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Final Work Plan
Phase II Remedial Investigation
and Focused Feasibility Study

Fumex Sanitation Site
New Hyde Park, Nassau County, New York
NYSDEC Site #1-30-041
Work Assignment #D002925-22

Prepared for:

New York State
Department Of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Michael Zagata
Commissioner

Division Of Environmental Remediation

Michael J. O'Toole, Jr., P.E.
Director

Prepared by:

CDM Camp Dresser & McKee
100 Crossways Park Drive West
Woodbury, New York 11797-2012
February 1998

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APPROVED 2/13/98

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Robert Feldmann

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50 Wolf Road, Albany, New York 12233

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HAZARDOUS WASTE REMEDIATION
NYSDEC REGION 1

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Contents
Workplan

List of Figures

List of Tables

Section 1
Introduction

The Phase II Remedial Investigation (RI) Work Assignment (D002925-22) for the Fumex Sanitation Site (Fumex), located in the Village of New Hyde Park, Nassau County, New York, was authorized by the New York State Department of Environmental Conservation (NYSDEC), under the State Superfund Standby Contract (SSSC). The Work Assignment, and NYSDEC authorization for the expenditure of work plan development cost funds, was assigned to Camp Dresser & McKee (CDM) in a letter received on May 12, 1997 (NYSDEC 1997).

This document is the Fumex site Phase II RI draft work plan, the first deliverable to the NYSDEC under the work assignment (NYSDEC 1997). Corresponding documents under separate cover are the Fumex site RI draft Site Operations Plan/Quality Assurance Project Plan (SOP/QAPP) (CDM 1997), which includes a draft site Health and Safety Plan (HASP), and draft Minority Owned Business Enterprise/Woman Owned Business Enterprise (MBE/WBE) Utilization Plan (CDM 1997).

1.1 Site Background and History

The following sections provide a description of the Fumex site.

1.1.1 Site Location, Ownership, and Use

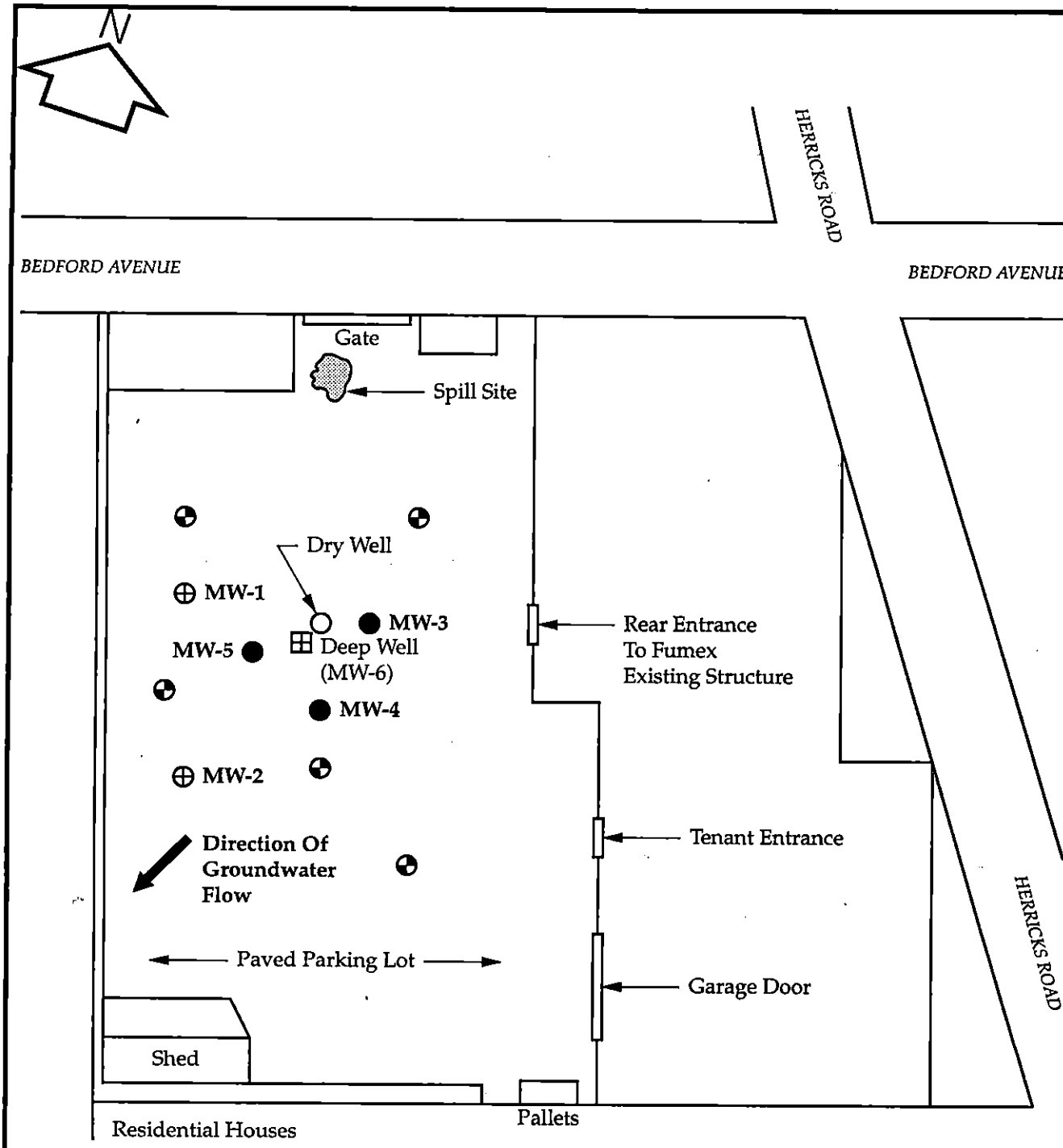
The Fumex site is located at 131 Herricks Road in the Village of New Hyde Park, Nassau County, New York. It encompasses approximately 1 acre of land and includes a one story masonry and metal frame building, with no basement. The site building is bounded to the west by a paved parking lot. Fumex Sanitation has operated a commercial termite extermination facility at this site since 1952. Land use prior to 1952 was discussed in the Draft RI Report (CDM 1996).

The site is bounded on the north by Bedford Avenue, on the south by a parking lot, on the east by Herricks Road, and on the west by residential houses and Armstrong Road (see Figure 1-1). The area surrounding the site consists of industrialized/commercial properties as well as residential properties south of the site.

In 1992, Fumex Sanitation, Inc. changed its name to S.S. Sanitation, Inc. The sole officer and shareholder is Steven Schwimmer, who has filed for bankruptcy pursuant to Chapter 7 of the bankruptcy code. S.S. Sanitation, Inc. no longer operates at this facility.

1.1.2 Site History

Fumex Sanitation Inc., is a New York Corporation originally formed on December 6, 1948. Fumex has operated a commercial termite extermination business at this site since 1952. In August 1981, a drum of chlordane rinse water stored at this site was knocked over, spilling approximately 30 gallons of the rinse water onto the asphalt parking lot behind Fumex. The material entered two stormwater catch basins on the adjacent road (Bedford Ave.) and a dry well in Fumex's parking lot.



LEGEND:

- ○ - Dry Well
- ⊕ - 4" Diameter Monitoring Well
- ● - 2" Diameter Monitoring Well
- ⊞ - Proposed Location For New Monitoring Well (2" Diameter)
- ◒ - Proposed Locations For Soil Borings

Not To Scale

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Fumex Site - New Hyde Park, New York
NYSDEC Site #1-30-041

Proposed On-Site Monitoring Well/ Soil Boring Locations

Figure 1-

Issued: October 1

Fumex also regularly sprayed their then unpaved parking lot with 1-2% chlordane for insect control from 1952 to 1978.

In 1986, the NYSDECs Region 1 office entered into an order on consent with Fumex to determine the extent of chlordane in the soil and groundwater at the site and evaluate remedial alternatives.

A hydrogeological investigation was conducted in 1986 by Fumex to satisfy the requirements of the Order on Consent. Three monitoring wells were installed at the site, in addition to the two wells that were previously installed. The five wells have been sampled and the results are as follows:

Chlordane Concentrations in Groundwater
(concentrations in ppb)

Monitoring Well	July 1984	Dec. 4, 1986	Dec. 10, 1986
1	39	96	99.7
2	53	40	20.1
3	NS	NS	0.89
4	NS	55	3.6
5	NS	56	16.3

Note : NS = Not Sampled

Soil samples were collected during the installation of these monitoring wells. The chlordane concentrations reported in these samples show that the highest concentrations were found in MW-5 and that the concentrations in all wells generally decreased with depth. The results are as follows:

Chlordane Concentrations in Soil (ppb)

Monitoring Well	July 1984	Nov. 1986	Dec. 1986
1	1530 (25 - 27') 105 (35 - 37') 14 (40 - 42')	NS	NS
2	9 (30 - 32')	NS	NS
3	NS	1492 (10 - 12') 96.9 (20 - 22') 308 (30 - 32') 90.3 (40 - 42') 59.4 (50 -52')	480 (45 - 47')
4	NS	417 (10 - 12') 1344 (20 - 22') 700 (30 - 32')	670 (30 - 32')

5	NS	1500 (10 - 12') 1494 (20 - 22') 619 (30 - 32')	1500 (30 - 32') 1400 (45 - 47')

Note: NS = Not Sampled.

Based on the results of this investigation, a Phase 1 investigation was conducted in 1989. In 1989 Fumex was notified of the site's inclusion in the Registry on Inactive Hazardous Waste Disposal Sites in New York State. Steven Schwimmer was notified of his status as a responsible party in 1994. Counsel for Mr. Schwimmer responded that he did not wish to enter into an Order on Consent with the Department to remediate the site.

In 1995, a Remedial Investigation was performed to determine if there was existing chlordane concentrations on site. The results of that investigation were presented to NYSDEC under separate cover (CDM 1996) and are summarized here:

Fumex Site Monitoring Wells

Gamma Chlordane Concentrations in Groundwater (ppb)

Well	Round 1 March 10, 1996	Round 2 August 27, 1996
1	1.50	6.50
2	15.00	4.50
3	0.35	0.63
4	1.90	1.20
5	5.20	0.43

1.2 Environmental Setting

The following sections provide a description of the environmental setting at the Fumex site.

1.2.1 Site Topography

The Atlantic Coastal Plain physiographic province of North America is located along Long Island. Two lines of hills made of glacial debris exist along the northern and central part of Long Island. The northern moraine is the Harbor Hill moraine and the central moraine is the Ronkonkoma moraine. These moraines converge in western Long Island. The topography between these two moraines is relatively flat and gentle (Lawler, Matusky & Skelly, 1989).

The Fumex site lies on this relatively flat and gentle topography between the two moraines. There is a slight increase in elevation to the east and west of the site.

1.2.2 Geology

The subsurface conditions beneath the site consist of sediments from the Pleistocene glacial outwash. These sediments consist of stratified sands and gravels which were deposited by the melting glacials of the receding Harbor Hill moraine. These surficial sediments are approximately 100-150 ft. thick and are very permeable.

Beneath these sediments, till from the Ronkonkoma moraine may be located. This till consists of relatively impermeable clay, sand and boulders (Lawler, Matusky & Skelly, 1989).

Cretaceous sediments are located beneath the Pleistocene glacial outwash sediment. These cretaceous sediments consist of the younger Magothy formation and the older Raritan formation. The Magothy formation is composed of 300 to 400 ft. thick, moderate to highly permeable, fine to medium sand. Coarse sand or sandy clay lenses are also found in the Magothy formation. The Raritan formation includes the Raritan clay and Lloyd sand formations. The Raritan clay is an impermeable clay layer with sand and gravel lenses. The Raritan clay is approximately 100 to 150 ft. thick. The Lloyd sand underlies the other formations and consists of fine to coarse sand and gravel. The Lloyd sand has a moderate permeability and is nearly 150 ft. thick (Smolensky, 1989).

Precambrian crystalline rock, including mica schist, gneiss and granite, is the bedrock which underlies Long Island. The bedrock has minor water-bearing fractures and is relatively impermeable. The bedrock depth is approximately 830 ft. near the Fumex site (Lawler, Matusky & Skelly, 1989).

1.2.3 Hydrogeology

The groundwater reservoir of Long Island consists of sediments from the Pleistocene and Late Cretaceous glacial outwash. The Precambrian bedrock is considered the lower limit of the aquifer due to its relative impermeability. There are three water-producing aquifers: (1) the Upper Glacial aquifer, (2) the Magothy formation, and (3) the Lloyd sand of the Raritan formation (Smolensky, 1989).

The Upper Glacial aquifer consists of permeable Pleistocene outwash sands and gravels. It is located at a depth of 47 ft. below land surface and is approximately 45 to 50 ft. above mean sea level. This aquifer is approximately 100 ft. thick. Groundwater flows southwest in the area of the Fumex site. Very small amounts of this aquifer are used for industrial purposes (Lawler, Matusky & Skelly, 1989).

The Magothy formation is composed of moderately to highly permeable sands with intermittent clay layers. These clay layers form less permeable areas in the aquifer. The Magothy formation is used as the primary aquifer for public drinking water in Nassau County. The aquifer is approximately 400 ft. thick.

The Lloyd sand of the Raritan formation is located beneath the Magothy aquifer. An impermeable Raritan clay formation divides the Magothy aquifer and the Lloyd sand. The Lloyd sand aquifer is located between 650 to 700 ft. below the surface near the site and is considered a confined aquifer because its water is under artesian conditions. Deep public supply wells are located in this aquifer, within a few miles of the Fumex site (Lawler, Matusky & Skelly, 1989).

Percolation of rainwater through the soil is the primary means of recharge to the aquifers. The Upper Glacial aquifer is replenished directly by water from the surface. The Upper Glacial aquifer and Magothy aquifer are hydraulically connected. The slow, vertical migration of water downward supplies the Magothy aquifer. The Lloyd sand is also supplied by the slow, vertical migration of water, through the Raritan clay.

