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CBI Site: Proposed Plan of Remedial Action for Operable Unit 1

I. Introduction

In May 1993, CBI Services, Inc., entered into a consent decree with the Delaware Department of Natural Resources and Environmental Control (DNREC) to perform a Remedial Investigation/Feasibility Study (RI/FS) at the CBI Services, Inc. (CBI) facility under the Delaware Hazardous Substance Cleanup Act (HSCA). The facility has undergone assessment and interim action (i.e. disposal activities of contaminated soil) of impacted areas associated with the Former Fabrication Shop and the NUS Background Area with DNREC approval and oversight. These activities were conducted in accordance with the Remedial Investigation and Interim Response Workplan for the Former Fabrication Shop, CBI Services, Inc. (July 1993) and the Interim Response Workplan for the NUS Background Sample Location, CBI Services (August 1994). Based on the Interim Response Activities conducted at the Former Fabrication Shop Area and the NUS Background Sample Area, with respect to the soil only (operable unit #1), the Department has determined that these areas, have been remediated and do not present an unacceptable risk to public health, safety or the environment. Further assessment of the groundwater media in the areas defined as operable unit #1 will be conducted as part of the Remedial Investigation of the entire CBI Facility (operable Unit #2).

Organization and contents of the Proposed Plan of Remedial Action

This Proposed Plan is based on the Interim Response Action and the remedial investigation conducted at the sites and is issued under provisions of the Delaware Hazardous Substance Cleanup Act (HSCA) and the Regulations Governing Hazardous Substance Cleanup (the Regulations). It presents DNREC's assessment of the health and environmental risk posed by the impacted areas which have undergone Interim Response activities.

DNREC will provide public notice and opportunity to comment on the Proposed Plan in accordance with section 12 of the Regulations. At the conclusion of the comment period, the Department, after review and consideration of the comments received, shall issue a Final Plan

which will designate the selected procedures and stipulations concerning current and future activities for operable unit #1. The Proposed Plan, the comments received from the public, DNREC's responses to the comments, the Final Plan and all the documents which formed the basis for the proposed and final plan will constitute the record required for proposing no further action for operable unit #1. The contents of the Proposed Plan include a description of the site, a summary of the Interim Response activity procedures, the analytical results and the intent for recommending no further action at the site.

Site Description and History

The CBI, New Castle Site occupies an approximately 126 acre tract of land at 801 East Sixth Street, New Castle, New Castle County, Delaware (see Figure 1). The site is bordered to the east by the Delaware River, and the Carpenter Warehouse complex to the south. To the west, the site is bordered by a City of New Castle electrical substation and a 1 million gallon elevated water tank for the City of New Castle. A railroad spur and residential areas flank the northwest property boundary.

Approximately one-third of the site has been developed by CBI, New Castle. Facilities on the developed portion of the site currently include an office building, warehouse, the former fabrication shop, parking areas and designated outdoor storage areas.

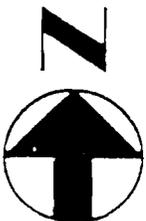
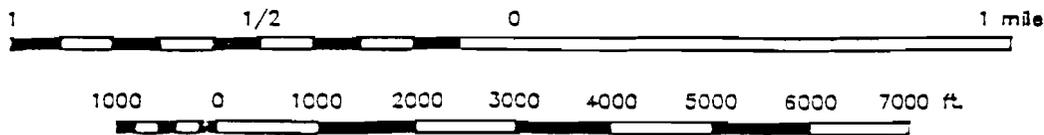
The undeveloped portion of the CBI site generally lies to the east and north of the CBI Facility. The developed portions of the site are enclosed by a fence, thereby limiting access to authorized personnel only. Significant features of the undeveloped portion of the site include the remains of at least six (6) old foundations from the Baldt Steel Company which went out of business around 1930, and an old homesite and well which have both been abandoned. Debris has been observed in areas of the undeveloped portion of the site.

From 1899 to 1929, the Baldt Steel Company was located on the site. The company manufactured steel pipe in an area upland and adjacent to the wetlands. The foundations from the buildings are still located in the undeveloped area of the site (see Figure 2). Waste disposal

Figure #1



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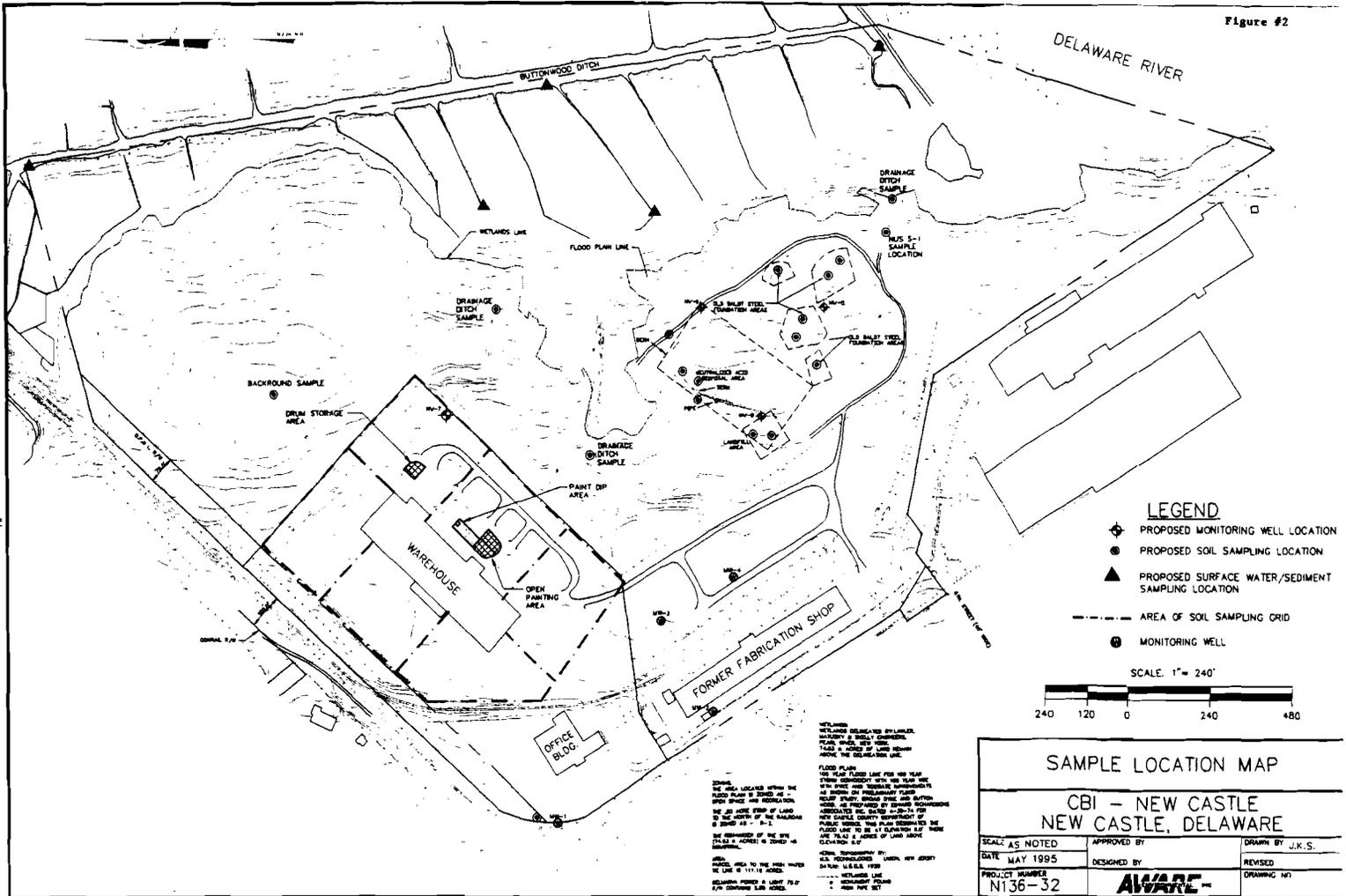


Taken from USGS Quadrangle
 Maps: Wilmington South, Del.-
 N.J. 1967 (photorevised 1987)

SITE LOCATION MAP



Figure #2



practices are not known but the type of waste can be inferred to be mainly metals and foundry sand.

The site remained inactive until September 1950, when at that time it was purchased by CBI Services. In 1956, CBI built the Fabrication Shop along the southwestern border of the property which operated from 1957 until 1980. Acid pickling operations were conducted to remove mill scale from formed steel plates prior to painting. The process produced pickling waste consisting of dilute (5-6%) sulfuric acid which was neutralized with lime (calcium hydroxide), producing calcium sulfate and iron hydroxide. The neutralized acid was disposed of in a pit located approximately 150 feet east of the Fabrication Shop. By the early 1960's, CBI was requested by the Delaware Water Pollution Commission to discharge the neutralized acid to the Old Baldt Steel Company foundations for disposal (see Figure 2). This practice continued until 1975 when Chemline Corporation was retained to haul the wastes off-site.

