 100	ug/L	NCS	5/10/01
Carbon Tetrachloride	EPA 8260	< 100	ug/L	NCS	5/10/01
1,2-Dichloroethane	EPA 8260	< 100	ug/L	NCS	5/10/01
Benzene	EPA 8260	< 100	ug/L	NCS	5/10/01
Trichloroethene	EPA 8260	130	ug/L	NCS	5/10/01
1,2-Dichloropropane	EPA 8260	< 100	ug/L	NCS	5/10/01
Bromodichloromethane	EPA 8260	< 100	ug/L	NCS	5/10/01
1,4-Dioxane	EPA 8260	< 10000	ug/L	NCS	5/10/01
Dibromomethane	EPA 8260	< 100	ug/L	NCS	5/10/01
4-Methyl-2-Pentanone	EPA 8260	< 200	ug/L	NCS	5/10/01
cis-1,3-Dichloropropene	EPA 8260	< 100	ug/L	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00181

Sample ID: GZ-13
 Sample Date: 4/26/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Toluene	EPA 8260	< 100	ug/L	NCS	5/10/01
trans-1,3-Dichloropropene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,1,2-Trichloroethane	EPA 8260	< 100	ug/L	NCS	5/10/01
2-Hexanone	EPA 8260	< 200	ug/L	NCS	5/10/01
1,3-Dichloropropane	EPA 8260	< 100	ug/L	NCS	5/10/01
Tetrachloroethene	EPA 8260	450	ug/L	NCS	5/10/01
Dibromochloromethane	EPA 8260	< 100	ug/L	NCS	5/10/01
1,2-Dibromoethane (EDB)	EPA 8260	< 200	ug/L	NCS	5/10/01
Chlorobenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 100	ug/L	NCS	5/10/01
Ethylbenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
m&p-Xylene	EPA 8260	< 100	ug/L	NCS	5/10/01
o-Xylene	EPA 8260	< 100	ug/L	NCS	5/10/01
Styrene	EPA 8260	< 100	ug/L	NCS	5/10/01
Bromoform	EPA 8260	< 200	ug/L	NCS	5/10/01
Isopropylbenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 100	ug/L	NCS	5/10/01
1,2,3-Trichloropropane	EPA 8260	< 100	ug/L	NCS	5/10/01
Bromobenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
N-Propylbenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
2-Chlorotoluene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,3,5-Trimethylbenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
4-Chlorotoluene	EPA 8260	< 100	ug/L	NCS	5/10/01
tert-Butylbenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,2,4-Trimethylbenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
sec-Butylbenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
p-Isopropyltoluene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,3-Dichlorobenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,4-Dichlorobenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
n-Butylbenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,2-Dichlorobenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 500	ug/L	NCS	5/10/01
1,2,4-Trichlorobenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
Hexachlorobutadiene	EPA 8260	< 100	ug/L	NCS	5/10/01
Naphthalene	EPA 8260	< 100	ug/L	NCS	5/10/01
1,2,3-Trichlorobenzene	EPA 8260	< 100	ug/L	NCS	5/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	112	% R	NCS	5/10/01
***Toluene-D8	EPA 8260	102	% R	NCS	5/10/01
***4-Bromofluorobenzene	EPA 8260	96.6	% R	NCS	5/10/01
Preparation		100	DF	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00181

Sample ID: TB-042601
 Sample Date: 4/26/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/10/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	5/10/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	5/10/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	5/10/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	5/10/01
Acetone	EPA 8260	<25	ug/L	NCS	5/10/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	5/10/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Butanone	EPA 8260	<25	ug/L	NCS	5/10/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	5/10/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Benzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	5/10/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	5/10/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Toluene	EPA 8260	<1.0	ug/L	NCS	5/10/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	5/10/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00181

Sample ID: TB-042601
 Sample Date: 4/26/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Ethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
m&p-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
o-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Styrene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromoform	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Isopropylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,3-Trichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
N-Propylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
2-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,3,5-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
4-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
tert-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,4-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
sec-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
p-Isopropyltoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,3-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,4-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
n-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 5.0	ug/L	NCS	5/10/01
1,2,4-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Hexachlorobutadiene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Naphthalene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,3-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	111	% R	NCS	5/10/01
***Toluene-D8	EPA 8260	101	% R	NCS	5/10/01
***4-Bromofluorobenzene	EPA 8260	95.9	% R	NCS	5/10/01
Preparation		1.0	DF	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00181

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 04/30/01 via ☒ GZA courier, ☐ EC, ☐ FEDEX, or ☐ hand delivered.

The temperature of the ☐ temperature blank, ☒ cooler air was 5.4 degrees C. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

Attach QC 8260 05/10/01 - S

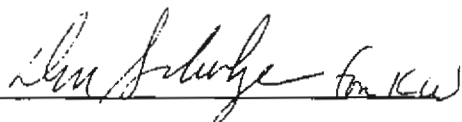
GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00181

Data Authorized By:



% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 5/10/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	98.8	65-127	4.79	20
Trichloroethene	104	87-105	6.65	20
Toluene	95.5	86-105	5.55	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	108	80-114		80-120
Toluene-D8	103	88-110		81-117
4-Bromofluorobenzene	96.3	86-115		80-120

W.O. # 964-0018
(for lab use only)

GZAP003

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

P. Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 4/20/01
Date Reported: 4/26/01
Work Order No.: 0104-00115

Sample ID: GZ-14S
Sample Date: 4/19/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	4/25/01
Dichlorodifluoromethane	EPA 8260	< 2.0	ug/L	NCS	4/25/01
Chloromethane	EPA 8260	< 4.0	ug/L	NCS	4/25/01
Vinyl Chloride	EPA 8260	< 2.0	ug/L	NCS	4/25/01
Bromomethane	EPA 8260	< 2.0	ug/L	NCS	4/25/01
Chloroethane	EPA 8260	< 2.0	ug/L	NCS	4/25/01
Trichlorofluoromethane	EPA 8260	< 4.0	ug/L	NCS	4/25/01
Diethylether	EPA 8260	< 5.0	ug/L	NCS	4/25/01
Acetone	EPA 8260	< 25	ug/L	NCS	4/25/01
1,1-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	4/25/01
Dichloromethane	EPA 8260	< 1.0	ug/L	NCS	4/25/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 2.0	ug/L	NCS	4/25/01
trans-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	4/25/01
1,1-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	4/25/01
2-Butanone	EPA 8260	< 25	ug/L	NCS	4/25/01
2,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	4/25/01
cis-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	4/25/01
Chloroform	EPA 8260	< 1.0	ug/L	NCS	4/25/01
Bromochloromethane	EPA 8260	< 1.0	ug/L	NCS	4/25/01
Tetrahydrofuran	EPA 8260	< 10	ug/L	NCS	4/25/01
1,1,1-Trichloroethane	EPA 8260	2.6	ug/L	NCS	4/25/01
1,1-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	4/25/01
Carbon Tetrachloride	EPA 8260	< 1.0	ug/L	NCS	4/25/01
1,2-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	4/25/01
Benzene	EPA 8260	< 1.0	ug/L	NCS	4/25/01
Trichloroethene	EPA 8260	7.1	ug/L	NCS	4/25/01
1,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	4/25/01
Bromodichloromethane	EPA 8260	< 1.0	ug/L	NCS	4/25/01
1,4-Dioxane	EPA 8260	< 100	ug/L	NCS	4/25/01
Dibromomethane	EPA 8260	< 1.0	ug/L	NCS	4/25/01
4-Methyl-2-Pentanone	EPA 8260	< 2.0	ug/L	NCS	4/25/01
cis-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	4/25/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00115

Sample ID: GZ-14S
Sample Date: 4/19/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Toluene	EPA 8260	<1.0	ug/L	NCS	4/25/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	4/25/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	4/25/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/25/01
Tetrachloroethene	EPA 8260	6.0	ug/L	NCS	4/25/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	4/25/01
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	4/25/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	4/25/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	4/25/01
Styrene	EPA 8260	<1.0	ug/L	NCS	4/25/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	4/25/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	4/25/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	4/25/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	4/25/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	4/25/01
Naphthalene	EPA 8260	2.7	ug/L	NCS	4/25/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/25/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	99.9	% R	NCS	4/25/01
***Toluene-D8	EPA 8260	98.7	% R	NCS	4/25/01
***4-Bromofluorobenzene	EPA 8260	101	% R	NCS	4/25/01
Preparation		1.0	DF	NCS	4/23/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical

Project No.: 15861.08

Work Order No.: 0104-00115

Sample ID: GZ-14M
Sample Date: 4/19/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	4/23/01
Dichlorodifluoromethane	EPA 8260	< 20	ug/L	NCS	4/23/01
Chloromethane	EPA 8260	< 40	ug/L	NCS	4/23/01
Vinyl Chloride	EPA 8260	< 20	ug/L	NCS	4/23/01
Bromomethane	EPA 8260	< 20	ug/L	NCS	4/23/01
Chloroethane	EPA 8260	< 20	ug/L	NCS	4/23/01
Trichlorofluoromethane	EPA 8260	< 40	ug/L	NCS	4/23/01
Diethylether	EPA 8260	< 50	ug/L	NCS	4/23/01
Acetone	EPA 8260	< 250	ug/L	NCS	4/23/01
1,1-Dichloroethene	EPA 8260	270	ug/L	NCS	4/23/01
Dichloromethane	EPA 8260	< 10	ug/L	NCS	4/23/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 20	ug/L	NCS	4/23/01
trans-1,2-Dichloroethene	EPA 8260	< 10	ug/L	NCS	4/23/01
1,1-Dichloroethane	EPA 8260	250	ug/L	NCS	4/23/01
2-Butanone	EPA 8260	< 250	ug/L	NCS	4/23/01
2,2-Dichloropropane	EPA 8260	< 10	ug/L	NCS	4/23/01
cis-1,2-Dichloroethene	EPA 8260	17*	ug/L	NCS	4/23/01
Chloroform	EPA 8260	< 10	ug/L	NCS	4/23/01
Bromochloromethane	EPA 8260	< 10	ug/L	NCS	4/23/01
Tetrahydrofuran	EPA 8260	< 100	ug/L	NCS	4/23/01
1,1,1-Trichloroethane	EPA 8260	240	ug/L	NCS	4/23/01
1,1-Dichloropropene	EPA 8260	< 10	ug/L	NCS	4/23/01
Carbon Tetrachloride	EPA 8260	< 10	ug/L	NCS	4/23/01
1,2-Dichloroethane	EPA 8260	< 10	ug/L	NCS	4/23/01
Benzene	EPA 8260	< 10	ug/L	NCS	4/23/01
Trichloroethene	EPA 8260	2400	ug/L	NCS	4/25/01
1,2-Dichloropropane	EPA 8260	< 10	ug/L	NCS	4/23/01
Bromodichloromethane	EPA 8260	< 10	ug/L	NCS	4/23/01
1,4-Dioxane	EPA 8260	< 1000	ug/L	NCS	4/23/01
Dibromomethane	EPA 8260	< 10	ug/L	NCS	4/23/01
4-Methyl-2-Pentanone	EPA 8260	< 20	ug/L	NCS	4/23/01
cis-1,3-Dichloropropene	EPA 8260	< 10	ug/L	NCS	4/23/01
Toluene	EPA 8260	< 10	ug/L	NCS	4/23/01
trans-1,3-Dichloropropene	EPA 8260	< 10	ug/L	NCS	4/23/01
1,1,2-Trichloroethane	EPA 8260	< 10	ug/L	NCS	4/23/01
2-Hexanone	EPA 8260	< 20	ug/L	NCS	4/23/01
1,3-Dichloropropane	EPA 8260	< 10	ug/L	NCS	4/23/01
Tetrachloroethene	EPA 8260	4800	ug/L	NCS	4/25/01
Dibromochloromethane	EPA 8260	< 10	ug/L	NCS	4/23/01
1,2-Dibromoethane (EDB)	EPA 8260	< 20	ug/L	NCS	4/23/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00115

Sample ID: TRIP BLANK
 Sample Date: 4/19/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	4/23/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	4/23/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	4/23/01
Styrene	EPA 8260	<1.0	ug/L	NCS	4/23/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	4/23/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	4/23/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	4/23/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	4/23/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	4/23/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	4/23/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	4/23/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	4/23/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	4/23/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	4/23/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	105	% R	NCS	4/23/01
***Toluene-D8	EPA 8260	92.7	% R	NCS	4/23/01
***4-Bromofluorobenzene	EPA 8260	92.4	% R	NCS	4/23/01
Preparation		1.0	DF	NCS	4/23/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00115

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 04/20/01 via __GZA courier, __EC, __FEDEX, or __x hand delivered.

The temperature of the __x temperature blank, __cooler air was 4.1 degrees C. The samples were received intact for all requested analyses.

Field blank listed on COC not included in cooler.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

*The concentration of cis 1,2-Dichloroethene is estimated due to the presence of a non-target analyte.

Attach QC 8260 04/23/01 - S
Attach QC 8260 04/25/01 - G

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00115

Data Authorized By: *Michael*

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/23/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	118	65-127	4.41	20
Benzene	107	87-118	4.34	20
Chlorobenzene	102	83-120	4.00	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	105	80-114		80-120
Toluene-D8	93.5	88-110		81-117
4-Bromofluorobenzene	91.5	86-115		80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

**EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX**

QUALITY CONTROL

DATE: 4/25/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	110	65-127	5.26	20
Benzene	113	87-113	3.26	20
Chlorobenzene	113	83-120	5.32	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	109	80-114		80-120
Toluene-D8	103	88-110		81-117
4-Bromofluorobenzene	97.1	86-115		80-120

CHAIN-OF-CUSTODY RECORD

W.O. # 0104-0015
(for lab use only)

Sample ID	Date/Time Sampled (Very Important)	Matrix A-Air S-Soil SW-Surface W WW-Waste W DZ-Drinking W OS-Other	ANALYSIS REQUIRED														Total # of Cont.	Note #									
			GC Screen (VDA)	HNU	J 524.2 J 502.1	624	J 501 J 502	625	626	8021-8020 L-4	8021-8010 L-4	8021	8020-8240 L-4	8082-PCBs Only	8081-Pest Only	TPH-GC (Mod 8100)			TPH-GC w/Fluor	EPH (MA DEP)	TPH (MA DEP)	TCLP (Spec Below)	Filtrate (if requested)	Metals J PPM-13 J R-8	Metals (List Below)		
GZ-14S	4/19/01 1744	GW																								3	
GZ-14M	4/20/01 1439	GW																								3	
Trip Blank		DZ																								3	
Field Blank		DZ																								1	1

NOTES: Preservatives, special reporting limits, known contamination, etc.:
 (1) not included by 4/20/01
 because

RELINQUISHED BY: Keith Rudman DATE/TIME 4/20/01 3:45

RELINQUISHED BY: Tricia H. DATE/TIME 4/20/01 3:45

RELINQUISHED BY: Tricia H. DATE/TIME 4/20/01 3:45

PROJECT MANAGER: Tricia H. EXT: 5860

GZA GEOENVIRONMENTAL, INC.
 ENGINEERS AND SCIENTISTS
 320 Needham Street
 NEWTON UPPER FALLS, MA 02464-1594
 (617) 969-0050
 FAX (617) 965-7769

GZA FILE NO: 15861.08 P.O. NO. _____

PROJECT: General Chemical Corp.

LOCATION: Framingham

COLLECTOR(S): Keith Rudman SHEET 1 OF 1

TURNAROUND TIME: Standard Rush ☒ Days. Approved by: _____

LAB USE: _____ TEMP. OF COOLER 4.1 °C

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

T.Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 5/07/01
Date Reported: 5/22/01
Work Order No.: 0105-00054

Sample ID: GZ-16S
Sample Date: 5/04/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/17/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	5/17/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	5/17/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	5/17/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	5/17/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	5/17/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	5/17/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	5/17/01
Acetone	EPA 8260	<25	ug/L	NCS	5/17/01
1,1-Dichloroethene	EPA 8260	1.5	ug/L	NCS	5/17/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	5/17/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	5/17/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/17/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/17/01
2-Butanone	EPA 8260	<25	ug/L	NCS	5/17/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/17/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/17/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	5/17/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/17/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	5/17/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/17/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/17/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	5/17/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/17/01
Benzene	EPA 8260	<1.0	ug/L	NCS	5/17/01
Trichloroethene	EPA 8260	9.7	ug/L	NCS	5/17/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/17/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	5/17/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	5/17/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	5/17/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	5/17/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/17/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: GZ-16S
 Sample Date: 5/04/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Toluene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
trans-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,1,2-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	5/17/01
2-Hexanone	EPA 8260	< 2.0	ug/L	NCS	5/17/01
1,3-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/17/01
Tetrachloroethene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
Dibromochloromethane	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,2-Dibromoethane (EDB)	EPA 8260	< 2.0	ug/L	NCS	5/17/01
Chlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/17/01
Ethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
m&p-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
o-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
Styrene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
Bromoform	EPA 8260	< 2.0	ug/L	NCS	5/17/01
Isopropylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,2,3-Trichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/17/01
Bromobenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
N-Propylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
2-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,3,5-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
4-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
tert-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,2,4-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
sec-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
p-Isopropyltoluene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,3-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,4-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
n-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,2-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 5.0	ug/L	NCS	5/17/01
1,2,4-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
Hexachlorobutadiene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
Naphthalene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
1,2,3-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/17/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	103	% R	NCS	5/17/01
***Toluene-D8	EPA 8260	101	% R	NCS	5/17/01
***4-Bromofluorobenzene	EPA 8260	95.5	% R	NCS	5/17/01
Preparation		1.0	DF	NCS	5/17/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: GZ-16M
 Sample Date: 5/04/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/16/01
Dichlorodifluoromethane	EPA 8260	<4.0	ug/L	NCS	5/16/01
Chloromethane	EPA 8260	<8.0	ug/L	NCS	5/16/01
Vinyl Chloride	EPA 8260	<4.0	ug/L	NCS	5/16/01
Bromomethane	EPA 8260	<4.0	ug/L	NCS	5/16/01
Chloroethane	EPA 8260	<4.0	ug/L	NCS	5/16/01
Trichlorofluoromethane	EPA 8260	<8.0	ug/L	NCS	5/16/01
Diethylether	EPA 8260	<10	ug/L	NCS	5/16/01
Acetone	EPA 8260	<50	ug/L	NCS	5/16/01
1,1-Dichloroethene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Dichloromethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Methyl-Tert-Butyl-Ether	EPA 8260	<4.0	ug/L	NCS	5/16/01
trans-1,2-Dichloroethene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1-Dichloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
2-Butanone	EPA 8260	<50	ug/L	NCS	5/16/01
2,2-Dichloropropane	EPA 8260	<2.0	ug/L	NCS	5/16/01
cis-1,2-Dichloroethene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Chloroform	EPA 8260	<2.0	ug/L	NCS	5/16/01
Bromochloromethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Tetrahydrofuran	EPA 8260	<20	ug/L	NCS	5/16/01
1,1,1-Trichloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1-Dichloropropene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Carbon Tetrachloride	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dichloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Benzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Trichloroethene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dichloropropane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Bromodichloromethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,4-Dioxane	EPA 8260	<200	ug/L	NCS	5/16/01
Dibromomethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
4-Methyl-2-Pentanone	EPA 8260	<4.0	ug/L	NCS	5/16/01
cis-1,3-Dichloropropene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Toluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
trans-1,3-Dichloropropene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1,2-Trichloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
2-Hexanone	EPA 8260	<4.0	ug/L	NCS	5/16/01
1,3-Dichloropropane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Tetrachloroethene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Dibromochloromethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dibromoethane (EDB)	EPA 8260	<4.0	ug/L	NCS	5/16/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: GZ-16M
 Sample Date: 5/04/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1,1,2-Tetrachloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Ethylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
m&p-Xylene	EPA 8260	<2.0	ug/L	NCS	5/16/01
o-Xylene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Styrene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Bromoform	EPA 8260	<4.0	ug/L	NCS	5/16/01
Isopropylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1,2,2-Tetrachloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2,3-Trichloropropane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Bromobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
N-Propylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
2-Chlorotoluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,3,5-Trimethylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
4-Chlorotoluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
tert-Butylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2,4-Trimethylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
sec-Butylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
p-Isopropyltoluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,3-Dichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,4-Dichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
n-Butylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<10	ug/L	NCS	5/16/01
1,2,4-Trichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Hexachlorobutadiene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Naphthalene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2,3-Trichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	103	% R	NCS	5/16/01
***Toluene-D8	EPA 8260	99.6	% R	NCS	5/16/01
***4-Bromofluorobenzene	EPA 8260	97.0	% R	NCS	5/16/01
Preparation		10	DF	NCS	5/16/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: GZ-17S
 Sample Date: 5/04/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/16/01
Dichlorodifluoromethane	EPA 8260	< 4.0	ug/L	NCS	5/16/01
Chloromethane	EPA 8260	< 8.0	ug/L	NCS	5/16/01
Vinyl Chloride	EPA 8260	< 4.0	ug/L	NCS	5/16/01
Bromomethane	EPA 8260	< 4.0	ug/L	NCS	5/16/01
Chloroethane	EPA 8260	< 4.0	ug/L	NCS	5/16/01
Trichlorofluoromethane	EPA 8260	< 8.0	ug/L	NCS	5/16/01
Diethylether	EPA 8260	< 10	ug/L	NCS	5/16/01
Acetone	EPA 8260	< 50	ug/L	NCS	5/16/01
1,1-Dichloroethene	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Dichloromethane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 4.0	ug/L	NCS	5/16/01
trans-1,2-Dichloroethene	EPA 8260	< 2.0	ug/L	NCS	5/16/01
1,1-Dichloroethane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
2-Butanone	EPA 8260	< 50	ug/L	NCS	5/16/01
2,2-Dichloropropane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
cis-1,2-Dichloroethene	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Chloroform	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Bromochloromethane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Tetrahydrofuran	EPA 8260	< 20	ug/L	NCS	5/16/01
1,1,1-Trichloroethane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
1,1-Dichloropropene	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Carbon Tetrachloride	EPA 8260	< 2.0	ug/L	NCS	5/16/01
1,2-Dichloroethane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Benzene	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Trichloroethene	EPA 8260	< 2.0	ug/L	NCS	5/16/01
1,2-Dichloropropane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Bromodichloromethane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
1,4-Dioxane	EPA 8260	< 200	ug/L	NCS	5/16/01
Dibromomethane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
4-Methyl-2-Pentanone	EPA 8260	< 4.0	ug/L	NCS	5/16/01
cis-1,3-Dichloropropene	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Toluene	EPA 8260	< 2.0	ug/L	NCS	5/16/01
trans-1,3-Dichloropropene	EPA 8260	< 2.0	ug/L	NCS	5/16/01
1,1,2-Trichloroethane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
2-Hexanone	EPA 8260	< 4.0	ug/L	NCS	5/16/01
1,3-Dichloropropane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Tetrachloroethene	EPA 8260	< 2.0	ug/L	NCS	5/16/01
Dibromochloromethane	EPA 8260	< 2.0	ug/L	NCS	5/16/01
1,2-Dibromoethane (EDB)	EPA 8260	< 4.0	ug/L	NCS	5/16/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: GZ-17S
 Sample Date: 5/04/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1,1,2-Tetrachloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Ethylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
m&p-Xylene	EPA 8260	<2.0	ug/L	NCS	5/16/01
o-Xylene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Styrene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Bromoform	EPA 8260	<4.0	ug/L	NCS	5/16/01
Isopropylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1,2,2-Tetrachloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2,3-Trichloropropane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Bromobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
N-Propylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
2-Chlorotoluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,3,5-Trimethylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
4-Chlorotoluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
tert-Butylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2,4-Trimethylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
sec-Butylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
p-Isopropyltoluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,3-Dichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,4-Dichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
n-Butylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<10	ug/L	NCS	5/16/01
1,2,4-Trichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Hexachlorobutadiene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Naphthalene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2,3-Trichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	101	% R	NCS	5/16/01
***Toluene-D8	EPA 8260	98.8	% R	NCS	5/16/01
***4-Bromofluorobenzene	EPA 8260	96.1	% R	NCS	5/16/01
Preparation		10	DF	NCS	5/16/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: GZ-17M
 Sample Date: 5/04/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/16/01
Dichlorodifluoromethane	EPA 8260	<4.0	ug/L	NCS	5/16/01
Chloromethane	EPA 8260	<8.0	ug/L	NCS	5/16/01
Vinyl Chloride	EPA 8260	<4.0	ug/L	NCS	5/16/01
Bromomethane	EPA 8260	<4.0	ug/L	NCS	5/16/01
Chloroethane	EPA 8260	<4.0	ug/L	NCS	5/16/01
Trichlorofluoromethane	EPA 8260	<8.0	ug/L	NCS	5/16/01
Diethylether	EPA 8260	<10	ug/L	NCS	5/16/01
Acetone	EPA 8260	<50	ug/L	NCS	5/16/01
1,1-Dichloroethene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Dichloromethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Methyl-Tert-Butyl-Ether	EPA 8260	<4.0	ug/L	NCS	5/16/01
trans-1,2-Dichloroethene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1-Dichloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
2-Butanone	EPA 8260	<50	ug/L	NCS	5/16/01
2,2-Dichloropropane	EPA 8260	<2.0	ug/L	NCS	5/16/01
cis-1,2-Dichloroethene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Chloroform	EPA 8260	<2.0	ug/L	NCS	5/16/01
Bromochloromethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Tetrahydrofuran	EPA 8260	<20	ug/L	NCS	5/16/01
1,1,1-Trichloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1-Dichloropropene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Carbon Tetrachloride	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dichloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Benzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Trichloroethene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dichloropropane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Bromodichloromethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,4-Dioxane	EPA 8260	<200	ug/L	NCS	5/16/01
Dibromomethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
4-Methyl-2-Pentanone	EPA 8260	<4.0	ug/L	NCS	5/16/01
cis-1,3-Dichloropropene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Toluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
trans-1,3-Dichloropropene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1,2-Trichloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
2-Hexanone	EPA 8260	<4.0	ug/L	NCS	5/16/01
1,3-Dichloropropane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Tetrachloroethene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Dibromochloromethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dibromoethane (EDB)	EPA 8260	<4.0	ug/L	NCS	5/16/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: GZ-17M
 Sample Date: 5/04/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1,1,2-Tetrachloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Ethylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
m&p-Xylene	EPA 8260	<2.0	ug/L	NCS	5/16/01
o-Xylene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Styrene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Bromoform	EPA 8260	<4.0	ug/L	NCS	5/16/01
Isopropylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,1,2,2-Tetrachloroethane	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2,3-Trichloropropane	EPA 8260	<2.0	ug/L	NCS	5/16/01
Bromobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
N-Propylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
2-Chlorotoluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,3,5-Trimethylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
4-Chlorotoluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
tert-Butylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2,4-Trimethylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
sec-Butylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
p-Isopropyltoluene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,3-Dichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,4-Dichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
n-Butylbenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<10	ug/L	NCS	5/16/01
1,2,4-Trichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Hexachlorobutadiene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Naphthalene	EPA 8260	<2.0	ug/L	NCS	5/16/01
1,2,3-Trichlorobenzene	EPA 8260	<2.0	ug/L	NCS	5/16/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	103	% R	NCS	5/16/01
***Toluene-D8	EPA 8260	98.6	% R	NCS	5/16/01
***4-Bromofluorobenzene	EPA 8260	96.2	% R	NCS	5/16/01
Preparation		10	DF	NCS	5/16/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: GZ-19DD
 Sample Date: 5/04/2001