1.2.4 Surface Water and Drainage

Several sporadic ponds are located within 0.5 miles of the site. These ponds may be used as recharge basins. Hempstead Lake is located approximately 4 miles southeast of the site in Hempstead Lake State Park. Valley Stream is located approximately 5 miles southwest of the site. Valley Stream drains into Jamaica Bay. Site

runoff is directed towards the onsite dry well. Runoff from outside the site is most likely directed to the local stormwater collection system (Lawler, Matusky & Skelly, 1989).

1.3 Project Objective

The objective of this Work Assignment, i.e., project, is to complete a Phase II RI pursuant to NYSDEC requirements, which includes the following:

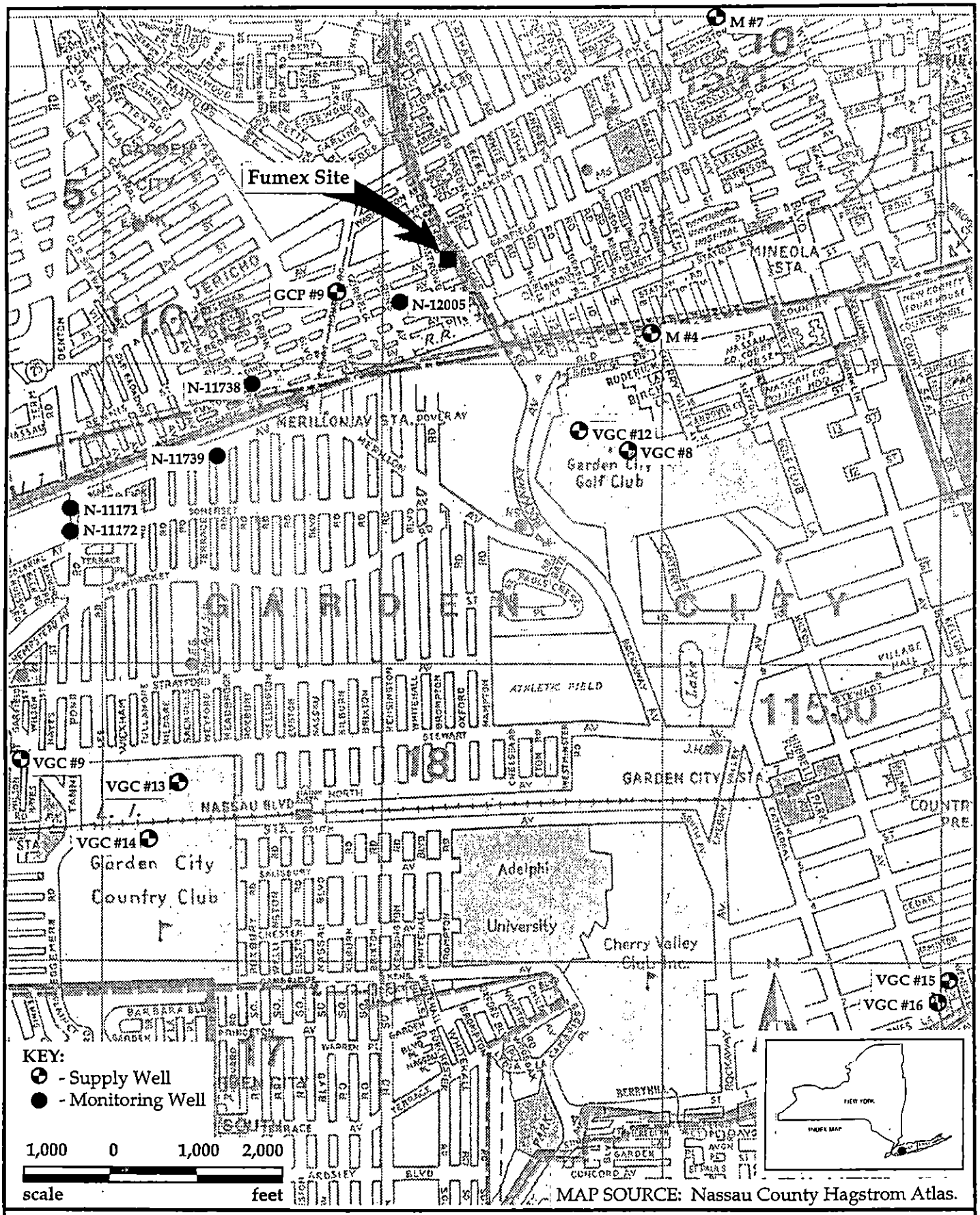
- Work plan development (including a SOP/QAPP, HASP, and MBE/WBE Utilization Plan)
- Site characterization (Phase II remedial investigation [RI]) to more completely characterize the nature and extent of contamination originating at this site

This document is the draft Phase II RI work plan deliverable. Corresponding documents (draft SOP/QAPP, which includes a draft site HASP, and draft MBE/WBE Utilization Plan) are submitted to the NYSDEC concurrently under separate cover.

The objectives of the Phase II RI for the Fumex site are to: 1) define the groundwater contamination, 2) identify any receptors, 3) through the installation of six off-site groundwater wells, determine if the adjacent properties have been negatively impacted by the contamination, 4) identify if there has been vertical migration of the contamination through the installation of four deep wells, and 5) perform a focused feasibility study (FS) and/or IRM, if necessary.

Specifically, the principal elements of the Phase II RI for the Fumex site are:

- to characterize the existing concentrations of chlordane at the Fumex site by collecting sediment samples from five on-site soil borings as well as soil borings from the installation of the deep well on-site.
- upon completion of monitoring well installation and well survey to characterize the hydrogeology of the site including the general flow direction(s) of the aquifer, and the hydraulic relationship between the monitoring wells based on two rounds of synoptic water level measurements.
- to develop a working Citizen Participation Plan that describes the site-specific citizen participation activities that will take place to compliment the remedial investigation.
- to install seven new monitoring wells (one on-site, six off-site)
- to determine the distribution of contamination, the five on-site shallow wells; one on-site deep well; three off-site shallow/deep well pairs and five Nassau County wells (N-11378, N-11739, N-11171, N-11172, and N-12005) will be analyzed for pesticides in two separate rounds (to be conducted three to four months apart)
- if necessary, based on the results of the Phase II RI, to perform a focused first and second phase FS which includes a screening of technologies and development of alternatives for the Detailed Evaluation of Alternatives



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Fumex Site - New Hyde Park, New York
NYSDEC Site #1-30-041

Location Map

Figure 1-2

Issued: October 1997.

Section 2
Scope of Work and Description of Tasks

The Fumex site Phase II RI and Focused Feasibility Study, which is organized into three major tasks and related subtasks, will be implemented in accordance with the scope of work as defined below.

2.1 Task 1 - Work Plan Development

A detailed work plan will be developed for the Fumex site Phase II RI and Focused Feasibility Study. The objective of the work plan and associated documents is to provide a site specific, detailed plan for conducting the Phase II RI so that data generated during the project will be technically accurate and properly documented, and meet the objective of the project (as discussed in Section 1.2 of this work plan) as well as to ensure that the Phase II RI is conducted in compliance with the Occupational Safety and Health Administration (OSHA) regulations. If necessary, based on the results of the Phase II RI, the work plan will provide for the reparation of a focused feasibility study.

Work plan preparation for the site Phase II RI and Focused Feasibility Study will consist of two subtasks: Subtask 1.1 - Draft Work Plan (including the preparation of a draft RI SOP/QAPP, that includes a draft site HASP, draft RI MBE/WBE Utilization Plan) and a draft CPP Citizen Participation Plan; Subtask 1.2 - Final Work Plan (including the preparation of a final RI SOP/QAPP and HASP, and a final RI MBE/WBE Utilization Plan), the funds for which were authorized in the work assignment (NYSDEC 1997). Task 1 is currently in progress.

2.1.1 Subtask 1.1 - Draft Phase II RI and Focused Feasibility Study Work Plan

This deliverable, the draft Phase II RI and Focused Feasibility Study Work Plan, Subtask 1.1 of Task 1 - Work Plan Development, consists of the following:

- A discussion of the site background and history, including a summary of past operations and constituents of concern.
- A description of major project tasks and subtasks for the Fumex site Phase II RI and Focused Feasibility Study.
- A detailed discussion of Phase II RI (site characterization) and Focused Feasibility Study activities.
- A work assignment (project) progress schedule with noted milestones and deliverables.
- A staffing plan identifying management and technical staff to be assigned to the project, and resumes of key project staff.
- A work assignment budget broken down by project task.

- Identification of areas of work requiring subcontracting.
- A MBE/WBE utilization plan identifying subcontracts most likely to result in MBE/WBE utilization.

This deliverable is accompanied by a corresponding draft Phase II RI SOP/QAPP (that includes a draft site HASP) and a draft MBE/WBE Utilization Plan. Seven (7) copies of the draft work plan will be submitted to the NYSDEC. For budgetary purposes, it is assumed that NYSDEC comments on the draft work plan will be discussed via telephone conference.

2.1.2 Subtask 1.2 - Final Phase II RI and Focused Feasibility Study Work Plan

Subtask 1.2 - Final Phase II RI and Focused Feasibility Study Work Plan will consist of preparing a final work plan for the Fumex Phase II RI and Focused Feasibility Study that incorporates one round of comments from NYSDEC and/or New York State and Nassau County Department of Health (NYSDOH, NCDOH) on the draft work plan. Seven (7) copies of the final work plan will be submitted to the NYSDEC.

The final Phase II RI and Focused Feasibility Study work plan, including the final Phase II RI SOP/QAPP with HASP, Citizen Participation Plan and MBE/WBE Utilization Plan, will be prepared upon receipt of one set of NYSDEC comments. The Citizen Participation Plan will contain a public contacts list, including but not limited to the following: residents within a 1000' radius of the Fumex site, local civic, environmental and economic groups potentially interested in this matter, elected representatives on the town, county and state level and local media. In addition, a discussion of the Fumex site history and the proposed exchanges of information with the public will be documented as will the agency contacts for the NYSDEC, NYSDOH and NCDOH.

2.2 Task 2 - Remedial Investigation

Field investigations during this initial phase of the Phase II RI will be performed to determine the nature, extent and source(s) of contamination at the site. Samples collected during the RI will predominantly be analyzed for target compound list (TCL) pesticides (see Table 2-1). Sediment samples from the installation of the on-site deep well will also be analyzed for TCL volatiles, TCL semi-volatiles, metals and total organic carbon.

The work associated with the Phase II RI, determining the extent of contamination, has been divided into three subtasks. Subtask 2.1 consists of the delineation of sediment contamination at the site; Subtask 2.2 consists of a characterization of the local hydrogeology; and Subtask 2.3 consists of a preliminary RI report.

2.2.1 Subtask 2.1 - Sediment Characterization

Sediment quality in the drywell at the site has been evaluated and the results presented to NYSDEC (CDM 1996). Further field investigations will be conducted to determine the extent of soil contamination at the site. A total of five borings will be made on site and soil samples will be collected from these boreholes. These soil samples will be tested for TCL pesticides. In addition, a

TABLE 2-1

Target Compound List (TCL)
Contract Required Quantitation Limits (CRQL)*

Pesticides/Aroclors	CAS Number	Quantitation Limits* Water ug/L	Soil ug/Kg	On Column ng
alpha-BHC	319-84-6	0.05	1.7	5
beta-BHC	319-85-7	0.05	1.7	5
delta-BHC	319-86-8	0.05	1.7	5
gamma-BHC (Lindane)	58-89-9	0.05	1.7	5
Heptachlor	76-44-8	0.05	1.7	5
Aldrin	309-00-2	0.05	1.7	5
Heptachlor epoxide	1024-57-3	0.05	1.7	5
Endosulfan I	959-98-8	0.05	1.7	5
Dieldrin	60-57-1	0.1	3.3	10
4,4'-DDE	72-55-9	0.1	3.3	10
Endrin	72-20-8	0.1	3.3	10
Endosulfan II	33213-65-9	0.1	3.3	10
4,4'-DDD	72-54-8	0.1	3.3	10
Endosulfan sulfate	1031-07-8	0.1	3.3	10
4,4'-DDT	50-29-3	0.1	3.3	10
Methoxychlor	72-43-5	0.50	17.0	50
Endrin ketone	53494-70-5	0.10	3.3	10
Endrin aldehyde	7421-36-3	0.10	3.3	10
alpha-Chlordane	5103-71-9	0.05	1.7	5
gamma-Chlordane	5103-74-2	0.05	1.7	5
Toxaphene	8001-35-2	5.0	170.0	500
AROCLOR-1016	12674-11-2	1.0	33.0	100
AROCLOR-1221	11104-28-2	1.0	67.0	200
AROCLOR-1232	11141-16-5	1.0	33.0	100
AROCLOR-1242	53469-21-9	1.0	33.0	100
AROCLOR-1248	12672-29-6	1.0	33.0	100
AROCLOR-1254	11097-69-1	1.0	33.0	100
AROCLOR-1260	11096-82-5	1.0	33.0	100

* Quantitation Limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the Laboratory for soil/sediment, calculated on dry weight basis, as required by the Protocol, will be higher.