Approximately 2400 pounds of 100% phosphoric acid was disposed of once a year. It was diluted, neutralized and disposed of in a similar manner as the sulfuric acid. This practice was terminated in 1980 when the Fabrication Shop was closed.

In October 1955, CBI entered into an agreement with the City of New Castle (City) to allow the city to use a portion of the property as a sanitary landfill. The approximate location of the landfill is 350 feet southeast of the Fabrication Shop.

From approximately 1957-1980, CBI conducted painting operations at locations both indoors and immediately outdoors of the former Fabrication Shop. Painting operations included the use of "red lead" primer, vinyl and epoxy primers and limited use of zinc and chromium based primers.

At both the indoor and outdoor painting areas of the Fabrication Shop excess primers "accumulated" on the ground surface by overspray or by dripping off steel plates during painting operations.

Solvents associated with the painting operations included mostly mineral spirits, but some xylene, methyl ethyl ketone (MEK) and methyl isobutyl ketone (MIBK) were used. Other solvents may have also been used.

In October 1981, a Preliminary Assessment (PA) of the CBI Facility was conducted by Ecology and Environmental, Inc. resulting in recommendations for sampling and analysis. DNREC operating under an agreement with the United States Environmental Protection Agency (EPA), conducted a Site Inspection (SI) in May, 1982. The Site Inspection entailed the collection of soil samples at the CBI Facility and chemical analysis of the samples for hazardous substances. Analytical results for four soil samples collected during the SI were below detection limits for organics and RCRA metals.

In July 1984, DNREC conducted another PA which qualified the site for a more extensive SI. In October 1987, NUS Corporation (NUS) was contracted by the EPA to conduct a second SI. The SI sample plan consisted of seven water and twenty soil samples including blanks and duplicates. The results were submitted to EPA in 1988. The report indicated elevated concentrations of some metals in Buttonwood Ditch due east of the facility, with inference to an off-site source. Two soil samples located on the facility plant site indicated elevated levels of semi-volatile compounds, PCB Aroclor 1248 and Lead. A soil sample identified as the background sample was collected by NUS from an area located approximately 360 feet southeast of the now former Fabrication Shop. Analytical results of the NUS Background Sample showed elevated concentrations of Lead, Zinc, PCB Aroclor 1248 and various semi-volatile organics.

In September, 1991, Aware Environmental, Inc. under contract with CBI, completed both a preliminary and detailed assessment of the painting areas affected by painting operations at the Fabrication Shop. The purpose of the assessment was to provide a gross quantitative and qualitative indication of impact to soils in the painting areas. The detailed assessment defined the horizontal and vertical extent of impacted soil and the chemical nature of constituents present.

In May, 1993, CBI entered into a consent order with DNREC under the provisions of the Hazardous Substance Cleanup Act, 7 Del. C, Chapter 91. Pursuant to the consent decree CBI Services, Inc., agreed to design and implement a Remedial Investigation (RI) for the entire facility and conduct an Interim Remedial (IR) response of the former Fabrication Shop. The RI workplan for the entire facility was approved by DNREC on December, 1993 and is currently being implemented.

Interim Response activities were subsequently expanded at the request of CBI in April, 1994 to include the NUS Background Area. The Former Fabrication Shop and the NUS Background Area constitutes the two general areas incorporated into operable unit #1 (see Figure 3). The Final RI/IR Documentation Report of the Former Fabrication Shop and the NUS background sample area was submitted to DNREC in September, 1994, and March, 1995, respectively.

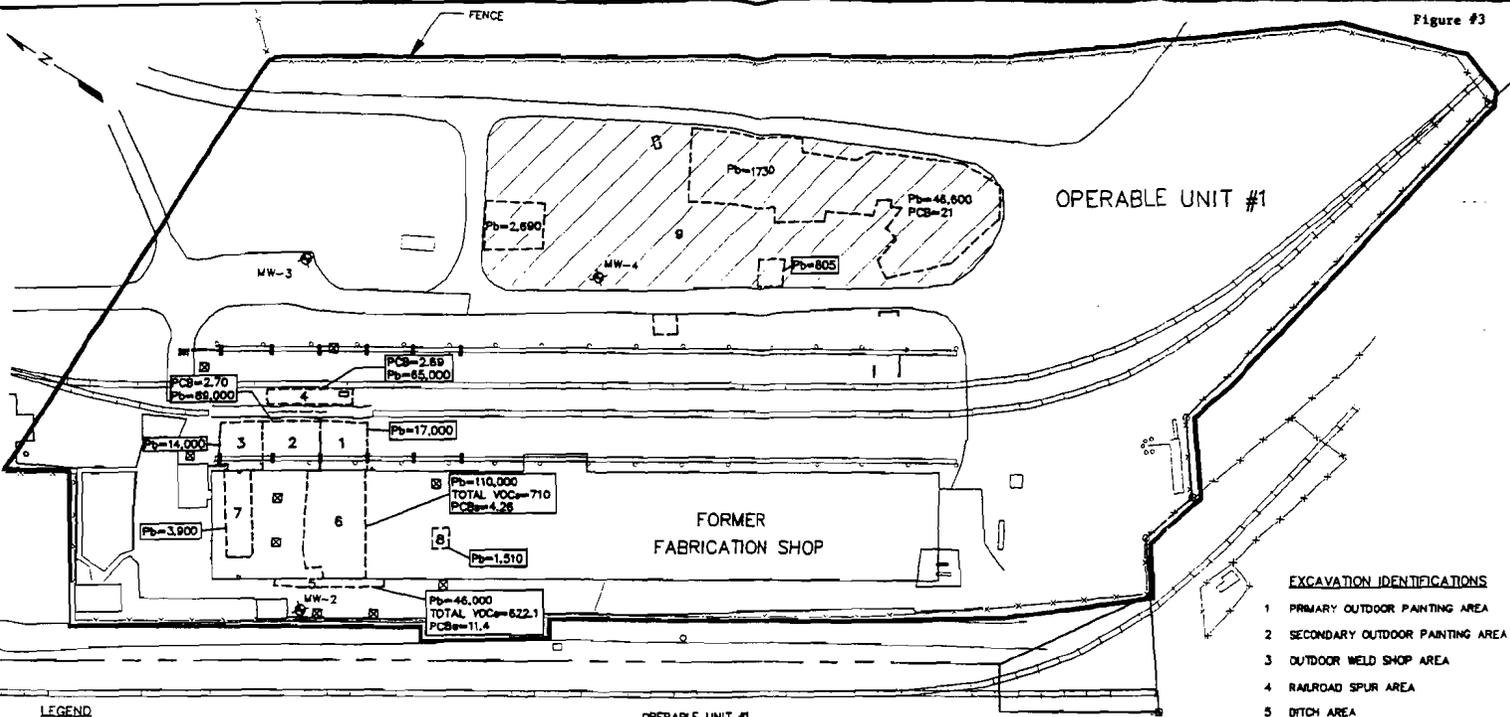
Procedures and Results for Interim Response Activities

Interim Response Actions as provided in Section 8 of the Delaware Regulations Governing Hazardous Substance Cleanup (April 1994) were initiated simultaneously with the implementation of overall site Remedial Investigation. The actions were determined appropriate by DNREC based on high levels of hazardous substances in soils at or near the surface that posed a threat to either human health or the environment. The IR involved the removal of contaminated soil in the areas defined for operable unit #1.

In 1991, CBI Services conducted a detailed assessment of the painting areas associated with the Former Fabrication Shop. Based upon the results of the assessment CBI made a request to the Department to proceed with interim response actions. The assessment identified areas of impacted soils requiring remediation based on total Lead, TCLP Lead, and VOC concentrations.

The identified areas of concern included the Indoor Painting Area, Primary Outdoor Painting Area, Secondary Outdoor Painting Area, Perimeter Ditch Area, Area of Railroad Spur, Outdoor Weld Shop Area, and Indoor Weld Shop Area. For the purpose of this proposed plan, these areas are grouped together as part of operable unit #1. The assessment included analysis of soils collected at various depths to determine the type, concentration, and extent of the contaminant.