Sample No.: 005

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/17/01
Dichlorodifluoromethane	EPA 8260	< 20	ug/L	NCS	5/17/01
Chloromethane	EPA 8260	< 40	ug/L	NCS	5/17/01
Vinyl Chloride	EPA 8260	< 20	ug/L	NCS	5/17/01
Bromomethane	EPA 8260	< 20	ug/L	NCS	5/17/01
Chloroethane	EPA 8260	< 20	ug/L	NCS	5/17/01
Trichlorofluoromethane	EPA 8260	< 40	ug/L	NCS	5/17/01
Diethylether	EPA 8260	< 50	ug/L	NCS	5/17/01
Acetone	EPA 8260	1400	ug/L	NCS	5/17/01
1,1-Dichloroethene	EPA 8260	3800	ug/L	NCS	5/18/01
Dichloromethane	EPA 8260	8200	ug/L	NCS	5/18/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 20	ug/L	NCS	5/17/01
trans-1,2-Dichloroethene	EPA 8260	< 10	ug/L	NCS	5/17/01
1,1-Dichloroethane	EPA 8260	1600	ug/L	NCS	5/18/01
2-Butanone	EPA 8260	< 250	ug/L	NCS	5/17/01
2,2-Dichloropropane	EPA 8260	< 10	ug/L	NCS	5/17/01
cis-1,2-Dichloroethene	EPA 8260	5500	ug/L	NCS	5/18/01
Chloroform	EPA 8260	< 10	ug/L	NCS	5/17/01
Bromochloromethane	EPA 8260	< 10	ug/L	NCS	5/17/01
Tetrahydrofuran	EPA 8260	< 100	ug/L	NCS	5/17/01
1,1,1-Trichloroethane	EPA 8260	14000	ug/L	NCS	5/18/01
1,1-Dichloropropene	EPA 8260	< 10	ug/L	NCS	5/17/01
Carbon Tetrachloride	EPA 8260	< 10	ug/L	NCS	5/17/01
1,2-Dichloroethane	EPA 8260	< 10	ug/L	NCS	5/17/01
Benzene	EPA 8260	10	ug/L	NCS	5/17/01
Trichloroethene	EPA 8260	23000	ug/L	NCS	5/18/01
1,2-Dichloropropane	EPA 8260	< 10	ug/L	NCS	5/17/01
Bromodichloromethane	EPA 8260	< 10	ug/L	NCS	5/17/01
1,4-Dioxane	EPA 8260	< 1000	ug/L	NCS	5/17/01
Dibromomethane	EPA 8260	< 10	ug/L	NCS	5/17/01
4-Methyl-2-Pentanone	EPA 8260	< 20	ug/L	NCS	5/17/01
cis-1,3-Dichloropropene	EPA 8260	< 10	ug/L	NCS	5/17/01
Toluene	EPA 8260	90	ug/L	NCS	5/17/01
trans-1,3-Dichloropropene	EPA 8260	< 10	ug/L	NCS	5/17/01
1,1,2-Trichloroethane	EPA 8260	< 10	ug/L	NCS	5/17/01
2-Hexanone	EPA 8260	< 20	ug/L	NCS	5/17/01
1,3-Dichloropropane	EPA 8260	< 10	ug/L	NCS	5/17/01
Tetrachloroethene	EPA 8260	49000	ug/L	NCS	5/18/01
Dibromochloromethane	EPA 8260	< 10	ug/L	NCS	5/17/01
1,2-Dibromoethane (EDB)	EPA 8260	< 20	ug/L	NCS	5/17/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: GZ-19DD
 Sample Date: 5/04/2001

Sample No.: 005

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 10	ug/L	NCS	5/17/01
Ethylbenzene	EPA 8260	15	ug/L	NCS	5/17/01
m&p-Xylene	EPA 8260	< 10	ug/L	NCS	5/17/01
o-Xylene	EPA 8260	20	ug/L	NCS	5/17/01
Styrene	EPA 8260	< 10	ug/L	NCS	5/17/01
Bromoform	EPA 8260	< 20	ug/L	NCS	5/17/01
Isopropylbenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 10	ug/L	NCS	5/17/01
1,2,3-Trichloropropane	EPA 8260	< 10	ug/L	NCS	5/17/01
Bromobenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
N-Propylbenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
2-Chlorotoluene	EPA 8260	< 10	ug/L	NCS	5/17/01
1,3,5-Trimethylbenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
4-Chlorotoluene	EPA 8260	< 10	ug/L	NCS	5/17/01
tert-Butylbenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
1,2,4-Trimethylbenzene	EPA 8260	24	ug/L	NCS	5/17/01
sec-Butylbenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
p-Isopropyltoluene	EPA 8260	< 10	ug/L	NCS	5/17/01
1,3-Dichlorobenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
1,4-Dichlorobenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
n-Butylbenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
1,2-Dichlorobenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 50	ug/L	NCS	5/17/01
1,2,4-Trichlorobenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
Hexachlorobutadiene	EPA 8260	< 10	ug/L	NCS	5/17/01
Naphthalene	EPA 8260	18	ug/L	NCS	5/17/01
1,2,3-Trichlorobenzene	EPA 8260	< 10	ug/L	NCS	5/17/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	98.8	% R	NCS	5/17/01
***Toluene-D8	EPA 8260	103	% R	NCS	5/17/01
***4-Bromofluorobenzene	EPA 8260	101	% R	NCS	5/17/01
Preparation		10	DF	NCS	5/17/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: TB-05/04/01
 Sample Date: 5/04/2001

Sample No.: 006

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/18/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	5/18/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	5/18/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	5/18/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	5/18/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	5/18/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	5/18/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	5/18/01
Acetone	EPA 8260	<25	ug/L	NCS	5/18/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	5/18/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
2-Butanone	EPA 8260	<25	ug/L	NCS	5/18/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/18/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	5/18/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	5/18/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
Benzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/18/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	5/18/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	5/18/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Toluene	EPA 8260	<1.0	ug/L	NCS	5/18/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	5/18/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/18/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	5/18/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0105-00054

Sample ID: TB-05/04/01
 Sample Date: 5/04/2001

Sample No.: 006

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	5/18/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Styrene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	5/18/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	5/18/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	5/18/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	5/18/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Naphthalene	EPA 8260	<1.5	ug/L	NCS	5/18/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/18/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	104	% R	NCS	5/18/01
***Toluene-D8	EPA 8260	101	% R	NCS	5/18/01
***4-Bromofluorobenzene	EPA 8260	95.8	% R	NCS	5/18/01
Preparation		1.0	DF	NCS	5/18/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00054

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 05/7/01 via x GZA courier, EC, FEDEX, or hand delivered.

The temperature of the temperature blank, x cooler air was 4.1 degrees C. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

Attach QC 8260 05/16/01 - S
Attach QC 8260 05/17/01 - S
Attach QC 8260 05/18/01 - S

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0105-00054

Data Authorized By: H. Ward

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 5/16/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	103	65-127	1.19	20
Benzene	107	87-118	4.47	20
Toluene	104	86-105	2.69	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	106	80-114		80-120
Toluene-D8	101	88-110		81-117
4-Bromofluorobenzene	95.3	86-115		80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 5/17/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
Benzene	100	87-118	1.29	20
Chlorobenzene	103	83-120	0.99	20
Toluene	101	86-105	3.19	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	109	80-114		80-120
Toluene-D8	102	88-110		81-117
4-Bromofluorobenzene	96.2	86-115		80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 106 SOUTH STREET, HOPKINTON, MA 01748
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 05/18/01

S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		65-127		20
Trichloroethene		87-105		20
Toluene		86-105		20

SOLID

COMPOUND	MATRIX SPIKE	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	103	70-130	0.73	35
Trichloroethene	104	70-130	1.69	35
Toluene	102	70-130	1.73	35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4		80-114	106	80-120
Toluene-D8		88-110	101	81-117
4-Bromofluorobenzene		86-115	97.1	80-120

CHAIN-OF-CUSTODY RECORD

W.O. # 0605-00054
(for lab use only)

Sample ID	Date/Time Sampled (Very Important)	Matrix	ANALYSIS REQUIRED	Notes
67-16S	5/04/01	GW	GC Screen (VOC)	
67-16M			GC Screen (VOC)	
67-16S			GC Screen (VOC)	
67-17M			GC Screen (VOC)	
67-19DD			GC Screen (VOC)	
78-05/04/01			GC Screen (VOC)	

Sample ID	Date/Time Sampled (Very Important)	Matrix	ANALYSIS REQUIRED	Notes
67-16S	5/04/01	GW	GC Screen (VOC)	
67-16M			GC Screen (VOC)	
67-16S			GC Screen (VOC)	
67-17M			GC Screen (VOC)	
67-19DD			GC Screen (VOC)	
78-05/04/01			GC Screen (VOC)	

PRESERVATIVE (CI - HCl, MeOH, N - HNO₃, S - H₂SO₄, Na - NaOH, O - Other)
 CONTAINER TYPE (P-Plastic, G-Glass, V-Vial, T-Teflon, O-Other)

RELINQUISHED BY: M. J. Thompson DATE/TIME: 5/04/01
 RECEIVED BY: [Signature] DATE/TIME: 5/04/01

RELINQUISHED BY: _____ DATE/TIME: _____
 RECEIVED BY: [Signature] DATE/TIME: _____

PROJECT MANAGER: Tricia Hoedere EXT: _____

GZA GEOENVIRONMENTAL, INC.
ENGINEERS AND SCIENTISTS
 320 Needham Street
 NEWTON UPPER FALLS, MA 02464-1594
 (617) 969-0050
 FAX (617) 965-7769

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

P.Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 4/30/01
Date Reported: 5/14/01
Work Order No.: 0104-00182

Sample ID: GZ-15R
Sample Date: 4/27/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/10/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	5/10/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	5/10/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	5/10/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	5/10/01
Acetone	EPA 8260	<25	ug/L	NCS	5/10/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	5/10/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Butanone	EPA 8260	<25	ug/L	NCS	5/10/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Chloroform	EPA 8260	13	ug/L	NCS	5/10/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	5/10/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Benzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	5/10/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	5/10/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: GZ-15R
 Sample Date: 4/27/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Toluene	EPA 8260	9.4	ug/L	NCS	5/10/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	5/10/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	5/10/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Styrene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	5/10/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	5/10/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	5/10/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	110	% R	NCS	5/10/01
***Toluene-D8	EPA 8260	102	% R	NCS	5/10/01
***4-Bromofluorobenzene	EPA 8260	96.5	% R	NCS	5/10/01
Preparation		1.0	DF	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: GZ-15D
 Sample Date: 4/27/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/10/01
Dichlorodifluoromethane	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Chloromethane	EPA 8260	< 4.0	ug/L	NCS	5/10/01
Vinyl Chloride	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Bromomethane	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Chloroethane	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Trichlorofluoromethane	EPA 8260	< 4.0	ug/L	NCS	5/10/01
Diethylether	EPA 8260	< 5.0	ug/L	NCS	5/10/01
Acetone	EPA 8260	< 25	ug/L	NCS	5/10/01
1,1-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Dichloromethane	EPA 8260	1.1	ug/L	NCS	5/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 2.0	ug/L	NCS	5/10/01
trans-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
2-Butanone	EPA 8260	< 25	ug/L	NCS	5/10/01
2,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
cis-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Chloroform	EPA 8260	1.4	ug/L	NCS	5/10/01
Bromochloromethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Tetrahydrofuran	EPA 8260	< 10	ug/L	NCS	5/10/01
1,1,1-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Carbon Tetrachloride	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Benzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Trichloroethene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromodichloromethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,4-Dioxane	EPA 8260	< 100	ug/L	NCS	5/10/01
Dibromomethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
4-Methyl-2-Pentanone	EPA 8260	< 2.0	ug/L	NCS	5/10/01
cis-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Toluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
trans-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,2-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
2-Hexanone	EPA 8260	< 2.0	ug/L	NCS	5/10/01
1,3-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Tetrachloroethene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Dibromochloromethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dibromoethane (EDB)	EPA 8260	< 2.0	ug/L	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: GZ-15D
 Sample Date: 4/27/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Ethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
m&p-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
o-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Styrene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromoform	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Isopropylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,3-Trichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
N-Propylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
2-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,3,5-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
4-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
tert-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,4-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
sec-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
p-Isopropyltoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,3-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,4-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
n-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 5.0	ug/L	NCS	5/10/01
1,2,4-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Hexachlorobutadiene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Naphthalene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,3-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	106	% R	NCS	5/10/01
***Toluene-D8	EPA 8260	103	% R	NCS	5/10/01
***4-Bromofluorobenzene	EPA 8260	96.5	% R	NCS	5/10/01
Preparation		1.0	DF	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: GZ-15S
 Sample Date: 4/27/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/10/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	5/10/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	5/10/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	5/10/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	5/10/01
Acetone	EPA 8260	<25	ug/L	NCS	5/10/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	5/10/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1-Dichloroethane	EPA 8260	1.8	ug/L	NCS	5/10/01
2-Butanone	EPA 8260	<25	ug/L	NCS	5/10/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Chloroform	EPA 8260	2.0	ug/L	NCS	5/10/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	5/10/01
1,1,1-Trichloroethane	EPA 8260	2.0	ug/L	NCS	5/10/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Benzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	5/10/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	5/10/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Toluene	EPA 8260	<1.0	ug/L	NCS	5/10/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	5/10/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: GZ-15S
 Sample Date: 4/27/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Ethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
m&p-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
o-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Styrene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromoform	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Isopropylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,3-Trichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
N-Propylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
2-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,3,5-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
4-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
tert-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,4-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
sec-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
p-Isopropyltoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,3-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,4-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
n-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 5.0	ug/L	NCS	5/10/01
1,2,4-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Hexachlorobutadiene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Naphthalene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,3-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	108	% R	NCS	5/10/01
***Toluene-D8	EPA 8260	103	% R	NCS	5/10/01
***4-Bromofluorobenzene	EPA 8260	96.2	% R	NCS	5/10/01
Preparation		1.0	DF	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: GZ-18S
 Sample Date: 4/27/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/10/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	5/10/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	5/10/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	5/10/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	5/10/01
Acetone	EPA 8260	<25	ug/L	NCS	5/10/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	5/10/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Butanone	EPA 8260	<25	ug/L	NCS	5/10/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	5/10/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Benzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	5/10/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	5/10/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Toluene	EPA 8260	<1.0	ug/L	NCS	5/10/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	5/10/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: GZ-18S
 Sample Date: 4/27/2001

Sample No.: 004

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Ethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
m&p-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
o-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Styrene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromoform	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Isopropylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,3-Trichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
N-Propylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
2-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,3,5-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
4-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
tert-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,4-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
sec-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
p-Isopropyltoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,3-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,4-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
n-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 5.0	ug/L	NCS	5/10/01
1,2,4-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Hexachlorobutadiene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Naphthalene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,3-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	112	% R	NCS	5/10/01
***Toluene-D8	EPA 8260	102	% R	NCS	5/10/01
***4-Bromofluorobenzene	EPA 8260	95.7	% R	NCS	5/10/01
Preparation		1.0	DF	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: GZ-18M
 Sample Date: 4/27/2001

Sample No.: 005

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/10/01
Dichlorodifluoromethane	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Chloromethane	EPA 8260	< 4.0	ug/L	NCS	5/10/01
Vinyl Chloride	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Bromomethane	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Chloroethane	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Trichlorofluoromethane	EPA 8260	< 4.0	ug/L	NCS	5/10/01
Diethylether	EPA 8260	< 5.0	ug/L	NCS	5/10/01
Acetone	EPA 8260	29	ug/L	NCS	5/10/01
1,1-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Dichloromethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 2.0	ug/L	NCS	5/10/01
trans-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
2-Butanone	EPA 8260	< 25	ug/L	NCS	5/10/01
2,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
cis-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Chloroform	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromochloromethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Tetrahydrofuran	EPA 8260	< 10	ug/L	NCS	5/10/01
1,1,1-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Carbon Tetrachloride	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Benzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Trichloroethene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromodichloromethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,4-Dioxane	EPA 8260	< 100	ug/L	NCS	5/10/01
Dibromomethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
4-Methyl-2-Pentanone	EPA 8260	< 2.0	ug/L	NCS	5/10/01
cis-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Toluene	EPA 8260	9.9	ug/L	NCS	5/10/01
trans-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,2-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
2-Hexanone	EPA 8260	< 2.0	ug/L	NCS	5/10/01
1,3-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Tetrachloroethene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Dibromochloromethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dibromoethane (EDB)	EPA 8260	< 2.0	ug/L	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: GZ-18M
 Sample Date: 4/27/2001

Sample No.: 005

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Ethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
m&p-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
o-Xylene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Styrene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromoform	EPA 8260	< 2.0	ug/L	NCS	5/10/01
Isopropylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,3-Trichloropropane	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Bromobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
N-Propylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
2-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,3,5-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
4-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
tert-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,4-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
sec-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
p-Isopropyltoluene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,3-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,4-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
n-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 5.0	ug/L	NCS	5/10/01
1,2,4-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Hexachlorobutadiene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Naphthalene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
1,2,3-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	5/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	108	% R	NCS	5/10/01
***Toluene-D8	EPA 8260	102	% R	NCS	5/10/01
***4-Bromofluorobenzene	EPA 8260	96.5	% R	NCS	5/10/01
Preparation		1.0	DF	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: TB-042701
 Sample Date: 4/27/2001

Sample No.: 006

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	5/10/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	5/10/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	5/10/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	5/10/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	5/10/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	5/10/01
Acetone	EPA 8260	<25	ug/L	NCS	5/10/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	5/10/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Butanone	EPA 8260	<25	ug/L	NCS	5/10/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	5/10/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Benzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	5/10/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	5/10/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Toluene	EPA 8260	<1.0	ug/L	NCS	5/10/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	5/10/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	5/10/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0104-00182

Sample ID: TB-042701
 Sample Date: 4/27/2001

Sample No.: 006

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	5/10/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Styrene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	5/10/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	5/10/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	5/10/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	5/10/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	5/10/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	5/10/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	106	% R	NCS	5/10/01
***Toluene-D8	EPA 8260	102	% R	NCS	5/10/01
***4-Bromofluorobenzene	EPA 8260	95.7	% R	NCS	5/10/01
Preparation		1.0	DF	NCS	5/10/01

GZA GeoEnvironmental, Inc.
ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00182

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 04/30/01 via x GZA courier, EC, FEDEX, or hand delivered.

The temperature of the temperature blank, x cooler air was 3.6 degrees C. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

Attach QC 8260 05/10/01 - S

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0104-00182

Data Authorized By: _____

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

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GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 5/10/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	98.8	65-127	4.79	20
Trichloroethene	104	87-105	6.65	20
Toluene	95.5	86-105	5.55	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	108	80-114		80-120
Toluene-D8	103	88-110		81-117
4-Bromofluorobenzene	96.3	86-115		80-120

CHAIN-OF-CUSTODY RECORD

W.O. # 0104-00182
(for lab use only)

Sample I.D.	Date/Time Sampled (Very Important)	Matrix	ANALYSIS REQUIRED	Turnaround Time	Notes
GZ-15R	4/27/01	GW	GC Screen (VOC)	15861.00	1- Sample had a high pH (~11.5)
GZ-15D			GC Screen (VOC)		
GZ-15S			GC Screen (VOC)		
GZ-18S			GC Screen (VOC)		
GZ-18M			GC Screen (VOC)		
TB-042701			GC Screen (VOC)		

REINQUISHED BY: *George Bell* **DATE/TIME:** 4-27-01 4:00

REINQUISHED BY: *George Bell* **DATE/TIME:** 4-27-01 4:00

REINQUISHED BY: *George Bell* **DATE/TIME:** 4-27-01 4:00

RECEIVED BY: *George Bell* **DATE/TIME:** 4/27/01 4:00

RECEIVED BY: *George Bell* **DATE/TIME:** 4/27/01 4:00

RECEIVED BY: *George Bell* **DATE/TIME:** 4/27/01 4:00

PROJECT MANAGER: *Ticia Hadden*

PROJECT: *GRC*

LOCATION: *Framingham*

COLLECTOR(S): *MAS*

LAB USE: *TEMP OF COOLER*

TURNAROUND TIME: *15861.00*

GZA FILE NO: *15861.00*

PO NO: *1*

SHEET: *1*

GZA GEOENVIRONMENTAL, INC.
ENGINEERS AND SCIENTISTS
 320 Needham Street
 NEWTON UPPER FALLS, MA 02464-1594
 (617) 969-0050
 FAX (617) 965-7769

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

P. Haederle

Project Name: General Chemical
Project No.: 15861.28

Date Received: 4/07/01
Date Reported: 4/26/01
Work Order No.: 0104-00040

Sample ID: MSUMP
Sample Date: 4/05/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	4/17/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	4/17/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	4/17/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	4/17/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	4/17/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	4/17/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	4/17/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	4/17/01
Acetone	EPA 8260	<25	ug/L	NCS	4/17/01
1,1-Dichloroethene	EPA 8260	2.0	ug/L	NCS	4/17/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	4/17/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,1-Dichloroethane	EPA 8260	1.3	ug/L	NCS	4/17/01
2-Butanone	EPA 8260	<25	ug/L	NCS	4/17/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/17/01
cis-1,2-Dichloroethene	EPA 8260	10	ug/L	NCS	4/17/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	4/17/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	4/17/01
1,1,1-Trichloroethane	EPA 8260	7.9	ug/L	NCS	4/17/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Benzene	EPA 8260	<1.0	ug/L	NCS	4/17/01
Trichloroethene	EPA 8260	30	ug/L	NCS	4/17/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	4/17/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	4/17/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	4/17/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	4/17/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	4/17/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical

Project No.: 15861.28

Work Order No.: 0104-00040

Sample ID: MSUMP

Sample Date: 4/05/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Toluene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
trans-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,1,2-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	4/17/01
2-Hexanone	EPA 8260	< 2.0	ug/L	NCS	4/17/01
1,3-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	4/17/01
Tetrachloroethene	EPA 8260	4.7	ug/L	NCS	4/17/01
Dibromochloromethane	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,2-Dibromoethane (EDB)	EPA 8260	< 2.0	ug/L	NCS	4/17/01
Chlorobenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	4/17/01
Ethylbenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
m&p-Xylene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
o-Xylene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
Styrene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
Bromoform	EPA 8260	< 2.0	ug/L	NCS	4/17/01
Isopropylbenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,2,3-Trichloropropane	EPA 8260	< 1.0	ug/L	NCS	4/17/01
Bromobenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
N-Propylbenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
2-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,3,5-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
4-Chlorotoluene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
tert-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,2,4-Trimethylbenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
sec-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
p-Isopropyltoluene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,3-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,4-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
n-Butylbenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,2-Dichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 5.0	ug/L	NCS	4/17/01
1,2,4-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
Hexachlorobutadiene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
Naphthalene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
1,2,3-Trichlorobenzene	EPA 8260	< 1.0	ug/L	NCS	4/17/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	100	% R	NCS	4/17/01
***Toluene-D8	EPA 8260	98.0	% R	NCS	4/17/01
***4-Bromofluorobenzene	EPA 8260	93.9	% R	NCS	4/17/01
Preparation		1.0	DF	NCS	4/17/01

GZA GeoEnvironmental, Inc.
ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.28

Work Order No.: 0104-00040

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 04/7/01 via x GZA courier, EC, FEDEX, or hand delivered.
The temperature of the temperature blank, x cooler air was 3.9 degrees C. No cooling materials were used. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

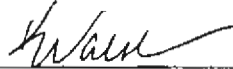
Attach QC 8260 04/17/01 - G

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.28

Work Order No.: 0104-00040

Data Authorized By: 

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579
NY: 11063 RI: A46

Please note that the laboratory signed copy of the chain of custody is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 4/17/01 G

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	108	65-127	3.77	20
Benzene	107	87-118	0.47	20
Toluene	103	86-105	0.36	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	106	80-114		80-120
Toluene-D8	98.0	88-110		81-117
4-Bromofluorobenzene	88.6	86-115		80-120

APPENDIX H

GEOPHYSICAL INVESTIGATION REPORT,
HAGER GEOSCIENCE

**PHASE III GEOPHYSICAL SURVEYS
GENERAL CHEMICAL CORPORATION SITE
FRAMINGHAM, MASSACHUSETTS**

Prepared for:

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, Massachusetts 02062

Prepared by:

Hager GeoScience, Inc.
596 Main Street
Woburn, Massachusetts 01801

File 200115
July 2001

Hager GeoScience, Inc.

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APPENDIX A GRID MODEL CROSS SECTIONS

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C - C'
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EXECUTIVE SUMMARY

During April and May 2001, Hager GeoScience, Inc. (HGI) performed ground penetrating radar (GPR) and seismic surveys at the General Chemical Corporation site in Framingham, Massachusetts.