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Table 2-1 (cont'd)
Target Compound List (TCL)
Contract Required Quantitation Limits (CRQL)*

VOCs	CAS Number	Quantitation Limits* Water ug/L	Low Soil ug/Kg	Med Soil ug/Kg	On Column
1. Chloromethane	74-87-3	10	10	1200	(50)
2. Bromomethane	74-83-9	10	10	1200	(50)
3. Vinyl chloride	75-01-4	10	10	1200	(50)
4. Chloroethane	75-00-3	10	10	1200	(50)
5. Methylene chloride	75-09-2	10	10	1200	(50)
6. Acetone	67-64-1	10	10	1200	(50)
7. Carbon Disulfide	75-15-0	10	10	1200	(50)
8. 1,1-Dichloroethylene	75-35-4	10	10	1200	(50)
9. 1,1-Dichloroethane	75-35-3	10	10	1200	(50)
10. 1,2-Dichloroethylene (total)	540-59-0	10	10	1200	(50)
11. Chloroform	67-66-3	10	10	1200	(50)
12. 1,2-Dichloroethane	107-06-2	10	10	1200	(50)
13. 2-Butanone	78-93-3	10	10	1200	(50)
14. 1,1,1-Trichloroethane	71-55-6	10	10	1200	(50)
15. Carbon tetrachloride	56-23-5	10	10	1200	(50)
16. Bromodichloromethane	75-27-4	10	10	1200	(50)
17. 1,2-Dichloropropane	78-87-5	10	10	1200	(50)
18. cis-1,3-Dichloropropene	10061-01-5	10	10	1200	(50)
19. Trichloroethene	79-01-6	10	10	1200	(50)
20. Dibromochloromethane	124-48-1	10	10	1200	(50)
21. 1,1,2-Trichloroethane	79-00-5	10	10	1200	(50)
22. Benzene	71-43-2	10	10	1200	(50)
23. trans-1,3-Dichloropropene	10061-02-6	10	10	1200	(50)
24. Bromoform	75-25-2	10	10	1200	(50)
25. 4-Methyl-2-pentanone	108-10-1	10	10	1200	(50)
26. 2-Hexanone	591-78-6	10	10	1200	(50)
27. Tetrachloroethene	127-18-4	10	10	1200	(50)
28. Toluene	108-88-3	10	10	1200	(50)
29. 1,1,2,2-Tetrachloroethane	79-34-5	10	10	1200	(50)
30. Chlorobenzene	108-90-7	10	10	1200	(50)
31. Ethyl Benzene	100-41-4	10	10	1200	(50)
32. Styrene	100-42-5	10	10	1200	(50)
33. Total Xylenes	1330-20-7	10	10	1200	(50)

Table 2-1 (cont'd)
Target Compound List (TCL)
Contract Required Quantitation Limits (CRQL)*

Semi - VOCs	CAS Number	Quantitation Limits* Water ug/L	Low Soil ug/Kg	Med Soil ug/Kg	On Column
34. Phenol	108-95-2	10	330	10,000	(20)
35. bis(2-Chloroethyl) ether	111-44-4	10	330	10,000	(20)
36. 2-Chlorophenol	95-57-8	10	330	10,000	(20)
37. 1,3-Dichlorobenzene	541-73-1	10	330	10,000	(20)
38. 1,4-Dichlorobenzene	106-46-7	10	330	10,000	(20)
39. 1,2-Dichlorobenzene	95-50-1	10	330	10,000	(20)
40. 2-Methylphenol	95-48-7	10	330	10,000	(20)
41. 2,2'-oxybist(1-Chloropropane)#	108-60-1	10	330	10,000	(20)
42. 4-Methyphenol	106-44-5	10	330	10,000	(20)
43. N-Nitroso-di-n-propylamine	621-64-7	10	330	10,000	(20)
44. Hexachloroethane	67-72-1	10	330	10,000	(20)
45. Nitrobenzene	98-95-3	10	330	10,000	(20)
46. Isophorone	78-59-1	10	330	10,000	(20)
47. 2-Nitrophenol	88-75-5	10	330	10,000	(20)
48. 2,4-Dimethylphenol	105-67-9	10	330	10,000	(20)
49. bis(2-Chloroethoxy) methane	111-91-1	10	330	10,000	(20)
50. 2,4-Dichlorophenol	120-83-2	10	330	10,000	(20)
51. 1,2,4-Trichlorobenzen	120-82-1	10	330	10,000	(20)
52. Naphthalene	91-20-3	10	330	10,000	(20)
53. 4-Chloroaniline	106-47-8	10	330	10,000	(20)
54. Hexachlorobutadiene	87-68-3	10	330	10,000	(20)
55. 4-Chloro-3-methyphenol	59-50-7	10	330	10,000	(20)
56. 2-Methylnaphthalene	91-57-6	10	330	10,000	(20)
57. Hexachlorocyclopentadiene	77-47-4	10	330	10,000	(20)
58. 2,4,6-Trichlorophenol	88-06-2	10	330	10,000	(20)
59. 2,4,5-Trichlorophenol	95-95-4	25	800	25,000	(50)
60. 2-Chloronaphthalene	91-58-7	10	330	10,000	(20)
61. 2-Nitroaniline	88-74-4	25	800	25,000	(50)
62. Dimethylphthalate	131-11-3	10	330	10,000	(20)
63. Acenaphthylene	208-96-8	10	330	10,000	(20)
64. 2,6-Dinitrotoluene	606-20-2	10	330	10,000	(20)
65. 3-Nitroaniline	99-09-2	25	800	25,000	(50)
66. Acenaphthene	83-32-9	10	330	10,000	(20)
67. 2,4-Dinitrophenol	51-28-5	25	800	25,000	(50)
68. 4-Nitrophenol	100-02-7	25	800	25,000	(50)
69. Dibenzofuran	132-64-9	10	330	10,000	(20)
70. 2,4-Dinitrotoluene	121-14-2	10	330	10,000	(20)

Table 2-1 (cont'd)
Target Compound List (TCL)
Contract Required Quantitation Limits (CRQL)*

Semi-VOCs	CAS Number	Quantitation Limits* Water ug/L	Low Soil ug/Kg	Med Soil ug/Kg	On Column
71. Diethylphthalate	84-66-2	10	330	10,000	(20)
72. 4-Chlorophenyl phenyl ether	7005-72-3	10	330	10,000	(20)
73. Fluorene	86-73-7	10	330	10,000	(20)
74. 4-Nitroaniline	100-01-6	25	800	25,000	(50)
75. 4,6-Dinitro-2-methylphenol	534-52-1	25	800	25,000	(50)
76. N-nitrosodiphenylamine	86-30-6	10	330	10,000	(20)
77. 4-Bromophenyl phenyl ether	101-55-3	10	330	10,000	(20)
78. Hexachlorobenzene	118-74-1	10	330	10,000	(20)
79. Pentachlorphenol	87-86-5	25	800	25,000	(50)
80. Phenanthrene	85-01-8	10	330	10,000	(20)
81. Anthracene	120-12-7	10	330	10,000	(20)
82. Carbazole	86-74-8	10	330	10,000	(20)
83. Di-n-butyl phthalate	84-74-2	10	330	10,000	(20)
84. Fluoranthene	206-44-0	10	330	10,000	(20)
85. Pyrene	129-00-0	10	330	10,000	(20)
86. Butyl benzyl phthalate	85-68-7	10	330	10,000	(20)
87. 3,3'-Dichlorobenzidine	91-94-1	10	330	10,000	(20)
88. Benz(a)anthracene	56-55-3	10	330	10,000	(20)
89. Chrysene	218-01-9	10	330	10,000	(20)
90. bis(2-Ethylhexy)phthalate	117-81-7	10	330	10,000	(20)
91. Di-n-octyl phthalate	117-84-0	10	330	10,000	(20)
92. Benzo(b)fluoranthene	205-99-2	10	330	10,000	(20)
93. Benzo(k)fluoranthene	207-08-9	10	330	10,000	(20)
94. Benzo(a)pyrene	50-32-8	10	330	10,000	(20)
95. Indeno(1,2,3-cd)pyrene	193-39-5	10	330	10,000	(20)
96. Dibenz(a,h)anthracene	53-70-3	10	330	10,000	(20)
97. Benzo(g,h,i)perylene	191-24-2	10	330	10,000	(20)

* Quantitation Limits listed for soil/sediment are based on wet weight. The quantiation limits calculated by the laboratory for soil/sediment, calculated on dry weight basis, as required by the protocol, will be higher.

\# Previoulsy known by the name bis(2-Chloroisopropyl) ether

TABLE 2-1 (cont'd)

Target Analyte List (TAL)
Contract Required Quantitation Limit

Metals Only

	Parameter	Contract Required Quantitation Level Aqueous (ug/L)	Contract Required Quantitation Level Soil (ug/kg)
1.	Aluminum	200	40
2.	Antimony	60	12
3.	Aresenic	10	2
4.	Barium	200	40
5.	Beryllium	5	1
6.	Cadmium	5	1
7.	Calcium	5000	1000
8.	Chromium	10	2
9.	Cobalt	50	10
10.	Copper	25	5
11.	Iron	100	20
12.	Lead	3	0.6
13.	Magnesium	5000	1000
14.	Manganese	15	3
15.	Mercury	0.2	0.1
16.	Nickel	40	8
17.	Potassium	5000	1000
18.	Selenium	5	1
19.	Silver	10	2
20.	Sodium	5000	1000
21,	Thallium	10	2
22.	Vanadium	50	10
23.	Zinc	20	4
24.	Cyanide	10	0.5

sediment sample will be obtained from the nearest stormwater drain to the Fumex site. Detailed procedures for the surface water and sediment sampling are discussed in the draft RI SOP/QAPP.

For budgetary purposes, it is assumed that:

- Required equipment is as described in the draft RI SOP/QAPP.
- Forty-two sediment samples will be obtained using a split spoon sampler. The samples will be collected by the contracted driller, SJB Services (see Appendix F, in Site Operations/Quality Assurance Project Plan , and sent to the contract laboratory (H2M Labs, Inc.) for TCL pesticide analysis. Thirty-five of these will be obtained from the five soil borings. The remaining seven split-spoon samples will be obtained from the installation of an on-site deep monitoring well. These split-spoon samples will be sent to the contract laboratory for TCL Volatile, TCL Semi-volatile, TCL pesticide, TAL metals, and Total Organic Carbon.
- Prior to drilling of a borehole, all split spoons will be steam-cleaned , washed with liquinox and rinsed with distilled/deionized water.
- The sediment samples will be obtained from the top 1 to 5 feet, from the depth between 5 to 10 feet, from the depth between 10 to 15 feet, and every 10 feet after to a depth of 55 feet below the parking lot surface. Five surface soil samples will be taken at the top of each boring and analyzed for TCL pesticides. Additionally, a surface sample will be taken during the drilling of the on-site well. This surface sample will be sent to the contract laboratory for TCL Volatile, TCL Semi-volatile, TCL pesticide, TAL metals, and Total Organic Carbon.
- QA/QC samples (as specified in Table 8-2 of the draft Phase II RI SOP/QAPP [CDM 1997]) will be sent to the contract laboratory for TCL pesticides analysis.
- All work will be performed using Level D PPE (see draft Phase II RI HASP [CDM 1997]).
- A budget of $1,500 is provided for RI consumable supplies. The NYSDEC will be notified of consumable supply costs greater than $1,500; NYSDEC will reimburse these costs upon receipt of cost backup/justification.
- NYSDEC will provide legal access to off-site sampling locations, as needed.
- No meetings at the NYSDEC office in Albany, New York will be needed.
- Auger cuttings will be screened using an OVM PID. Cuttings will be disposed off-site. During the Phase II RI, drummed cuttings (from soil borings and cuttings from well installations) will be disposed off-site by Environmental Products & Services, Inc. for an approximate total cost of $15,444.
- Costs for CDM oversight of drum disposal are included.
- The NYSDEC will designate a temporary on-site drum storage area.

2.2.2 Subtask 2.2 - Hydrogeologic Characterization

The objective of the site hydrogeologic characterization is to evaluate groundwater quality (nature, extent and source[s] of contamination) and flow at the Fumex site to determine if the site is a source of chlordane to downstream monitoring wells. Specifically, the goals of the site hydrogeologic characterization are:

- to characterize the hydraulic relationship between the monitoring wells (to the extent possible based on two rounds (at least 3 months apart) of synoptic water level measurements in the monitoring wells).
- to characterize groundwater quality at the site and at the upstream and downstream monitoring wells delineated in the following sections.

2.2.2.1 Monitoring Well Installation

CDM proposes to install seven (7) 2-inch monitoring wells at the Fumex site. The monitoring well locations will be determined during field site investigations and be decided upon by NYSDEC and CDM personnel.

The proposed on-site deep monitoring well will be located in the vicinity of the dry well. This well will be used to characterize potential vertical migration of the source contamination. During the installation of this two-inch well, split-spoon samples will be taken at intervals discussed previously in Section 2.2.1.

The proposed upstream monitoring well cluster (one deep, one shallow) is located upstream of the dry well (within 150 feet) to characterize the background groundwater quality in this area. This well cluster will also provide further data for evaluating groundwater flow in the upper glacial aquifer.

Two additional well clusters will be installed downstream of the Fumex site. A total of four wells, two deep and two shallow, will be installed downgradient of the site. These additional wells will provide information on the downgradient extent of the contamination and will help determine if pesticides have migrated vertically to the Magothy aquifer. Split-spoon samples from these wells will not be taken.

Detailed procedures for the drilling, installation, and development of proposed shallow and deep monitoring wells are described in the draft RI SOP/QAPP.

For budgetary purposes, it is assumed that:

- Required equipment is as described in the draft RI SOP/QAPP (CDM 1997).
- A supply of potable water will be available on-site.
- All drilling sites will be accessible by a truck-mounted drill rig.

- Auger cuttings will be screened using an OVM PID. If deemed necessary, cuttings will be disposed off-site as hazardous waste. It is estimated that approximately ninety, 55-gal drums) will be generated. During the Phase II RI, that drums of cuttings will be disposed off-site as hazardous waste at a cost of $15,444 (this price includes transportation and disposal costs). These costs will be finalized based on bids submitted.

- Costs for CDM oversight of drum disposal are included.