Figure #3



EXCAVATION IDENTIFICATIONS

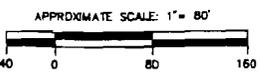
- 1 PRIMARY OUTDOOR PAINTING AREA
- 2 SECONDARY OUTDOOR PAINTING AREA
- 3 OUTDOOR WELD SHOP AREA
- 4 RAILROAD SPUR AREA
- 5 DITCH AREA
- 6 INDOOR PAINTING AREA
- 7 INDOOR WELD SHOP AREA
- 8 INDOOR PAINTING AREA - 3
- 9 MUS BACKGROUND AREA

LEGEND
 MW-2 MONITORING WELL
 --- APPROXIMATE EXCAVATION AREA
 ⊠ PERIMETER SAMPLES
 — BOUNDARY OF OPERABLE UNIT #1

**OPERABLE UNIT #1
 NOTES CORRESPONDING TO FIGURE 1**

- Concentrations shown represent the highest concentrations of the primary constituents of concern detected prior to remediation activities.
- Exact sample locations and depth of sample collection are not shown.
- Initial laboratory results for perimeter samples located in and adjacent to the Shop were below the established clean-up objectives.
- Pb - Lead (mg/kg)
- Total VOCs - Total Volatile Organic Compounds (mg/kg) - are the sum total of VOCs detected in the sample with the highest VOC concentrations from the area.
- PCBs - Polychlorinated Biphenyls (mg/kg)

REFERENCE:
 BASE MAP TAKEN FROM SURVEY MAP PROVIDED BY TATMAN & LEE ASSOCIATES, INC.



OPERABLE UNIT #1		
CBI SERVICES, INC. NEW CASTLE, DELAWARE		
SCALE AS NOTED	APPROVED BY :	DRAWN BY: D.A.O.
DATE OCT. 1994	DESIGNED BY :	REVISED
PROJECT NUMBER N136-32	AWARE INC.	
		DRAWING NO.

TABLE #1
TARGET COMPOUND LIST (TCL) AND
QUANTITATION LIMITS (QL) (1)

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

(1) Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.

TARGET COMPOUND LIST (TCL) AND
QUANTITATION LIMITS (QL) (1)

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

70.	2,4-Dinitrotoluene	121-14-2	10	330
71.	Diethylphthalate	84-66-2	10	330
72.	4-Chlorophenyl-phenylether	7005-72-3	10	330
73.	Fluorene	86-73-7	10	330
74.	4-Nitroaniline	100-01-6	25	800
75.	4,6-Dinitro-2-methylphenol	534-52-1	25	800
76.	N-nitrosodiphenylamine	86-30-6	10	330
77.	4-Bromophenyl-phenyl ether	101-55-3	10	330
78.	Hexachlorobenzene	118-74-1	10	330
79.	Pentachlorophenol	87-86-5	25	800
80.	Phenanthrene	85-01-8	10	330
81.	Anthracene	120-12-7	10	330
82.	Carbazole	86-74-8	10	330
83.	Di-n-butylphthalate	84-74-2	10	330
84.	Fluoranthene	206-44-0	10	330
85.	Pyrene	129-00-0	10	330
86.	Butylbenzylphthalate	85-68-7	10	330
87.	3,3-Dichlorobenzidine	91-94-1	20	660
88.	Benz(a)anthracene	56-55-3	10	330
89.	Chrysene	218-01-9	10	330
90.	bis(2-Ethylhexyl)phthalate	117-81-7	10	330
91.	Di-n-octylphthalate	117-84-0	10	330
92.	Benzo(b)fluoranthene	205-99-2	10	330
93.	Benzo(k)fluoranthene	207-08-9	10	330
94.	Benzo(a)pyrene	50-32-8	10	330
95.	Indeno(1,2,3-cd)pyrene	193-39-5	10	330
96.	Dibenz(a,h)anthracene	53-70-3	10	330
97.	Benzo(g,h,i)perylene	191-24-2	10	330

- (1) Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.
- (2) Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment on dry weight basis will be higher.
- (3) Medium Soil/Sediment Quantitation Limits (QL) for Semivolatile TCL Compounds are 60 times the individual Low Soil/Sediment QL.

Based on Contract Laboratory Program Statement of Work, OLMO1.6 (6/91).

TARGET COMPOUND LIST (TCL) AND
QUANTITATION LIMITS (QL) (1)

Pesticides/PCBs	CAS Number	Quantitation Limits (2)	
		Water $\mu\text{g/L}$	Low Soil/Sediment (3) $\mu\text{g/kg}$
98. alpha-BHC	319-84-6	0.05	1.7
99. beta-BHC	319-85-7	0.05	1.7
100. delta-BHC	319-86-8	0.05	1.7
101. gamma-BHC (Lindane)	58-89-9	0.05	1.7
102. Heptaclor	76-44-8	0.05	1.7
103. Aldrin	309-00-2	0.05	1.7
104. Heptachlor epoxide	1024-57-3	0.05	1.7
105. Endosulfan I	959-98-8	0.05	1.7
106. Dieldrin	60-57-1	0.10	3.3
107. 4,4'-DDE	72-55-9	0.10	3.3
108. Endrin	72-20-8	0.10	3.3
109. Endosulfan II	33213-65-9	0.10	3.3
110. 4,4'-DDD	72-54-8	0.10	3.3
111. Endosulfan sulfate	1031-07-8	0.10	3.3
113. 4,4'-DDT	50-29-3	0.10	3.3
114. Methoxychlor	72-43-5	0.50	17.0
115. Endrin ketone	53494-70-5	0.10	3.3
116. Endrin aldehyde	7421-36-3	0.10	3.3
117. alpha-Chlordane	5103-71-9	0.5	1.7
118. gamma-Chlordane	5103-74-2	0.5	1.7
119. Toxaphene	8001-35-2	1.0	170.0
120. Aroclor-1016	12674-11-2	0.5	33.0
121. Aroclor-1221	11104-28-2	0.5	33.0
122. Aroclor-1232	11141-16-5	0.5	67.0
123. Aroclor-1242	53469-21-9	0.5	33.0
124. Aroclor-1248	12672-29-6	0.5	33.0
125. Aroclor-1254	11097-69-1	1.0	33.0
126. Aroclor-1260	11096-82-5	1.0	33.0

- (1) Specific quantitation limits are highly matrix dependent. The quantitation limits listed herein are provided for guidance and may not always be achievable.
- (2) Quantitation limits listed for soil/sediment are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment on dry weight basis will be higher.
- (3) Medium Soil/Sediment Quantitation Limits (QL) for Pesticides/PCB TCL compounds are 15 times the individual Low Soil/Sediment QL.

Based on the Contract Laboratory Program Statement of Work, OLMO1.6 (6/91).

INORGANIC TARGET ANALYTE LIST (TAL)

Analyte	Detection Limit ($\mu\text{g/L}$ - water [1])
Aluminum	200
Antimony	60
Arsenic	10
Barium	200
Beryllium	5
Cadmium	5
Calcium	5000
Chromium	10
Cobalt	50
Copper	25
Iron	100
Lead	3
Magnesium	5000
Manganese	15
Mercury	0.2
Nickel	40
Potassium	5000
Selenium	5
Silver	10
Sodium	5000
Thallium	10
Vanadium	50
Zinc	20
Cyanide	10

(1) Sediment detection limit $100 \times$ water ($\mu\text{g/kg}$ - soil/sediment).

Based on the Contract Laboratory Program Statement of Work, ILMO2.1 (9/91).

Composite soil samples were collected from test pits and borings. Samples were analyzed for constituents listed in the EPA Target Compounds List TCL (i.e. Volatile Organics, semi-volatile organics, Polychlorinated Biphenyls and metals. Please see Table 1 for the entire EPA TCL.

Analytical Requirements and Methods for Confirmatory Samples:

On May 27, 1993, DNREC submitted analytical requirements to CBI regarding Data Quality Objectives (DQO) (Appendix A). The DQOs were established to provide CBI, and the laboratory approved by DNREC to perform the sample chemical analysis, with requirements for analyses of each constituent. Subsequently, the DQOs were incorporated into the RI/IR Workplan. The following analyses were requested for all confirmatory samples collected (see Table 2).

Each confirmatory sample was analyzed for the metals specified on Table 2 in accordance with the DQO and recommended modifications.

Each confirmatory sample was analyzed for the EPA Target Compound List Volatile organic compounds (VOCs) listed on Table 2. A library search to identify unknown compounds was included on all VOC analyses except those performed on field and trip blanks.

Each confirmatory sample was analyzed for the EPA Target Compound List Semi-Volatile Organic Compounds (Semi-Vocs) listed on Table 2. All Semi-Voc analyses included a library search to identify unknown compounds.

The Contract Required Detection Limit (CRDL) for three of the listed semi-volatile compounds in Table 2 was identified to be greater than the values established for clean-up criteria objective (CCO). The three compounds which fit into this category were Benzo(a)pyrene, Dibenz(a,h)anthracene and n-nitroso-di-n-propylamine.