The objectives of these surveys, an extension of HGI's previous mapping of the General Chemical site to the south and east of the plant, were to obtain information regarding the stratigraphy of overburden and the depth to and topography of bedrock.

Previously acquired geophysical data have been integrated with those of the current survey to form a comprehensive database of more than 1100 data locations containing more than 20,000 data entries. These data were used to contour a number of stratigraphic surfaces and layer thicknesses.

As a result of our geophysical surveys at the General Chemical Corporation site, we conclude:

- An upper silt outwash horizon present in the northeastern part of the survey area thins and then pinches out to the south and southwest.
- The clay/silt outwash beneath the upper silt is continuous over the survey area, but thins toward the southeast and north.
- A bedrock basin/valley oriented northwest-southeast lies between the railroad tracks and the Condominiums. The depression or basin opens to the northwest. The till in this basin is thinner due to erosion, and the depression has been filled with finer grained glacial outwash and lacustrine deposits.
- The stream-washed till is likely the "sand and gravel layer" intercepted in boring GZA-14. Contaminants would be concentrated in this horizon and along the bedrock valley axis.
- It would be useful to perform an additional program of low frequency GPR and seismic refraction surveys in the south and southeastern limits of the study area to confirm the gradient of the bedrock basin or depression and till stratigraphy.

1.0 INTRODUCTION

GZA GeoEnvironmental, Inc. (GZA) of Norwood, Massachusetts contracted with Hager GeoScience, Inc. (HGI) of Woburn, Massachusetts to perform geophysical surveys at the General Chemical Corporation Facility in Framingham, Massachusetts. The location of the site is shown in Figure 1.

The survey was an effort to extend HGI's previous mapping at the General Chemical site and integrate the new data with those acquired during surveys performed previously during 1997¹ and 1999² (Phases I and II, respectively). The previous mapping efforts had been restricted to the determination of the extent and depth of possible confining clayey silt layers identified in borings logs. The current survey (Phase III) expanded geophysical coverage into the wooded areas and wetlands to the south and east of the General Chemical facility, while increasing the scope of the investigation to the delineation of soil stratigraphy and the depth to and topography of the underlying bedrock.

2.0 TECHNICAL APPROACH

The study was designed to acquire a spatial distribution of subsurface data suitable for mapping the configuration and thickness of the targeted stratigraphic units. Data for this phase were collected using seismic and GPR methods. The techniques and their limitations are discussed in more detail in Section 7.0.

HGI used seismic and GPR techniques as complementary methods for converting "time" data to depths of target reflectors, as well as to provide two semi-independent methods for evaluating common targets. Seismic refraction is a useful geophysical method for the reconnaissance of subsurface geology where little information is available. In contrast to seismic reflection and GPR (where in the absence of velocity data only the geometry of the subsurface structure may be determined), refraction surveys yield data on both subsurface velocity and geometry. Although the method is fundamentally blind to detecting a low-velocity layer between two faster layers and is unable to resolve "thin" refractors, the bulk velocities obtained from refraction surveys serve as robust constraints to be used in the reduction of seismic reflection and GPR data. Seismic reflection and GPR are useful methods for locating discontinuous interfaces, and are

¹ Ground Penetrating Radar Survey, General Chemical Corporation Site, Framingham, Massachusetts. Report prepared for CDW Consultants, Inc., April 1997.

² Geophysical Surveys, General Chemical Corporation Site, Framingham, Massachusetts. Report prepared for GZA GeoEnvironmental, Inc., December 1999.

techniques more amenable to the interrogation and mapping of overburden stratigraphy. In both of these methods, however, data are collected as two-way travel time, subsequently requiring a "time-to-depth" conversion based on velocity estimates determined through calibration (i.e. seismic refraction) or from other information sources.

Accordingly, HGI performed a multidisciplinary survey incorporating seismic refraction, reflection, and GPR. This produced three distinct data sets that yielded complementary constraints on subsurface structure. The different data types were integrated in the following manner:

- i) Seismic refraction data were used to construct 2-D velocity profiles;
- ii) Refraction velocity profiles were used to constrain the seismic reflection data "time-to depth" conversion;
- iii) Individual seismic reflection and refraction lines were correlated with neighboring boreholes;
- iv) GPR and seismic reflection/refraction profiles were correlated to better control the GPR "time-to-depth" conversion;
- v) Individual GPR lines were correlated at crossover points and with neighboring boreholes;
- vi) Estimates of stratigraphic horizon depths along the integrated GPR and seismic reflection lines were jointly contoured to constrain the regional stratigraphy;
- vii) Grid model cross sections were prepared across portions of the survey area.

One goal of such an integrated geophysical approach is to yield geologic interpretations consistent with all interpreted data. However, owing to the uncertainty in any interpretation of geophysical data (i.e., imprecise knowledge of velocity profile), there will be inconsistency in the geological conclusions rendered from different investigation types. - Thus, to minimize the uncertainty present in this investigation, interpretations from individual data sets have been iteratively updated to achieve a more globally consistent geologic section. Overall, the combination of borehole, seismic and GPR data has provided an effective means of bounding the study area and establishing reliable trends for the overburden and bedrock surfaces. Table 1 contains the known borehole information used to ground truth the geophysical data interpretation.

Following reduction and processing of data from GPR and seismic surveys, discrete points defining the depth to targets were compiled and constructed as a database containing cadastral and depth information. Trend analyses of these data were performed by different methods to obtain the most realistic geologic interpretation of the subsurface stratigraphy. Contour maps representing this analysis were prepared to present the structure of the "tops" and thicknesses of

**TABLE 1. BOREHOLE CONTROL POINTS
GENERAL CHEMICAL CORPORATION SITE
FRAMINGHAM, MASSACHUSETTS (DEPTH IN FEET)**

Well I.D.	Top of					
	Top of Fill	Top of Sand+Silt	Clayey Silt or Silty Clay	Top of Sand & Gravel	Top of Till	Top of Bedrock
GZ-1	0	0.5	5	N/D	49	71(?)
GZ-2	0	10	N/D	N/D	65	N/D
GZ-3	0	10	N/D	N/D	49	N/D
GZ-4R	0	10	N/D	N/D	40	49
GZ-5D	0	3	11	N/D	24	44
GZ-6	0	N/D	N/D	N/D	N/D	N/D
GZ-7R	0	8.5	N/D	N/D	25	82
GZ-13	0	2	N/D	N/D	N/D	N/D
GZ-14M	0	12	22	60	75	79(?)
GZ-15R	0	N/D	9.5	33	36	42.6
GZ-16M	0	N/D	9	N/D	48	N/D
GZ-17M	0	3	14	N/D	49	N/D
GZ-18M	0	4	12	N/D	44.5	N/D
GZ-19DD	0	N/D	13	52	N/D	53
CDW-1	0	12	N/D	N/D	N/D	N/D
CDW-2	0	5	N/D	N/D	N/D	N/D
CDW-3	0	4	N/D	N/D	N/D	N/D
CDW-4	0	3	N/D	N/D	N/D	N/D
CDW-5	0	5	N/D	N/D	N/D	N/D
CDW-6	0	5	N/D	N/D	N/D	N/D
CDW-7	0	4	N/D	N/D	N/D	N/D
CDW-8D	0	12	34	N/D	39	N/D
CDW-9	0	10	N/D	N/D	N/D	N/D
CDW-10	0	10	N/D	N/D	N/D	N/D
CDW-11	0	N/D	N/D	N/D	N/D	N/D
CDW-12	0	15	N/D	N/D	N/D	N/D
CDW-14	0	N/D	N/D	N/D	N/D	N/D
CDW-15	0	12	N/D	N/D	N/D	N/D
CDW-16	0	9	N/D	N/D	N/D	N/D
CDW-18D	0	10	N/D	N/D	N/D	N/D
CDW-19D	0	21	N/D	N/D	N/D	N/D
ERM-2	0	N/D	N/D	N/D	N/D	N/D
ERM-4	0	N/D	N/D	N/D	N/D	N/D
ERM-11	0	13.5	N/D	N/D	N/D	N/D
ERM-12D	0	17	33	N/D	N/D	N/D
PZ-3D	0	3	20	N/D	N/D	N/D

the stratigraphic units.

3.0 DATA ACQUISITION

HGI personnel performed the geophysical surveys in April and May 2001. GZA designated the survey locations, and fieldwork was coordinated with General Chemical and GZA representatives, who were present during portions of HGI's field effort. Some modifications of the initial program were made in response to data acquired by GZA during HGI's fieldwork and as dictated by limited access in some areas.

Geophysical lines in the present phase of the investigation were situated predominantly along transects that "boxed in" the perimeter of the survey area. Cross lines were added to provide better coverage for the contouring of strata. The locations of both GPR and seismic data points are shown on Plate 1. The base map and surveyed locations were provided by GZA. Elevations on seismic lines in the east end of the grid were not surveyed. However, based on visual observation and the provided elevation-contour base map, the topographic relief at these locations is known to be minimal. Accordingly, the elevation data obtained from the base map produced negligible effect on the results of seismic reflection processing and refraction modeling.

3.1 GPR Survey

The GPR survey was performed using a Geophysical Survey Systems, Inc., SIR System 2 digital ground penetrating radar system.

GPR data were collected along survey traverses using a bistatic multiple low-frequency (MLF) antenna with center frequencies of 20 and 35 MHz. MLF data used to derive stratigraphic information along each traverse were collected either as: i) discrete, stacked measurements (point mode) at 2-foot intervals; or ii) continuous measurements regulated by a calibrated survey wheel.

The GPR data were displayed on a color monitor and simultaneously recorded on a hard drive for processing and interpretation. The GPR propagation velocity (which determines the depth scale) at the site was estimated from soil velocities obtained at similar sites, drillers' logs for onsite wells provided by GZA, and seismic refraction survey data where available in close proximity to the GPR traverse. This information was used to calculate an average site-specific depth conversion factor for the material, which in turn allowed GPR signal velocity to be translated into depth below ground surface along the GPR traverses. The range was set at 1000

to 1500 ns, and based on the calculated material velocities the radar signal from the 20 MHz antenna penetrated up to 100 feet below ground surface.

3.2 Seismic Survey

The seismic surveys were performed using a Geometrics Geode™ 48-channel exploration seismograph. Data for interpretation were collected along ten seismic refraction and six seismic reflection lines. The primary energy source employed in these surveys was a Betsy seisgun, which uses industrial 8-gauge shotgun blanks to create ground vibrations. A sledgehammer hitting a metal plate was used only where shot holes could not be prepared for the seisgun.

A geophone spacing of 10 feet was used along most of the seismic refraction spreads, with a minimum of one geophone overlap along lines consisting of multiple spreads. Off-end, quarter, and midpoint shot points were used for the refraction spread. Reflection lines, in a common-offset configuration with 5-foot station spacing, used a 24-geophone spread to yield a 12-fold common depth point (CDP) stacked section at a 2.5-foot spacing. In both seismic surveys, the quality of the stacked seismic signal for each shot point was verified in the field, and the data were recorded digitally for playback and processing in the office.

4.0 DATA ANALYSIS

Following the field data collection, the GPR and seismic data were downloaded to a PC at the HGI office. The data were processed and analyzed using the following proprietary software:

- i) GPR: GSSI's RADAN for Windows NT® with Structural and Stratigraphic Interactive Interpretation Module®;
- ii) Seismic Refraction: Rimrock Geophysics' SIPT2®;
- iii) Seismic Reflection: Kansas Geological Survey's WinSeis-15® Turbo;
- iv) Graphic Presentation: Surfer® 7.0 and AutoCAD® 14.

Data from the geophysical surveys and boreholes were compiled to form a comprehensive database. A best-fit grid model was developed from this database using a Surfer® for Windows Kriging algorithm. Spline smoothing was subsequently applied to the grid model to better enhance topographic trends. Surfer® for Windows was then used to produce grid model cross sections (locations shown on Plate 1A) and contour maps from the smoothed grid model. The maps were then integrated into the GZA AutoCAD base map (Plates 2 through 8). The cross sections were also imported into AutoCAD; the full set is shown in Appendix A.

4.1 Ground Penetrating Radar

Bedrock depths along GPR traverses were determined from GPR reflections interpreted as the bedrock surface. The combination of difficult ground conditions, radio frequency interference, and reflections from surface structures and buried debris created the need for significant processing to "clean" the record for analysis. High pass filters, horizontal smoothing, background removal, and gain adjustments were performed as processing steps.

Subsequent to processing, GSSI's Structural and Stratigraphic Interactive Interpretation Module® was used to make time "picks" representing the tops of GPR reflectors. The module enters each time "pick" into an ASCII file according to its location along traverses. The ASCII file contains information regarding the radar file, antenna frequency, signal amplitude, travel time, velocity, depth, distance, and other data. Site-specific GPR soil-signal velocities were used to convert the time values into depths. Surveyed locations and surface elevation data were used to calculate stratigraphic elevations for each GPR depth point.

4.2 Seismic Refraction

The seismic refraction data were analyzed using SIPT2 V-4.1 iterative-inversion/interpretation software from Rimrock Geophysics. The arrival times of compressional seismic waves were "picked" from the seismic records and used to create a model. The arrival times of seismic waves to the geophones were modeled by the software and compared with actual arrival times leading to an iterative adjustment of the calculated model. A reasonable fit between modeled and field data produced depth estimates for target layers beneath each shot and geophone. Reflection records were used to corroborate refraction results for both subsurface geometry and seismic velocities interpreted from the refraction model and GPR.

4.3 Seismic Reflection

Seismic reflection data were analyzed using the Kansas Geological Survey's WinSeis-15® Turbo software. Initial first arrival noise and refraction mutes were applied to the raw field data. Mutes were also applied to the 'noise cone' consisting of the ground roll and coupled airwave. Individual shot-gathers were then band-passed filtered between 60 Hz and 400 Hz, sorted from a common offset to CDP configuration, and subsequently referenced to a common datum assuming a near-surface velocity of 1400 ft/sec. Reflectors observable in the CDP stacks were examined to obtain velocity estimates to be applied in the subsequent normal moveout (NMO) correction. Individual traces were shifted by correction factors obtained through surface consistent automatic residual statistics to obtain a more consistent pre-stack data set. Geologic interpretation was undertaken on normal moved-out reflectors.

5.0 RESULTS

The integrated results of the geophysical surveys are shown in Plates 2 through 8 and in eight cross sections included in Appendix A. The interpretation of stratigraphy from the previous surveys has been revised in light of better geophysical constraints and greater data density. Information from borings permitted the identification and correlation of a number of stratigraphic horizons, with variable composition. Of these, four units could be mapped using geophysics: the upper silt and clay/silt outwash horizons of our previous survey (Phase II), till, and bedrock. The constraints on bedrock and till depths are weaker than those on the overburden units because fewer borings were advanced to rock.

As stated in our 1999 report (Phase II), the basic assumption that the composition of the stratigraphic horizons remains constant AND that they are laterally continuous needs to be modified to include lateral changes in composition, as is consistent with geologic processes related to glacial deposits in New England. The stratigraphic sequences and their time boundaries have been mapped; however, lateral variations in composition of the stratigraphic units occur.

Plates 2, 4, 6, and 8 are maps of the top of the soil and bedrock horizons produced from depth values along the GPR and seismic traverses; Plates 3, 5, and 7 are the corresponding isopach maps for the three overburden units. The plates were produced by integrating the results of the current study with those from HGI's 1997 and 1999 work referred to in the Introduction. It should be noted that the maps are presented as elevation maps of the different units, and changes in topographic surfaces should be considered when reviewing the plates. Thus the magnitude of depressions, troughs, or "highs" on the maps should be evaluated in light of the topographic changes.

5.1 Physiography

The project area is situated within the Seaboard Lowland of the New England Physiographic Province. The peneplaned upland bedrock surface is covered by a veneer of Pleistocene and Holocene sediments.

The present surface results from late Tertiary (?) subsidence of a stream-dissected topography, which was later over-ridden by Pleistocene glaciers. The ice sheet, moving approximately S40E, smoothed the surface by planation and deposition of ground moraine and outwash deposits, forming a smooth and gently sloping surface. In the past several thousand years, the land surface

has risen perhaps 10 meters, and the area has been undergoing active erosion. Holocene sediments fill the current stream valleys.

The veneer of glacial deposits over dissected bedrock consists of ground moraine, which is typically a thin cover over bedrock highs and reaches several meters thick in bedrock valleys; outwash deposits; and kames and kame terraces of glaciofluvial origin.

The present bedrock surface is moderately irregular, with a maximum relief of approximately 40 feet. Bedrock is not exposed in the study area due to thick glacial cover and poor rock integrity. Deeply weathered fractured rock within fracture zones has been glacially eroded and is poorly exposed.

Surface drainage in the study area is primarily from small natural and man-made brooks originating in the uplands to the east and north. However, surface drainage in this area has been altered by recent human development, and its direction is locally influenced.

The general setting of the study area appears to be a bedrock basin with no clearly defined outlet within the confines of the study area. However, the trends observed in the clay/silt isopach map and bedrock structure map (Plates 5 and 8, respectively) suggest that the basin opens to the northwest (see Grid Model Section HGI C-C'). The gradient of the bedrock depression may, therefore, be to the north; however, this may be a local feature within a larger physiographic context. The basin is bounded to the east by a platform of thick till deposits and to the west by a bedrock platform rising out of the basin. The upper silt isopach map (Plate 3) suggests an erosional pattern produced by east-to-west drainage.

During the Pleistocene period, meltwater streams flowing from a retreating glacier would have flowed northwest to southeast into the bedrock depression and temporarily formed a lake. Subsequent to the ice retreat, drainage (and possibly minor deposition and erosion) of the lake could have been in a northwesterly direction.

5.2 Stratigraphy

Plates 2 through 5 and the cross sections in Appendix A show that the upper sequence of outwash sands and silts is variable across the study area. The upper silt unit (Plates 2 and 3) is limited in extent and pinches out to the south and southwest. It forms a northwest-trending ridge beneath the General Chemical Facility and immediately to the southeast, and a local high at the northeast corner of the property (Plate 3).

The underlying clay/silt outwash (Plates 4 and 5) is continuous across the study area but thins to the north under the General Chemical Facility, south toward the Condominium complex, and

east, where it rises over a thicker till unit. The clay/silt deposit is thickest in the northwest-trending bedrock trough or basin southwest of the railroad tracks (Plate 5) and thinnest where it on-laps the till and bedrock platforms. The relationship of thick clay/silt within a bedrock basin suggests a lacustrine depositional environment for the clay/silt.

The till unit (Plates 6 and 7) underlying the clay/silt outwash deposits is thickest beneath the General Chemical Facility (Plate 7). It is thinnest in a northwest-trending trough parallel to and southwest of the railroad tracks, where its surface mimics that of the underlying bedrock (Plate 6). The top of till unit is not well resolved in the southeastern portion of the study area owing to the limited geophysical coverage, lack of boreholes available for ground-truthing, and thicknesses not resolvable by geophysical means. The data suggest an inverse relationship of clay/silt and till thickness.

The elevation of the bedrock surface (Plate 8) is variable and shows a number of isolated depressions aligned approximately northwest-southeast in the form of a trough or basin as mentioned above. This bedrock feature may be a pre-glacial valley enhanced during Pleistocene glaciation or a bedrock fracture zone. Sub-valleys may feed into the main one from the northeast and southwest.

The structure contour and isopach maps shown in Plates 2 through 8 reflect a Pleistocene and Holocene geologic history as follows:

- Basal till deposited in an enhanced preglacial valley/fracture zone;
- Partial erosion of the till by meltwater streams;
- Sequential deposition of outwash deposits in a fluvial or lacustrine environment;
- Development of younger stream channels;
- Deposition of Recent alluvium.

In this scenario, the clay/silt unit (marker horizon of previous studies) represents late stage outwash or lacustrine deposition following meltwater stream erosion of the basal till. The upper silt appears to be the youngest outwash deposit.

Cross sections B-B' and HGI A-A' show the presence of older stream-channel fill with upper silt deposits at the General Chemical Facility area. These sections illustrate the close proximity of permeable soils to washed till and bedrock and may offer clues to the vertical and lateral migration of contaminants.

6.0 CONCLUSIONS

As a result of our geophysical surveys at the General Chemical Corporation site, we conclude:

- An upper silt outwash horizon present in the northeastern part of the survey area thins and then pinches out to the south and southwest.
- The clay/silt outwash beneath the upper silt is continuous over the survey area, but thins toward the southeast and north.
- A bedrock basin/valley oriented northwest-southeast lies between the railroad tracks and the Condominiums. The depression or basin opens to the northwest. The till in this basin is thinner due to erosion, and the depression has been filled with finer grained glacial outwash and lacustrine deposits.
- The stream-washed till is likely the "sand and gravel layer" intercepted in boring GZA-14. Contaminants would be concentrated in this horizon and along the bedrock valley axis.
- An additional program of low frequency GPR and seismic refraction surveys in the south and southeastern limits of the study area would be useful to confirm the gradient of the bedrock basin or depression and till stratigraphy.

7.0 THE GEOPHYSICAL TECHNIQUES

7.1 Ground Penetrating Radar

7.1.1 The Method

The principle of ground penetrating radar (GPR) is the same as that of weather radar, but GPR transmits electromagnetic energy into the ground, and the energy is reflected back to the surface from interfaces between materials with contrasting electrical (dielectric and conductivity) and physical properties. The greater the contrast between two materials in the subsurface, the stronger will be the GPR reflection. GPR signal penetration depth depends on the properties of the subsurface materials and the frequency of the antenna used to collect radar data. A general "rule of thumb" is that the lower the antenna frequency, the deeper the signal penetration. However, the caveat is the loss of signal resolution.

HGI collects GPR data using a Geophysical Survey Systems SIR System 2 digital ground penetrating radar unit, which consists of a 486 computer connected to a transmit/receive antenna. Radar data are collected in point, continuous, or survey wheel mode while moving the antenna across the ground. They are displayed in color on the computer monitor and simultaneously recorded on a 6 Gigabyte hard drive for later processing and interpretation using proprietary RADAN™ software. Hard copies of the data may be printed in the field on a thermal printer.

7.1.2 Data Analysis and Interpretation

The horizontal scale of the GPR record shows distance along the survey traverse. In the continuous data collection mode, the horizontal scale on each GPR record is determined by the antenna speed. When a survey wheel is used, as at this site, the GPR record is automatically marked at specified intervals (chosen as one foot for this survey) along the survey line. The vertical scale of the radar records is determined by the recording interval. The recording interval represents the maximum two-way travel time in which data are recorded. The conversion of two-way travel time to depth depends on the propagation velocity of the GPR signal, which is site specific. In the absence of site-specific subsurface information about stratigraphy, we estimate propagation velocities from handbook values and experience at similar sites.

The size, shape, and amplitude of GPR reflections are used to interpret GPR data. Metal objects such as USTs or utilities produce reflections with high amplitude and distinctive hyperbolic shapes in GPR records when traverses are made perpendicular to their long axes. Clay or concrete pipes and boulders may produce radar signatures of similar shape but lower amplitude. Boundaries between saturated and unsaturated materials, sand and clay, and bedrock and

overburden, generally also produce strong reflections.

7.1.3 Limitations

GPR signal penetration is site specific, determined by the dielectric properties of local soil and fill materials. GPR signals propagate well in resistive materials such as sand and gravel; however, soils containing clay, ash- or cinder-laden fill, or fill saturated with brackish or otherwise conductive groundwater cause GPR signal attenuation and loss of target resolution (i.e., limited detection of small objects). Concrete containing rebar or mesh also inhibits signal penetration.

Interpreted depths of objects detected using GPR are based on on-site calibration, handbook values, and/or estimated GPR signal propagation velocities from similar sites. GPR velocities and depth estimates may vary if the medium of investigation or soil water content is not uniform throughout the site. (Electromagnetic waves do not travel as fast through water as air, so the distance to a reflector below the water table may appear farther than in actuality.)

Utilities are interpreted on the basis of reflectors of similar size and depth that show a linear trend, but GPR cannot unambiguously determine that all such reflectors are related. Fiberglass USTs or utilities composed of plastic or clay may be difficult to detect, as well as objects underneath reinforced concrete pads.

Changes in the speed at which the GPR antenna is moved between stations causes slight variations in distance interpolations, and hence in interpreted object positions.

The GPR antenna produces a cone-shaped signal pattern that emanates approximately 45 degrees from horizontal fore and aft of the antenna. Therefore, buried objects may be detected before the antenna is located directly over them, and GPR anomalies may appear larger than actual target dimensions.

GPR is an interpretive method, based on the subjective identification of reflection patterns that may not uniquely identify a subsurface target. Borings, test pits, or site utility plans must verify the results.

7.2 Seismic Refraction

7.2.1 The Method

Seismic data are collected using our Geometrics Geode™ exploration seismograph system with 48-channel geophone arrays. Geophone spacing depends on the depth of investigation, but is

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between 10 to 20 feet. Shot points are located at a minimum off the ends of each spread, at the end geophones, and in the middle of the spread. Seismic energy is generated by either hammer blows on a steel plate or by a Betsy seisgun that uses industrial blanks to create an airwave when impacted with a hammer. For each shot, the nozzle of the seisgun is buried 1.5 to 2 feet below the ground. The quality of the seismic signal for each shot point is verified in the field.

The seismograph records all seismic data to an internal hard drive and floppy diskette, and each seismogram was printed following completion of the field program and transferred to a desktop computer.

7.2.2 Data Analysis and Interpretation

The seismic data are analyzed using the SIPT2 iterative ray tracing technique. Data are input into the computer and a first-approximation model is created. The computer then compares the modeled arrival times along each ray trace from shot to geophone with the "picked" field arrival times and subsequently adjusts the model. After a number of iterations of this process, a reasonable fit between modeled and actual data is produced (i.e. the travel times along ray paths of modeled and calculated data are similar) which leads to the determination of layer depth beneath each geophone and shot point. The accuracy of the SIPT2 iterative method is contingent on a reasonable first-guess horizontally layered model.

7.2.3 Limitations

Analysis of seismic refraction data requires an assumption of a model composed of two or three layers, such as bedrock overlain by overburden, or bedrock overlain by till and overburden. Other limiting assumptions are i) seismic refraction layers are continuous and extend from one end of the refraction line to the other, and ii) layer velocities increase with depth.