- Decontamination of drilling tools and rig will be accomplished using a steam cleaner only. It is assumed that all wash water, drilling fluids, and decontamination fluids will be drummed or containerized and disposed of at the nearest off-site manhole and routed via the sanitary collection system to the Cedar Creek Water Pollution Control Plant (see letter in Appendix A). It is assumed that NCDPW personnel will assist in the location and oversight of the disposal of the non-hazardous liquid and that no permits or other special provisions are required for this disposal to the sanitary collection system.

- NYSDEC will designate a temporary on-site drum and/or PVC tank storage area.

- NYSDEC will provide legal access to all off-site sampling locations, as needed.

- Packer testing, permeability testing, slug tests, pump tests, grain size analysis, and other physical analyses are not included.

- Drill and install 7 monitoring wells including mobilization, decontamination, and cuttings containment at rate of 1 well per day shallow, and 1 well per two days deep assuming 1 CDM person and a 12-hour work day (108 hours for 7 new wells).

- Develop 7 new shallow wells and 5 existing on-site wells including mobilization, decontamination, and water containment, at rate of 2 wells per 12-hour work day, for 1 CDM person (72 hours for 12 wells).

- Driller will obtain all required permits for well installation.

- All work will be performed using Level D PPE (see draft Phase II RI HASP [CDM 1997]).

- No meetings at the NYSDEC Albany, New York office will be needed.

- An initial site visit will be conducted by the CDM Project Manager, Geologist and Field Operations Manager, and the NYSDEC Project Manager, with the drilling subcontractor prior to commencing this field activity to confirm locations of all proposed wells and to evaluate well location access. Local utility firms will be contacted so that a utility mark-out can be performed prior to the initial site visit. This initial site visit will be completed within 5 hours per person for 3 people, including travel time.

- A budget of $1,500 is provided for Phase II RI consumable supplies. The NYSDEC will be notified of consumable supply costs greater than $1,500; NYSDEC will reimburse these costs upon receipt of cost backup/justification.

- Worst-case estimate of generated development water, with respect to the development of 6 on-site monitoring wells, is about 5,040 gallons of water assuming that 1440 gallons are generated per deepwell and 720 gallons per shallow well. This development water will be containerized and routed to the sanitary collection system.

- Worst-case estimate of generated development water, with respect to the development of 6 off-site wells, is about 6,480 gallons of water assuming 2,160 gallons of water generated per well pair. This development water will be containerized and routed to the sanitary collection system.

2.2.2.2 Synoptic Groundwater Level Measurements

CDM will collect two rounds of synoptic water level measurements, one immediately prior to the Phase II RI groundwater sampling event and a second during a different season (at least 3 months following the first round of measurements). Water level measurements will be taken within the newly installed monitoring wells, as well as in existing site monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5, to an accuracy of 0.01 ft. Procedures for the measurement of water levels are described in the draft RI SOP/QAPP (CDM 1997).

For budgetary purposes, it is assumed that:

- Required equipment is as described in the draft Phase II RI SOP/QAPP (CDM 1997).

- NYSDEC will provide legal access to all off-site locations, as needed.

- A supply of potable water will be available on-site.

- All purge water generated will be drummed and/or containerized and disposed of off-site at the nearest sanitary manhole and conveyed to the Cedar Creek WPCP. Disposal of purge water will be performed under the supervision of NCDPW personnel from the Cedar Creek WPCP. No permits or other special provisions are required for the disposal of the purge well water.

- NYSDEC will designate a temporary drum and/or PVC tank storage area.

- NYSDEC will provide legal access to all off-site sampling locations, as needed.

- Measurements will be taken over a 1-day period. It is assumed that 2 CDM people will work one 8-hour-day for each measurement event.

- YEC, Inc. will perform a site survey upon completion of the monitoring well installations, on the seven new monitoring wells. The accuracy of the well elevation will be within 0.01 ft. In addition, YEC, Inc. will determine the horizontal location at each of the 12 monitoring wells.

- All work will be performed using Level D PPE (see draft Phase II RI HASP [CDM 1997])

- No meetings at the NYSDEC Albany, New York office will be needed.

2.2.2.3 Collection and Analysis of Groundwater Samples

A groundwater sample will be collected from each of the newly installed monitoring wells as well as from existing monitoring wells MW-1 through MW-5. Each sample will be analyzed for TCL pesticides. In addition groundwater samples collected from Nassau County monitoring wells N-11738, N-11739, N-11171, N-11172, and N-12005 will also be analyzed for TCL pesticides. Detailed procedures for groundwater sampling are discussed in the draft Phase II RI SOP/QAPP (CDM 1997).

For budgetary purposes, it is assumed that:

- Required equipment is described in the draft Phase II RI SOP/QAPP (CDM 1997).
- A supply of potable water will be available on-site.
- Pre-cleaned bailers dedicated to each well will be used.
- NYSDEC will be able to provide legal access to all off-site sampling locations, as needed.
- All purge water generated will be drummed and/or containerized and disposed of off-site at the nearest sanitary manhole and conveyed to the Cedar Creek WPCP. No permits or other special provisions are required for this disposal.
- NYSDEC will designate a temporary drum and/or PVC tank storage area.
- A total of 20 (per sampling event, 40 total) groundwater samples will be collected and sent to the contract laboratory (H2M Labs, Inc.) for TCL pesticide analysis.
- QA/QC samples (as specified in Table 8-2 of the draft SOP/QAPP [CDM 1997]) will be sent to the contract laboratory, H2M Labs, Inc., for analysis.
- Data Validation of all aqueous and soil samples will be performed by Chemworld, Inc.
- Groundwater wells recover at a reasonable rate, and sampling can be conducted within 2 hours of purging.
- Monitoring wells will be sampled at a rate of 5 wells per 12-hour work day, with 2 CDM people. Total is 40 hours per person for 2 persons (80 hours, total).
- All work will be performed using Level D PPE (see draft Phase II RI HASP [CDM 1997]).
- A budget of $1,500 is provided for Phase II RI consumable supplies. The NYSDEC will be notified of consumable supply costs greater than $1,500; NYSDEC will reimburse these costs upon receipt of cost backup/justification.
- No meetings at the NYSDEC Albany, New York office will be needed.

2.2.3 Subtask 2.3 - Draft Phase II RI Report

A draft Phase II RI report will be prepared upon completion of Subtasks 2.2.1, 2.2.2, and 2.2.3, and receipt of laboratory sample analytical results. As part of Subtask 2.3, a RI Report will be prepared to present and summarize field investigation activities, to identify areas and pesticides of concern at the site and to present site remedial action objectives and alternatives, if necessary. Specifically, the draft Phase II RI Report will include the following:

- An introduction, including report purpose, site background, description, history, environmental setting, and previous investigation summary.
- A description of the Phase II RI, including field activities associated with site characterization. This may include a description of site physical and chemical data, constituent sources, geology, groundwater/hydrogeology characteristics, and sediment characteristics.
- A description of the nature of pesticide-affected media at the site, including results of Phase II RI characterization activities with respect to the local groundwater and sediment.
- Conclusions, including data limitations and any recommendations for additional work, as well as remedial action objectives and potentially applicable remedial action alternatives.
- Appendices, including sample analytical data, a data validation report, and a data usability report.

Seven copies of the draft Phase II RI report will be submitted to the NYSDEC for review and comment. The draft Phase II RI report will be revised once to incorporate one set of NYSDEC written comments. One meeting (scoping session) will be conducted at the NYSDEC Albany, New York office to discuss NYSDEC comments on the draft Phase II RI report. One public information meeting will be attended by the CDM Project Manager after the completion of the Draft Phase II RI report. Seven double-sided copies of the final Phase II RI, incorporating all comments, will be submitted to NYSDEC.

2.3 Task 3 - Focused Feasibility Study and Evaluation of IRM

2.3.1 Subtask 3.1 Development of Alternatives (First Phase Feasibility Study)

If deemed necessary based upon Phase II RI sample analytical results, the first phase FS will be conducted; i.e., this task will be conducted only if Phase II RI sample analytical results demonstrate the need for remedial action at the site. Using the information developed during Task 2 of the Phase II RI (site characterization) activities, potential remedial action objectives (it is assumed that this will be necessary for pesticides only) will be identified for each affected medium and a preliminary list of potentially applicable remedial action technologies and process options will be identified. These remedial technologies and process options will be screened to ensure their effectiveness in achieving compliance with SCG values and risk-based cleanup goals for the site.

2.3.2 Subtask 3.2 - Preliminary Screening of Alternatives (Second Phase Feasibility Study)

The second phase of the FS will include the development of potentially applicable site remedial action alternatives based on the remedial action technologies and process options deemed applicable and appropriate during the Phase I FS. These alternatives will be screened to present the most appropriate site remedial alternatives as determined by their expected effectiveness and implementability. This task will be conducted only if Phase II RI sample analytical results demonstrate the need for remedial action at the site.

As part of Task 3, a draft FS Report will be prepared to report and summarize field investigation activities, to identify areas and constituents of concern at the site and assess potential on-site environmental and public health risks, and to present site remedial action objectives and alternatives, if necessary. Specifically, the draft FS Report will include the following:

- an introduction, including report purpose, site background, description, history, environmental setting, and previous investigation summary.
- a brief summary of the findings of the Phase II RI a description of the nature and extent of pesticide-affected media at the site, including results of Phase II RI site characterization activities with respect to site subsurface soil, groundwater, and sediment.
- a detailed evaluation of any proposed IRM, likely results, quantities and costs associated with the IRM (it is assumed for cost purposes that the proposed IRM would be limited to potential excavation of the on-site dry well).
- technologies logically applicable to the site (cost assumptions are based on the analysis of two remedial technologies; excavation of contaminated soil media (dry well or on-site spot excavations) and/or a small groundwater pump and treat system)
- a concise screening of the technologies and development of alternatives for the Detailed Evaluation of Alternatives (cost assumptions for this task are based on an evaluation of soil excavation an/or.a small groundwater pump and treat system).

The Phase II RI will serve as documentation of data collection and analysis in support of the site FS.

Seven copies of the draft FS report will be submitted to the NYSDEC for review and comment. The draft FS report will be revised once to incorporate one set of NYSDEC written comments. Seven copies of the Final FS will be sent to NYSDEC.

Section 3
Work Assignment Progress Schedule

The following tabulation provides the proposed project schedule and key milestones and deliverables for this work assignment. As currently planned, field work will be initiated two weeks after written receipt of work plan approval and notice to proceed from the NYSDEC. Field activity duration (actual field time) is estimated to be two weeks, if no delays are experienced due to inclement weather, site access problems, or for any other reasons beyond the control of CDM.

The scheduled submittal dates for deliverables are based on a standard laboratory turnaround time of four weeks, and a turnaround time for data validation of three weeks.

	Milestone	Date
	PHASE II RI WORK PLAN DEVELOPMENT	
	TASK 1:	
1.	Receipt of Work Assignment	05/12/97
2.	Scoping Session to Review Phase II Requirements	05/23/97
3.	**Phase II RI Work Plan Development (First Draft)**	**07/21/97**
4.	NYSDEC written comments to CDM	09/25/97 & 12/10/97
5.	**Phase II Final RI Work Plan**	**02/12/98**
6.	NYSDEC Approval of Phase II RI Work Plan and Notice to Proceed (Task 2)	02/27/98
	PHASE II REMEDIAL INVESTIGATION	
	TASK 2:	
7.	Phase II RI Field Investigation (1 week)	03/02/98 - 03/06/98
8.	Phase II Field Work, Well Installation, Sampling (6 weeks)	03/09/98 - 04/17/98
9.	Phase II RI Sample Analysis and Data Validation (7 weeks)	04/20/98 - 06/05/98
10.	Round 2 Synoptic Groundwater Level Measurements & Monitoring Well Sampling	07/13/98 -07/17/98
11.	Round 2 Phase II RI Sample Analysis and Data Validation	07/20/98 -09/04/98
12.	**Data Validation and Usability Report (2 weeks)**	**09/07/98 - 09/18/98**
13.	**Draft Phase II RI Report**	**10/09/98**
14.	NYSDEC Written Comments to CDM Phase II and Meeting with NYSDEC to discuss RI Report	10/30/98
15.	**Revised Final Phase II RI Report**	**11/13/98**
16.	NYSDEC Approval of Final Phase II RI Report	11/27/98