The CRDL is a baseline setting which defines analytical computations which can be confidently determined. Contaminant concentration values which exceed the CRDL generally do not receive

**METAL ANALYSES AND CLEAN-UP OBJECTIVES
FOR CONFIRMATORY SAMPLES**

<u>Metals</u>	<u>Analytical Methods</u>	<u>Clean-Up Objective⁽¹⁾</u>
Chromium ³⁺	Inductively Coupled Plasma	78,000 mg/kg
Chromium ⁶⁺	Laboratory SOP ⁽²⁾	390 mg/kg
Lead	Inductively Coupled Plasma	500 mg/kg
Zinc	Inductively Coupled Plasma	23,000 mg/kg

NOTES:

- (1) With the exception of lead, clean-up objectives were taken from the Risk-Based Concentration Table, Second Quarter 1993, U.S. Environmental Protection Agency, Region III, and apply to residential soil. The clean-up objective for lead was taken from the OSWER Directive dated September 7, 1989, Interim Guidance on Established Soil Lead Clean-up Levels at Superfund Sites, and apply to residential soil.
- (2) Samples were analyzed by the Standard Operating Procedure (SOP) employed by National Environmental Testing, Inc.

**SOIL CLEAN-UP OBJECTIVES FOR THE TARGET
COMPOUND LIST VOLATILE ORGANIC COMPOUNDS**

<u>PARAMETERS</u>	<u>REQUIRED DETECTION LEVEL⁽⁵⁾</u>	<u>CLEAN-UP OBJECTIVE^{(1),(2)}</u>
Chloromethane	10	92
Bromomethane	10	110
Vinyl chloride	10	0.63
Chloroethane	10	
Methylene chloride	5	160
Acetone	10	7,800
Carbon disulfide	5	7,800
1,1-Dichloroethylene	5	2
1,1-Dichloroethane	5	7,800
trans-1,2-Dichloroethylene	5	1,600
Chloroform	5	200
1,2-Dichloroethane	5	13
2-Butanone	10	3,900
1,1,1-Trichloroethane	5	7,000
Carbon tetrachloride	5	9.2
Vinyl acetate	10	78,000
Bromodichloromethane	5	19
1,1,2,2-Tetrachloroethane	5	6
1,2-Dichloropropane	5	18
trans-1,3-Dichloropropene	5	6.6 ⁽³⁾
Trichloroethylene	5	110
Dibromochloromethane	5	14
1,1,2-Trichloroethane	5	21
Benzene	5	41
cis-1,3-Dichloropropene	5	6.6 ⁽³⁾
Bromoform	5	150
2-Hexanone	10	(4)
4-Methyl-2-pentanone	10	3,900
Tetrachloroethylene	5	23
Toluene	5	16,000
Chlorobenzene	5	1,600
Ethylbenzene	5	7,800
Styrene	5	48
Total xylenes	5	160,000

NOTES

- (1) Clean-up objectives are given in mg/kg.
- (2) Clean-up objectives taken from the Risk-Based Concentration Table, Second Quarter 1993, U.S. Environmental Protection Agency, Region III, and apply to residential soil.
- (3) Total concentration for both cis- and trans- isomers.
- (4) Clean-up criteria will be a carcinogenic/non-carcinogenic risk basis of 1×10^{-5} or a hazard index of 1.
- (5) Detection levels are given in ug/kg.

**SOIL CLEAN-UP OBJECTIVES FOR THE TARGET
COMPOUND LIST BASE NEUTRAL ORGANIC COMPOUNDS**

<u>PARAMETERS</u>	<u>REQUIRED DETECTION LEVEL</u>	<u>CLEAN-UP OBJECTIVE</u> ^{(1),(2)}
bis(2-Chloroethyl)ether	330 ug/kg	1.1
1,3-Dichlorobenzene	330 ug/kg	7,000
1,4-Dichlorobenzene	330 ug/kg	50
Benzyl alcohol	330 ug/kg	23,000
1,2-Dichlorobenzene	330 ug/kg	7,000
2-Methylphenol	330 ug/kg	39,000
bis(2-Chloroisopropyl) ether	330 ug/kg	17
N-Nitroso-di-n-propylamine	330 ug/kg	0.17
Hexachloroethane	330 ug/kg	78
Nitrobenzene	330 ug/kg	39
Isophorone	330 ug/kg	1,300
Benzoic acid	330 ug/kg	310,000
bis(2-Chloroethoxy) methane	1,600 ug/kg	(4)
1,2,4-Trichlorobenzene	330 ug/kg	780
Naphthalene	330 ug/kg	3,100
4-Chloroaniline	330 ug/kg	310
Hexachlorobutadiene	330 ug/kg	15
2-Methylnaphthalene	330 ug/kg	(4)
Hexachlorocyclo- pentadiene	330 ug/kg	550
2-Chloronaphthalene	330 ug/kg	6,300
2-Nitroaniline	1,600 ug/kg	4.7
Dimethylphthalate	330 ug/kg	780,000
Acenaphthalene	330 ug/kg	(4)
3-Nitroaniline	1,600 ug/kg	230
Acenaphthene	330 ug/kg	4,700
Dibenzofuran	330 ug/kg	(4)
2,4-Dinitrotoluene	330 ug/kg	160
2,6-Dinitrotoluene	330 ug/kg	1.8
Diethylphthalate	330 ug/kg	63,000
4-Chlorophenyl- phenylether	330 ug/kg	(4)

**SOIL CLEAN-UP OBJECTIVES FOR THE TARGET
COMPOUND LIST BASE NEUTRAL ORGANIC COMPOUNDS**

<u>PARAMETERS</u>	<u>REQUIRED DETECTION LEVEL</u>	<u>CLEAN-UP OBJECTIVE^{(1),(2)}</u>
Fluorene	330 ug/kg	3,100
4-Nitroaniline	1,600 ug/kg	230
N-Nitrosodiphenylamine	330 ug/kg	240
4-Bromophenyl- phenylether	330 ug/kg	4,500
Hexachlorobenzene	330 ug/kg	0.75
Phenanthrene	330 ug/kg	(4)
Anthracene	330 ug/kg	23,000
Di-n-butylphthalate	330 ug/kg	7,800
Fluoranthene	330 ug/kg	3,100
Pyrene	330 ug/kg	2,300
Butylbenzylphthalate	330 ug/kg	16,000
3,3'-Dichlorobenzidine	660 ug/kg	2.7
Benzo(a)anthracene	330 ug/kg	1.1
bis(2-Ethylhexyl) phthalate	330 ug/kg	85
Chrysene	330 ug/kg	9 ⁽³⁾
Di-n-octylphthalate	330 ug/kg	1,600
Benzo(b)fluoranthene	330 ug/kg	1.3
Benzo(k)fluoranthene	330 ug/kg	3.1
Benzo(a)pyrene	330 ug/kg	0.16
Indeno(1,2,3-cd)pyrene	330 ug/kg	0.59
Dibenzo(a,h)anthracene	330 ug/kg	0.15
Benzo(g,h,i)perylene	330 ug/kg	7.7

NOTES:

- (1) Clean-up objectives are given in mg/kg.
- (2) Unless otherwise specified, the clean-up objectives presented are from the Risk-Based Concentration Table, Second Quarter 1993, U.S. Environmental Protection Agency, Region III, and apply to residential soil.
- (3) Clean-up objective taken from New Jersey Administrative Code 7:26D, Clean-Up Standards for Contaminated Sites.
- (4) Clean-up criteria based on carcinogenic/non-carcinogenic risk basis of 1×10^{-5} or a hazard index of 1.

SOIL CLEAN-UP OBJECTIVES FOR POLYCHLORINATED BIPHENYLS

<u>PARAMETERS</u>	<u>REQUIRED DETECTION LEVEL</u>	<u>CLEAN-UP OBJECTIVE^{(1),(2)}</u>
Aroclor-1016	80.0 ug/kg	0.37
Aroclor-1221	80.0 ug/kg	0.37
Aroclor-1232	80.0 ug/kg	0.37
Aroclor-1242	80.0 ug/kg	0.37
Aroclor-1248	80.0 ug/kg	0.37
Aroclor-1254	160.0 ug/kg	0.37
Aroclor-1260	160.0 ug/kg	0.37

NOTES

- (1) The clean-up objective for PCBs is 0.37 mg/kg. This clean-up objective represents the sum total for all PCB congeners.
- (2) The clean-up objectives presented are from the Risk-Based Concentration Table, Second Quarter 1993, U.S. Environmental Protection Agency, Region III, and applies to commercial/industrial soil.

any qualification relative to the certainty of the concentration detected. Chemical contaminants which are detected by laboratory instrumentation below the CRDL standard can not be confidently evaluated relative to the numerical value of concentration, however, the presence of the contaminant can be observed. In these instances, an estimation of the concentration of the contaminant below the CRDL is conducted by the laboratory. Relative to the three compounds, Benzo(a)pyrene, Dibenz(a)Anthracene, and N-Nitroso-di-N-propylamine, laboratory instrumentation did not detect the presence of these contaminants below the CRDL in confirmatory samples.