Seismic refraction requires a sufficiently strong source so that seismic energy is transmitted to refracting interfaces and returned to the surface to be recorded by each geophone in a seismic spread. When bedrock is deep and/or overburden velocities are low, explosives or seisgun sources may be required to produce sufficient seismic energy to reach most or all of the geophones in a spread. It is becoming increasingly difficult to use intrusive seismic sources, particularly explosives, at many sites.

Seismic refraction can only distinguish between materials if their seismic velocities are sufficiently different. Thus it may not be possible to distinguish between weathered bedrock and till, particularly if the bedrock is shale.

Electric lines with 60-cycle current (and/or greater harmonics) may create interference with seismic data collection along lines adjacent to or beneath them.

7.3 Seismic Reflection

7.3.1 The Method

Seismic data are collected using our Geometrics Geode™ exploration seismograph system that is capable of recording 48-channel geophone arrays. Geophone spacing generally depends on the depth of investigation, but is usually between 2.5 to 10 feet. Shot points are located a minimum of 30 feet off the end of an array to help reduce the debilitating effects of airwave and ground roll noise. The source of seismic energy is anthropogenic and is coupled to the ground through either hammering on a steel plate or with a Betsy seisgun that fires industrial blanks. For the latter source, the nozzle of the seisgun is buried 1.5 to 2 feet below the surface to enhance the amplitude of the signal entering the ground. The quality of the seismic signal for each shot point is verified in the field.

A typical field-recording configuration is the common source gather, which involves 24 active geophones and a single source location at a fixed offset from the recording channels. With HGI's 48-channel recording capability, this configuration can be maintained throughout a seismic line by "rolling" the geometrical configuration along the ground surface at 5 feet intervals. In doing so, a number of reflections from different source-receiver geometries are recorded which correspond to the same subsurface reflection point. Due to the multiplicity of these records, these can be subsequently stacked to improve the quality of recorded signals.

7.3.2 Data Analysis and Interpretation

A substantial amount of processing is needed before it is possible to make any geologic interpretation of recorded seismic data. A typical processing sequence includes, but is not restricted to, the following: i) initial frequency filtering; ii) pre-stack F/K filtering; iii) trace edit; iv) first arrival mute; v) common offset to CDP sort; vi) application of datum statistics; vii) normal moveout correction; viii) surface consistent residual statistics; ix) CDP stack; x) deconvolution; xi) post-stack F/K filtering; xii) migration; xiii) frequency filtering; and xiv) trace scaling/normalization. HGI utilizes the Kansas Geological Survey WinSeis®-15 Turbo software package to analyze seismic reflection data.

Geologic interpretation is carried out on the CDP stacked data and generally involves identifying continuous reflectors. After reflector horizons have been delineated and stratigraphically assessed, a "time-to-depth" conversion can be applied using velocity information obtained from

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neighboring borehole data, seismic refraction, or from typical velocity estimates from compiled tables.

7.3.3 Limitations

Analysis and interpretation of shallow seismic reflection data is inherently limited by a number of factors:

The ability to resolve thin layers is dependent on the dominant frequency of the interrogating energy source. A general "rule of thumb" is that a layer must be thicker than $\frac{1}{4}$ of the dominant wavelength to produce a noticeable reflection.

The ability to isolate an individual reflector is dependent on the ability to separate it from the wavelets of earlier arrivals.

The magnitude of the reflection from any discontinuous interface is directly related to the impedance contrast across it (where impedance is defined as the product of density and velocity). Thus, situations frequently occur where additional strata exist but have an associated impedance contrast too small to be discerned.

Seismic energy sources must be strong enough for adequate penetration of seismic energy to the target of interest.

The robustness of any "time-to-depth" conversion is directly correlated with the validity of the velocity profile used. For near-surface seismic reflection investigations, this problem is greatly exacerbated by the possibility of strong lateral variations in the velocity profile.

Phase III Geophysical Surveys
General Chemical Corporation Site
Framingham, Massachusetts

File 200115

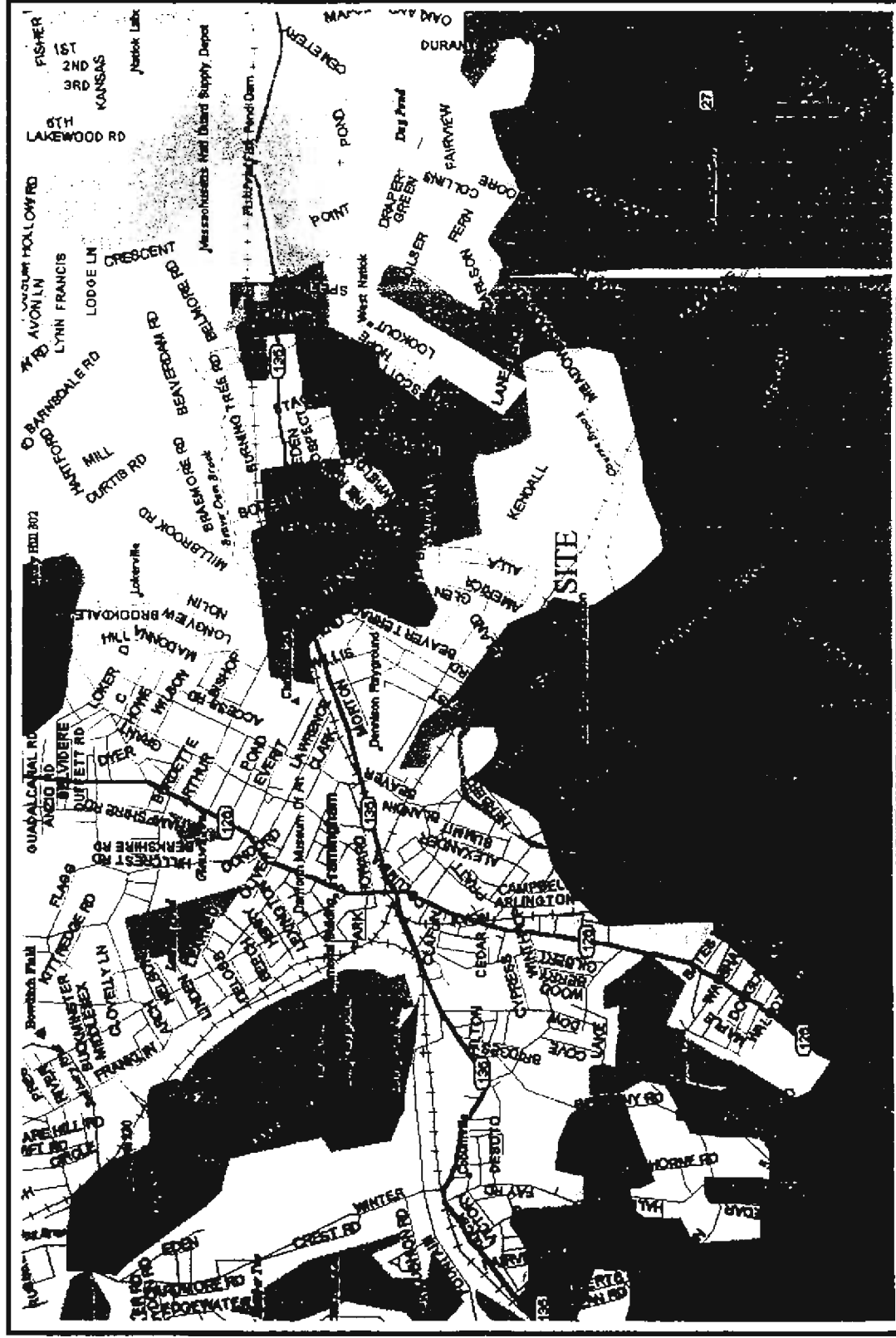


Figure 1. Location of the General Chemical Corporation Facility and survey area, Framingham, Massachusetts.
Scale: 1 inch equals approx. 0.5 mi.

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APPENDIX A

GRID MODEL CROSS SECTIONS

A - A'

B - B'

C - C'

D - D'

E - E'

HGI A - HGI A'

HGI B - HGI B'

HGI C - HGI C'

SEE PLATE 1A FOR LOCATIONS

APPENDIX I

HYDROLOGIC TEST DATA,
EXTRACTION WELL EW-1

TABLE I-1

File No. 15861.12

Page 1 of 2

GROUNDWATER AND SURFACE WATER ELEVATIONS

Supplemental Investigation
General Chemical Corporation
Framingham, Massachusetts

	Well ID	Elevation (feet)	BASELINE		14 GPM		18 GPM	
			Water (feet)	Elevation (feet)	Water (feet)	Elevation (feet)	Water (feet)	Elevation (feet)
Sand Layer	CDW-1	159.59	4.87	154.7	5.44	154.2	5.94	153.7
	CDW-2	157.21	3.80	153.4	3.98	153.2	4.16	153.1
	CDW-3	157.65	4.47	153.2	4.94	152.7	5.33	152.3
	CDW-4	158.21	5.66	152.6	6.30	151.9	6.65	151.6
	CDW-5	158.93	4.50	154.4	5.68	153.3	7.26	151.7
	CDW-6	157.07	4.62	152.5	6.53	150.5	6.83	150.2
	CDW-7	158.42	3.77	154.7	4.27	154.2	4.73	153.7
	CDW-9	155.25	3.86	151.4	4.08	151.2	N/A	N/A
	CDW-10	153.12	2.22	150.9	2.40	150.7	2.52	150.6
	CDW-11	152.99	1.16	151.8	1.29	151.7	1.41	151.6
	CDW-12	154.20	2.57	151.6	2.95	151.3	3.19	151.0
	CDW-13	161.15	10.11	151.0	N/A	N/A	10.25	150.9
	CDW-14	158.10	4.82	153.3	N/A	N/A	5.59	152.5
	CDW-15	154.62	4.30	150.3	N/A	N/A	4.52	150.1
	CDW-17	160.03	4.98	155.1	5.55	154.5	N/A	N/A
	CDW-18S	153.57	N/A	N/A	N/A	N/A	N/A	N/A
	CDW-18D	153.78	N/A	N/A	N/A	N/A	N/A	N/A
	CDW-19S	152.63	N/A	N/A	N/A	N/A	N/A	N/A
	CDW-19D	154.91	4.20	150.7	N/A	N/A	N/A	N/A
	ERM-4	159.53	4.62	154.9	6.12	153.4	5.98	153.6
	ERM-11	161.17	5.56	155.6	5.68	155.5	5.86	155.3
	GZ-5S	156.12	3.90	152.2	4.08	152.0	4.18	151.9
	GZ-6	165.42	10.46	155.0	10.59	154.8	N/A	N/A
	GZ-8	158.72	3.31	155.4	3.64	155.1	N/A	N/A
	GZ-9	158.71	3.37	155.3	3.49	155.2	4.21	154.5
	GZ-10	158.84	3.62	155.2	3.41	155.4	N/A	N/A
	GZ-11	158.94	3.75	155.2	4.10	154.8	N/A	N/A
	GZ-12	159.85	N/A	N/A	N/A	N/A	N/A	N/A
	GZA 13	159.75	4.07	155.7	4.19	155.6	4.30	155.5
	GZA 14S	155.35	3.97	151.4	4.18	151.2	4.17	151.2
	GZA 15S	156.47	6.29	150.2	6.30	150.2	6.35	150.1
	GZA 16S	158.54	7.59	151.0	7.74	150.8	7.79	150.8
	GZA 17S	158.18	7.82	150.4	N/A	N/A	8.00	150.2
	GZA 18S	158.35	7.24	151.1	N/A	N/A	7.49	150.9
	EW-PZ-2S	158.52	5.95	152.6	7.19	151.3	7.74	150.8
	MW-2	160.00	6.01	154.0	6.34	153.7	6.34	153.7
	MW-4	160.90	6.07	154.8	6.14	154.8	6.45	154.5
	PZ-1S	153.03	2.51	150.5	N/A	N/A	2.88	150.2
	PZ-1D	154.34	3.12	151.2	N/A	N/A	3.72	150.6
	PZ-2S	154.29	3.21	151.1	N/A	N/A	3.04	151.3
	PZ-2D	154.72	3.92	150.8	N/A	N/A	4.26	150.5
	PZ-3S	154.02	3.86	150.2	N/A	N/A	3.71	150.3
	PZ-3D	154.06	3.48	150.6	N/A	N/A	3.53	150.5

TABLE I-1

File No. 15861.12

Page 2 of 2

GROUNDWATER AND SURFACE WATER ELEVATIONS

Supplemental Investigation
General Chemical Corporation
Framingham, Massachusetts

	Well ID	Elevation (feet)	BASELINE		14 GPM		18 GPM	
			Water (feet)	Elevation (feet)	Water (feet)	Elevation (feet)	Water (feet)	Elevation (feet)
Silty Layer	GZ-1	159.66	N/A	N/A	N/A	N/A	N/A	N/A
	GZ-2	161.18	7.25	153.9	7.49	153.7	7.73	153.5
	GZ-3	160.21	5.23	155.0	5.47	154.7	5.70	154.5
	GZ-4	158.84	7.71	151.1	N/A	N/A	7.85	151.0
	GZ-5D	156.07	4.72	151.4	4.10	152.0	4.50	151.6
	GZ-7	161.40	6.00	155.4	6.30	155.1	6.70	154.7
	GZA 14M	155.35	4.21	151.1	4.30	151.1	4.39	151.0
	GZA 15D	156.68	5.99	150.7	6.08	150.6	6.18	150.5
	GZA 16M	158.77	7.49	151.3	7.70	151.1	7.81	151.0
	GZA 17M	158.06	6.89	151.2	N/A	N/A	7.14	150.9
	GZA 18M	158.31	5.18	153.1	N/A	N/A	5.34	153.0
	GZA 19DD	154.15	1.96	152.2	N/A	N/A	N/A	N/A
	EW-1	159.07	5.97	153.1	20.61	138.5	40.99	118.1
	EW-PZ-1	156.85	3.32	153.5	7.77	149.1	12.02	144.8
	EW-PZ-2D	158.37	4.93	153.4	7.62	150.8	10.00	148.4
	ERM-12D	160.32	5.47	154.9	6.08	154.2	6.61	153.7
Bedrock	GZ-4R	158.65	8.05	150.6	8.20	150.5	8.25	150.4
	GZ-7R	161.74	9.68	152.1	9.75	152.0	10.43	151.3
	GZA 15R	156.51	5.85	150.7	5.99	150.5	6.06	150.5
Surface Water	SW-PZ3	153.88	3.56	150.3	N/A	N/A	3.57	150.3
	SW-10	152.60	1.79	150.8	1.87	150.7	1.82	150.8

Notes:

1. Groundwater and surface water locations were gauged by GZA personnel on August 28, 2001.
2. Note: Elevation data based on Massachusetts Coordinate System (NAD27).
3. The casing for MW-1 was bent, and a water level reading was not obtained.
4. GZ-12 was completely obstructed at 0.1 feet below ground surface.
5. There was a roll off parked on GZ-1, therefore; water level readings were not obtained.
6. The 0.5 inch above surface casing on FW-17 was bent and an interface probe could not fit down the casing.
7. GZA did not have access to the Kinnarney property, therefore; CDW-18 & 19 and GZA-19DD were not gauged during the pump test.
8. "N/A" indicates that the data is unavailable.

WATER LEVEL CHANGES IN TRANSDUCER WELLS

Supplemental Investigation
General Chemical Corporation
Framingham, Massachusetts

WELL	DISTANCE FROM EW-1 (ft)	DRAWDOWN 14 GPM Test (ft)	DRAWDOWN 18 GPM test (ft)
PUMPING WELL			
EW-1		14.2	33.7
UPPER SAND ZONE			
CDW-6	12	1.9	2.4
EW-PZ-2S	50	1.1	1.8
CDW-5	84	0.8	2.7
CDW-12	116	0.4	0.7
CDW-1	117	0.6	1.0
CDW-3	127	0.3	0.7
ERM-11	242	0	0
GZ-14S	435	0	0
LOWER SILTY SAND ZONE			
EW-PZ-1	13	4.4	8.8
EW-PZ-2D	50	2.5	5.1
CDW-19D	297	0	0
GZ-19DD	304	0	0.4
TILL			
GZ-7	239	0.3	0.7

Notes:

1. All data taken from electronic water level measurements.
2. Testing performed from August 28, 2001 to September 1, 2001.

WATER LEVEL CHANGES IN TRANSDUCER WELLS

Supplemental Investigation
General Chemical Corporation
Framingham, Massachusetts

WELL	DISTANCE FROM EW-1 (ft)	DRAWDOWN 14 GPM Test (ft)	DRAWDOWN 18 GPM test (ft)
PUMPING WELL			
EW-1		14.2	33.7
UPPER SAND ZONE			
CDW-6	12	1.9	2.4
EW-PZ-2S	50	1.1	1.8
CDW-5	84	0.8	2.7
CDW-12	116	0.4	0.7
CDW-1	117	0.6	1.0
CDW-3	127	0.3	0.7
ERM-11	242	0	0
GZ-14S	435	0	0
LOWER SILTY SAND ZONE			
EW-PZ-1	13	4.4	8.8
EW-PZ-2D	50	2.5	5.1
CDW-19D	297	0	0
GZ-19DD	304	0	0.4
TILL			
GZ-7	239	0.3	0.7

Notes:

1. All data corrected for barometric pressure changes.
2. Testing performed from August 28, 2001 to September 1, 2001.

TRANSMISSIVITY ESTIMATES FROM EW-1 PUMP TEST
 Supplemental Investigation
 General Chemical Corporation
 Framingham, Massachusetts

WELL	DISTANCE FROM EW-1 (feet)	DRAWDOWN (feet)	TRANSMISSIVITY (feet ² /day)		
			THEIS	COOPER-JACOB	DISTANCE DRAWDOWN
PUMPING WELL					
EW-1		14.2	176	209	
UPPER SAND ZONE					
CDW-6	12	1.9	718	1,240	615
EW-PZ-2S	50	1.1	1,242	1,119	
CDW-5	84	1.1	565	658	
CDW-12	116	0.4	3,840	2,753	
CDW-1	117	0.6	1,236	1,152	
CDW-3	127	0.3	2,152	2,208	
Geometric Mean			1,314	1,362	
Geometric Mean Upper Sand Zone (Theis and Cooper-Jacob)				1,338	
LOWER SILTY SAND ZONE			THEIS	COOPER-JACOB	
EW-PZ-1	13	4.4	90	94	61
EW-PZ-2D	50	2.5	132	169	
GZ-7	239	0.3	-	-	
CDW-19D	297	0	-	-	
GZ-19DD	304	0	-	-	
Geometric Mean			109	126	
Geometric Mean Upper Sand Zone (Theis and Cooper-Jacob)				118	
ESTIMATED AQUIFER TRANSMISSIVITY (feet ² /day):				533	
ESTIMATED AQUIFER CONDUCTIVITY (feet/day):				13	

Notes:

1. Analysis assumes upper sand aquifer = 12 feet thick and lower silt aquifer = 30 feet thick
2. Analysis performed using Aquifer Test Software (v. 3.01) by Waterloo Hydrogeologic.
3. Transmissivity estimates in EW-1 low due to effect of well losses.

TABLE I-4

11/28/01

EXTRACTION WELL CAPTURE AREA ESTIMATES, EW-1 PUMPING TEST

Supplemental Investigation

General Chemical Corporation

Framingham, Massachusetts

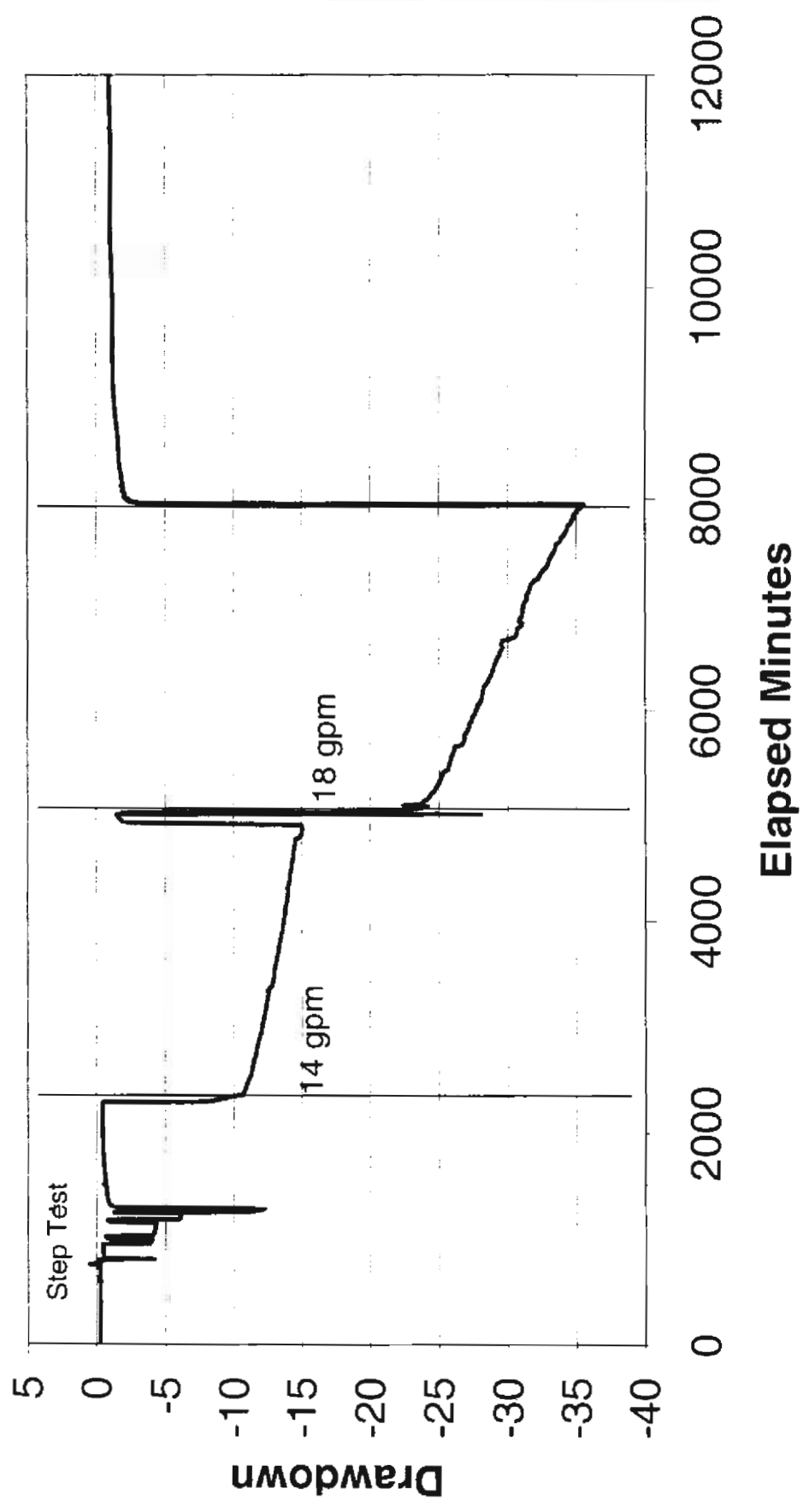
PUMPING WELL	TEST ZONE	FLOW (gpm)	TRANSMISSIVITY (feet/day)	NON-PUMPING GRADIENT (ft/ft)	STAGNATION DISTANCE (ft)	LATERAL CAPTURE (ft)	TOTAL CAPTURE WIDTH (4 wells) (ft)
EW-1	Upper Sand	11.0	1.338	0.0080	31	49	198
EW-1	Lower Silt	3.0	118	0.0125	62	98	392
EW-1	Up & Lower Combined	14	533	0.0103	78	123	493

Notes:

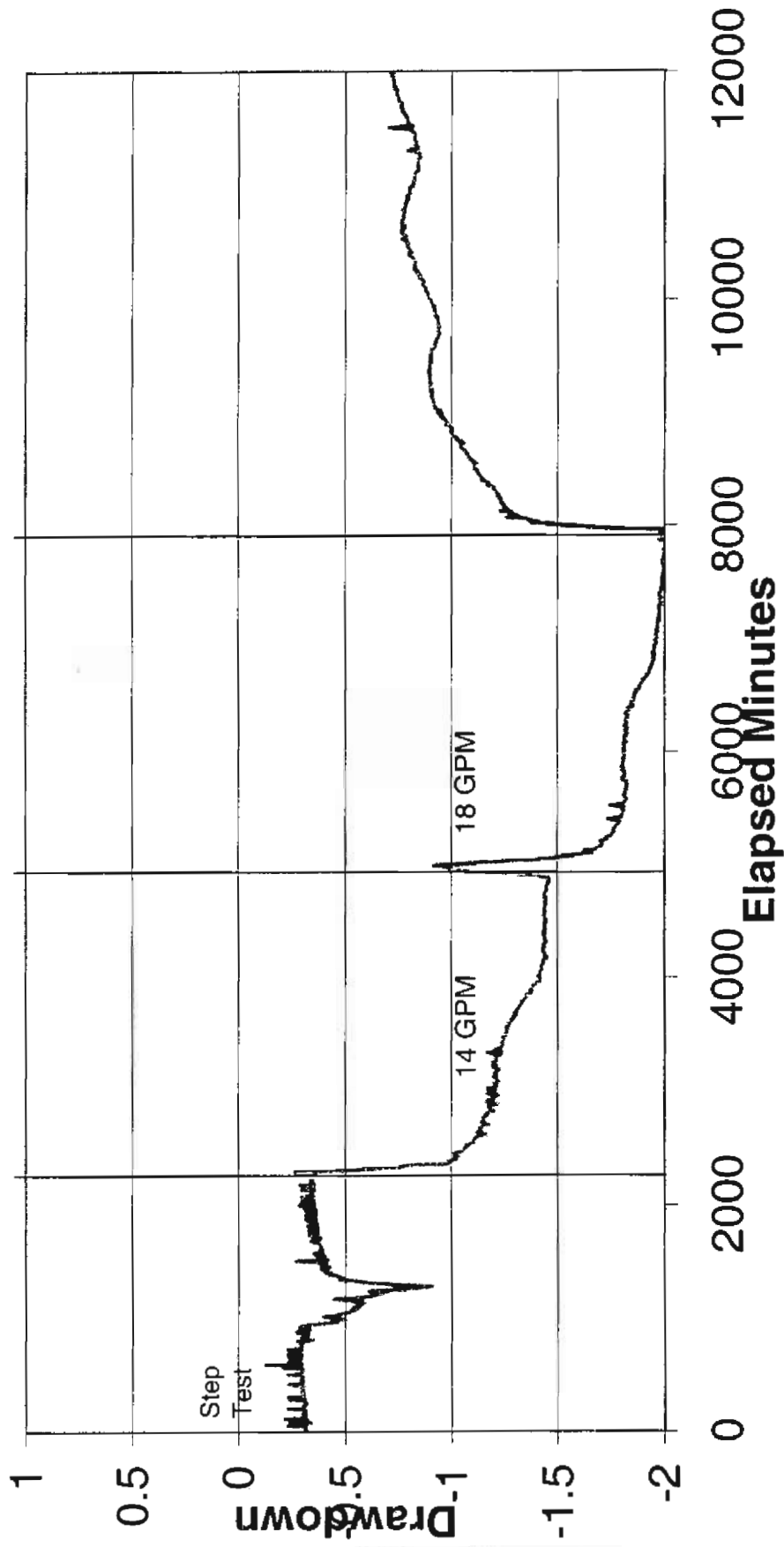
1. Flow rates for upper sand and lower silt are representative of weighted average percent of total 14 gpm observed during testing. Weighting based on observed drawdown and flow from 14 and 18 gpm tests.
2. Non-pumping gradient measured in region directly upgradient of pumping well.
3. Transmissivities determined from time vs. drawdown data from pump test at EW-1.
4. Transmissivity of combined units is weighted average of upper and lower units based on thickness of each unit.
5. Stagnation distance (S) refers to distance downgradient from pumping well in which groundwater is drawn to pumping well under steady state conditions [$S = Q/2(\pi) T_i$] (Todd 1980).
6. Lateral capture (L) refers to crossgradient distance at which water is drawn to the pumping well under steady state conditions [$L = Q/4T_i$] (Javandel and Tsang 1986).