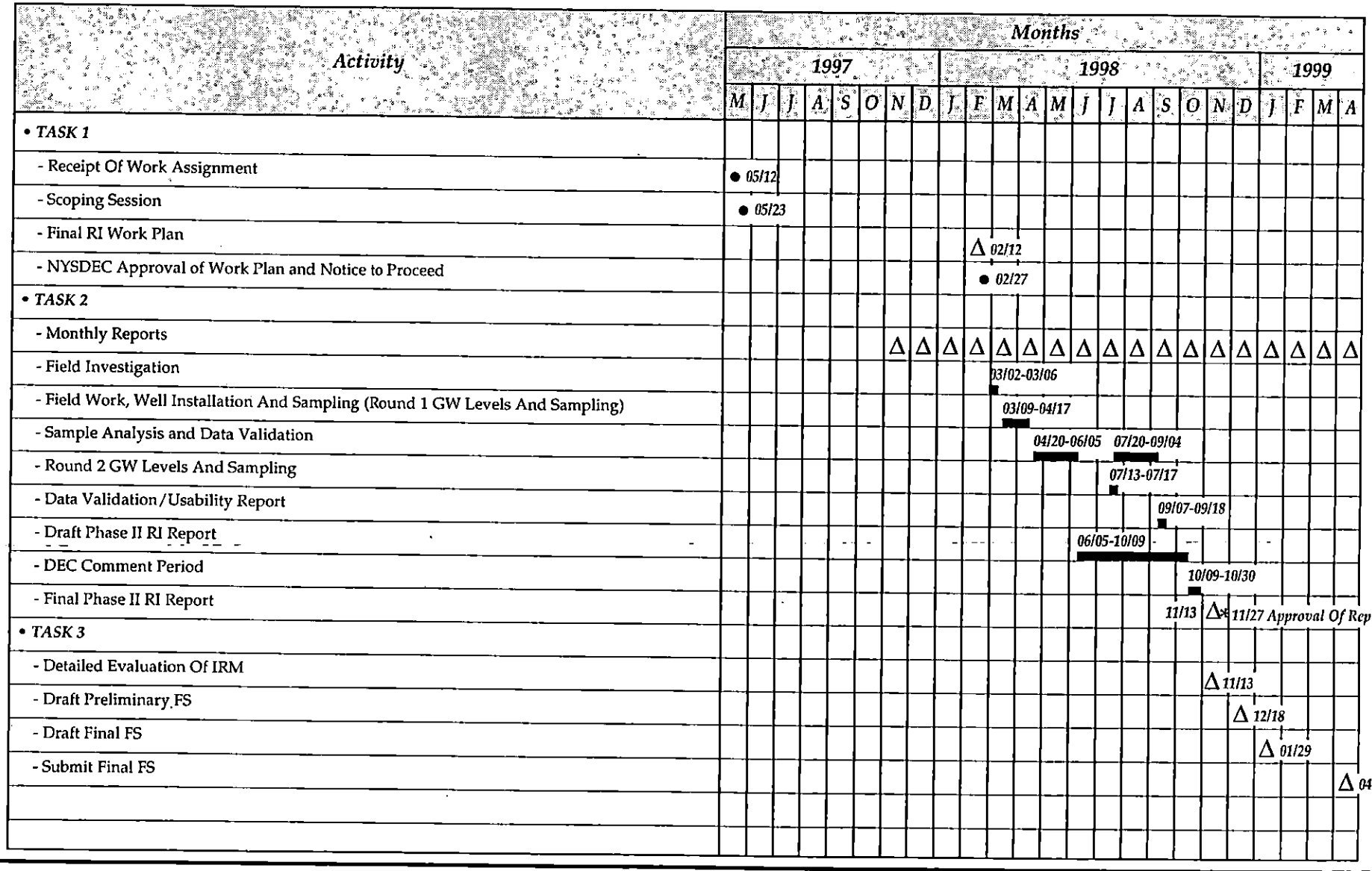
FOCUSED FEASIBILITY STUDY

TASK 3:

		Date
17.	**Submit Detailed Evaluation of IRM**	**11/13/98**
18.	**Submit Draft Preliminary FS**	**12/18/98**
19.	**Submit Draft Final FS**	**01/29/99**
20.	**Submit Final FS**	**04/19/99**

Note: Deliverables and deliverable dates are in bold print.

A bar chart schedule summary by task and subtask, as discussed in Section 2.0 of this work plan, is shown on Figure 3-1.



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Fumex Site - New Hyde Park, New York
NYSDEC Site #1-30-041

Bar Chart Project Schedule

Figure 3-1

Section 4
Staffing Plan

The staffing plan identifies CDM management and technical staff to be assigned to complete the tasks outlined in Section 2 and their areas of responsibility. Figure 4-1 shows the project organizational chart.

4.1 Program Manager - Michael Memoli, P.E.

The primary responsibilities for program management activities rest with the Program Manager (PRM). The Program Manager, Mr. Michael Memoli, will have ultimate contract responsibility for the project, including responsibility for the technical content of all engineering work. Mr. Memoli will direct, review, and approve all project deliverables, schedule staff and resources, resolve scheduling conflicts, and identify and solve potential program problems. He will be directly accountable to NYSDEC's Division of Hazardous Waste Remediation for program execution as well as to CDM's Officer-In-Charge. He has authority to assign staff, negotiate and execute contracts and amendments, and execute subcontracts. The PRM will communicate directly with CDM's Project Manager.

4.2 Deputy Program Manager - D. Lee Guterman

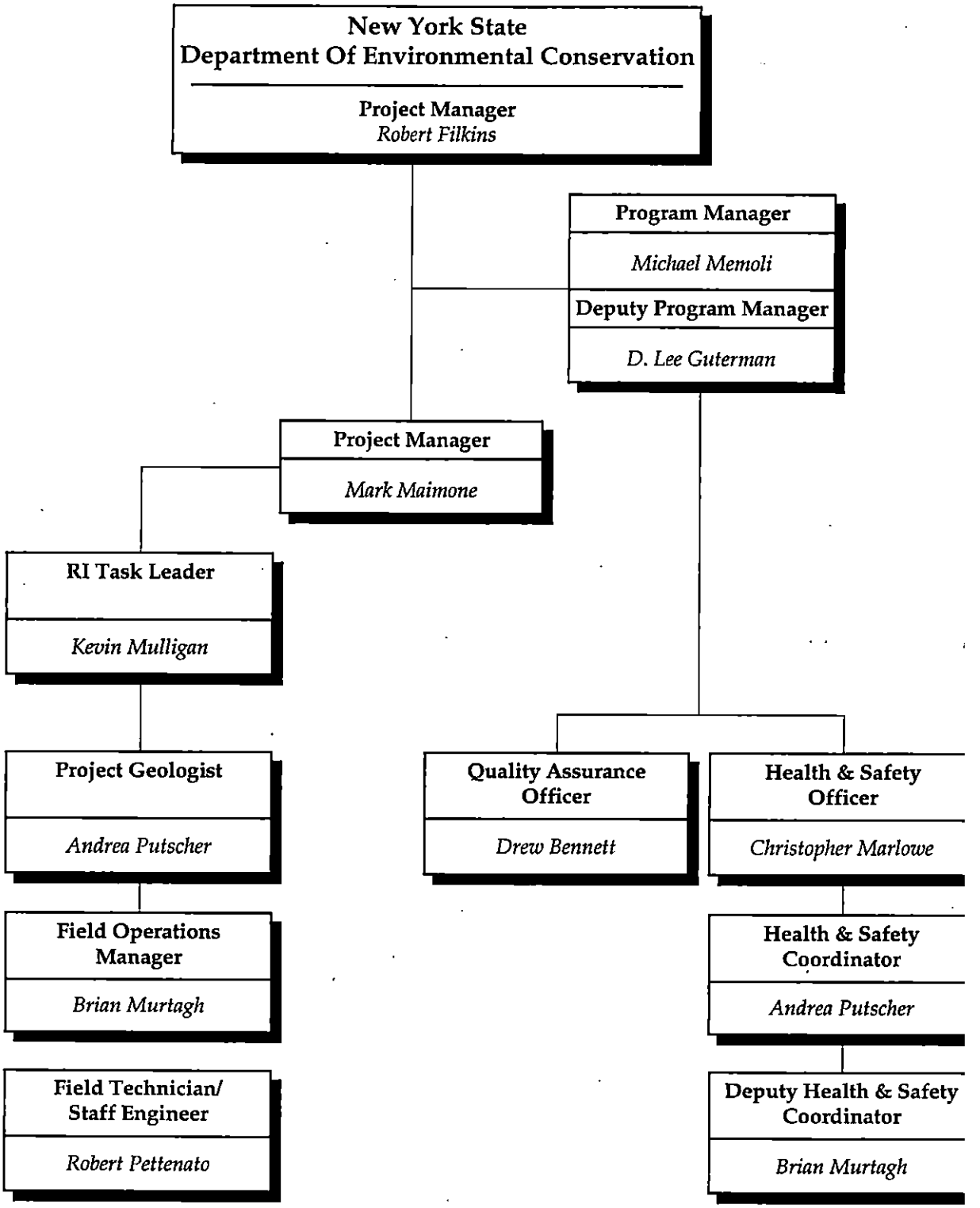
The Deputy Program Manager, Ms. Lee Guterman, will assist the Program Manager in all aspects of program administration. Ms. Guterman will be directly responsible for: 1) continuous contact with NYSDEC technical and Figure 4-1 contract administration staff, 2) technical, financial and administrative management on individual tasks and the overall program, 3) standardization of procedures, 4) implementation and oversight of cost control procedures for all assigned activities, and 5) implementation and maintenance of a resource and schedule reporting system. Ms. Guterman will be directly accountable to CDM's Program Manager and directly responsible for the performance of the contract on a day to day basis.

4.3 Program Quality Assurance Officer - Drew Bennett

The Program Quality Assurance Officer, Mr. Drew Bennett, will monitor QC activities of program management and technical staff, and identify and report needs of corrective action to the Program Manager. He will also conduct an internal review of all project deliverables prepared by CDM staff and sign off on the final investigation reports. The QAO or his/her designee shall conduct periodic field ans sampling audits, interface with the analytical laboratory to make requests ans resolve problems, interface with the data validator and develop a project specific data usability report.

4.4 Health and Safety Officer - Chris Marlowe

The Program Health and Safety Officer, Mr. Chris Marlowe, will review and make recommendations on health and safety plans for compliance with OSHA requirements. He will



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NYSDEC Site #1-30-041

Work Assignment Organization Chart

Figure 4-

Issued: February 1

develop a site HASP, perform over-sight activities, evaluate the performance of health and safety officers, and maintain required health and safety records. He will report to the Program Manager.

4.5 Project Manager - Mark Maimone

The Project Manager, Mr. Mark Maimone, will have overall responsibility for the technical and financial aspects of this project. He will assign technical staff, maintain control of the project budget and schedule, prepare monthly progress reports, review and approve project invoices, evaluate the technical quality of project deliverables and adherence to QA/QC procedures, and manage subcontractors. He will serve as CDM's point of contact for this project.

4.6 Phase II RI Task Leader - Kevin Mulligan

The Phase II RI Task Leader, Mr. Kevin Mulligan will serve as a technical advisor and coordinator for the site RI. He will be directly accountable to the Project Manager. Having almost 9 years of experience as an environmental engineer, specifically with respect to water and groundwater quality issues, Mr. Mulligan will perform the evaluation of the sampling results to determine the extent of possible remediation necessary.

4.7 Project Geologist - Andrea Putscher

The Project Geologist, Ms. Andrea Putscher will serve as technical advisor nd coordinator for the Phase II RI. Ms. Putscher will serve as a Heath and Safety Site Supervisor/Coordinator. She will be accountable to the Phase II Task Leader.

As the project geologist, Ms. Putscher will be responsible for coordinating and overseeing field activities including, but not limited to, well installation activities including driller activities as well as media sampling events. As a site Health and Safety Coordinator, Ms. Putscher will be responsible for ensuring that the site HASP is consistently implemented during field activities that she is associated with and that a copy of the site-specific HASP and the CDM Health and Safety Manual are maintained at the site at all times. She will also be responsible for upgrading or downgrading personnel protection based on actual site conditions at the time of the investigation. The Coordinator must also present an overview of the HASP to field personnel prior to initiating any field activities. She will contact the CDM Program Health and Safety Officer and Project Manager if any questions or issues arise, during the conductance of field activities, that she cannot answer.

4.8 Field Operations Manager - Brian Murtagh

The Field Operations Manager, Brian Murtagh will be responsible for the execution of field activities, in accordance with the SOP/QAPP, including water-level measurement, sample collection, sample shipment, and the completion of chain-of-custody forms. As a site Health and Safety Coordinator, Mr. Murtagh will be responsible for ensuring that the site HASP is consistently implemented during field activities and that a copy of the site-specific HASP and the CDM Health and Safety Manual are maintained at the site at all times. He will also be responsible for upgrading or downgrading personnel protection based on actual site conditions at the time of the

investigation. The Coordinator must also present an overview of the HASP to field personnel prior to initiating any field activities. He will contact the CDM Program Health and Safety Officer and Project Manager if any questions or issues arise, during the conductance of field activities, that he cannot answer. He will be directly accountable to the Project Manager and the Phase II RI Task Leader.

4.9 Field Technician/Staff Engineer - Robert Pettanato

The Field Technician, Mr. Robert Pettanato, will be responsible for conducting the site sampling and investigation activities, including but not limited to the following: groundwater, and sediment samples, sample shipment and chain-of-custody, and monitoring health and safety conditions in accordance with the NYSDEC-approved site HASP. He will be directly accountable to the Project Manager and Phase II RI Task Leader.

Mr. Pettanato will also serve as the Project Staff Engineer, assisting the Task RI Leader with the development of the site Phase II RI.

4.10 Other Project Staff

Below is a listing of additional CDM staff members who we anticipate to be assigned to this project and their respective responsibilities. CDM will endeavor to utilize these individuals. If, for any reason, these staff become unavailable and substitutions and/or additions are required, NYSDEC will be given advance notification.

Nanette Vignola (VI)		-Senior Scientist/Citizen Participation Plan Specialist
Thomas Horn (III)	-	Alternate Field Technician
Dennis Grove (II)	-	Equipment Maintenance
Vince Eugene (I)	-	Alternate Field Technician or Equipment Maintenance
Denise Taggart	-	Word Processing
Grace Butler	-	Alternate Word Processing
Chris Kalny (II)	-	Drafting and AutoCADD
Robert Gencorelli (II)		-Alternate Drafting and AutoCADD

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Section 5
Budget Estimate

The following section presents a detailed breakdown of the total cost for each task and subtask outlined in Section 2.0 of this work plan.

Schedule 2.11(a), Summary of Work Assignment Price, provides an overview of the total budget estimate for the work assignment, including subcontract costs. In Schedule 2.11(b), direct Labor Hours and Costs Budgeted are provided for each labor classification and are derived using corresponding average reimbursement hourly rates in accordance with Schedule 2.10(a) of our contract. Schedule 2.11(b-1) presents the administrative labor hours associated with the non-technical aspects of the work assignment. Total non-direct salary costs are itemized in Schedule 2.11(c).

A list of equipment required for the execution of the work assignment is detailed in Schedule 2.11(d)2 and 2.11(d)5. Estimated costs for consumable supplies, including personal protective equipment and miscellaneous field supplies are provided in Schedule 2.11(d)5. Personal protective equipment has been budgeted in accordance with Schedule 2.10(b) of our contract. Cost-plus-fixed-fee subcontracts are presented in detail in Schedule 2.11(e). Subcontractor costs for unit price subcontracts are provided in Schedule 2.11(f).