Each confirmatory sample was analyzed for EPA Target Compound List PCBs listed on Table 2.

All initial confirmatory soil samples were analyzed for each constituent listed in Table 2, the site specific compound list.

Operable Unit #1

Operable Unit #1 encompasses two general areas previously identified as the Fabrication Shop area and the NUS Background Sample area. The operable unit #1 area soil was tested by CBI on several occasions to delineate the lateral and vertical extent of soil contaminants which exceeded the cleanup criteria established by the Department. In September 1991, CBI conducted an investigation entitled "Assessment Summary of Painting Areas Associated with the Former Fabrication Shop at CBI Services, Inc., New Castle, Delaware". The CBI investigation identified an area of impacted soil which required remediation. These areas included the Primary Outdoor Painting Area, Outdoor Weld Shop Area, Railroad Spur Area, Ditch Area, Indoor Painting Area and the Indoor Weld Shop Area. The location of these areas and the notable contaminant constituents detected in soil samples analyzed by a DNREC approved laboratory are included in Figure 3. The cleanup criteria objectives for the soil chemical constituents is provided in Table 2. Table 2 values were utilized to define the area requiring remediation.

In April, 1994, CBI requested the NUS Background Area be included as an Interim Action soil removal. CBI reviewed the analytical data from the SI conducted in the area by the NUS Corporation. The SI sample contained numerous contaminants which exceeded the cleanup criteria objectives assigned from Table 2. Lead (46,600 mg/Kg), Zinc (28,500 mg/Kg), Aroclor-1248 (21 mg/Kg), Benzo(b)Fluoranthene (1.7 mg/Kg), Benzo(k)Fluoranthene (3.5 mg/Kg), and Benzo(a)Pyrene (1.4 mg/Kg) were detected in the NUS Background Sample at levels above the CCO established for the former Fabrication Shop. Scattered, surficial, blue and red paint stained soils, similar to those previously located near the Fabrication Shop, were noted during a visual inspection of the NUS Background sample location.

Based on visual observations, the impacted area was determined to be surficial (i.e. less than one foot in depth). Therefore, CBI proposed that the impacted surficial soil be removed from this area as an interim remediation similar to that performed within the Fabrication Shop Area.

Upon delineation and characterization of contaminants in both areas, the contaminated soil was removed and the excavated areas were sampled to confirm complete removal or to levels below the established CCO.

Fabrication Shop Area

In April, 1994, DNREC completed its review of several analytical results data packages for samples submitted following the excavation of soils from the general area defined as the Fabrication Shop. The analytical data was determined to be valid, and the excavation area soil was determined to be below the CCO Levels established for the interim action.

WASTE IDENTIFICATION AND DISPOSAL

During remedial investigation and interim response activities associated with the Former Fabrication Shop, seven (7) waste streams were generated, and subsequently disposed of off-site.

The remediation of the Fabrication Shop generated four (4) hazardous, and three (3) non-hazardous waste streams. Waste manifests and waste profile sheets generated during remedial

activities associated with the Former Fabrication Shop are included in the Remedial Decision Record for the site.

HAZARDOUS WASTE

There were four (4) hazardous waste streams as described below.

Hazardous Waste Due to Lead

Excavated soil containing Lead in concentrations equal to or exceeding the toxicity characteristic leaching procedure (TCLP) concentration of 5.0 mg/L is considered to be a hazardous waste. These soils were classified as D008 Hazardous Waste.

Lead impacted soil characterized as D008 Waste were excavated from the following areas.

<u>Location</u>	<u>Approximate Volume (cubic yards)</u>
Primary Outdoor Painting Area	105
Secondary Outdoor Painting Area	129
Railroad Spur Area	46
Indoor Painting Area	216
Indoor Weld Shop Area	85

The Lead impacted soil was stabilized and placed in a landfill at the Envotech facility located at 49350 North I-94 Service Drive, Belleville, Michigan.

Hazardous Waste Due to Lead with Listed Solvents

Excavated soils considered to be hazardous waste due to the presence of TCLP Lead equal to or above the TCLP limit of 5.0 mg/L, with the presence of solvents at concentrations below federal treatment requirements, were handled and disposed of as a separate waste stream. The waste stream maintained EPA Waste Code D008 for leachable Lead plus the EPA Hazardous Waste Codes for the solvents listed below:

EPA Hazardous

<u>Constituent</u>	<u>Waste Code</u>
Tetrachloroethylene	D039
Trichloroethylene	F002
Xylene(s)	F003

The Indoor Painting Area excavation and the Ditch Area excavation contained approximately 208 cubic yards and 55 cubic yards, respectively of this material. This waste was stabilized prior to landfill disposal at the Envotech facility in Belleville, Michigan.

Hazardous Waste Due to Solvents

Approximately 65 cubic yards of solvent impacted soil were generated from the Indoor Painting Area. The predominant constituents identified in the soil were tetrachloroethylene, trichloroethylene, xylene and toluene. CBI disposed of this soil using EPA Waste Codes D039, F002, F003 and F005, respectively, for the above mentioned constituents. This waste was incinerated at the Marine Shale Processors, Inc. facility located at Highway 90 East, Morgan City, Louisiana. The waste recovered from the incineration process was maintained at the Marine Shale facility for future use as a recycled aggregate material.

Hazardous Waste Due to Solvents and Lead

Excavated soil classified as hazardous waste due to the presence of solvents above the treatment requirements was incinerated at Marine Shale. Additionally, Marine Shale requires all incineration material to exhibit concentrations of leachable Lead equal to or less than 0.51 mg/L.

Material exceeding the allowable leachable Lead concentration must be stabilized via vitrification following incineration.

Approximately 17 cubic yards of soil from the Indoor Painting Area and 69 cubic yards of soil from the Ditch Area excavation containing both solvents and Lead were manifested as F002, F003, D039 and D008 listed waste and transported to the Marine Shale facility in Morgan City, Louisiana. The material was incinerated and vitrified at the Marine Shale, Morgan City facility prior to being stockpiled on-site for future use as recycled aggregate material.

NON-HAZARDOUS WASTES

During remedial activities, three (3) wastestreams were generated that were determined to be non-hazardous non-regulated wastes. These waste streams were disposed of at the appropriate facilities. The three wastes are described below.

Railroad Ties

Approximately ten (10) tons of railroad ties removed from the Primary and Secondary Outdoor Painting Area, Indoor Painting Area and Outdoor Weld Shop Area were manifested and

transported to Laidlaw Environmental Services of South Carolina, Inc., secure landfill in Pinewood, South Carolina. The railroad ties were disposed of as non-hazardous waste.

A waste profile composite sample of the railroad ties (identified as "RR Chips") was collected and analyzed for TCLP Lead. The composite sample contained leachable Lead at a concentration of 1.5 mg/L, which is below the treatment requirement of 5.0 mg/L, and therefore were considered non-hazardous waste.

The Outdoor Weld Shop Area and Indoor Painting Area-3

The wastes generated from the OWSA and IPA-3 Area were characterized as being non-hazardous. Representative samples indicate leachable Lead content was less than 0.30 mg/L which is below the treatable requirements of 5.0 mg/L. As a result, approximately 100 cubic yards, and 7 cubic yards of soil from the OWSA and the IPA-3 Area, respectively, were disposed as a non-hazardous, non-regulated soil. The material was disposed of at the Laidlaw secure landfill in Pinewood, South Carolina.

Contained Water

During initial remediation of the Ditch Area, the excavation periodically filled with rain water and surface water run-off. Although the ditch excavation was lined with plastic, water did come into contact with the bottom and sidewalls of the excavation. For precautionary purposes only, approximately 4,000 gallons of water was contained in three (3) polyethylene storage tanks and

seven (7) 55-gallon drums. For waste disposal characterization, one (1) composite sample of the water, designated as CON-H²O, was collected and analyzed for VOC, semi-VOCs, pesticides, PCBs, total suspended solids, oil and grease, and total RCRA metals.

On November 30, 1993, Guardian Environmental Services (GES), on behalf of CBI-New Castle, submitted the analytical results of sample CON-H²O to the New Castle County Department of Public Works (DPW). On December 8, 1993, DPW approved transportation and disposal of the contained water into the New Castle County Sanitary Sewer System at the Airport Road Pump Station.

On December 9, 1993, GES transported the wastewater to the New Castle County sanitary waste discharge pumping station on Airport Road.