G:\15861.1\QTN15861-08.PAD\PUMPTEST\Tables\Table_CAPTURE_AREA_Final.XLS\STAGN

GCC EW-1 Pump Test EW-1 DATA (corrected)

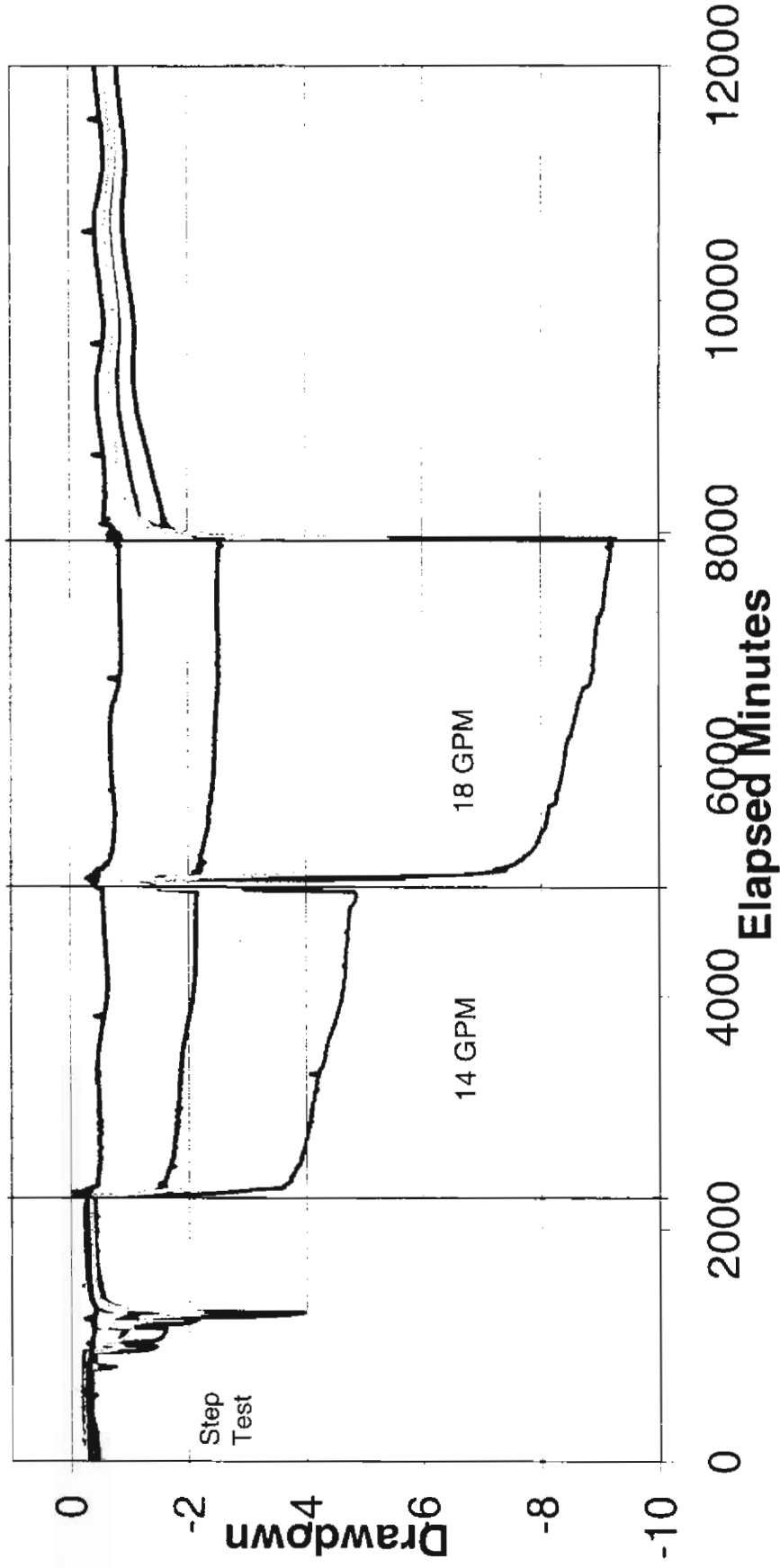


GCC EW-1 Pump Test (corrected data)



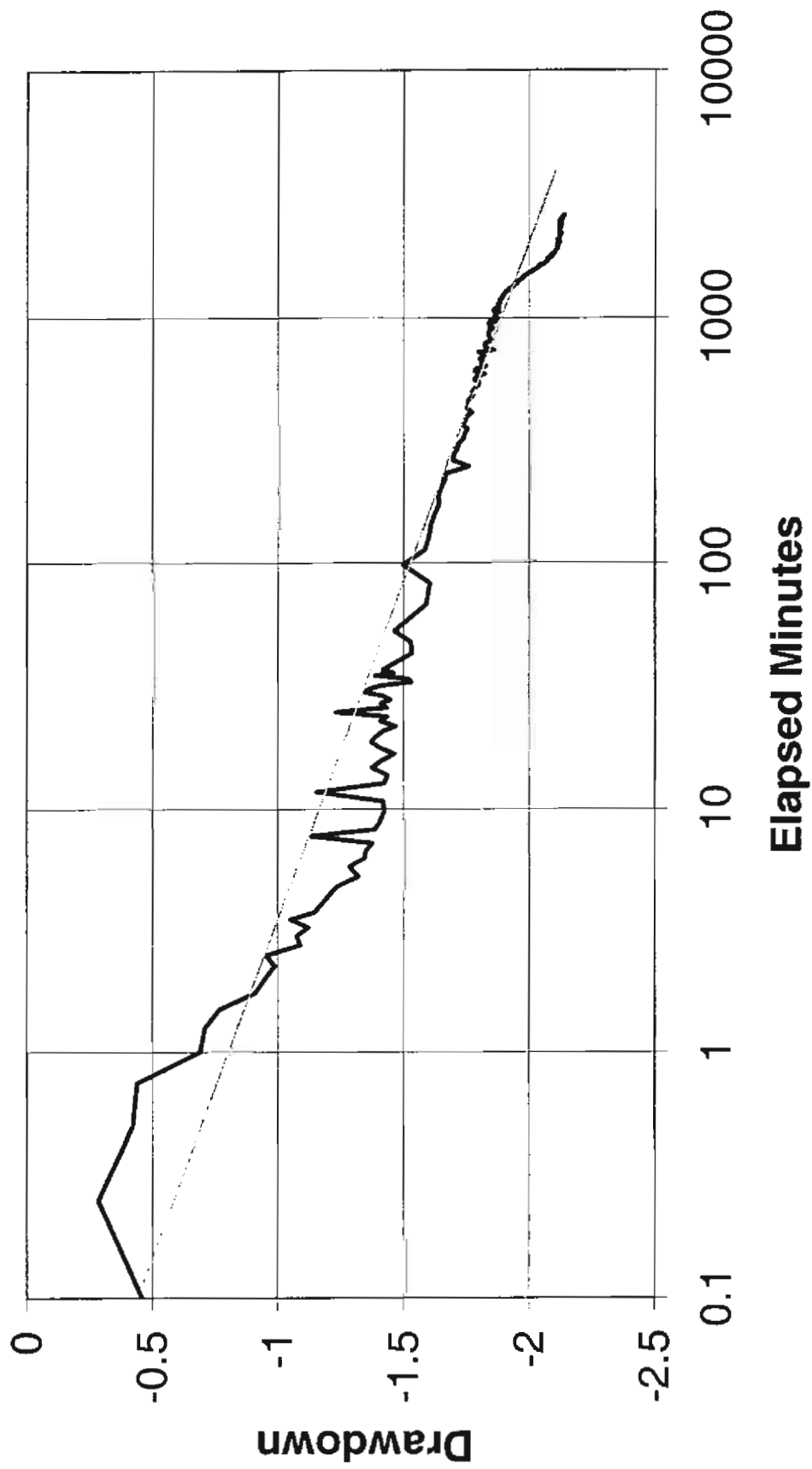
— EW-PZ-2S

GCC EW-1 Pump Test (corrected data)

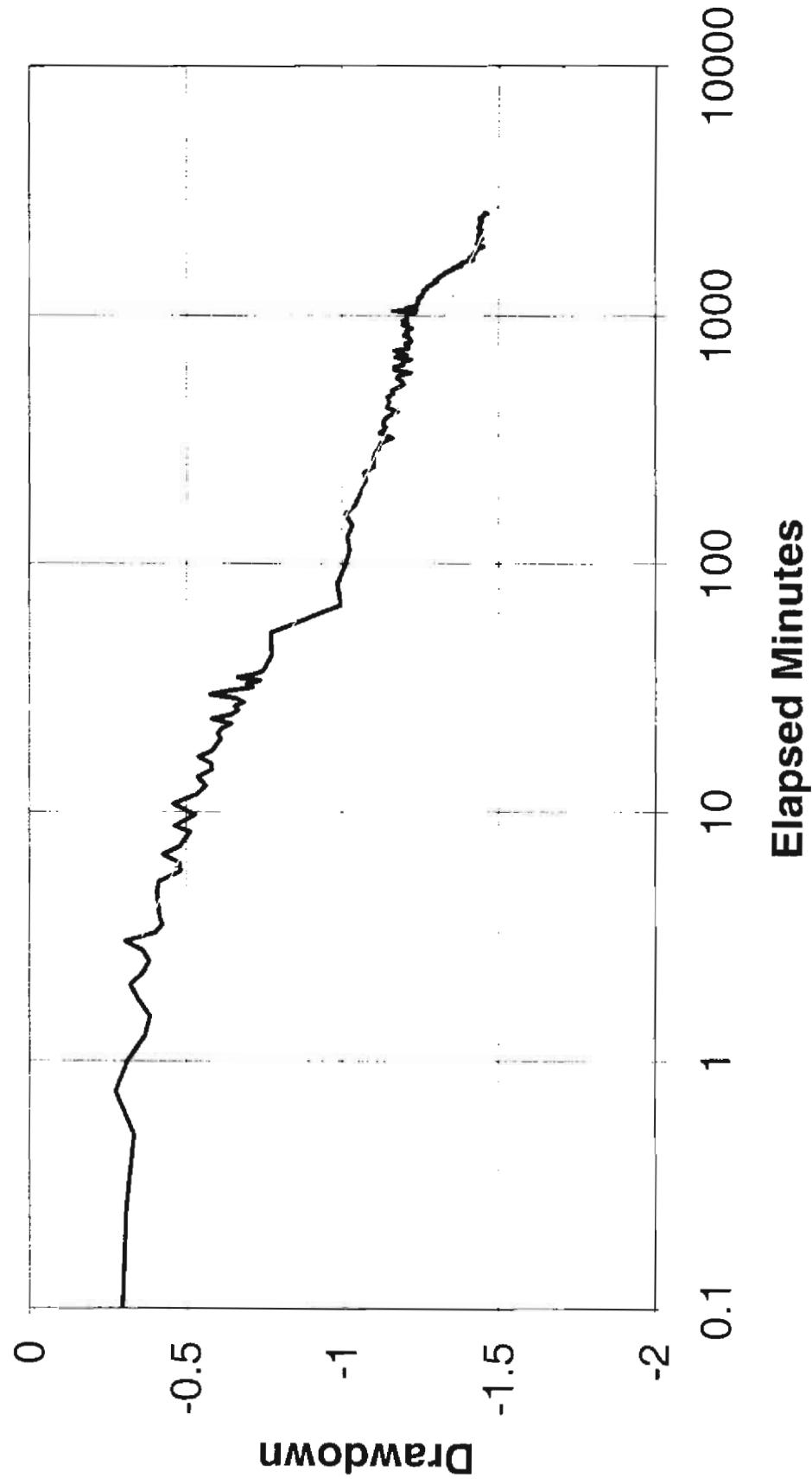


— CDW-6 — EW-PZ-1 EW-PZ-2S CDW-12

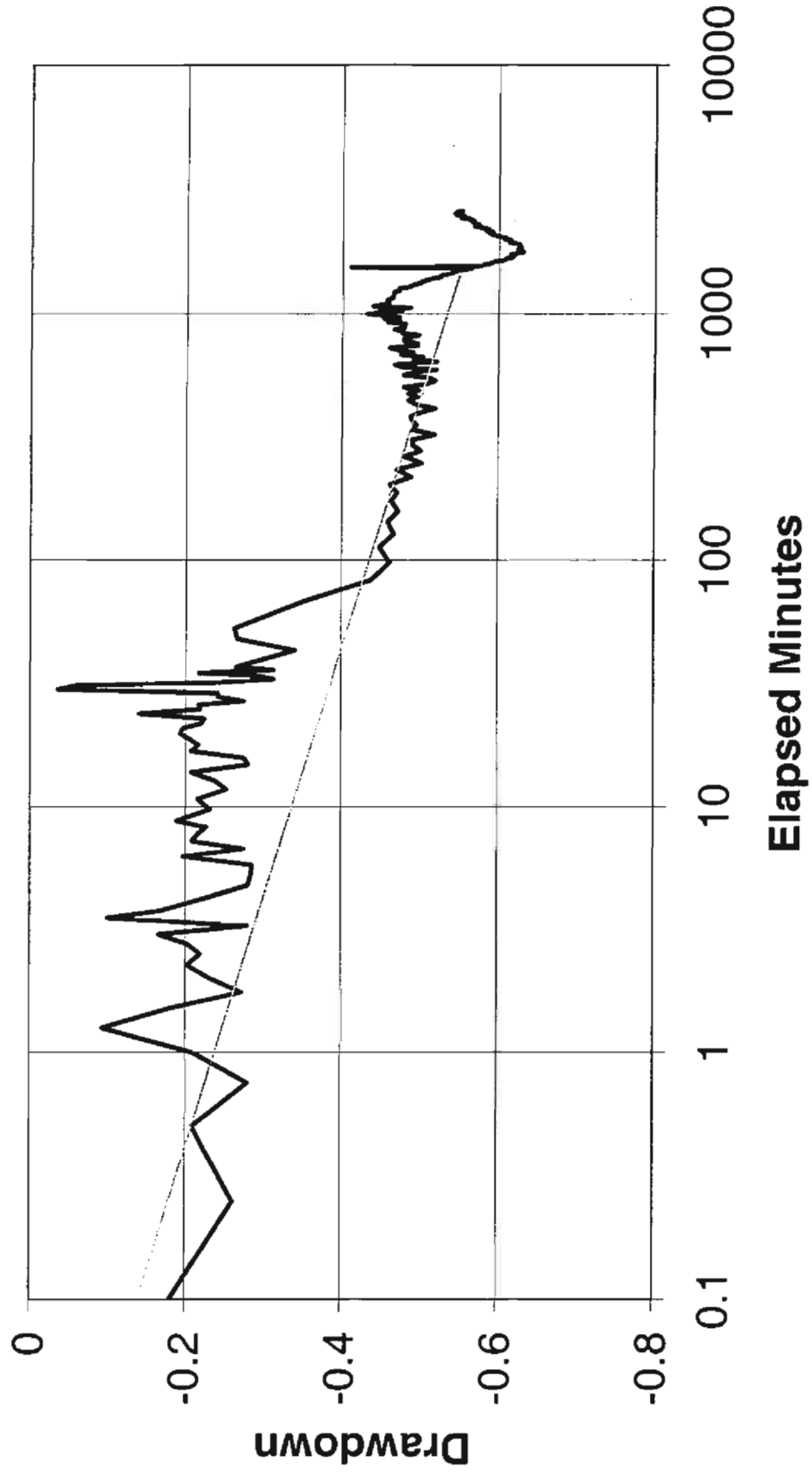
GCC EW-1 Pump Test CDW-6 Data 14 gpm (corrected)



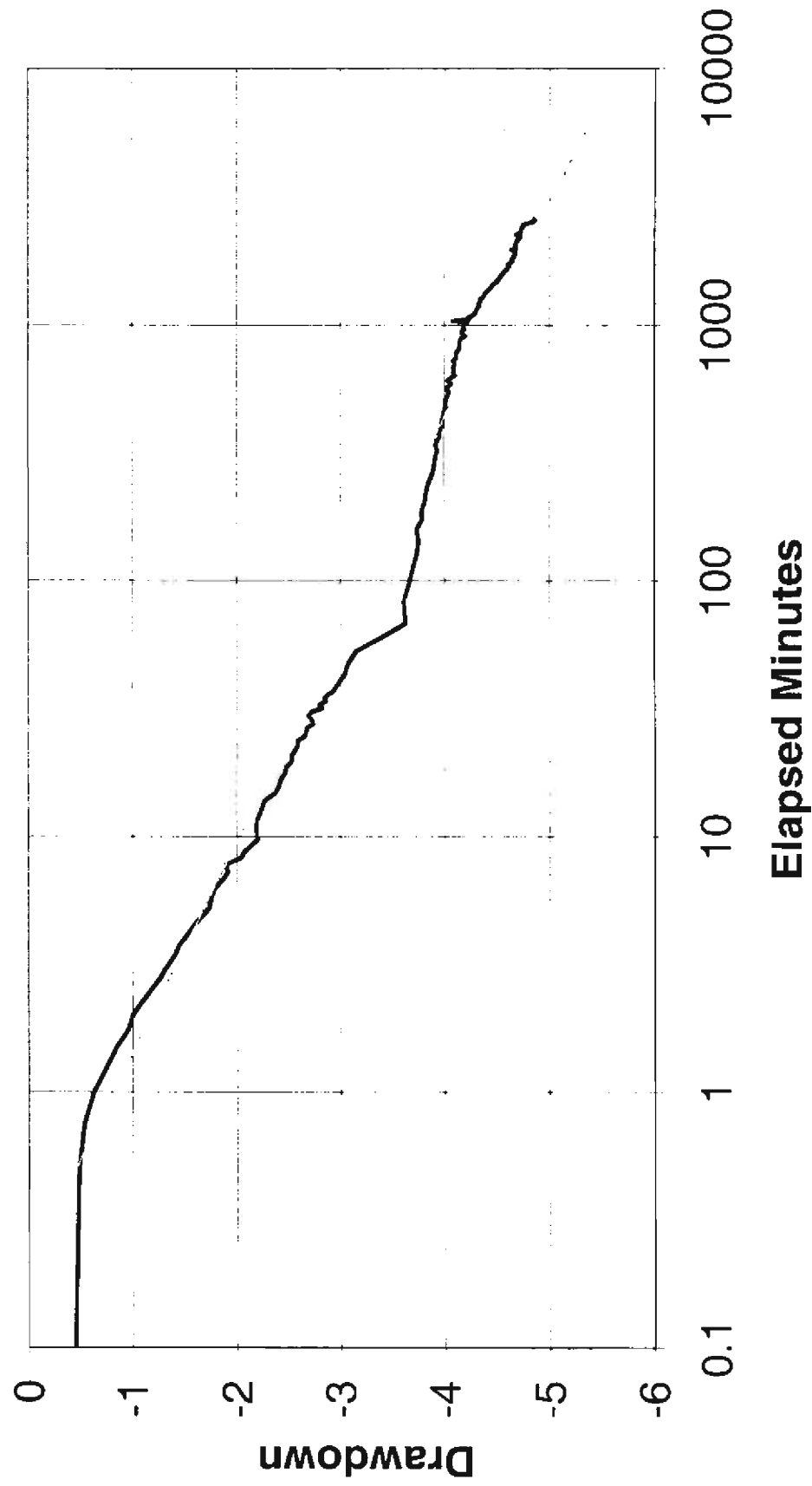
GCC EW-1 Pump Test
EW-PZ-2S Data 14 gpm
(corrected)



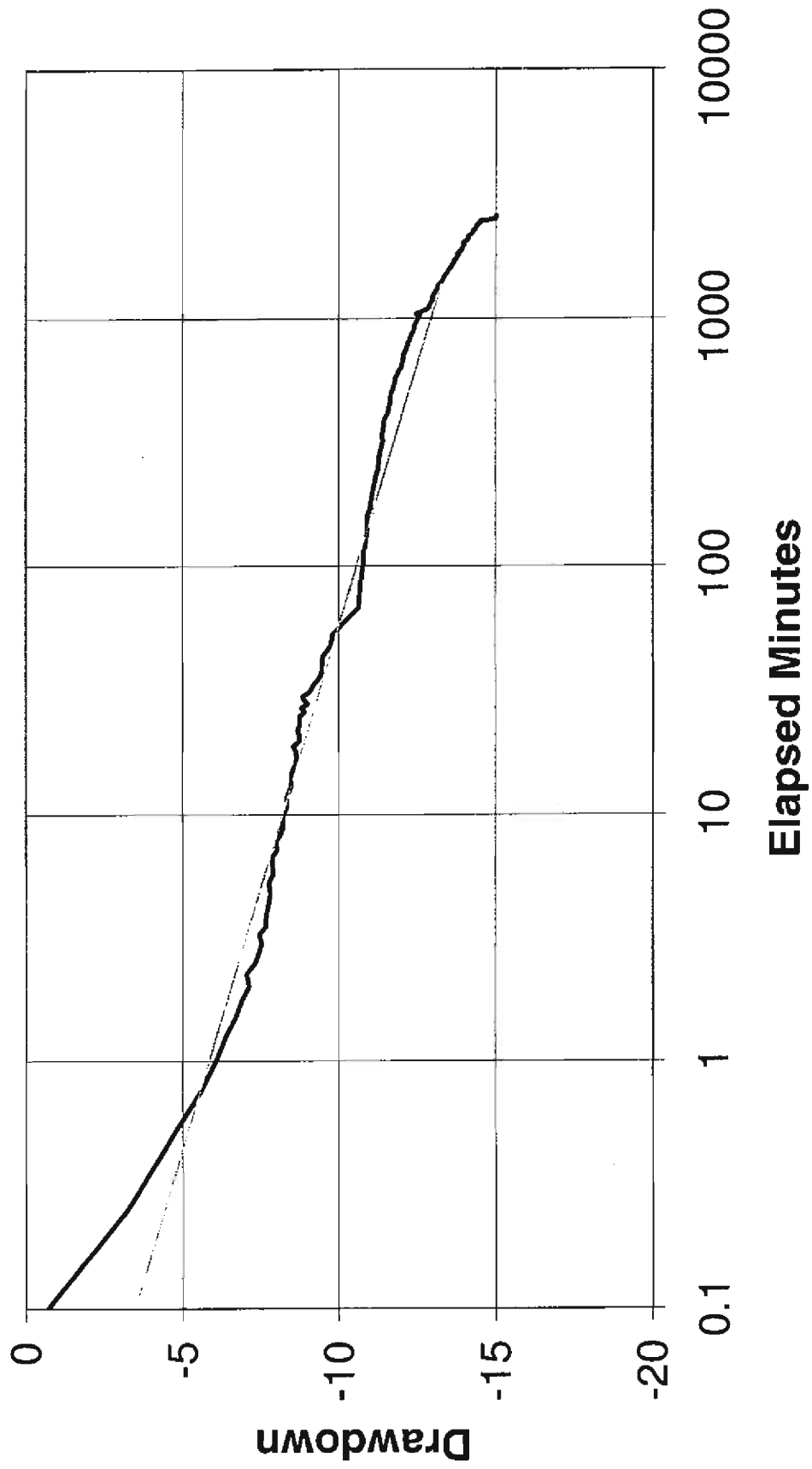
GCC EW-1 Pump Test
CDW-12 Data 14 gpm
(corrected)