The Monthly Cost Control Report, summarizing fiscal information, is presented in Schedule 2.11(g), with a summary of labor hours detailed in Schedule 2.11(h).

Schedule 2.11(a)

Summary of Work Assignment Price

Work Assignment Number D002925-22
Fumex Site

1.	Direct Salary Costs (Schedules 2.10(a) and 2.11(b))	$53,304
2.	Indirect Costs (Schedule 2.10(g))	$88,804
3.	Direct Non-Salary Costs (Schedules 2.11(c)(d))	$9,588

Subcontract Costs

Cost-Plus-Fixed-Fee Subcontracts (Schedule 2.11(e))

	Name of Subcontractor	Services To Be Performed	Subcontract Price
A.	YEC, Inc.	Surveying	$3,013
4.	Total Cost-Plus-Fixed-Fee Subcontracts		$3,013

Unit Price Subcontracts (Schedule 2.11(f))

	Name of Subcontractor	Services To Be Performed	Subcontract Price
A.	H2M Labs, Inc.	Analytical Laboratory	$16,000
B.	Chemworld	Data Validation	$3,205
C.	SJB Services Inc.	Well Drilling & Installation	$42,392
D.	Environ. Products & Services, Inc.	Waste Hauling & Disposal	$15,444
5.	Total Unit Price Subcontracts		$77,041
6.	Subcontract Mangement Fee (Schedule 2.11(f))		$3,692
7.	Total Subcontract Costs (lines 4+5+6)		$83,745
8.	Fixed Fee (Schedule 2.10(g))		$7,105
9.	Total Work Assignment Price (Lines 1+2+3+7+8)		$242,545

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Engineer Camp Dresser & McKee
Project Name Fumex Site
Work Assignment No. D002925-22

Schedule 2.11 (b)

NSPE			IX	VIII	VII	VI	V	IV	III	II	I	Technical Report Typing	Admin./ Support	Total Est. Hours	Total Est. LOE
Average Salary Rates		1997	$55.23	$49.67	$41.20	$37.29	$30.80	$28.83	$23.50	$21.15	$17.95	$17.81	$17.81		
		1998	$57.99	$52.15	$43.26	$39.15	$32.34	$30.28	$24.68	$22.21	$18.85	$18.70	$18.70		
		1999	$60.89	$54.76	$45.42	$41.11	$33.95	$31.79	$25.91	$23.31	$19.79	$19.64	$19.64		
Task 1	Work Plan Development	1998			20	4		118		58		24	4	228	$6,406.51
Task 2	Phase II -Remedial Investigation	1998	2		80			180	208	220			24	714	$19,494.05
	Phase II -Remedial Investigation	1999	6		60	16		105		258	32	80	24	581	$15,776.24
Task 3	Focused Feasibility Study	1999			34	6		144		180	8	40	6	418	$11,626.74
Estimated Cost			$487.13	$0.00	$8,812.06	$1,068.92	$0.00	$17,391.32	$5,389.02	$16,689.96	$791.60	$2,827.52	$1,138.86	1941	$53,303.54

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Engineer Camp Dresser & McKee
Project Name Fumex Site
Work Assignment No. D002925-22

Schedule 2.11 (b) - 1
Program Management Hours

NSPE			IX	VIII	VII	VI	V	IV	III	II	I	Technical Report Typing	Admin./ Support	Total Est. Hours	Total Est. LOE
Average Salary Rates		1997	$55.23	$49.67	$41.20	$37.29	$30.80	$28.83	$23.50	$21.15	$17.95	$17.81	$17.81		
		1998	$57.99	$52.15	$43.26	$39.15	$32.34	$30.28	$24.68	$22.21	$18.85	$18.70	$18.70		
		1999	$60.89	$54.76	$45.42	$41.11	$33.95	$31.79	$25.91	$23.31	$19.79	$19.64	$19.64		
Task 1	Work Plan Development	1998			8			8				24	4	44	$1,111.93
Task 2	Phase II -Remedial Investigation	1998	1		24			60				20	28	133	$3,810.66
	Phase II -Remedial Investigation	1999	2		16			20				60	20	118	$3,055.27
Task 3	Focused Feasibility Study	1999			8			4				40	6	58	$1,393.79
														0	$0.00
														0	$0.00
														0	$0.00
														0	$0.00
														0	$0.00
														0	$0.00
Estimated Cost			$182.67	$0.00	$2,543.69	$0.00	$0.00	$2,925.05	$0.00	$0.00	$0.00	$2,827.52	$1,138.86	353	$9,371.66

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Schedule 2.11 (c)

Direct Non-Salary Costs
Work Assignment Number D002925-22

Item	Max. Reimbursement Rate (Specify Unit)	Est. No. of Units	Total Estimated Cost
A. Sample Analysis			
Federal Express Shipment (to/from laboratory)	$60.00 /shipment(50lb.)	50 shipments	$3,000.00
B. Miscellaneous			
1. Phone/Fax	$6.75 /call	230 calls	$1,552.50
2. Mail or Federal Express	$0.32 /mailing (letters)	200 mailings	$64.00
Federal Express report to NYSDEC	$40.00 /shipment (25lb.)	10 shipments	$400.00
3 Level D protection	$11.00 /man-day	60 man-days	$660.00
4 Travel:			
Car to Site (RT to New Hyde Park) say 70 round trips	$0.23 /mile	2800 miles	$644.00
Car to Public Meetings	$0.23 /mile	65 miles	$15.00
Cars to Albany - NYSDEC	$0.23 /mile	2000 miles	$460.00
Tolls	$10.00 /trip	5 trips	$50.00
Personal vehicle use (4 round trips to Edison, NJ)	$0.23 /mile	400 miles	$92.00
Tolls	$10.00 /trip	4 trips	$40.00
Total Direct Non-Salary Costs			$6,978

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Work Assignment No. D002925-22

Schedule 2.11(d)2
Maximum Reimbursement Rates for Consultant/Subconsultant - Owned Equipment

Item	Purchase Price x 85%	Capital Recovery and Usage Rate ($/Unit of Time)	Maximum Days for Usage Rate	Estimated Usage (Unit of Time)	Estimated Usage Cost (Col.3 x Col.4)	Non-Billable Amount
OVM PID	$2,975	$23 /day	125 days	25 days	$575.00	
LEL Explosimeter	$760	$5 /day	125 days	25 days	$125.00	
Horiba	$2,720	$33 /day	125 days	10 days	$330.00	
Water level meter	$250	$2 /day	125 days	10 days	$20.00	
Submersible 2"	$375	$3 /day	125 days	10 days	$30.00	
Submersible 4"	$375	$3 /day	125 days	10 days	$30.00	
				Total:	$1,110.00	$0.00

1 Usage Rate = Capital Recovery Rate + O&M Rate

2 The maximum usage rate for an item of equipment reverts to the O&M rate when the total recovery reimbursement rate exceeds 85% of the purchase price.

[a] Maximum number of days for usage rate is exceeded.

Work Assignment No. D002925-22

Schedule 2.11(d)5

Consumable Supplies

Item	Estimated Quantity	Unit Cost	Total Budget Cost (Col. 2 x Col. 3)
Miscellaneous Supplies		Lump Sum	$1,500
Total			$1,500

Note: Consumable Supplies are expected to include:

Log book
Liquinox
Clear tape
Duct tape
Strapping tape
Paper towels
DI water
Vermiculite
Disposable bailers
1/8 inch poly rope
1/4 inch poly rope
Peristaltic pump hose
Ziplock bags
Disposable cameras/developing
Disposable trowels
Plastic sheeting
Alconox
Nitrile gloves
Surgical Gloves
Ice

Schedule 2.11 (f)
Unit Price Subcontractors
Summary
WA# D002925-22

Name of Subcontractor		Services to be Performed	Subcontract Price	Management Fee
H2M Labs, Inc.		Sample Analysis	$16,000.00	$800.00
CHEMWORLD, Inc.		Data Validation	$3,204.50	$0.00
SJB Services		Split Spoon Sampling, Installation, Develop	$42,392.00	$2,119.60
Environmental Products & Services		Waste Disposal	$15,444.00	$772.20
Item		Maximum Reimbursement Rate	Estimated No. of Units	Total Estimated Costs
Groundwater Sample Analysis		$110.00 / Sample	40	$4,400.00
Sediment Analysis				
TCL Pesticides		$125.00 / Sample	55	$6,875.00
TCL Volatiles		$110.00 / Sample	12	$1,320.00
TCL Semi-Volatiles		$160.00 / Sample	12	$1,920.00
TAL Metals		$105.00 / Sample	11	$1,155.00
Total Organic Carbon		$ 30.00 / Sample	11	$330.00
Data Validation				$3,204.50
Drilling Services			-	$42,392.00
Waste Disposal Services			-	$15,444.00
			Subtotal	$77,040.50
			Subtotal Mgmt.	$3,691.80
			Total	$80,732.30

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Schedule 2.11 (f)1

Unit Price Subcontracts
Work Assignment Number D002925-22

1. NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRACT PRICE	MGMT. FEE
SJB Inc.	Well Installation, Well Development, Borehole, Split Spoon Sampling	$42,392.00	$2,119.60

Item	Max. Reimbursement Rate (Specify Unit)	Est. No. of Units	Total Estimated Cost
Mobilization	$1,000.00 /Each	1	$1,000.00
Personal Protection Equipment	$0.00 /day	0	$0.00
4.25 in. ID Hollow Stem Augers	$10.00 /foot	600	$6,000.00
4.25 in. ID Hollow Stem Augers	$12.00 /foot	240	$2,880.00
4.25 in. ID Mud/Water Rotary	$25.00 /foot	200	$5,000.00
2.0 inch Split Spoon sampling	$7.00 /each	36	$252.00
2.0 inch Split Spoon sampling	$11.00 /each	6	$66.00
2.0 in. Well Screen - PVC Well Screen	$3.00 /foot	70	$210.00
2.0 in. ID PVC Well Riser	$2.00 /foot	600	$1,200.00
2.0 in. MW Well Screen Sand Pack	$2.00 /foot	84	$168.00
2.0 in. MW Seal set in 4.25 in.	$14.00 /foot	14	$196.00
Riser Backfill Material	$7.00 /foot	650	$4,550.00
Flush-Mount Protective Casing with Locking Cover, Drain Hole and Concrete Apron	$125.00 /each	7	$875.00
Clean DOT-Approved 55-gallon Drums	$45.00 /each	110	$4,950.00
Transportation of 55-gallon Drums of Development Water	$35.00 /each	50	$1,750.00
Transportation of 55-gallon Drums of Drill Cuttings	$35.00 /each	60	$2,100.00
Well Development, Pump & Surge Method	$140.00 /hour	24	$3,360.00
Construction of Decon Pad	$600.00 /each	1	$600.00
Steam Cleaning of Drill Rig Between Borings	$125.00 /hour	11	$1,375.00
Decontamination of Split-Spoons	$130.00 /hour	12	$1,560.00
Stand-by Time - Two-Man Crew	$125.00 /hour	8	$1,000.00
Steam Cleaner	$60.00 /day	20	$1,200.00
Clearing Brush	$150.00 /day	2	$300.00
Miscellaneous	$1,800.00 lump sum	1	$1,800.00
Subtotal-Subcontract Price			$42,392.00
Subcontract Management Fee (3)			$2,119.60
TOTAL			$44,511.60

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Schedule 2.11 (f)2

Unit Price Subcontracts
Work Assignment Number D002925-22

1. NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRACT PRICE	MGMT. FEE
H2M Labs, Inc.	Analytical Laboratory	$16,000.00	$800.00

Item	Analytical Method	Max. Reimbursement Rate (Specify Unit)	Est. No. of Units	Total Estimated Cost
1. Groundwater / Surface Water (aqueous)				
TCL Pesticides	95-3	$110.00 /Sample	40	$4,400.00
2. Soil / Sediment (non aqueous)				
TCL Volatiles	95-1	$110.00 /Sample	10	$1,100.00
TCL Semi Volatiles	95-2	$160.00 /Sample	10	$1,600.00
TCL Pesticides	95-3	$125.00 /Sample	53	$6,625.00
TAL Metals	CLP	$105.00 /Sample	10	$1,050.00
Total Organic Carbon	415.1	$30.00 /Sample	10	$300.00
3. Aqueous - Field/Trip Blanks for soil sampling events				
TCL Volatiles	95-1	$110.00 /Sample	2	$220.00
TCL Semi Volatiles	95-2	$160.00 /Sample	2	$320.00
TCL Pesticides	95-3	$125.00 /Sample	2	$250.00
TAL Metals	CLP	$105.00 /Sample	1	$105.00
Total Organic Carbon	415.1	$30.00 /Sample	1	$30.00

Subtotal - Subcontract Price	$16,000.00
Subcontract Management Fee	$800.00
TOTAL	$16,800.00

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Schedule 2.11 (f)3

Unit Price Subcontracts
Work Assignment Number D002925-22

1. NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRACT PRICE	MGMT. FEE
Chemworld Environmental	Data Validation	$3,204.50	$0.00

Item	Analytical Method	Max. Reimbursement Rate (Specify Unit)	Est. No. of Units	Total Estimated Cost
1. Groundwater / Surface Water (aqueous)				
TCL Pesticides	95-3	$24.00 /Sample	40	$960.00
2. Soil / Sediment (non aqueous)				
TCL Volatiles	95-1	$24.00 /Sample	10	$240.00
TCL Semi Volatiles	95-2	$26.00 /Sample	10	$260.00
TCL Pesticides	95-3	$24.00 /Sample	53	$1,272.00
TAL Metals	CLP	$26.50 /Sample	10	$265.00
Total Organic Carbon	415.1	$3.00 /Sample	10	$30.00
3. Aqueous - Field/Trip Blanks for soil sampling events				
TCL Volatiles	95-1	$24.00 /Sample	2	$48.00
TCL Semi Volatiles	95-2	$26.00 /Sample	2	$52.00
TCL Pesticides	95-3	$24.00 /Sample	2	$48.00
TAL Metals	CLP	$26.50 /Sample	1	$26.50
Total Organic Carbon	415.1	$3.00 /Sample	1	$3.00
TOTAL				$3,204.50

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Schedule 2.11 (f)4

Unit Price Subcontracts
Work Assignment Number D002925-22

1.	NAME OF SUBCONTRACTOR	SERVICES TO BE PERFORMED	SUBCONTRACT PRICE	MGMT. FEE
	To be Determined	Waste Disposal	$15,444.00	$772.20

	Item	Max. Reimbursement Rate (Specify Unit)	Est. No. of Units	Total Estimated Cost
1.	Handling, Loading, Transporting and Disposal of drummed, Level D, Hazardous Solid Waste	$269.00 /55-gal drum	16	$4,304.00
2	Handling, Loading, Transporting and Disposal of drummed, Non-Hazardous Solid Waste	$108.00 /55-gal drum	75	$8,100.00
3	Washing, Crushing and/or Removal of Excess Drums	$13.00 /55-gal drum	5	$65.00
4	Sampling and Analysis Required for Offsite Disposal	$595.00 /sample	5	$2,975.00

Subtotal - Subcontract Price	$15,444.00
Subcontract Management Fee	$772.20
TOTAL	$16,216.20

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Engineer Camp Dresser & McKee
Project Name Fumex Sanitation
Work Assignment No. D002925-22
Task #/Name Task 1
Complete 0%

Date Prepared 3-Jul-97
Billing Period
Invoice No.