BACKFILLING

Upon receipt of acceptable confirmatory analyses, and approval from DNREC, the excavated areas were backfilled and compacted to the existing grade to the surrounding environment. All backfill material was obtained from an off-site source located at 925 South Heald Street, Wilmington, Delaware. The site is owned and operated by Contractor Supply, Inc.

Prior to initiating backfill operations, one (1) discrete sample (Backfill-1) was collected and analyzed for parameters noted in Table 4, plus total petroleum hydrocarbons (TPH), total Arsenic, Barium, Cadmium, Mercury, Selenium and Silver to provide an initial characterization of the soil to be obtained from the off-site backfill source stockpile. All constituents for sample Backfill-1 were below the clean-up objectives.

To validate the acceptability of backfill being brought on-site, one (1) sample of the fill material was collected for approximately every 200 cubic yards of delivered material for analyses by the analytical laboratory. Each sample was analyzed for parameters on Table 4, plus TPH, total Arsenic, Barium, Cadmium, Mercury, Selenium and Silver.

TABLE 2-5
SUMMARY OF BACKFILL SAMPLE DATA
REMEDIAL INVESTIGATION/INTERIM RESPONSE WORKPLAN
FORMER FABRICATION SHOP
CBI SERVICES, INC. - NEW CASTLE, DELAWARE

PARAMETER	UNITS	ACCEPTANCE CRITERIA	SAMPLES					
			(Source) Backfill #1	IPA - Backfill #1	IPA - Backfill #2	OPA - Backfill	DA - Backfill	IWSA - Backfill
<i>(metals)</i>								
Arsenic	mg/kg	23	0.66	0.66	0.66	1.0	1.1	1.32
Barium	mg/kg	5,500	26.7	<21.9	30.2	23.9	<22.1	23.8
Chromium (+3)	mg/kg	78,000	6.57	8.10	18.2	8.35	8.64	4.38
Zinc	mg/kg	23,000	8.54	8.10	8.76	7.43	9.96	5.84
<i>(VOCs)</i>								
Acetone	mg/kg	7,800	0.014 (B)	U	U	U	U	0.012 (B)
Methylene Chloride	mg/kg	160	0.0023 (JB)	U	7.44 (J)	U	0.0024 (J)	U
<i>(Semi-VOCs)</i>								
Di-n-Butylphthalate	mg/kg	7,800	0.047 (J)	0.0405 (J)	U	U	U	U

Notes: (U)=Compound was analyzed for but not detected. The method detection limit has been reported by the laboratory.
(J)=Compound detected at a concentration below method detection limit. Values are estimated.
(B)=Compound was detected in method/extraction blank as well as sample. Possible laboratory contamination.
IPA=Indoor Painting Area
OPA=Outdoor Painting Area
DA=Ditch Area
IWSA=Indoor Weld Shop Area
Only those constituents detected are summarized herein.

As addressed in the RI/IR Workplan, acceptable backfill criteria must be below the CCOs established in Table 2 and below the following criteria:

Arsenic	23 mg/Kg;
Barium	5,500 mg/Kg;
Cadmium	39 mg/Kg;
Mercury	23 mg/Kg;
Selenium	390 mg/Kg;
Silver	390 mg/Kg; and
TPH	50 mg/Kg.

The backfill samples were collected in the following locations:

<u>Sample Designation</u>	<u>General Area of Backfill Use</u>
OPA-Backfill	Primary and Secondary Outdoor Painting Areas
IPA-Backfill #1	Indoor Painting Area and Outdoor Weld Shop Area
IPA-Backfill #2	Indoor Painting Area
DA-Backfill	Ditch Area
IWSA-Backfill	Indoor Weld Shop Area and Indoor Painting Area-3

Based on the analytical results, all constituents analyzed were below the CCOs and therefore accepted by CBI-New Castle as clean backfill soil. A summary of backfill sample analytical results is contained in the Administrative Record file for the CBI site. All analytical results for backfill samples are included in the Administrative Record file for the CBI site.

NUS Background Sample Area:

The second general area incorporated into Operable Unit #1 is the NUS Background Sample area. In March, 1995, DNREC completed its review of the data packages for samples submitted following excavation of contaminated soils from the area defined as the NUS Background Sample

area. The analytical data was determined to be valid. The following is a summary of findings for this area.

The NUS Background Sample area is an approximately 1.5 acre open field located northeast of the former Fabrication Shop inside the developed portion of the site (Figure 6). The assessment and remediation was performed in two phases. The first phase included excavating areas with surficial red and blue paint-stained soil. The second phase included excavating areas which contained elevated concentrations of lead based on analytical results from assessment samples.

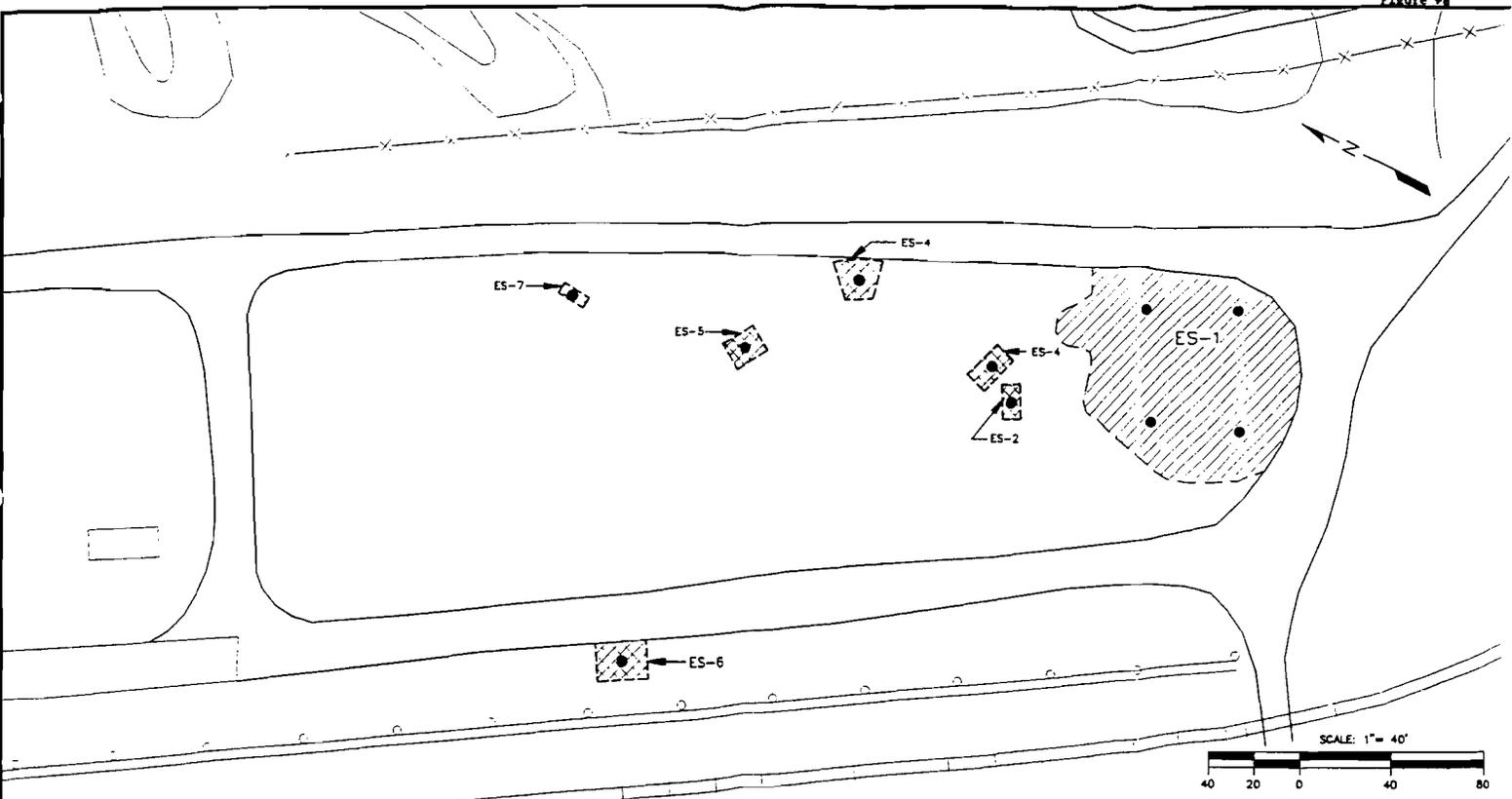
In August, 1994, seven individual areas (ES-1 through ES-7) shown in Figure 6 were excavated to the depth of the clayey silt layer which is pervasive in the subsurface in this area of the site. Approximately 171 cubic yards of lead impacted soil was removed during this Phase I.

Two composite confirmatory samples (ES-A and ES-B) were analyzed. Sample ES-A was a composite of four grab locations within excavation ES-1. Sample ES-B consisted of one grab sample from the center of each of the six excavations ES-2 through ES-7.