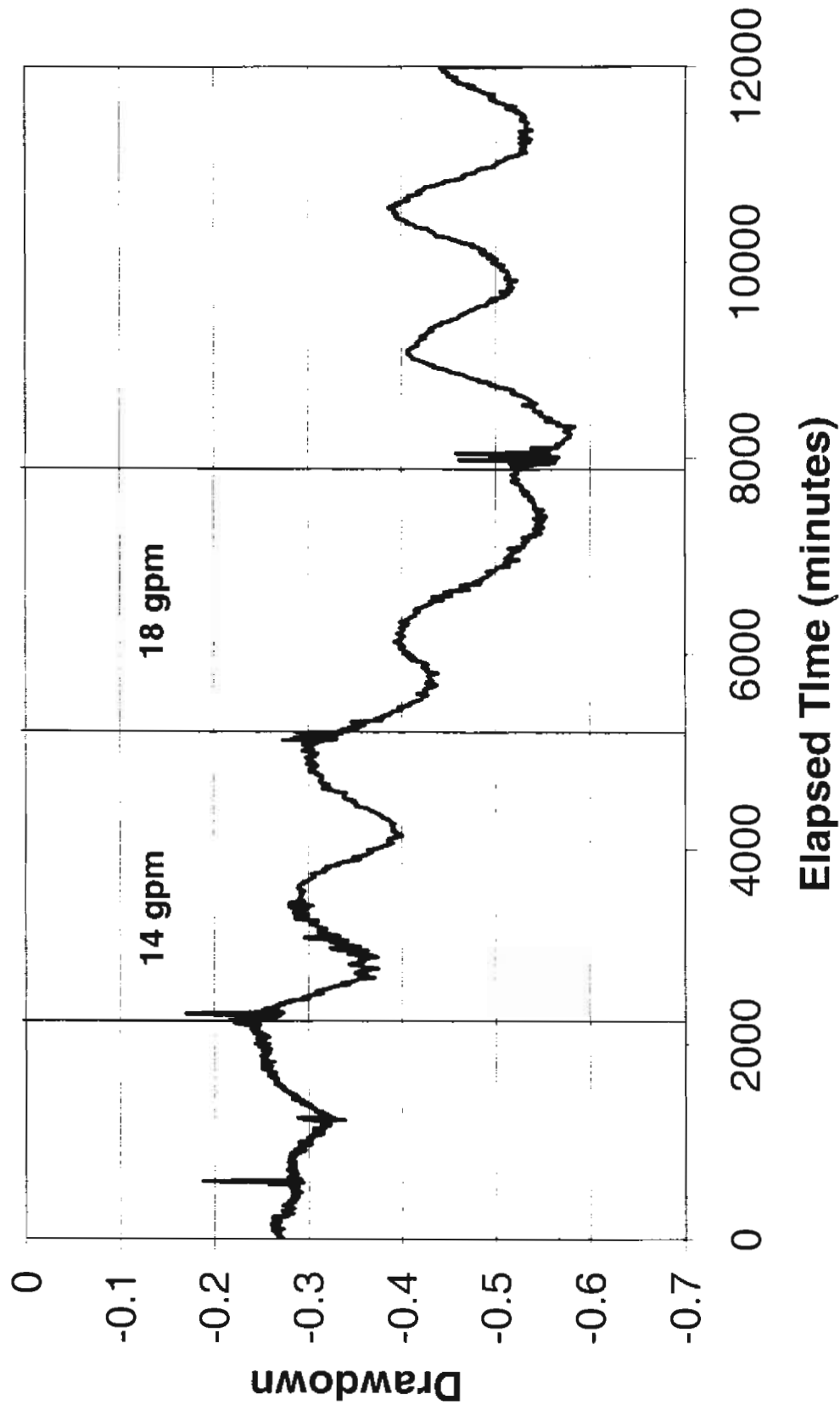
GCC EW-1 Pump Test
EW-PZ-1 Data 14 gpm
(corrected)



GCC EW-1 Pump Test **EW-1 Data 14 gpm** (corrected)

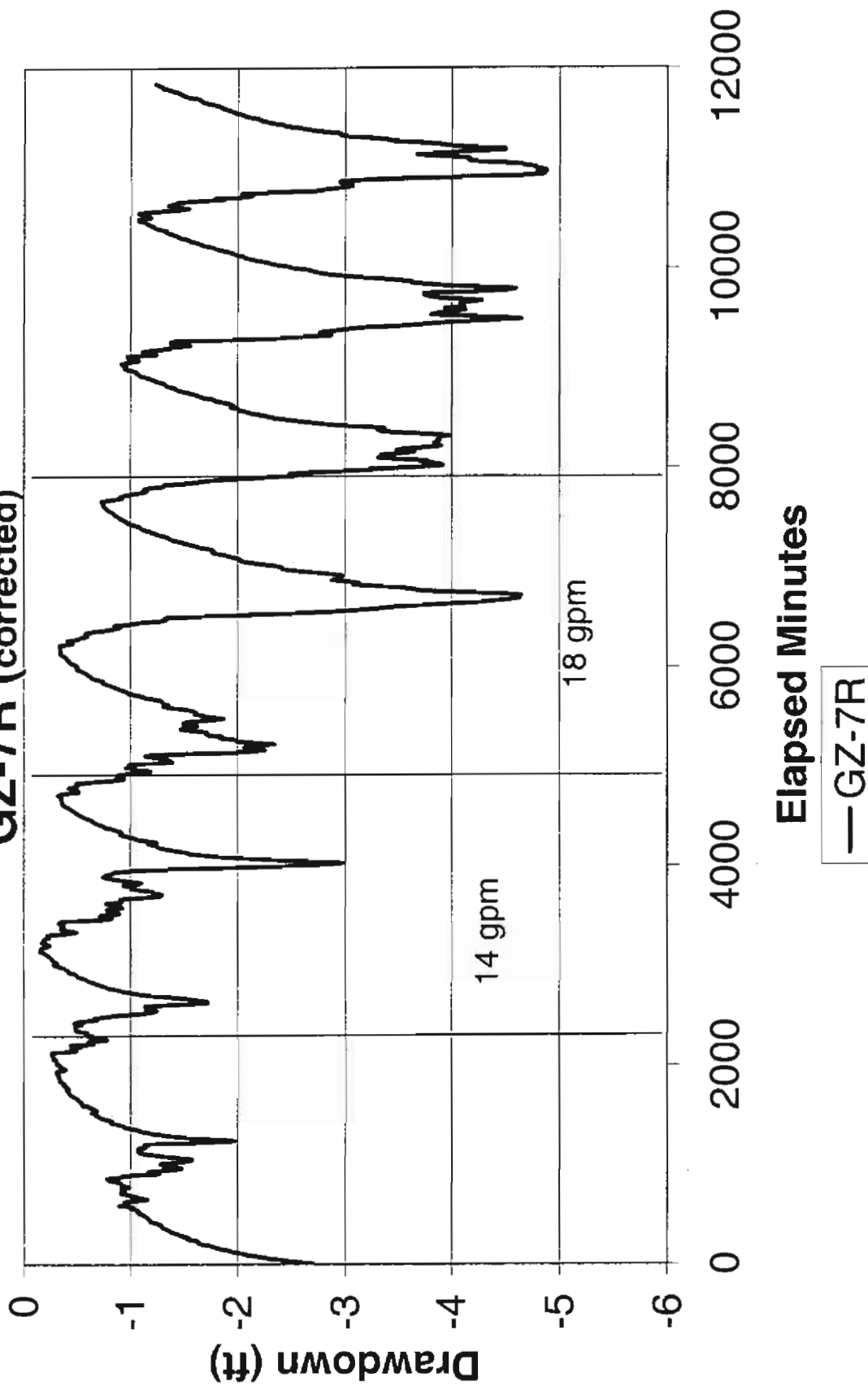


GCC EW-1 Pump Test **GZ-15R Data (corrected)**



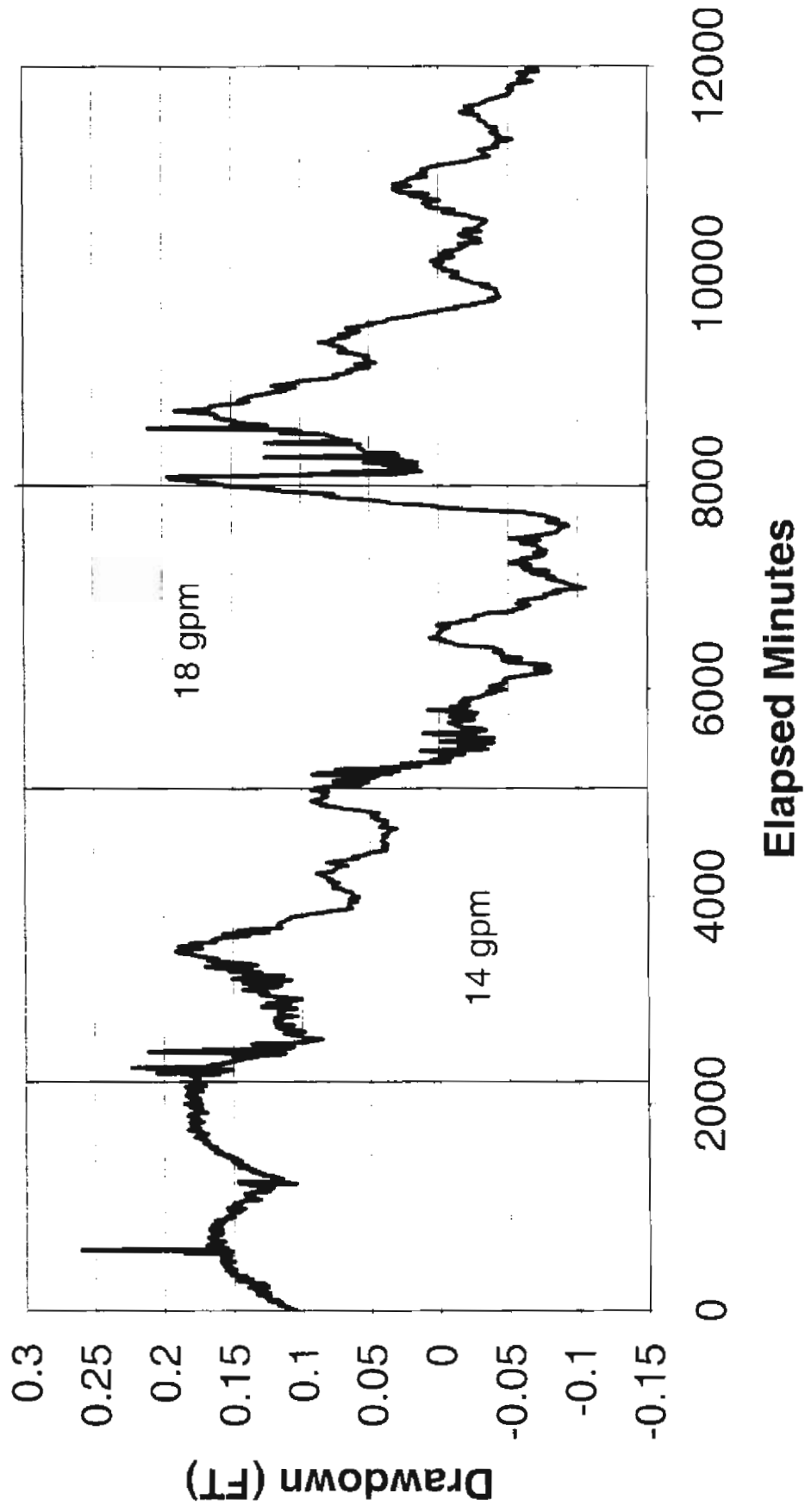
GCC EW-1 Pump Test

GZ-7R (corrected)



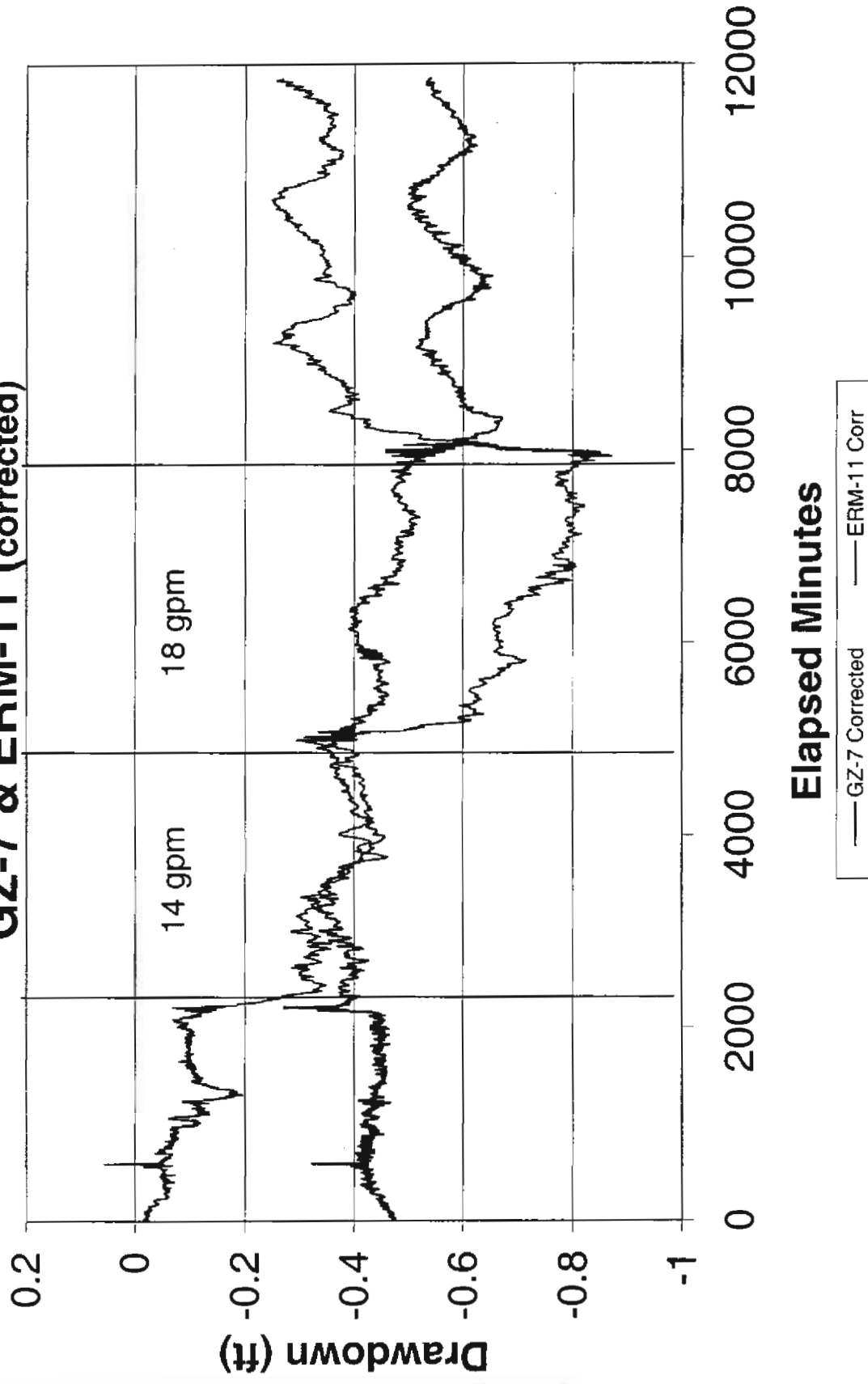
GCC EW-1 PUMP TEST

GZ-4R (corrected Data)

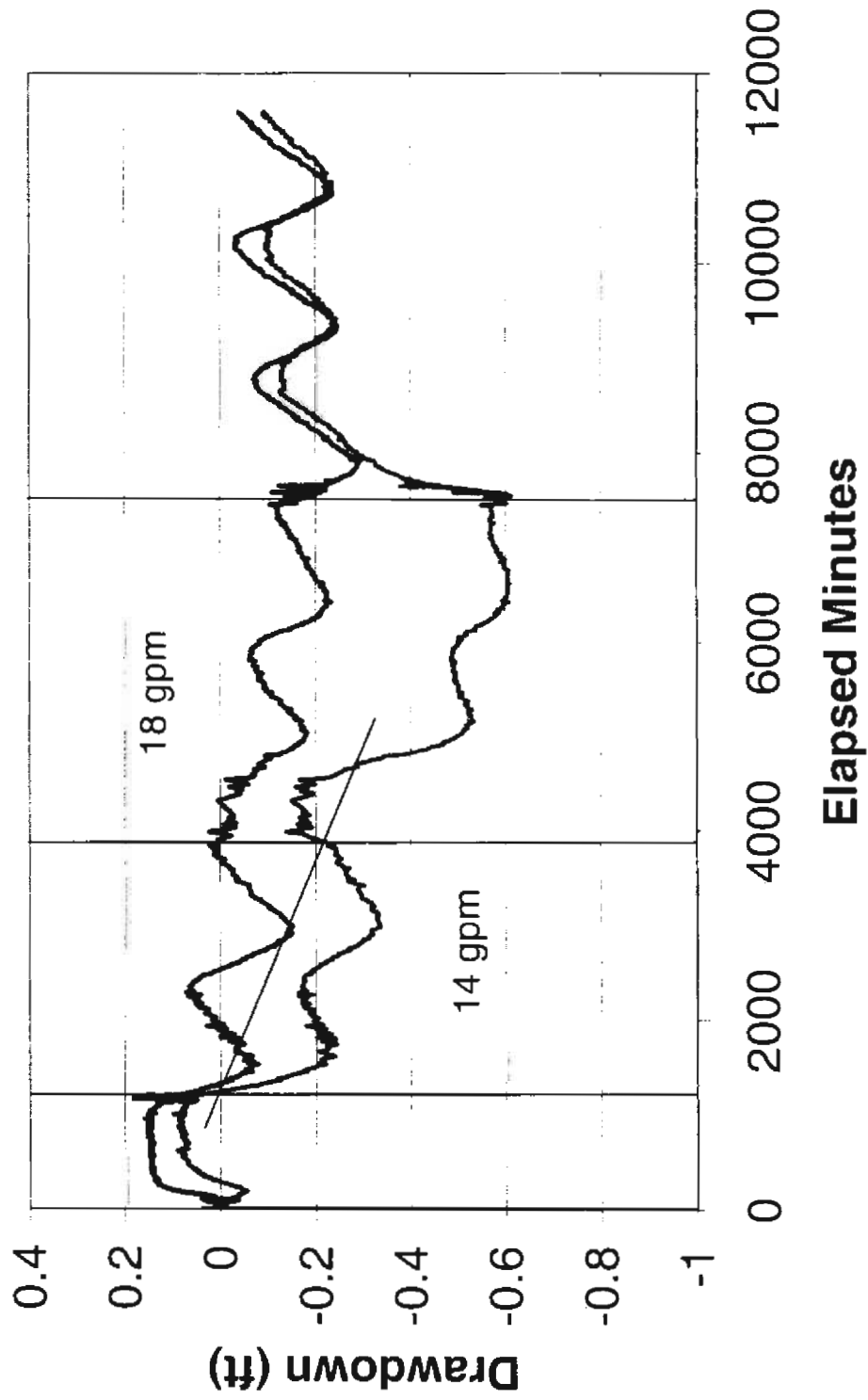


GCC EW-1 Pump Test

GZ-7 & ERM-11 (corrected)



GCC EW-1 Pump Test (corrected data)



— GZ-19D — GZ-19DD

Laboratory Analytical Results
Carbon Treatment System Aqueous Influent and Effluent Samples
NPDES Permit Exclusion 01-171

General Chemical Corporation Site
Framingham, Massachusetts

ANALYTE ⁽²⁾	Collection Date Sample Location Sample ⁽¹⁾ Collection Time	27-Aug-01		30-Aug-01		1-Sep-01	
		Influent	Effluent	Influent	Effluent	Influent	Effluent
		EW-1	EW-1(EFF)	EW-1	EW-1(EFF)	EW-1	EW-1(EFF)
		1440	1440	0630	0730	0900	0850
NPDES Limit ⁽³⁾							
1,1-Dichloroethene	7 ppb	3100	<1	4500	<1	3900	<1
Dichloromethane	5 ppb	<500	<1	9800	<1	8200	62
cis-1,2-dichloroethene	70 ppb	8000	<1	27000	<1	23000	<1
1,1,1-Trichloroethane	100 ppb	40000	<1	45000	<1	42000	<1
Trichloroethene	5 ppb	19000	<1	16000	<1	14000	<1
Tetrachloroethene	5 ppb	37000	<1	26000	<1	26000	<1
Acetone	100 ppb	<13000	<25	<13000	<25	<13000	1000
Tetrahydrofuran	100 ppb	<5000	18	<5000	<10	<5000	<10
Vinyl Chloride	2 ppb	<1000	<2	<1000	<2	<1000	<2
1,1-Dichloroethane	100 ppb	<500	<1	<500	<1	<500	<1
1,4-Dioxane	100 ppb	<50000	<100	<50000	<100	<2500	570
Total VOCs		107,100	18	128,300	BMQL	117,100	1,632
TPH	5,000 ppb	<250	<250	640	<250	650	<250
Benzene	5 ppb	<500	<1	<1	<1	<1	<1
Toluene	⁽⁴⁾	<500	<1	<1	<1	<1	<1
Ethyl benzene	⁽⁴⁾	<500	<1	<1	<1	<1	<1
m-and p-xylene	⁽⁴⁾	<500	<1	<1	<1	<1	<1
o-xylene	⁽⁴⁾	<500	<1	<1	<2	<1	<2
Total BTEX ⁽⁵⁾	100 ppb	n/a	n/a	n/a	n/a	n/a	n/a
Turbidity (NTUs) ⁽⁶⁾		n/a	<5	n/a	3.1	n/a	1.15

- Notes: ⁽¹⁾ "INF" denotes carbon system influent sample; "EFF" denotes carbon system effluent sample.
⁽²⁾ Samples analyzed for TPH via modified EPA Method 8100, and for VOCs by EPA Method 8260.
⁽³⁾ As specified in NPDES Permit Exclusion 01-171, except as noted.
⁽⁴⁾ Not established in NPDES Permit Exclusion 01-171.
⁽⁵⁾ Total BTEX = sum of benzene, toluene, ethyl benzene and xylenes where present above the detection limit.
⁽⁶⁾ NTUs = nephelometric turbidity units.
n/a = not applicable/not analyzed.
⁽⁷⁾ Only those analytes detected are shown. Refer to attached analytical reports.
⁽⁸⁾ Total VOCs represents the sum of all 8260 compounds that were detected.

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

T. Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 8/28/01
Date Reported: 8/30/01
Work Order No.: 0108-00151

Sample ID: EW-1
Sample Date: 8/27/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
TOTAL PETROLEUM HYDROCARBONS	Mod. EPA 8100			OMS	8/29/01
Hydrocarbon Content		< 250	ug/L	OMS	8/29/01
Surrogate:					
***p-Terphenyl		91.1	% R	OMS	8/29/01
Extraction		1.0	DF	OMS	8/29/01
VOLATILE ORGANICS	EPA 8260			NCS	8/30/01
Dichlorodifluoromethane	EPA 8260	< 1000	ug/L	NCS	8/30/01
Chloromethane	EPA 8260	< 2000	ug/L	NCS	8/30/01
Vinyl Chloride	EPA 8260	< 1000	ug/L	NCS	8/30/01
Bromomethane	EPA 8260	< 1000	ug/L	NCS	8/30/01
Chloroethane	EPA 8260	< 1000	ug/L	NCS	8/30/01
Trichlorofluoromethane	EPA 8260	< 2000	ug/L	NCS	8/30/01
Diethylether	EPA 8260	< 2500	ug/L	NCS	8/30/01
Acetone	EPA 8260	< 13000	ug/L	NCS	8/30/01
1,1-Dichloroethene	EPA 8260	3100	ug/L	NCS	8/30/01
Dichloromethane	EPA 8260	< 500	ug/L	NCS	8/30/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 1000	ug/L	NCS	8/30/01
trans-1,2-Dichloroethene	EPA 8260	< 500	ug/L	NCS	8/30/01
1,1-Dichloroethane	EPA 8260	< 500	ug/L	NCS	8/30/01
2-Butanone	EPA 8260	< 13000	ug/L	NCS	8/30/01
2,2-Dichloropropane	EPA 8260	< 500	ug/L	NCS	8/30/01
cis-1,2-Dichloroethene	EPA 8260	8000	ug/L	NCS	8/30/01
Chloroform	EPA 8260	< 500	ug/L	NCS	8/30/01
Bromochloromethane	EPA 8260	< 500	ug/L	NCS	8/30/01
Tetrahydrofuran	EPA 8260	< 5000	ug/L	NCS	8/30/01
1,1,1-Trichloroethane	EPA 8260	40000	ug/L	NCS	8/30/01
1,1-Dichloropropene	EPA 8260	< 500	ug/L	NCS	8/30/01
Carbon Tetrachloride	EPA 8260	< 500	ug/L	NCS	8/30/01
1,2-Dichloroethane	EPA 8260	< 500	ug/L	NCS	8/30/01
Benzene	EPA 8260	< 500	ug/L	NCS	8/30/01
Trichloroethene	EPA 8260	19000	ug/L	NCS	8/30/01
1,2-Dichloropropane	EPA 8260	< 500	ug/L	NCS	8/30/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0108-00151

Sample ID: EW-1
 Sample Date: 8/27/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Bromodichloromethane	EPA 8260	< 500	ug/L	NCS	8/30/01
1,4-Dioxane	EPA 8260	< 50000	ug/L	NCS	8/30/01
Dibromomethane	EPA 8260	< 500	ug/L	NCS	8/30/01
4-Methyl-2-Pentanone	EPA 8260	< 1000	ug/L	NCS	8/30/01
cis-1,3-Dichloropropene	EPA 8260	< 500	ug/L	NCS	8/30/01
Toluene	EPA 8260	< 500	ug/L	NCS	8/30/01
trans-1,3-Dichloropropene	EPA 8260	< 500	ug/L	NCS	8/30/01
1,1,2-Trichloroethane	EPA 8260	< 500	ug/L	NCS	8/30/01
2-Hexanone	EPA 8260	< 1000	ug/L	NCS	8/30/01
1,3-Dichloropropane	EPA 8260	< 500	ug/L	NCS	8/30/01
Tetrachloroethene	EPA 8260	37000	ug/L	NCS	8/30/01
Dibromochloromethane	EPA 8260	< 500	ug/L	NCS	8/30/01
1,2-Dibromoethane (EDB)	EPA 8260	< 1000	ug/L	NCS	8/30/01
Chlorobenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 500	ug/L	NCS	8/30/01
Ethylbenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
m&p-Xylene	EPA 8260	< 500	ug/L	NCS	8/30/01
o-Xylene	EPA 8260	< 500	ug/L	NCS	8/30/01
Styrene	EPA 8260	< 500	ug/L	NCS	8/30/01
Bromoform	EPA 8260	< 1000	ug/L	NCS	8/30/01
Isopropylbenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 500	ug/L	NCS	8/30/01
1,2,3-Trichloropropane	EPA 8260	< 500	ug/L	NCS	8/30/01
Bromobenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
N-Propylbenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
2-Chlorotoluene	EPA 8260	< 500	ug/L	NCS	8/30/01
1,3,5-Trimethylbenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
4-Chlorotoluene	EPA 8260	< 500	ug/L	NCS	8/30/01
tert-Butylbenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
1,2,4-Trimethylbenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
sec-Butylbenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
p-Isopropyltoluene	EPA 8260	< 500	ug/L	NCS	8/30/01
1,3-Dichlorobenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
1,4-Dichlorobenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
n-Butylbenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
1,2-Dichlorobenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 2500	ug/L	NCS	8/30/01
1,2,4-Trichlorobenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
Hexachlorobutadiene	EPA 8260	< 500	ug/L	NCS	8/30/01
Naphthalene	EPA 8260	< 500	ug/L	NCS	8/30/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0108 00151