Schedule 2.11(g)
MONTHLY COST CONTROL REPORT
TASK 1 - WORK PLAN DEVELOPMENT

Expenditure Category	A Costs Claimed This Period	B Paid to Date	C Total Disallowed to Date	D Total Costs Incurred to Date (A+B+C)	E Estimated Costs to Completion	F Estimated Total Work Assignment Price (A+B+E)	G Approved Budget	H Estimated Under/Over (G-F)
1. Direct Salary Costs	$0.00	$0.00	$0.00	$0.00	$6,407	$6,407	$6,407	$0
2. Indirect Costs 166.6 %	$0.00	$0.00	$0.00	$0.00	$10,673	$10,673	$10,673	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0.00	$0.00	$0.00	$0.00	$17,080	$17,080	$17,080	$0
4. Travel	$0.00	$0.00	$0.00	$0.00	$68	$68	$68	$0
5. Other Non-Salary Costs	$0.00	$0.00	$0.00	$0.00	$450	$450	$450	$0
6. Subtotal Direct Non-Salary Costs	$0.00	$0.00	$0.00	$0.00	$518	$518	$518	$0
7. Subcontractors	$0.00	$0.00	$0.00	$0.00	$0	$0	$0	$0
7a. Subcontract Mgt. Fee	$0.00	$0.00	$0.00	$0.00	$0	$0	$0	$0
8. Total Work Assignment Cost	$0.00	$0.00	$0.00	$0.00	$17,598	$17,598	$17,598	$0
9. Fixed Fee	$0.00	$0.00	$0.00	$0.00	$854	$854	$854	$0
10. Total Work Assignment Price	$0.00	$0.00	$0.00	$0.00	$18,452	$18,452	$18,452	$0

Project Manager _____
Mark Maimone

Date _____

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Engineer Camp Dresser & McKee
Project Name Fumex Sanitation
Work Assignment No. D002925-22
Task #/Name Task 2
Complete 0%

Date Prepared 3-Jul-97
Billing Period
Invoice No.

Schedule 2.11(g)
MONTHLY COST CONTROL REPORT
TASK 2 - PERFORMANCE OF REMEDIAL INVESTIGATION

Expenditure Category	A Costs Claimed This Period	B Paid to Date	C Total Disallowed to Date	D Total Costs Incurred to Date (A+B+C)	E Estimated Costs to Completion	F Estimated Total Work Assignment Price (A+B+E)	G Approved Budget	H Estimated Under/Over (G-F)
1. Direct Salary Costs	$0.00	$0.00	$0.00	$0.00	$35,270	$35,270	$35,270	$0
2. Indirect Costs 166.6 %	$0.00	$0.00	$0.00	$0.00	$58,760	$58,760	$58,760	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0.00	$0.00	$0.00	$0.00	$94,031	$94,031	$94,031	$0
4. Travel	$0.00	$0.00	$0.00	$0.00	$1,033	$1,033	$1,033	$0
5. Other Non-Salary Costs	$0.00	$0.00	$0.00	$0.00	$7,037	$7,037	$7,037	$0
6. Subtotal Direct Non-Salary Costs	$0.00	$0.00	$0.00	$0.00	$8,070	$8,070	$8,070	$0
7. Subcontractors	$0.00	$0.00	$0.00	$0.00	$80,053	$80,053	$80,053	$0
7a. Subcontract Mgt. Fee	$0.00	$0.00	$0.00	$0.00	$3,692	$3,692	$0	$0
8. Total Work Assignment Cost	$0.00	$0.00	$0.00	$0.00	$182,154	$182,154	$182,154	$0
9. Fixed Fee	$0.00	$0.00	$0.00	$0.00	$4,702	$4,702	$4,702	$0
10. Total Work Assignment Price	$0.00	$0.00	$0.00	$0.00	$190,547	$190,547	$190,547	$0

Project Manager _____
Mark Maimone

Date _____

Engineer Camp Dresser & McKee
Project Name Fumex Sanitation
Work Assignment No. D002925-22
Task #/Name Task 3
Complete 0%

Date Prepared 3-Jul-97
Billing Period
Invoice No.

Schedule 2.11(g)
MONTHLY COST CONTROL REPORT
TASK 3 - PERFORMANCE OF REMEDIAL INVESTIGATION

Expenditure Category	A Costs Claimed This Period	B Paid to Date	C Total Disallowed to Date	D Total Costs Incurred to Date (A+B+C)	E Estimated Costs to Completion	F Estimated Total Work Assignment Price (A+B+E)	G Approved Budget	H Estimated Under/Over (G-F)
1. Direct Salary Costs	$0.00	$0.00	$0.00	$0.00	$11,626.74	$11,627	$11,627	$0
2. Indirect Costs 166.6 %	$0.00	$0.00	$0.00	$0.00	$19,370	$19,370	$19,370	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0.00	$0.00	$0.00	$0.00	$30,997	$30,997	$30,997	$0
4. Travel	$0.00	$0.00	$0.00	$0.00	$200	$200	$200	$0
5. Other Non-Salary Costs	$0.00	$0.00	$0.00	$0.00	$800	$800	$800	$0
6. Subtotal Direct Non-Salary Costs	$0.00	$0.00	$0.00	$0.00	$1,000	$1,000	$1,000	$0
7. Subcontractors	$0.00	$0.00	$0.00	$0.00	$0	$0	$0	$0
7a. Subcontract Mgt. Fee	$0.00	$0.00	$0.00	$0.00	$0	$0	$0	$0
8. Total Work Assignment Cost	$0.00	$0.00	$0.00	$0.00	$31,997	$31,997	$31,997	$0
9. Fixed Fee	$0.00	$0.00	$0.00	$0.00	$1,550	$1,550	$1,550	$0
10. Total Work Assignment Price	$0.00	$0.00	$0.00	$0.00	$33,547	$33,547	$33,547	$0

Project Manager _____
Mark Maimone

Date _____

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Engineer Camp Dresser & McKee
Project Name Fumex Sanitation
Work Assignment No. D002925-22
Task #/Name Summary
Complete 0%

Date Prepared 3-Jul-97
Billing Period
Invoice No.

Schedule 2.11(g)
MONTHLY COST CONTROL REPORT
SUMMARY

Expenditure Category	A Costs Claimed This Period	B Paid to Date	C Total Disallowed to Date	D Total Costs Incurred to Date (A+B+C)	E Estimated Costs to Completion	F Estimated Total Work Assignment Price (A+B+E)	G Approved Budget	H Estimated Under/Over (G-F)
1. Direct Salary Costs	$0.00	$0.00	$0.00	$0.00	$53,304	$53,304	$53,304	$0
2. Indirect Costs 166.6 %	$0.00	$0.00	$0.00	$0.00	$88,804	$88,804	$88,804	$0
3. Subtotal Direct Salary Costs and Indirect Costs	$0.00	$0.00	$0.00	$0.00	$142,107	$142,107	$142,107	$0
4. Travel	$0.00	$0.00	$0.00	$0.00	$1,301	$1,301	$1,301	$0
5. Other Non-Salary Costs	$0.00	$0.00	$0.00	$0.00	$8,287	$8,287	$8,287	$0
6. Subtotal Direct Non-Salary Costs	$0.00	$0.00	$0.00	$0.00	$9,588	$9,588	$9,588	$0
7. Subcontractors	$0.00	$0.00	$0.00	$0.00	$80,053	$80,053	$80,053	$0
7a. Subcontract Mgt. Fee	$0.00	$0.00	$0.00	$0.00	$3,692	$3,692	$3,692	$0
8. Total Work Assignment Cost	$0.00	$0.00	$0.00	$0.00	$231,748	$231,748	$231,748	$0
9. Fixed Fee	$0.00	$0.00	$0.00	$0.00	$7,105	$7,105	$7,105	$0
10. Total Work Assignment Price	$0.00	$0.00	$0.00	$0.00	$242,545	$242,545	$242,545	$0

Project Manager _____
Mark Maimone

Date _____

Engineer Camp Dresser & McKee
Project Name Fumex Site
Work Assignment No. D002925-22

Date Prepared
Billing Period
Invoice No.

MONTHLY COST CONTROL REPORT (SCHEDULE 2.11[h])
SUMMARY OF LABOR HOURS
NUMBER OF DIRECT LABOR HOURS EXPENDED TO DATE*/ESTIMATED NUMBER OF DIRECT LABOR HOURS TO COMPLETION

LABOR CLASSIFICATION	IX EXP/EST	VIII EXP/EST	VII EXP/EST	VI EXP/EST	V EXP/EST	IV EXP/EST	III EXP/EST	II &I EXP/EST	ADM./SUPPORT EXP/EST	TOTAL NO. OF DIRECT LABOR HRS. EXP/EST
Task 1 - Work Plan Preparation	0 / 0	0 / 0	0 / 20	0 / 4	0 / 0	0 / 118	0 / 0	0 / 58	0 / 28	0 / 228
Task 2 - Phase II Remedial Investigation	0 / 8	0 / 0	0 / 140	0 / 16	0 / 0	0 / 285	0 / 208	0 / 510	0 / 128	0 / 1295
Task 3 - Focused Feasibility Study	0 / 0	0 / 0	0 / 34	0 / 6	0 / 0	0 / 144	0 / 0	0 / 188	0 / 46	0 / 418
TOTAL HOURS	0 / 8	0 / 0	0 / 194	0 / 26	0 / 0	0 / 547	0 / 208	0 / 756	0 / 202	0 / 1941

file =A:\SCHEDULE\XK211H.WK3

Section 6
Description of Subcontracting Needs

CDM proposes to engage subconsultants to provide the following services for this work assignment:

Services to be Provided	Firm
Chemical Analytical Laboratory	H2M Labs Inc. 575 Broad Hollow Road Melville, NY 11747
Drilling Services	SJB Drilling Services, Inc. Fisher Road East Syracuse, NY 13057
Site Survey	YEC, Inc. 612 Cottage Way Valley Cottage, New York 10989
Data Validation	ChemWorld Environmental Inc. 14 Orchard Way North Rockville , MD 20854-6128
Waste Disposal	Environmental Products & Services Inc. 12-2 Dubon Court Farmingdale, NY 11735

Section 7
MBE/WBE Utilization Plan

To meet the requirements of the MBE/WBE program, CDM has prepared the following projected EEO and MBE/WBE contract goals.

MBE/WBE Contract Goals

1. Total Dollar Value of the Work Assignment - $242,545
2. MBE Percentage/Amount Applied to the Work Assignment (1.2 percent)
3. WBE Percentage/Amount Applied to the Work Assignment (1.3 percent)
4. MBE/WBE Combined Total (2.5 percent)

Minority and woman-owned firms are expected to participate as noted on the following table:

Proposed MBE/WBE

Services to be Provided	Description of Services	Firm Performing Services	Proposed Subcontract Price
Data Validation	Perform data validation on environmental samples in accordance with NYSDEC data validation protocol.	ChemWorld Environmental (WBE)	$3,205.50
Site Survey	Obtain vertical coordinates for the five monitoring wells.	YEC, Inc. (MBE)	$3,012.95

Section 8
References

Camp Dresser & McKee, Draft Remedial Investigation Report, Fumex Sanitation Site, New Hyde Park, Nassau County, New York. December 1996

Camp Dresser & McKee, Final Site Operations/Quality Assurance Project Plan, Fumex Sanitation Site, New Hyde Park, Nassau County, New York. February 1996

Camp Dresser & McKee, Final Work Plan Remedial Investigation, Fumex Sanitation Site, New Hyde Park, Nassau County, New York. February 1996

Donaldson, C.D., Water Table on Long Island, New York, March 1979, USGS Open-file Report 82-163.

Kilburn, C., 1979, Hydrogeology of the Town of North Hempstead, Nassau County, NY, Long Island Water Resources Bulletin 12, NCDPW.

Lawler, Matusky and Skelly Engineers, 1989, Fumex Sanitation Inc., Engineering Investigations at Inactive Hazardous Waste Sites, Phase I Investigation. August 1989.

New York State Department of Environmental Conservation (NYSDEC) 1992. Division Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-92-4046. November 16, 1992.