In September, 1994, CBI performed additional assessment of the NUS Background Sample area to document the lateral and vertical extent of lead impacted soils above the lead CCO of 500 mg/Kg. The entire area shown in Figure 7 was segregated into fifteen sample grids each approximately 50 X 75 feet in area. Borings were advanced in each grid either in the center or where staining or stressed vegetation was apparent. Two samples from each boring was collected from 0 to 2 inches and 3 to 10 inches below grade. These 30 initial samples were analyzed for total lead. The results indicated four grids had significant lead levels. To further delineate the extent of impacted areas 43 additional samples were collected. The data from these 73 soil samples was used to delineate the vertical and horizontal extent of the lead impacted soils.

The vertical extent was closely defined by the depth of a clayey silt layer. Four areas were defined as requiring further remediation, (see Figure 8 for the four (4) areas defined as requiring for the remediation).

Figure #6



FILENAME: 465A (01-00-93)

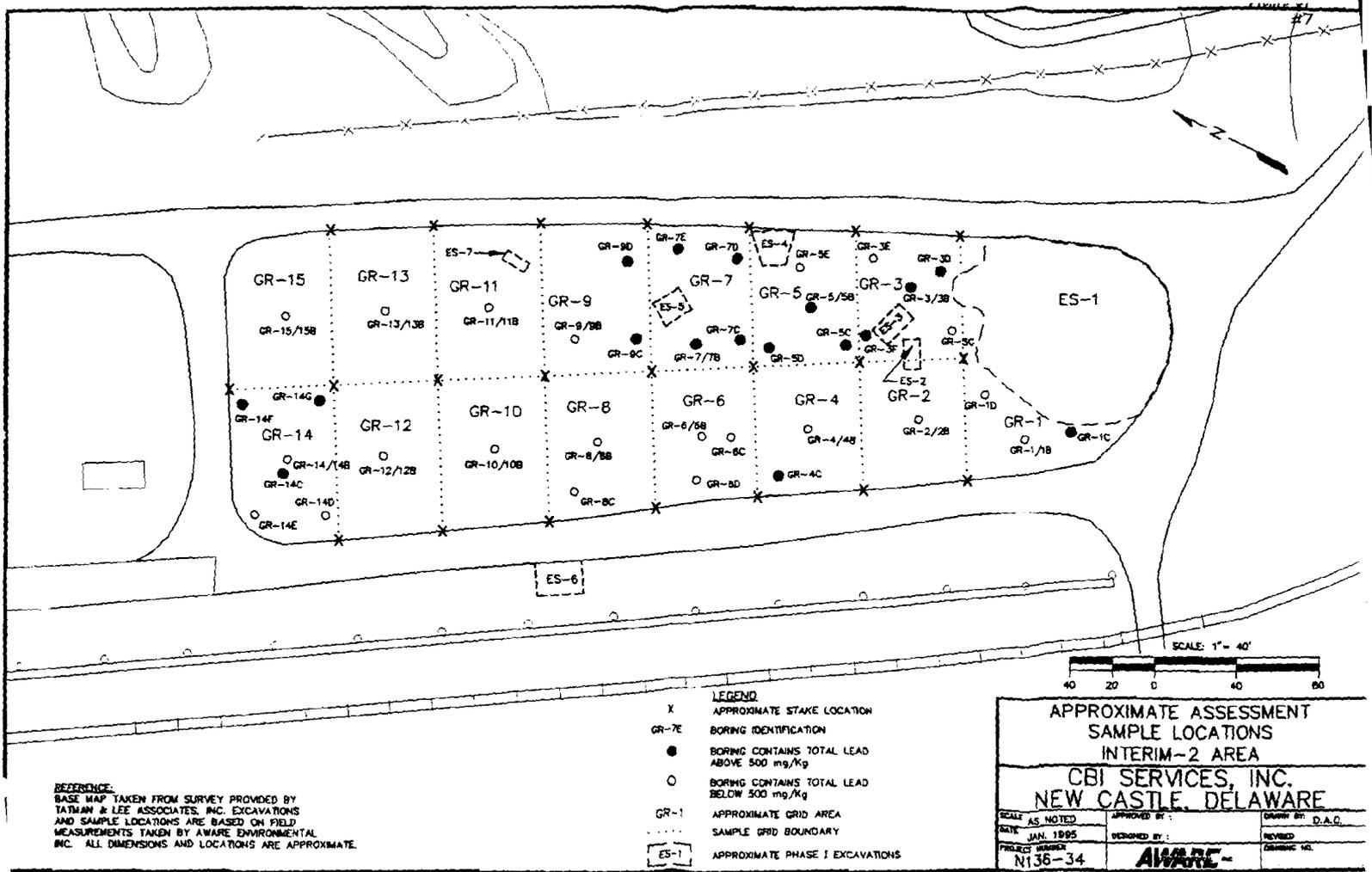
REFERENCE:
 BASE MAP TAKEN FROM SURVEY PROVIDED BY
 TATMAN & LEE ASSOCIATES, INC. EXCAVATION
 AND SAMPLE LOCATIONS ARE BASED ON FIELD
 MEASUREMENTS TAKEN BY AWARE ENVIRONMENTAL
 INC. ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

LEGEND

- CONFIRMATORY SAMPLE ES-A
- CONFIRMATORY SAMPLE ES-B
- ES-1 EXCAVATION AREA IDENTIFICATION
- APPROXIMATE GRAB SAMPLE LOCATION

PHASE I CONFIRMATORY SAMPLE LOCATION MAP INTERIM-2 AREA		
CBI SERVICES, INC. NEW CASTLE, DELAWARE		
SCALE AS NOTED	APPROVED BY :	DRAWN BY: D.A.D.
DATE JAN. 1995	DESIGNED BY :	REVISED :
PROJECT NUMBER N136-34		
		DRAWING NO.

FILENAME: A602 (03-09-95)



REFERENCE:
 BASE MAP TAKEN FROM SURVEY PROVIDED BY
 TAYMAN & LEE ASSOCIATES, INC. EXCAVATIONS
 AND SAMPLE LOCATIONS ARE BASED ON FIELD
 MEASUREMENTS TAKEN BY AWARE ENVIRONMENTAL
 INC. ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

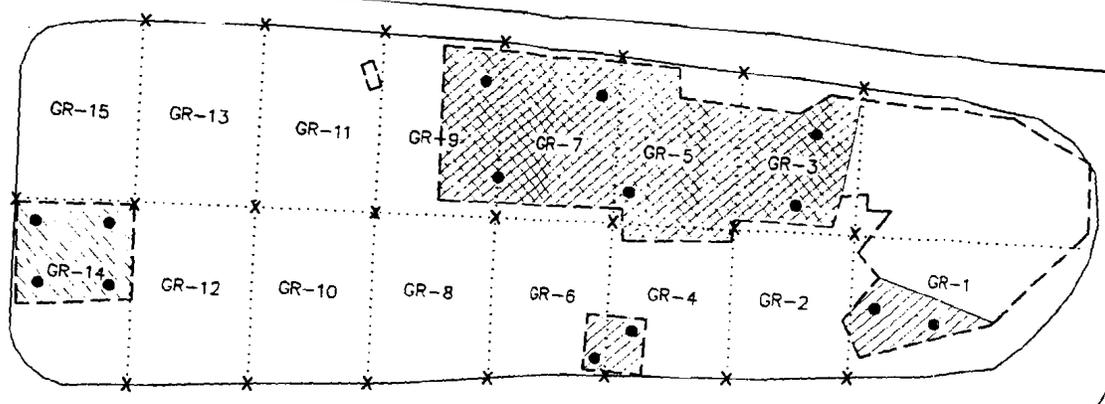
- LEGEND**
- X APPROXIMATE STAKE LOCATION
 - GR-7E BORING IDENTIFICATION
 - BORING CONTAINS TOTAL LEAD ABOVE 500 mg/Kg
 - BORING CONTAINS TOTAL LEAD BELOW 500 mg/Kg
 - GR-1 APPROXIMATE GRID AREA
 - SAMPLE GRID BOUNDARY
 - ES-1 APPROXIMATE PHASE I EXCAVATIONS

**APPROXIMATE ASSESSMENT
 SAMPLE LOCATIONS
 INTERIM-2 AREA
 CBI SERVICES, INC.
 NEW CASTLE, DELAWARE**

SCALE AS NOTED	APPROVED BY:	DRAWN BY: D.A.C.	
DATE JAN. 1995	DESIGNED BY:	REVISED:	
PROJECT NUMBER N136-34	AWARE		GEOTECH. NO.:

FILENAME: 181442A (01-09-93)

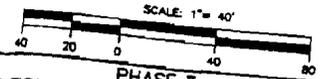
Figure #8



LEGEND

- APPROXIMATE GRAB SAMPLE LOCATION
- X APPROXIMATE STAKE LOCATION
- GR-1 GRID AREA IDENTIFICATION
- SAMPLE GRID BOUNDARY
- APPROXIMATE EXCAVATION AREAS
- ▨ COMPOSITE SAMPLE ES-C
- ▩ COMPOSITE SAMPLE ES-D
- ▧ COMPOSITE SAMPLE ES-E

REFERENCE:
BASE MAP TAKEN FROM SURVEY PROVIDED BY
TATMAN & LEE ASSOCIATES, INC.