Sample ID: EW-1
Sample Date: 8/27/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
1,2,3-Trichlorobenzene	EPA 8260	< 500	ug/L	NCS	8/30/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	106	% R	NCS	8/30/01
***Toluene-D8	EPA 8260	106	% R	NCS	8/30/01
***4-Bromofluorobenzene	EPA 8260	88.8	% R	NCS	8/30/01
Preparation		1000	DF	NCS	8/30/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0108-00151

Sample ID: EW-1 (EFF)
 Sample Date: 8/27/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
TOTAL PETROLEUM HYDROCARBONS	Mod. EPA 8100			OMS	8/29/01
Hydrocarbon Content		< 250	ug/L	OMS	8/29/01
Surrogate:					
***p-Terphenyl		90.8	% R	OMS	8/29/01
Extraction		1.0	DF	OMS	8/29/01
VOLATILE ORGANICS	EPA 8260			NCS	8/30/01
Dichlorodifluoromethane	EPA 8260	< 2.0	ug/L	NCS	8/30/01
Chloromethane	EPA 8260	< 4.0	ug/L	NCS	8/30/01
Vinyl Chloride	EPA 8260	< 2.0	ug/L	NCS	8/30/01
Bromomethane	EPA 8260	< 2.0	ug/L	NCS	8/30/01
Chloroethane	EPA 8260	< 2.0	ug/L	NCS	8/30/01
Trichlorofluoromethane	EPA 8260	< 4.0	ug/L	NCS	8/30/01
Diethylether	EPA 8260	< 5.0	ug/L	NCS	8/30/01
Acetone	EPA 8260	< 25	ug/L	NCS	8/30/01
1,1-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	8/30/01
Dichloromethane	EPA 8260	< 1.0	ug/L	NCS	8/30/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 2.0	ug/L	NCS	8/30/01
trans-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	8/30/01
1,1-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	8/30/01
2-Butanone	EPA 8260	< 25	ug/L	NCS	8/30/01
2,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	8/30/01
cis-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	8/30/01
Chloroform	EPA 8260	< 1.0	ug/L	NCS	8/30/01
Bromochloromethane	EPA 8260	< 1.0	ug/L	NCS	8/30/01
Tetrahydrofuran	EPA 8260	18	ug/L	NCS	8/30/01
1,1,1-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	8/30/01
1,1-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	8/30/01
Carbon Tetrachloride	EPA 8260	< 1.0	ug/L	NCS	8/30/01
1,2-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	8/30/01
Benzene	EPA 8260	< 1.0	ug/L	NCS	8/30/01
Trichloroethene	EPA 8260	< 1.0	ug/L	NCS	8/30/01
1,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	8/30/01
Bromodichloromethane	EPA 8260	< 1.0	ug/L	NCS	8/30/01
1,4-Dioxane	EPA 8260	< 100	ug/L	NCS	8/30/01
Dibromomethane	EPA 8260	< 1.0	ug/L	NCS	8/30/01
4-Methyl-2-Pentanone	EPA 8260	< 2.0	ug/L	NCS	8/30/01
cis-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	8/30/01
Toluene	EPA 8260	< 1.0	ug/L	NCS	8/30/01
trans-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	8/30/01
1,1,2-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	8/30/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical

Project No.: 15861 08

Work Order No.: 0108 00151

Sample ID: EW-1 (EFF)

Sample No.: 002

Sample Date: 8/27/2001

Test Performed	Method	Results	Units	Tech	Analysis Date
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	8/30/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	8/30/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	8/30/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	8/30/01
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	8/30/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	8/30/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	8/30/01
Styrene	EPA 8260	<1.0	ug/L	NCS	8/30/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	8/30/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	8/30/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	8/30/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	8/30/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	8/30/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	8/30/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	8/30/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	103	% R	NCS	8/30/01
***Toluene-D8	EPA 8260	106	% R	NCS	8/30/01
***4-Bromofluorobenzene	EPA 8260	89.0	% R	NCS	8/30/01
Preparation		1.0	DF	NCS	8/30/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0108-00151

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 08/28/01 via ☒ GZA courier, ☐ EC, ☐ FEDEX, or ☐ hand delivered.

The temperature of the ☐ temperature blank, ☒ cooler air was 3.1 degrees C. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

Attach QC 8260 08/30/01 - S

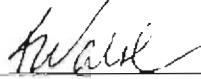
GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0108 00151

Data Authorized By: _____



% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579 RI: 236
NY: 11063

Please note that the laboratory signed copy of the chain of custody record is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 8/30/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	105	65-127	6.16	20
Trichloroethene	101	87-105	5.26	20
Toluene	96.5	86-105	6.33	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	104	80-114		80-120
Toluene-D8	105	88-110		81-117
4-Bromofluorobenzene	88.9	86-115		80-120

WHITE COPY: Original YELLOW COPY: Lab Files PINK COPY: Project Manager
CHAIN-OF-CUSTODY RECORD

W.O. # 0108-00151
(for lab use only)

Sample ID	Date Limit Sampled Very Important	Matrix								ANALYSIS REQUIRED										Total # of Cont	Note #						
		Air	Soil	Water	Sludge	Surface Water	Drinking Water	Other (Specify)	WW ONLY	1	2	3	4	5	6	7	8	9	10			11	12	13	14	15	16

EW-1	8/27/01 1440	GL																				1	
EW-1	8/27/01 1440	GL																				3	
EW-1 (EFF)	8/27/01 1720	GL																				1	
EW-1 (EFF)	8/27/01 1720	GL																				3	

PRESERVATIVE (C: HCl, M: MeOH, N: HNO₃, S: H₂SO₄, Na: NaOH, O: Other)
CONTAINER TYPE (P: Plastic, G: Glass, V: Vial, O: Other)
RELINQUISHED BY Toth Rudman DATE/TIME 8/27/01 1820 RECEIVED BY Heidi Whitworth DATE/TIME 8/27/01 1735
RELINQUISHED BY Heidi Whitworth DATE/TIME 8/27/01 1735 RECEIVED BY Heidi Whitworth DATE/TIME 8/27/01 1735
RELINQUISHED BY Heidi Whitworth DATE/TIME 8/27/01 1735 RECEIVED BY Heidi Whitworth DATE/TIME 8/27/01 1735

NOTES: Preservatives special reporting limits, known contamination, additional testing parameters, etc.
NOTE: DETECTION LIMITS MUST MEET FEDERAL DRINKING WATER STANDARDS.
CONCENTRATIONS IN EW-1 SAMPLE EXPECTED TO BE ELIMINATED
TURNAROUND TIME: Standard 2 Rush 2 Days. Approved by: Heidi Whitworth TEMP. OF COOLER: 3.1 °C

PROJECT MANAGER Toth Rudman EXT 5868
DATA REPORT ☒ PDF (Adobe) ☐ ASCII ☒ EXCEL Specify State _____

GZA GEOENVIRONMENTAL, INC.
ENGINEERS AND SCIENTISTS

106 South Street
Hopkinton, MA 01748
(508) 435-9244
FAX (508) 435-9912

GZA FILE NO. 1586108 PO NO. _____

PROJECT General Chemical Corp.

LOCATION Tammyham
COLLECTOR Toth Rudman SHEET 1 OF 1



GZA-P003

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

T. Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 8/31/01
Date Reported: 9/21/01
Work Order No.: 0108-00176

Sample ID: EW-1 Total Metals
Sample Date: 8/30/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	9/04/01
Dichlorodifluoromethane	EPA 8260	< 1000	ug/L	NCS	9/04/01
Chloromethane	EPA 8260	< 2000	ug/L	NCS	9/04/01
Vinyl Chloride	EPA 8260	< 1000	ug/L	NCS	9/04/01
Bromomethane	EPA 8260	< 1000	ug/L	NCS	9/04/01
Chloroethane	EPA 8260	< 1000	ug/L	NCS	9/04/01
Trichlorofluoromethane	EPA 8260	< 2000	ug/L	NCS	9/04/01
Diethylether	EPA 8260	< 2500	ug/L	NCS	9/04/01
Acetone	EPA 8260	< 13000	ug/L	NCS	9/04/01
1,1-Dichloroethene	EPA 8260	4500	ug/L	NCS	9/04/01
Dichloromethane	EPA 8260	9800	ug/L	NCS	9/04/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 1000	ug/L	NCS	9/04/01
trans-1,2-Dichloroethene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,1-Dichloroethane	EPA 8260	< 500	ug/L	NCS	9/04/01
2-Butanone	EPA 8260	< 13000	ug/L	NCS	9/04/01
2,2-Dichloropropane	EPA 8260	< 500	ug/L	NCS	9/04/01
cis-1,2-Dichloroethene	EPA 8260	27000	ug/L	NCS	9/04/01
Chloroform	EPA 8260	< 500	ug/L	NCS	9/04/01
Bromochloromethane	EPA 8260	< 500	ug/L	NCS	9/04/01
Tetrahydrofuran	EPA 8260	< 5000	ug/L	NCS	9/04/01
1,1,1-Trichloroethane	EPA 8260	45000	ug/L	NCS	9/04/01
1,1-Dichloropropene	EPA 8260	< 500	ug/L	NCS	9/04/01
Carbon Tetrachloride	EPA 8260	< 500	ug/L	NCS	9/04/01
1,2-Dichloroethane	EPA 8260	< 500	ug/L	NCS	9/04/01
Benzene	EPA 8260	< 500	ug/L	NCS	9/04/01
Trichloroethene	EPA 8260	16000	ug/L	NCS	9/04/01
1,2-Dichloropropane	EPA 8260	< 500	ug/L	NCS	9/04/01
Bromodichloromethane	EPA 8260	< 500	ug/L	NCS	9/04/01
1,4-Dioxane	EPA 8260	< 50000	ug/L	NCS	9/04/01
Dibromomethane	EPA 8260	< 500	ug/L	NCS	9/04/01
4-Methyl-2-Pentanone	EPA 8260	< 1000	ug/L	NCS	9/04/01
cis-1,3-Dichloropropene	EPA 8260	< 500	ug/L	NCS	9/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0108-00176

Sample ID: EW-1 Total Metals
 Sample Date: 8/30/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Toluene	EPA 8260	< 500	ug/L	NCS	9/04/01
trans-1,3-Dichloropropene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,1,2-Trichloroethane	EPA 8260	< 500	ug/L	NCS	9/04/01
2-Hexanone	EPA 8260	< 1000	ug/L	NCS	9/04/01
1,3-Dichloropropane	EPA 8260	< 500	ug/L	NCS	9/04/01
Tetrachloroethene	EPA 8260	26000	ug/L	NCS	9/04/01
Dibromochloromethane	EPA 8260	< 500	ug/L	NCS	9/04/01
1,2-Dibromoethane (EDB)	EPA 8260	< 1000	ug/L	NCS	9/04/01
Chlorobenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 500	ug/L	NCS	9/04/01
Ethylbenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
m&p-Xylene	EPA 8260	< 500	ug/L	NCS	9/04/01
o-Xylene	EPA 8260	< 500	ug/L	NCS	9/04/01
Styrene	EPA 8260	< 500	ug/L	NCS	9/04/01
Bromoform	EPA 8260	< 1000	ug/L	NCS	9/04/01
Isopropylbenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 500	ug/L	NCS	9/04/01
1,2,3-Trichloropropane	EPA 8260	< 500	ug/L	NCS	9/04/01
Bromobenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
N-Propylbenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
2-Chlorotoluene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,3,5-Trimethylbenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
4-Chlorotoluene	EPA 8260	< 500	ug/L	NCS	9/04/01
tert-Butylbenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,2,4-Trimethylbenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
sec-Butylbenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
p-Isopropyltoluene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,3-Dichlorobenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,4-Dichlorobenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
n-Butylbenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,2-Dichlorobenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 2500	ug/L	NCS	9/04/01
1,2,4-Trichlorobenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
Hexachlorobutadiene	EPA 8260	< 500	ug/L	NCS	9/04/01
Naphthalene	EPA 8260	< 500	ug/L	NCS	9/04/01
1,2,3-Trichlorobenzene	EPA 8260	< 500	ug/L	NCS	9/04/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	112	% R	NCS	9/04/01
***Toluene-D8	EPA 8260	106	% R	NCS	9/04/01
***4-Bromofluorobenzene	EPA 8260	87.5	% R	NCS	9/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0108-00176

Sample ID: EW-1 Total Metals
 Sample Date: 8/30/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Preparation		1000	DF	NCS	9/04/01
TOTAL PETROLEUM HYDROCARBONS	Mod. EPA 8100			OMS	9/05/01
Hydrocarbon Content		640	ug/L	OMS	9/05/01
Surrogate:					
***p-Terphenyl		114	% R	OMS	9/05/01
Extraction		1.0	DF	ARL	9/04/04
RCRA METALS				BJP	9/04/01
Silver	EPA 6010	<0.0130	mg/L	BJP	9/04/01
Arsenic	EPA 6010	0.0168	mg/L	BJP	9/06/01
Barium	EPA 6010	0.0979	mg/L	BJP	9/04/01
Cadmium	EPA 6010	0.00460	mg/L	BJP	9/04/01
Chromium	EPA 6010	<0.00400	mg/L	BJP	9/04/01
Mercury	EPA 7470A	<0.00050	mg/L	TLD	9/06/01
Lead	EPA 6010	<0.0160	mg/L	BJP	9/04/01
Selenium	EPA 6010	0.0446	mg/L	BJP	9/06/01
TOTAL METALS					
Iron	EPA 6010	3.28	mg/L	BJP	9/04/01
Manganese	EPA 6010	3.02	mg/L	BJP	9/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0108-00176

Sample ID: EW-1 (EFF)
 Sample Date: 8/30/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
TOTAL PETROLEUM HYDROCARBONS	Mod. EPA 8100			OMS	9/05/01
Hydrocarbon Content		< 250	ug/L	OMS	9/05/01
Surrogate:					
***p-Terphenyl		97.5	% R	OMS	9/05/01
Extraction		1.0	DF	ARL	9/04/01
VOLATILE ORGANICS	EPA 8260			NCS	9/04/01
Dichlorodifluoromethane	EPA 8260	< 2.0	ug/L	NCS	9/04/01
Chloromethane	EPA 8260	< 4.0	ug/L	NCS	9/04/01
Vinyl Chloride	EPA 8260	< 2.0	ug/L	NCS	9/04/01
Bromomethane	EPA 8260	< 2.0	ug/L	NCS	9/04/01
Chloroethane	EPA 8260	< 2.0	ug/L	NCS	9/04/01
Trichlorofluoromethane	EPA 8260	< 4.0	ug/L	NCS	9/04/01
Diethylether	EPA 8260	< 5.0	ug/L	NCS	9/04/01
Acetone	EPA 8260	< 25	ug/L	NCS	9/04/01
1,1-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Dichloromethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 2.0	ug/L	NCS	9/04/01
trans-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,1-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
2-Butanone	EPA 8260	< 25	ug/L	NCS	9/04/01
2,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
cis-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Chloroform	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Bromochloromethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Tetrahydrofuran	EPA 8260	< 10	ug/L	NCS	9/04/01
1,1,1-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,1-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Carbon Tetrachloride	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,2-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Benzene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Trichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Bromodichloromethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,4-Dioxane	EPA 8260	< 100	ug/L	NCS	9/04/01
Dibromomethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
4-Methyl-2-Pentanone	EPA 8260	< 2.0	ug/L	NCS	9/04/01
cis-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Toluene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
trans-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,1,2-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0108-00176

Sample ID: EW-1 (EFF)
 Sample Date: 8/30/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	9/04/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	9/04/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	9/04/01
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	9/04/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	9/04/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Styrene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	9/04/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	9/04/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	9/04/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	9/04/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	106	% R	NCS	9/04/01
***Toluene-D8	EPA 8260	108	% R	NCS	9/04/01
***4-Bromofluorobenzene	EPA 8260	86.9	% R	NCS	9/04/01
Preparation		1.0	DF	NCS	9/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0108-00176

Sample ID: TRIP BLANK
 Sample Date: 8/30/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	9/04/01
Dichlorodifluoromethane	EPA 8260	< 2.0	ug/L	NCS	9/04/01
Chloromethane	EPA 8260	< 4.0	ug/L	NCS	9/04/01
Vinyl Chloride	EPA 8260	< 2.0	ug/L	NCS	9/04/01
Bromomethane	EPA 8260	< 2.0	ug/L	NCS	9/04/01
Chloroethane	EPA 8260	< 2.0	ug/L	NCS	9/04/01
Trichlorofluoromethane	EPA 8260	< 4.0	ug/L	NCS	9/04/01
Diethylether	EPA 8260	< 5.0	ug/L	NCS	9/04/01
Acetone	EPA 8260	< 25	ug/L	NCS	9/04/01
1,1-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Dichloromethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 2.0	ug/L	NCS	9/04/01
trans-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,1-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
2-Butanone	EPA 8260	< 25	ug/L	NCS	9/04/01
2,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
cis-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Chloroform	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Bromochloromethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Tetrahydrofuran	EPA 8260	< 10	ug/L	NCS	9/04/01
1,1,1-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,1-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Carbon Tetrachloride	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,2-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Benzene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Trichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Bromodichloromethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,4-Dioxane	EPA 8260	< 100	ug/L	NCS	9/04/01
Dibromomethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
4-Methyl-2-Pentanone	EPA 8260	< 2.0	ug/L	NCS	9/04/01
cis-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Toluene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
trans-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,1,2-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
2-Hexanone	EPA 8260	< 2.0	ug/L	NCS	9/04/01
1,3-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Tetrachloroethene	EPA 8260	< 1.0	ug/L	NCS	9/04/01
Dibromochloromethane	EPA 8260	< 1.0	ug/L	NCS	9/04/01
1,2-Dibromoethane (EDB)	EPA 8260	< 2.0	ug/L	NCS	9/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0108-00176

Sample ID: TRIP BLANK
 Sample Date: 8/30/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	9/04/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	9/04/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Styrene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	9/04/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	9/04/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
2-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	9/04/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	9/04/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	9/04/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/04/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	110	% R	NCS	9/04/01
***Toluene-D8	EPA 8260	106	% R	NCS	9/04/01
***4-Bromofluorobenzene	EPA 8260	86.7	% R	NCS	9/04/01
Preparation		1.0	DF	NCS	9/04/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0108-00176

Sample ID: EW-1 Dissolved Metals
Sample Date: 8/30/2001

Sample No.: 005

Test Performed	Method	Results	Units	Tech	Analysis Date
DISSOLVED METALS					
Iron	EPA 6010	3.37	mg/L	AJY	9/06/01
Manganese	EPA 6010	3.16	mg/L	AJY	9/06/01
RCRA METALS					
Silver	EPA 6010	<0.0130	mg/L	BJP	9/20/01
Arsenic	EPA 6010	0.0181	mg/L	BJP	9/06/01
Barium	EPA 6010	0.0994	mg/L	BJP	9/06/01
Cadmium	EPA 6010	<0.00400	mg/L	BJP	9/06/01
Chromium	EPA 6010	<0.00400	mg/L	BJP	9/06/01
Mercury	EPA 7470A	<0.00050	mg/L	TLD	9/07/01
Lead	EPA 6010	<0.0160	mg/L	BJP	9/06/01
Selenium	EPA 6010	0.113	mg/L	BJP	9/06/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0108-00176

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 08/31/01 via x GZA courier, EC, FEDEX, or hand delivered.

The temperature of the temperature blank, x cooler air was 3.2 degrees C. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

Per T. Haederle VM on 9/6/01, the laboratory added dissolved R8 metals for testing.

2. EPA Method 8260

Attach QC 8260 09/04/01 - S

3. Metals Data

Attach QC 9/4/01-AQ

Attach QC Mercury-9/6/01-AQ

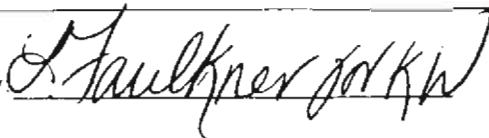
Attach QC Mercury-9/7/01-AQ

GZA GeoEnvironmental, Inc.
ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0108-00176

Data Authorized By:



% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579 RI: 236
NY: 11063

Please note that the laboratory signed copy of the chain of custody record is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 9/4/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	112	65-127	0.18	20
Benzene	100	87-118	1.20	20
Toluene	103	86-105	1.67	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
--------------------------	----

SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	111	80-114		80-120
Toluene-D8	107	88-110		81-117
4-Bromofluorobenzene	86.3	86-115		80-120

GZA GEOENVIRONMENTAL, INC.
 ENVIRONMENTAL CHEMISTRY LABORATORY
 106 SOUTH ST. HOPKINTON, MA 01748
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 6010B ANALYSIS
 Metals by ICP

QUALITY CONTROL - AQUEOUS

DATE PREPARED: 09/04/2001

QC Sample	Method Blank	Lab Control Sample	Matrix Spike	Matrix Spike Duplicate	MS/MSD Difference
Units	mg/L	% Recovery	% Recovery	% Recovery	% RSD
Acceptance Limit	Results	80-120 %	75-120 %*	75-120 %*	20%
Analyte					
Silver (Ag)	NA	NA	NA	NA	NA
Aluminum (Al)	NA	NA	NA	NA	NA
Arsenic (As)	NA	NA	NA	NA	NA
Boron (B)	NA	NA	NA	NA	NA
Barium (Ba)	NA	NA	NA	NA	NA
Beryllium (Be)	NA	NA	NA	NA	NA
Calcium (Ca)	NA	NA	NA	NA	NA
Cadmium (Cd)	NA	NA	NA	NA	NA
Cobalt (Co)	NA	NA	NA	NA	NA
Chromium (Cr)	NA	NA	NA	NA	NA
Copper (Cu)	NA	NA	NA	NA	NA
Iron (Fe)	<0.032	99.5	97.2	96.0	1.28
Magnesium (Mg)	NA	NA	NA	NA	NA
Manganese (Mn)	<0.003	119	99.3	97.9	1.42
Molybdenum (M)	NA	NA	NA	NA	NA
Nickel (Ni)	NA	NA	NA	NA	NA
Lead (Pb)	NA	NA	NA	NA	NA
Antimony (Sb)	NA	NA	NA	NA	NA
Selenium (Se)	NA	NA	NA	NA	NA
Strontium (Sr)	NA	NA	NA	NA	NA
Titanium (Ti)	NA	NA	NA	NA	NA
Thallium (Tl)	NA	NA	NA	NA	NA
Vanadium (V)	NA	NA	NA	NA	NA
Zinc (Zn)	NA	NA	NA	NA	NA
Zirconium (Zr)	NA	NA	NA	NA	NA

GZA GEOENVIRONMENTAL, INC.
ENVIRONMENTAL CHEMISTRY LABORATORY
106 SOUTH ST, HOPKINTON, MA 01748
MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 7470/7471 ANALYSIS
Mercury by Cold Vapor Atomic Absorption

QUALITY CONTROL - AQUEOUS

Date Analyzed: 9/6/01

QC Sample	Method Blank	Lab Control Sample	Matrix Spike	Matrix Spike Duplicate	MS/MSD Difference
Units	mg/L	% Recovery	% Recovery	% Recovery	% RSD
Acceptance Limits	Results	85-115 %	70-130 %	70-130 %	20%
Analyte					
Mercury (Hg)	<0.0005(Aq)	92.7	88.7	90.6	2.12

GZA GEOENVIRONMENTAL, INC.
ENVIRONMENTAL CHEMISTRY LABORATORY
106 SOUTH ST, HOPKINTON, MA 01748
MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 7470/7471 ANALYSIS
Mercury by Cold Vapor Atomic Absorption

QUALITY CONTROL - AQUEOUS

Date Analyzed: 9/7/01

QC Sample	Method Blank	Lab Control Sample	Matrix Spike	Matrix Spike Duplicate	MS/MSD Difference
Units	mg/L	% Recovery	% Recovery	% Recovery	% RSD
Acceptance Limits	Results	85-115 %	70-130 %	70-130 %	20%
Analyte					
Mercury (Hg)	<0.0005(Aq)	94.0	92.5	90.8	1.85

(for lab use only)

23. 6. 2007



R.I. Analytical

Specialists in Environmental Services

CERTIFICATE OF ANALYSIS

GZA GeoEnvironmental, Inc.
Attn: Ms. Manuela Capodanno
Engineers and Scientists
106 South Street
Hopkinton, MA 01748

Date Received: 8/31/01
Date Reported: 9/06/01
P.O. #: 1-19900
Work Order #: 0108-10538

DESCRIPTION: PROJECT# 15861.08 GENERAL CHEMICAL FRAMINGHAM, MA

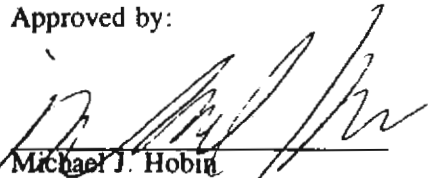
Subject sample(s) has/have been analyzed by our laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA approved methodologies. The specific methodologies are listed in the methods column of the Certificate Of Analysis.

Certification #: RI-033, MA-RI015, CT-PH-0508, ME-RI015
NH-253700 A & B, USDA S-41844, NY-11726

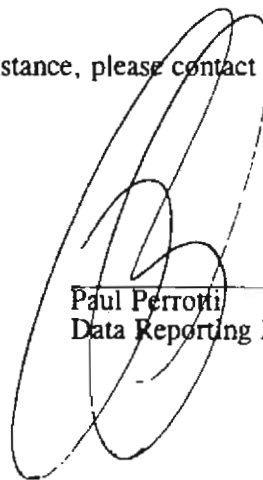
If you have any questions regarding this work, or if we may be of further assistance, please contact us.