New York State Department of Environmental Conservation (NYSDEC) 1995. Letter from Jennifer Pacchiana, Environmental Engineer, Bureau of Eastern Remedial Action, Division of Hazardous Waste Remediation, to Ms. Zenida Breitsein, Zinman and Chetkof. November 15, 1995.

New York State Department of Environmental Conservation (NYSDEC) 1995. Letter from Raymond E. Lupe, P.E., Chief Contract Development Section, Bureau of Program Management, Division of Hazardous Waste Remediation, to Michael A. Memoli, P.E., Camp Dresser and McKee, Inc. (CDM). October 31, 1995.

Roux Associates, 1987, Hydrogeologic Investigation of Fumex Sanitation, Inc., Site, Prepared for Rivkin, Radler, Dunne and Bayh. January 5, 1987.

Smolensky, D.A., Buxton, H.T., Shernoff, P.K., Hydrogeologic Framework of Long Island, New York, USGS, Hydrologic Investigations Atlas, 1989.

U.S. Soil Conservation Service, 1976, General Soil Map, Nassau County, New York, Prepared for Suffolk County Soil Conservation Service. July 1976.

CDM Camp Dresser & McKee

consulting
engineering
construction
operations

100 Crossways Park West, Suite 415
Woodbury, New York 11797
Tel: 516 496-8400 Fax: 516 496-8864

July 11, 1997

Mr. Maurice Osman
Nassau County Department of Public Works
Cedar Creek WPCP
P.O. Box 88
Wantagh, NY 11793

Subject: Request for Discharge Authorization of Purge/Development Water Associated with the Remedial Investigation of the Fumex Site

Dear Mr. Osman:

Camp Dresser & McKee is presently performing a Phase II Remedial Investigation of a state superfund site (Fumex site) for the New York State Department of Environmental Conservation (NYSDEC). The site is located at the corner of Herricks Road and Bedford Avenue (131 Herricks Road) in Garden City Park, New York.

As part of our scope of work, we will sample five (5) existing onsite monitoring wells and five (5) offsite Nassau County monitoring wells (N-11738, N11739, N-11171, N-11172, N-12005). In addition, we will install, develop and sample one (1) onsite well and three (3) well clusters offsite (two clusters downgradient and one upgradient of the site). The exact locations of the offsite well clusters have not been determined, however all offsite wells will be within 2,000 feet of the site.

NYSDEC has requested we investigate the option of disposing of the purge/development water into the local sewer system. We anticipate a total volume of 14,000 gallons generated over the course of two sampling rounds (Round 1: 8/18 to 9/26; Round 2: 12/15 to 12/19). This translates into approximately 450 gallons per work day during Round 1, and 100 gallons per work day during Round 2.

The contaminants of concern at this site are pesticides. During our Phase I investigation (spring/summer of 1996), we conducted two rounds of sampling of the onsite monitoring wells. Sample analysis results are attached. Note that pesticide concentrations are low, with the greatest detected concentration being 15 ppb of gamma-chlordane in MW-2 in the first round.

We request authorization to dispose of the purge/development water, associated with the Phase II investigation, into the local sewer system. We will make use of a 1,500 gallon tank for temporary storage.

If you have any questions or desire more information, please call me at 496-8400 or Kevin Mulligan at 212-505-8400. Your assistance is greatly appreciated.

Very truly yours,

CAMP DRESSER & McKEE

Patrick Jamgocian

Patrick Jamgocian

cc: K. Mulligan
M. Maimone

THOMAS S. GULOTTA
COUNTY EXECUTIVE

JOHN M. WALTZ, P.E.
COMMISSIONER

COUNTY OF NASSAU
DEPARTMENT OF PUBLIC WORKS
MINEOLA, NEW YORK 11501-4822

July 18, 1997

Mr. Patrick Jamgocian
Camp Dresser & McKee
100 Crossways Park West - Suite 415
Woodbury, New York 11797-2012

Re: Remedial Investigation of Former Fumex Site
Garden City Park, New York

Dear Mr. Jamgocian:

Your request to discharge approximately 14,000 gallons of monitoring well purge and development water from the referenced area into the public sewer is hereby approved.

As we discussed, the total volume noted above will be discharged, during project phases, over a period of several weeks as wells are developed and/or sampled. The discharges will be managed and monitored by CDM personnel. Access to the particular manhole (MH-8 on trunk line 2T-14) to be used for this discharge will be monitored by personnel from our Industrial Waste Control Section. Advance notification, at least 24 hours, shall be made to Maurice Osman or Joe Milito at 516-571-7352.

Also, as discussed, the anticipated pesticide compounds concentration in the discharge will be at trace or low part per billion levels.

This determination is based on the nature and quality of the proposed discharge as well as the limited duration and flow rate. Nassau County Department of Public Works policy prohibits discharge (treated or untreated) of site remediation water to the sanitary sewer system. This approval is, therefore, limited to the well development and sampling purge water.

Re: Remedial Investigation of Former Fumex Site
Garden City Park, New York

Your concern and cooperation are appreciated. If you have any questions concerning this matter, please feel free to call me at 516-571-7352.

Very truly yours,

Maurice J. Osman
Chief Chemist

MJO:jld
cc: Thomas J. Burke
Richard A. Webber

CDM Camp Dresser & McKee

consulting engineering construction operations

740 Broadway, Suite 902
New York, New York 10003
Tel: 212 505-8400 Fax: 212 505-8816

July 2, 1997

Mr. Robert Filkins
Project Manager
New York State Department
of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

Subject: State Superfund Standby Contract
Fumex Sanitation Site, Site No. 1-30-041
WA No. D002925-22

Dear Mr. Filkins:

CDM has put together a bid package for drilling services at the Fumex Sanitation site. The three standby drillers that CDM uses for all DEC work were contacted and asked to bid on the work. The following pages contain the entire package sent to each drilling company. In addition, the proposals from each drilling company are included.

It is CDM's position that the contract to perform the work assignment detailed in the scope of services should be awarded to SJB Services. SJB provided the most competitive bid of $42,392. The proposed cost for all of the drilling subcontractors were as follows:

- SJB Services $42,392.00
- American Auger $59,725.00
- Parratt Wolff Inc. declined to bid based on location and aquifer conditions

Should you have any questions, please feel free to call.

Very truly yours,

CAMP DRESSER & McKEE

Kevin C Mulligan P.E.

Mark Maimone for
Project Manager

MM/KCM/sek

cc: K. Mulligan, CDM w/attachments

sk4081

SJB SERVICES, INC.

Contract Drilling and Testing

1951-1 Hamburg Turnpike
Buffalo, NY 14218
Phone: (716) 821-591
Fax: (716) 821-016

55 Oliver Street
Cohoes, New York 12047
Phone: (518) 238-114
Fax: (518) 238-124

P.O. Box 416 • 208 Le Fevre Road
Stockertown, PA 18083
Phone: (610) 746-267
Fax: (610) 746-266

TOLL FREE: 1-800-821-5911

July 1, 1997

CDM
740 Broadway, Suite 902
New York, New York 10003

Attention: Kevin Mulligan
(212)505-8400 / Fax:(212)505-8816

Reference: **Drilling Services - Fumex Site**

Dear Kevin,

Pursuant to our telephone conversation today, I am hereby confirming that the scope outline and unit rates as indicated in the attached Bid Summary are acceptable for work on the Fumex Project. SJB will maintain the $1,000.00 for mobilization/demobilization, all other unit rates are established by our New York State DEC Standby Contract.

In addition the cost for Poly Tanks to store development or drill water would be as follows:

- 500 Gallons	$ 600.00
- 1000 Gallons	$ 900.00
- 1500 Gallons	$1,800.00

It is my understanding that we will begin work on this project sometime in late August.

We look forward to continuing to work with CDM. If you have any questions, please contact me.

Sincerely,
SJB SERVICES, INC.

Stanley J. Blas
President

cla/Attachment

SJB Services					
Bid Summary					
Item No.	Description	Unit Cost	Unit	Quantity	Total ($)
-	Mobilization	Lump Sum		1	$1,000
1	Personal Protection Equipment	$0/ppd		-	$0
3	Hollow Stem Augering (4.25" ID) (0 - 50 ft)	$10	l.f.	600	$6,000
9	Hollow Stem Augering (4.25" ID) (50 - 100 ft)	$12	l.f.	240	$2,880
19	Mud/Water Rotary (4.25" ID) (100 - 150 ft)	$25	l.f.	200	$5,000
47	Split Spoon Sampling (2.0-inch) (0 - 50 ft)	$7	ea.	36	$252
49	Split Spoon Sampling (2.0-inch) (50 - 100 ft)	$11	ea.	6	$66
53	Well Screen - PVC Well Screen, 2.0"- Schd 40	$3	l.f.	70	$210
82	PVC Well Riser, 2.0-inch ID, Schd 40	$2	l.f.	600	$1,200
93	Well Screen Sand Pack for 2.0-inch MW	$2	l.f.	84	$168
102	Seal for 2.0-inch MW set in 4.25-inch	$14	l.f.	14	$196
111	Riser Backfill Material	$7	l.f.	650	$4,550
130	Flush-Mount Protective Casing with Locking Cover, Drain Hole and Concrete Apron	$125	ea.	7	$875
137	Supply Clean DOT-Approved 55 gallon drums	$45	ea.	110	$4,950
138	Transport of 55-gal drum development water	$35	ea.	50	$1,750
139	Transportation of 55-gal drill cuttings	$35	ea.	60	$2,100
142	Well Development, Pump & Surge Method	$140	hr.	24	$3,360
144	Construction of Decon Pad	$600	ea.	1	$600
145	Steam Cleaning of Drill Rig Between Borings	$125	hr.	11	$1,375
146	Decontamination of Split-Spoons	$130	hr.	12	$1,560
147	Stand-by time - Two man crew	$125	hr.	8	$1,000
161	Steam Cleaner	$60	day	20	$1,200
164	Clearing Brush	$150	day	2	$300
	Miscellaneous		l.s.	1	$1,800
Note: All work is to be performed using Level D protection.				Sub-Total =	$42,392
Miscellaneous :				TOTAL =	
1500 gallon Poly tank for Development Water Containment					

American Auger & Ditc...g Co., Inc.

453 Route 23 • Constantia, NY 13044
(315) 623-7496 • FAX: 623-7189

FAX TRANSMITTAL

DATE: 6-26-97 FAX #: 212 505 8816

TO: CDM FROM: Judy Baye

ATTN: Kevin Mulligan No. of Pages: 1

RE: Fumex Site, New Hyde Park (NYSDEC Standby Drilling Services Subco

COMMENTS: Kevin,

Sorry for the delay.

Mob/Demob 7500/ls

Please pull the unit prices appropriate for this site from our standby prices established. If there is an item not included in our standby contract that you need a price for, feel free to call.

American Auger					
Bid Summary					
Item No.	Description	Unit Cost	Unit	Quantity	Total ($)
-	Mobilization	Lump Sum		1	$7,500
1	Personal Protection Equipment	$35	40	per person-days	$1,400
3	Hollow Stem Augering (4.25" ID) (0 - 50 ft)	$13	l.f.	600	$7,800
9	Hollow Stem Augering (4.25" ID) (50 - 100 ft)	$14	l.f.	240	$3,360
19	Mud/Water Rotary (4.25" ID) (100 - 150 ft)	$14	l.f.	200	$2,800
47	Split Spoon Sampling (2.0-inch) (0 - 50 ft)	$13	ea.	36	$468
49	Split Spoon Sampling (2.0-inch) (50 - 100 ft)	$13	ea.	6	$78
53	Well Screen - PVC Well Screen, 2.0"- Schd 40	$3	l.f.	70	$210
82	PVC Well Riser, 2.0-inch ID, Schd 40	$3	l.f.	600	$1,800
93	Well Screen Sand Pack for 2.0-inch MW	$6	l.f.	84	$504
102	Seal for 2.0-inch MW set in 4.25-inch	$15	l.f.	14	$210
111	Riser Backfill Material	$4	l.f.	650	$2,600
130	Flush-Mount Protective Casing with Locking Cover, Drain Hole and Concrete Apron	$120	ea.	7	$840
137	Supply Clean DOT-Approved 55 gallon drums	$50	ea.	110	$5,500
138	Transport of 55-gal drum development water	$30	ea.	50	$1,500
139	Transportation of 55-gal drill cuttings	$90	ea.	60	$5,400
142	Well Development, Pump & Surge Method	$100	hr.	24	$2,400
144	Construction of Decon Pad	$700	ea.	1	$700
145	Steam Cleaning of Drill Rig Between Borings	$85	hr.	11	$935
146	Decontamination of Split-Spoons	$250	hr.	12	$3,000
147	Stand-by time - Two man crew	$90	hr.	8	$720
161	Steam Cleaner	$50	day	20	$1,000
164	Clearing Brush	$1,000	day	2	$2,000
	Miscellaneous - Explain below		l.s.	1	$2,000
Note: All work is to be performed using Level D protection.				Sub-Total =	$54,725
Miscellaneous:				TOTAL =	$54,725
Water Truck for 20 days at $100 per day.					

parratt wolff inc

June 23, 1997

Mr. Kevin Mulligan
Camp Dresser & McKee
740 Broadway, Suite 902
New York, New York 10003

Re: Fumex Site
New Hyde Park, Long Island

Dear Mr. Mulligan:

Thank you for your request for our proposal for this work.

Due to the drilling conditions and your work scope, we decline to bid this project.

We appreciate your consideration of our firm and ask that you keep us on your list of prospective bidders for NYSDEC projects.

Very truly yours,

PARRATT - WOLFF, INC.

William H. Morrow
WHM/blo

☐ P.O. Box 56 5879 Fisher Road, East Syracuse, NY 13057 Telephone 315-437-1429 or 800-782-7260 FAX 315-437-1770
☐ P.O. Box 1029, [illegible] Millstone Drive, Hillsborough, NC 27278 Telephone [illegible]