Approved by:



Michael J. Hobin
QA/QC Coordinator

enc: Chain of Custody



Paul Perrotti
Data Reporting Manager

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

GZA GeoEnvironmental, Inc.

Date Received: 8/31/01

Work Order # 0108-10538

Approved by/

R.I. Analytical

Sample #: 001

SAMPLE DESCRIPTION: EW-1 08/30/01 @0630

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
T. SUSPENDED SOLIDS	<2.0	2.0	mg/l	EPA 160.2	9/05/01 20:30	KLL
ALKALINITY (as CaCO ₃)	39.8	1.0	mg/l	EPA 310.1	9/05/01 16:15	KLL
TOTAL METALS						
CALCIUM	33.6	0.05	mg/l	EPA 200.7	9/05/01 11:07	TD
MAGNESIUM	6.18	0.05	mg/l	EPA 200.7	9/05/01 11:48	TD
HARDNESS as CaCO ₃	109	0.33	mg/l	EPA 200.7	9/05/01 11:07	TD

Sample #: 002

SAMPLE DESCRIPTION: PREP BLANK

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	ANALYZED DATE/TIME	ANALYST
T. SUSPENDED SOLIDS	<2.0	2.0	mg/l	EPA 160.2	9/05/01 20:30	KLL
ALKALINITY (as CaCO ₃)	<1.0	1.0	mg/l	EPA 310.1	9/05/01 16:15	KLL
TOTAL METALS						
CALCIUM	<0.05	0.05	mg/l	EPA 200.7	9/05/01 10:48	TD
MAGNESIUM	<0.05	0.05	mg/l	EPA 200.7	9/05/01 11:15	TD
HARDNESS as CaCO ₃	<0.33	0.33	mg/l	EPA 200.7	9/05/01 10:48	TD

RI Analytical Laboratories, Inc.
QA/QC Report

Client: GZA GeoEnvironmental, Inc.

WO #: 0108-10538

Date: 9/06/01

-Replicate Sample Results-

Parameter	Units	Sample #	Rep 1 Conc.	Rep 2 Conc.	Mean Conc.	RPD	Date Analyzed
Total Suspended Solids	mg/l	10519-1	200	200	200	0	9/05/2001
Alkalinity	mg/l	10417-7	116	117	116	0.9	9/05/2001

Parameter	Units	Sample #	Rep 1 Conc.	Rep 2 Conc.	Mean Conc.	RPD	Date Analyzed
Calcium	mg/l	10466-1	37.7	37.6	37.6	0.3	9/05/2001
Magnesium	mg/l	10466-1	8.36	8.33	8.34	0.4	9/05/2001
Hardness	mg/l	10466-1	128	128	128	0	9/05/2001

-Matrix Spike Results-

Parameter	Units	Sample #	Sample Conc.	Spike Conc.	Detected Conc.	% Rec.	Date Analyzed
Total Suspended Solids	mg/l	Alphatrol	----	80	78	98	9/05/2001
Alkalinity	mg/l	10616-1	17.8	50.0	67.3	99	9/05/2001

Parameter	Units	Sample #	Sample Conc.	Spike Conc.	Detected Conc.	% Rec.	Date Analyzed
Calcium	mg/l	10538-1	33.6	1.00	34.5	90	9/05/2001
Magnesium	mg/l	10538-1	6.18	1.00	7.07	89	9/05/2001
Hardness	mg/l	10538-1	109	6.62	115	91	9/05/2001

GZA GeoEnvironmental, Inc.
106 South Street
Hopkinton, MA 01748

ANALYTICAL REPORT

GZA GeoEnvironmental, Inc.
One Edgewater Drive
Norwood, MA 02062

T. Haederle

Project Name: General Chemical
Project No.: 15861.08

Date Received: 9/05/01
Date Reported: 9/10/01
Work Order No.: 0109-00011

Sample ID: EW-1
Sample Date: 9/01/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	9/07/01
Dichlorodifluoromethane	EPA 8260	< 1000	ug/L	NCS	9/07/01
Chloromethane	EPA 8260	< 2000	ug/L	NCS	9/07/01
Vinyl Chloride	EPA 8260	< 1000	ug/L	NCS	9/07/01
Bromomethane	EPA 8260	< 1000	ug/L	NCS	9/07/01
Chloroethane	EPA 8260	< 1000	ug/L	NCS	9/07/01
Trichlorofluoromethane	EPA 8260	< 2000	ug/L	NCS	9/07/01
Diethylether	EPA 8260	< 2500	ug/L	NCS	9/07/01
Acetone	EPA 8260	< 13000	ug/L	NCS	9/07/01
1,1-Dichloroethene	EPA 8260	3900	ug/L	NCS	9/07/01
Dichloromethane	EPA 8260	8200	ug/L	NCS	9/07/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 1000	ug/L	NCS	9/07/01
trans-1,2-Dichloroethene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,1-Dichloroethane	EPA 8260	< 500	ug/L	NCS	9/07/01
2-Butanone	EPA 8260	< 13000	ug/L	NCS	9/07/01
2,2-Dichloropropane	EPA 8260	< 500	ug/L	NCS	9/07/01
cis-1,2-Dichloroethene	EPA 8260	23000	ug/L	NCS	9/07/01
Chloroform	EPA 8260	< 500	ug/L	NCS	9/07/01
Bromochloromethane	EPA 8260	< 500	ug/L	NCS	9/07/01
Tetrahydrofuran	EPA 8260	< 5000	ug/L	NCS	9/07/01
1,1,1-Trichloroethane	EPA 8260	42000	ug/L	NCS	9/07/01
1,1-Dichloropropene	EPA 8260	< 500	ug/L	NCS	9/07/01
Carbon Tetrachloride	EPA 8260	< 500	ug/L	NCS	9/07/01
1,2-Dichloroethane	EPA 8260	< 500	ug/L	NCS	9/07/01
Benzene	EPA 8260	< 500	ug/L	NCS	9/07/01
Trichloroethene	EPA 8260	14000	ug/L	NCS	9/07/01
1,2-Dichloropropane	EPA 8260	< 500	ug/L	NCS	9/07/01
Bromodichloromethane	EPA 8260	< 500	ug/L	NCS	9/07/01
1,4-Dioxane	EPA 8260	< 2500	ug/L	NCS	9/07/01
Dibromomethane	EPA 8260	< 500	ug/L	NCS	9/07/01
4-Methyl-2-Pentanone	EPA 8260	< 1000	ug/L	NCS	9/07/01
cis-1,3-Dichloropropene	EPA 8260	< 500	ug/L	NCS	9/07/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0109-00011

Sample ID: EW-1
 Sample Date: 9/01/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Toluene	EPA 8260	< 500	ug/L	NCS	9/07/01
trans-1,3-Dichloropropene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,1,2-Trichloroethane	EPA 8260	< 500	ug/L	NCS	9/07/01
2-Hexanone	EPA 8260	< 1000	ug/L	NCS	9/07/01
1,3-Dichloropropane	EPA 8260	< 500	ug/L	NCS	9/07/01
Tetrachloroethene	EPA 8260	26000	ug/L	NCS	9/07/01
Dibromochloromethane	EPA 8260	< 500	ug/L	NCS	9/07/01
1,2-Dibromoethane (EDB)	EPA 8260	< 1000	ug/L	NCS	9/07/01
Chlorobenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,1,1,2-Tetrachloroethane	EPA 8260	< 500	ug/L	NCS	9/07/01
Ethylbenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
m&p-Xylene	EPA 8260	< 500	ug/L	NCS	9/07/01
o-Xylene	EPA 8260	< 500	ug/L	NCS	9/07/01
Styrene	EPA 8260	< 500	ug/L	NCS	9/07/01
Bromoform	EPA 8260	< 1000	ug/L	NCS	9/07/01
Isopropylbenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,1,2,2-Tetrachloroethane	EPA 8260	< 500	ug/L	NCS	9/07/01
1,2,3-Trichloropropane	EPA 8260	< 500	ug/L	NCS	9/07/01
Bromobenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
N-Propylbenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
2-Chlorotoluene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,3,5-Trimethylbenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
4-Chlorotoluene	EPA 8260	< 500	ug/L	NCS	9/07/01
tert-Butylbenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,2,4-Trimethylbenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
sec-Butylbenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
p-Isopropyltoluene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,3-Dichlorobenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,4-Dichlorobenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
n-Butylbenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,2-Dichlorobenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,2-Dibromo-3-Chloropropane	EPA 8260	< 2500	ug/L	NCS	9/07/01
1,2,4-Trichlorobenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
Hexachlorobutadiene	EPA 8260	< 500	ug/L	NCS	9/07/01
Naphthalene	EPA 8260	< 500	ug/L	NCS	9/07/01
1,2,3-Trichlorobenzene	EPA 8260	< 500	ug/L	NCS	9/07/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	106	% R	NCS	9/07/01
***Toluene-D8	EPA 8260	106	% R	NCS	9/07/01
***4-Bromofluorobenzene	EPA 8260	90.3	% R	NCS	9/07/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical

Project No.: 15861.08

Work Order No.: 0109-00011

Sample ID: EW-1
Sample Date: 9/01/2001

Sample No.: 001

Test Performed	Method	Results	Units	Tech	Analysis Date
Preparation		500	DF	NCS	9/07/01
TOTAL PETROLEUM HYDROCARBONS	Mod. EPA 8100			OMS	9/06/01
Hydrocarbon Content		650	ug/L	OMS	9/06/01
Surrogate:					
***p-Terphenyl		99.2	% R	OMS	9/06/01
Extraction		1.0	DF	ARL	9/06/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0109-00011

Sample ID: EW-1 EFFLUENT
 Sample Date: 9/01/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	9/07/01
Dichlorodifluoromethane	EPA 8260	< 2.0	ug/L	NCS	9/07/01
Chloromethane	EPA 8260	< 4.0	ug/L	NCS	9/07/01
Vinyl Chloride	EPA 8260	< 2.0	ug/L	NCS	9/07/01
Bromomethane	EPA 8260	< 2.0	ug/L	NCS	9/07/01
Chloroethane	EPA 8260	< 2.0	ug/L	NCS	9/07/01
Trichlorofluoromethane	EPA 8260	< 4.0	ug/L	NCS	9/07/01
Diethylether	EPA 8260	< 5.0	ug/L	NCS	9/07/01
Acetone	EPA 8260	1000	ug/L	NCS	9/07/01
1,1-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Dichloromethane	EPA 8260	62	ug/L	NCS	9/07/01
Methyl-Tert-Butyl-Ether	EPA 8260	< 2.0	ug/L	NCS	9/07/01
trans-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/07/01
1,1-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
2-Butanone	EPA 8260	< 25	ug/L	NCS	9/07/01
2,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
cis-1,2-Dichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Chloroform	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Bromochloromethane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Tetrahydrofuran	EPA 8260	< 10	ug/L	NCS	9/07/01
1,1,1-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
1,1-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Carbon Tetrachloride	EPA 8260	< 1.0	ug/L	NCS	9/07/01
1,2-Dichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Benzene	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Trichloroethene	EPA 8260	< 1.0	ug/L	NCS	9/07/01
1,2-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Bromodichloromethane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
1,4-Dioxane	EPA 8260	570	ug/L	NCS	9/07/01
Dibromomethane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
4-Methyl-2-Pentanone	EPA 8260	< 2.0	ug/L	NCS	9/07/01
cis-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Toluene	EPA 8260	< 1.0	ug/L	NCS	9/07/01
trans-1,3-Dichloropropene	EPA 8260	< 1.0	ug/L	NCS	9/07/01
1,1,2-Trichloroethane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
2-Hexanone	EPA 8260	< 2.0	ug/L	NCS	9/07/01
1,3-Dichloropropane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Tetrachloroethene	EPA 8260	< 1.0	ug/L	NCS	9/07/01
Dibromochloromethane	EPA 8260	< 1.0	ug/L	NCS	9/07/01
1,2-Dibromoethane (EDB)	EPA 8260	< 2.0	ug/L	NCS	9/07/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical

Project No.: 15861.08

Work Order No.: 0109-00011

Sample ID: EW-1 EFFLUENT

Sample Date: 9/01/2001

Sample No.: 002

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	9/07/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Styrene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	9/07/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	9/07/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	9/07/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	9/07/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	113	% R	NCS	9/07/01
***Toluene-D8	EPA 8260	105	% R	NCS	9/07/01
***4-Bromofluorobenzene	EPA 8260	90.5	% R	NCS	9/07/01
Preparation		1.0	DF	NCS	9/07/01
TOTAL PETROLEUM HYDROCARBONS	Mod. EPA 8100			OMS	9/06/01
Hydrocarbon Content		<250	ug/L	OMS	9/06/01
Surrogate:					
***p-Terphenyl		91.2	% R	OMS	9/06/01
Extraction		1.0	DF	ARL	9/06/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0109-00011

Sample ID: TRIP BLANK
 Sample Date: 9/01/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
VOLATILE ORGANICS	EPA 8260			NCS	9/07/01
Dichlorodifluoromethane	EPA 8260	<2.0	ug/L	NCS	9/07/01
Chloromethane	EPA 8260	<4.0	ug/L	NCS	9/07/01
Vinyl Chloride	EPA 8260	<2.0	ug/L	NCS	9/07/01
Bromomethane	EPA 8260	<2.0	ug/L	NCS	9/07/01
Chloroethane	EPA 8260	<2.0	ug/L	NCS	9/07/01
Trichlorofluoromethane	EPA 8260	<4.0	ug/L	NCS	9/07/01
Diethylether	EPA 8260	<5.0	ug/L	NCS	9/07/01
Acetone	EPA 8260	<25	ug/L	NCS	9/07/01
1,1-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Dichloromethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
Methyl-Tert-Butyl-Ether	EPA 8260	<2.0	ug/L	NCS	9/07/01
trans-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,1-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
2-Butanone	EPA 8260	<25	ug/L	NCS	9/07/01
2,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	9/07/01
cis-1,2-Dichloroethene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Chloroform	EPA 8260	<1.0	ug/L	NCS	9/07/01
Bromochloromethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
Tetrahydrofuran	EPA 8260	<10	ug/L	NCS	9/07/01
1,1,1-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,1-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Carbon Tetrachloride	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2-Dichloroethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
Benzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Trichloroethene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	9/07/01
Bromodichloromethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,4-Dioxane	EPA 8260	<100	ug/L	NCS	9/07/01
Dibromomethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
4-Methyl-2-Pentanone	EPA 8260	<2.0	ug/L	NCS	9/07/01
cis-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Toluene	EPA 8260	<1.0	ug/L	NCS	9/07/01
trans-1,3-Dichloropropene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,1,2-Trichloroethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
2-Hexanone	EPA 8260	<2.0	ug/L	NCS	9/07/01
1,3-Dichloropropane	EPA 8260	<1.0	ug/L	NCS	9/07/01
Tetrachloroethene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Dibromochloromethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2-Dibromoethane (EDB)	EPA 8260	<2.0	ug/L	NCS	9/07/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
 Project No.: 15861.08

Work Order No.: 0109-00011

Sample ID: TRIP BLANK
 Sample Date: 9/01/2001

Sample No.: 003

Test Performed	Method	Results	Units	Tech	Analysis Date
Chlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,1,1,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
Ethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
m&p-Xylene	EPA 8260	<1.0	ug/L	NCS	9/07/01
o-Xylene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Styrene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Bromoform	EPA 8260	<2.0	ug/L	NCS	9/07/01
Isopropylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,1,2,2-Tetrachloroethane	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2,3-Trichloropropane	EPA 8260	<1.0	ug/L	NCS	9/07/01
Bromobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
N-Propylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,3,5-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
4-Chlorotoluene	EPA 8260	<1.0	ug/L	NCS	9/07/01
tert-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2,4-Trimethylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
sec-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
p-Isopropyltoluene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,3-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,4-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
n-Butylbenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2-Dichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2-Dibromo-3-Chloropropane	EPA 8260	<5.0	ug/L	NCS	9/07/01
1,2,4-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Hexachlorobutadiene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Naphthalene	EPA 8260	<1.0	ug/L	NCS	9/07/01
1,2,3-Trichlorobenzene	EPA 8260	<1.0	ug/L	NCS	9/07/01
Surrogates:	EPA 8260				
***1,2-Dichloroethane-D4	EPA 8260	110	% R	NCS	9/07/01
***Toluene-D8	EPA 8260	104	% R	NCS	9/07/01
***4-Bromofluorobenzene	EPA 8260	89.2	% R	NCS	9/07/01
Preparation		1.0	DF	NCS	9/07/01

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0109-00011

PROJECT NARRATIVE:

1. Sample Receipt

The samples were received on 09/5/01 via X GZA courier, EC, FEDEX, or hand delivered.

The temperature of the X temperature blank, cooler air was 5.2 degrees C. The samples were received intact for all requested analyses.

The samples were appropriately preserved in accordance with the method they reference, including methanol preservation of soil samples for volatile analyses (preparation method 5035).

2. EPA Method 8260

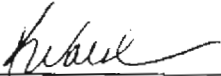
Attach QC 8260 09/07/01 - S

GZA GeoEnvironmental, Inc.

ANALYTICAL REPORT

Project Name: General Chemical
Project No.: 15861.08

Work Order No.: 0109-00011

Data Authorized By: 

% R = % Recovery
DF = Dilution Factor
DO = Diluted Out

Soil data is reported on a dry weight basis unless otherwise specified.

Method 8260: The current version of the method is 8260B.
Method 8021: The current version of the method is 8021B.
Method 8270: The current version of the method is 8270C.

Laboratory Identification Numbers:

MA: MA092 NH: 2028
CT: PH0579 RI: 236
NY: 11063

Please note that the laboratory signed copy of the chain of custody record is an integral part of the data report.

The laboratory report shall not be reproduced except in full without the written consent of the laboratory.

GZA GEOENVIRONMENTAL, INC
 ENVIRONMENTAL CHEMISTRY LABORATORY
 320 NEEDHAM STREET, NEWTON UPPER FALLS, MA 02464
 MASSACHUSETTS LABORATORY I.D. NO. MA092

EPA METHOD 8260 ANALYSIS
 PURGEABLES IN AQUEOUS AND/OR SOLID MATRIX

QUALITY CONTROL

DATE: 9/6/01 S

AQUEOUS

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene	107	65-127	1.63	20
Trichloroethene	105	87-105	1.80	20
Toluene	101	86-105	0.63	20

SOLID

COMPOUND	MATRIX SPIKE RECOVERY (%)	ACCEPTANCE LIMITS (%)	DUPLICATE SPIKE DIFFERENCE (%)	ACCEPTANCE LIMITS (%)
1,1-Dichloroethene		70-130		35
Trichloroethene		70-130		35
Toluene		70-130		35

METHOD BLANK

TOTAL COMPOUNDS DETECTED	ND
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SURROGATES	RECOVERY (%)	Aqueous LIMITS (%)	RECOVERY (%)	Solid LIMITS (%)
1,2-Dichloroethane-D4	108	80-114		80-120
Toluene-D8	105	88-110		81-117
4-Bromofluorobenzene	88.4	86-115		80-120

W.O. # 0109-00011
(for lab use only)

APPENDIX J

RESPONSE TO MWRA COMMENTS

SITE INVESTIGATION FINDINGS AND CSM

1. The correct size of the aqueduct will be reflected in the CARP II.
2. As discussed in the CSM section of the SAP, this issue has been identified as a data gap. The stabilization measure requires the installation of a number of groundwater extraction wells along the aqueduct alignment in the flow path of the plume. During the drilling of these wells, continuous soil samples will be taken and tested for the presence of DNAPL. These wells are located down-slope from GZ-1 and the other DNAPL areas on the Facility relative to the surface topology of the glacial till (see Figure 10 of the SAP). The first of these wells has already been drilled as part of the pumping test conducted for the SAP. This well, EW-1, showed no indications of DNAPL at that location.
3. Boring GZ-5 was installed specifically to evaluate the backfill around the aqueduct. The sand fill encountered in this boring appears to be similar to the natural soils found proximate to the aqueduct in this area (borings CDW-6, CDW-9 and CDW-12). These data indicate that the backfill is unlikely to represent a significant preferential flow path. This conclusion is also supported by the groundwater contours (see Figures 11A and 11B in the SAP). While these contours indicate that the aqueduct/aqueduct backfill have some influence on groundwater flow, they also show that the backfill is not acting as a preferential flow path. The groundwater flow paths under the aqueduct in the silt/clayey silt layers are shown on Figures 11B and 11 D. These figures also show some impact of the aqueduct, particularly to the east of the Site and during spring conditions, but do not indicate that the aqueduct backfill is acting as a substantial preferential flow channel. This conclusion is further supported by the VOC data (see Figures 8 and 13 in the SAP), which clearly show that contaminant migration is primarily to the surface water drainage ditch on the downgradient side of the aqueduct from the GCC Facility.

Given that the invert of the aqueduct is below the water table, groundwater from the Facility will infiltrate the aqueduct to the extent that the "pipe" has degraded and thus become permeable. The stabilization plan was developed to capture the groundwater plume at a location upgradient of the aqueduct. This is still the case. When the extraction wells come on line, they will prevent additional contaminated groundwater from leaving the Facility and impacting the aqueduct. It was also envisioned that the drawdown cone of the extraction system would lower the water table to below the aqueduct invert. This would prevent the contaminated groundwater which will be pulled back from the southwest side of the aqueduct from impacting the aqueduct. However, the pumping test, described in the SAP, indicates that the drawdown cone will not extend out from the wells sufficiently far to accomplish this goal. We currently plan to investigate the potential of locating the wells on the aqueduct property so as to allow the wells to lower the groundwater table to below the aqueduct invert.

In this way, questions of VOC infiltration into the aqueduct, as well as preferential flow along the aqueduct backfill will become moot.

4. With respect to the query as to the need for monitoring wells downgradient of CDW-6 and CDW-4 in the source area, it is noted that CDW-9, CDW-10 and CDW-12 are just downgradient of the aqueduct and immediately downgradient of the source area. The suitability of these wells relative to this issue is clear from the VOC isopleths and the groundwater flow paths provided as Figures 8, 11A and 11C. With respect to the need for soils analytical data proximate to the aqueduct pursuant to construction risks and soil management issues, these data would be obtained if the extraction wells were to be installed on the aqueduct property. As indicated above, the borings for these wells will include continuous soil sampling.
5. It is noted that a number of industrial sites exist along the aqueduct alignment. Some of these sites have already been demonstrated to be contributing contamination to the aqueduct. It is recognized that the potential for infiltration of groundwater from the GCC Site also exists. However, to the extent that contaminated groundwater from GCC is infiltrating porous sections of the aqueduct and discharging to Course Brook, the environmental impact would be, for all practical purposes, the same as the identified primary flow path. This flow path entails groundwater flow to and past the aqueduct, discharge to the surface water drainage ditch, and then surface water flow to Course Brook. As described in the upgraded CSM, the data indicate that chlorinated solvents from the Site are not discharging directly to Course Brook. The flow path includes discharge to the drainage ditch prior to the VOCs entering Course Brook. Therefore, these two flow paths are essentially the same from an environmental perspective.
6. The aqueduct has been added to the appropriate soil profiles in the SAP. In addition, isopleths of soil contaminant levels have also been added to these soil profiles. The direction of vertical groundwater flow has also been depicted on the profiles via the relative piezometric heads shown in the monitoring wells.

HUMAN HEALTH RISK CHARACTERIZATION

1. When the aqueduct is used as a backup drinking water supply, it will be flowing full. As such, the water pressure in the aqueduct will be greater than that in the groundwater outside the aqueduct. Groundwater cannot infiltrate the aqueduct under those conditions. Moreover, assuming access can be obtained to install the extraction wells on the aqueduct property, the objective will be to lower the groundwater table such that it cannot infiltrate the aqueduct, even during non-use, low flow conditions.
2. The Risk assessment exposure scenarios will be updated for the CARP as requested. However, we do need additional clarification of your comment. It is our understanding we should now use the full 30 days at 8-hours per day over a four-month period. In addition, it is not clear how the workers will gain access to the inside of the aqueduct without following confined space entry protocols. In addition, given the contaminants in the sediments in the

aqueduct, we would assume that proper PPE would be required which would at a minimum also include gloves, boots and waterproof overalls.

Pursuant to the potential for exposure while sampling at the Course Brook Waste Weir, it is unlikely that significant exposure occurs. This is based on the use of gloves during sampling and the fact that the building is vented by the grated "windows" on all four sides. However, a PID will be provided to monitor the air space during the next sampling round.

3. The provided data will be used in the risk assessment.

STABILIZATION MEASURES

1. Source elimination measures have been evaluated for the soils on the GCC Facility. It is currently not feasible to remove the source with current technologies given the existence of DNAPL in highly stratified, low permeability soils. More specifically relative to the two technologies you have suggested, it can be concluded that permanganate is not feasible given: (1) the impracticability of achieving sufficient contact of this oxidant with the DNAPL that has penetrated the low permeability stratified soils for up to 40 years; and (2) the inability of this oxidant to remediate 1,1,1-TCA which has been identified as a DNAPL on the Facility (See Figure 9).

With respect to the use of a treatment wall, this technology would be used as a replacement for the active groundwater barrier system. It would not be employed as an augmentation. In addition, the logistics of installing this technology proximate to the active railroad render it infeasible. Notwithstanding the above, the conclusion of unfeasibility will be reevaluated as new technologies come into practice.

Finally, it is noted that the entire Facility is paved, thus eliminating any dermal contact exposures on the Facility. Current exposures to soils off of the Facility property are limited to sediments and water in the surface water drainage ditch. These exposures have already been evaluated and no Imminent Hazard was found. In addition, the proposed stabilization measure will immediately reduce and ultimately eliminate VOCs in the groundwater downgradient of the extraction wells. It is recognized that while effective at eliminating risk, long-term groundwater extraction and treatment is expensive from an O&M perspective. As such, it is also in GCC's best interest to endeavor to eliminate the on-Facility sources if it becomes technically feasible.