PHASE II
CONFIRMATORY SAMPLE LOCATION MAP
INTERIM-2 AREA
CBI SERVICES, INC.
NEW CASTLE, DELAWARE

SCALE: AS NOTED	APPROVED BY:	DESIGNED BY:
DATE: JAN. 1993		DRAWN BY: D.A.O.
PROJECT NUMBER: N13E-34		REVISION:
		DRAWING NO.:

AWA OF

In December, 1994, these four areas were excavated down to the clayey silt layer. Sidewall samples were collected and analyzed for total lead to verify impacted soils had been delineated and removed.

To confirm complete removal of all target constituents, three composite confirmatory soil samples were collected from the base of the Phase II excavations. In accordance with DNREC approval, these samples were analyzed for target constituents which included lead, zinc, PCB's and TCL semi-VOC's. The reported analytical laboratory results were below the established CCO's.

BACKFILLING ACTIVITIES

Based on the laboratory analyses of the Phase I confirmatory soil samples (ES-A and ES-B) and Phase II confirmatory soil samples (ES-C through ES-E), the excavated areas of the NUS Background Area were backfilled and compacted to the existing grade of the surrounding environment. All backfill material was obtained from an off-site source located at 925 South Heald Street, Wilmington, Delaware, which is owned and operated by Contractor Supply, Inc.

To validate the acceptability of backfill being brought on-site, two (2) samples (Backfill #1 and #2) were collected from the delivered material for analyses by the analytical laboratory. Each sample was analyzed for parameters listed on Table 2; and below the following criteria:

Arsenic	23 mg/Kg;
Barium	5,500 mg/Kg;
Cadmium	39 mg/Kg;
Mercury	23 mg/Kg;
Selenium	390 mg/Kg;
Silver	390 mg/Kg; and
TPH	50 mg/Kg.

All constituents analyzed in the backfill samples were below the acceptable clean-up objectives and the backfill material was accepted by CBI. The analytical report for the backfill material is included in the Administrative Record file for the CBI site.

WASTE IDENTIFICATION AND DISPOSAL - NUS BACKGROUND AREA

During remediation of the NUS Background Area, approximately 512 cubic yards of soil was excavated that required disposal. Prior to disposal, two (2) representative samples were collected from the impacted soil and analyzed for constituents required by the Delaware Solid Waste Authority (DSWA). Based on the analytical results, the impacted soil was classified by both DNREC and DSWA as not meeting the definition of hazardous waste as defined by the Delaware Regulations Governing Hazardous Waste and 40 CFR Part 261 of the Federal Regulations. Subsequently, the impacted soil was accepted as non-hazardous waste for disposal

at the DSWA Sandtown Landfill located in Sandtown, Delaware. Correspondence between CBI, DNREC, and DSWA regarding the disposal of the impacted soil is contained in the Administrative Record File for the CBI site.

Between November 28, and December 9, 1994, CBI transported approximately 512 cubic yards of impacted soil to the DSWA Sandtown Landfill. Documentation for disposal of the non-hazardous waste is contained in the Administrative Record file for the CBI site.

Facility Remedial Action Objectives

The Regulations provide that the Department set objectives for land use, resource use, and cleanup levels that are protective of human health and the environment. The following two objectives are determined to be appropriate for the facility:

- To continue the use of the site as a industrial/commercial facility with supplied public water for all purposes;
- That routine construction, excavation and maintenance activities can occur without any special chemical hazard precautions.

These objectives are consistent with the value of the building structure as a manufacturing facility, the surrounding land use, New Castle County zoning policies, state regulations governing water supply, and worker health and safety.

Proposed IR Action Plan

The Department's recommendation for the remediated areas delineated in operable unit #1 (Figure 3) is to propose no further action. This proposed plan only addresses the shallow soils for the remediated areas and not groundwater. The intent is to allow for the use of the facility in accordance with the following stipulations:

- all facility activities will not affect the ongoing groundwater monitoring programs.
- The remedial investigation for operable unit #2 will continue on schedule unaffected by facility activities and in accordance with the approved workplan.

Public Participation

The Department actively solicits public comments or suggestions on the proposed plan and welcomes opportunities to answer questions. Please direct written comments to:

Superfund Branch
ATTN: Zsolt Haverland
715 Grantham Lane
New Castle, DE 19720

or call (302)323-4540. The public comment period closes on August 29, 1995.



STATE OF DELAWARE
 DEPARTMENT OF NATURAL RESOURCES
 AND ENVIRONMENTAL CONTROL
 DIVISION OF AIR AND WASTE MANAGEMENT
 715 GRANTHAM LANE
 NEW CASTLE, DELAWARE 19720-4801

WASTE MANAGEMENT SECTION
 SUPERFUND BRANCH

TELEPHONE: (302) 323-4540
 FAX: (302) 323-4561

May 27, 1993

Mr. David H. Fichter
 Environmental Affairs Director
 Chicago Bridge & Iron Company
 800 Jorie Boulevard
 Oak Brook, IL 60522-7001

RE: CBI - Data Quality Objectives (DQO)/Analytical Constituents
 CBI, New Castle, Delaware

Dear Mr. Fichter:

The Delaware Department of Natural Resources and Environmental Control (DNREC), Superfund Branch, has reviewed the workplan for Remedial Investigation and Interim Response Workplan and offers the following analytical and sampling requirements for the CBI - Data Quality Objectives (DQO)/Analytical Constituents component of the project.

The Department requests that the analytical program proposed in the workplan be modified to the following:

After excavation, soils will require the following analytical constituents:

- o Base Neutrals plus library search (mostly PAH's).
- o Volatiles plus library search.
- o Pb, Cr⁺³, Cr⁺⁶, Zn.
- o PCB's.

All DQO will be performed by the SOP of HSCA and Cr⁺⁶ methodology per the laboratory SOP. The laboratory SOP will be submitted to DNREC's Laboratory Specialist for review. PCB's will have the following DQO:

- o Instrument blank.
- o Five point initial calibration with 1254 Aroclor. Twenty (20) percent relative standard deviation (RSD) is required.

Delaware's good nature depends on you!

Mr. David H. Fichter
Page 2
May 27, 1993

- o Five samples - (samples include blanks, blank spikes, matrix and matrix spike duplicates).
- o Continuing Calibration - 25% relative percent difference (%D).
- o Ten samples.
- o Continuing Calibration - 25%.

The laboratory can continue analyzing PCB's by the following analytical sequence for a period of seventy-two (72) hours or until a continuing calibration fails to meet the QC criteria identified in the DQO. The matrix spike, matrix spike duplicates and blank spikes performed will be spiked with Aroclor 1254 at approximately five (5) to ten (10) times the practical quantitation limits (PQL).

The following field sampling QC will be required to meet the DQO for this project:

- o A trip blank, field blank, field rinsate (equipment blank) will be performed for every field sampling event (day). The trip blank will require volatile analysis only.
- o A matrix and matrix spike duplicate will be required for every twenty (20) samples or once every two weeks.
- o A field duplicate blind will be required for every twenty (20) samples.
- o A refrigeration blank is required for every cooler used to ship samples.

A full deliverables package will not be required for the soil samples including the associated field QC. The laboratory will be required to submit analytical report forms (Form 1), TIC Forms, matrix and matrix spike duplicate forms, surrogate recovery forms, (system monitoring compounds), chromatograms, ICP printouts, AA printouts for blanks and LCS recovery forms.

The laboratory shall write an extensive narrative indicating any deficiencies from the SOP of HSCA. No deviations from the SOP of HSCA are permitted without the consent of the Laboratory Specialist/Program Manager of the Superfund Branch of DNREC.

Data validation for soil samples will not be required. The laboratory will send a copy of the analytical data package to Aware Environmental Inc. and State of Delaware for data quality review.

Mr. David H. Fichter
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May 27, 1993

The groundwater samples will require full TAL/TCL plus Cr⁺⁶ Sulfate and Phosphates. All field QC will be required as per the soil samples as previously mentioned.

All groundwater analytical parameters will be performed per the SOP of HSCA. All analytical data must be fully validated in accordance with EPA's National Functional Guidelines for inorganic and organic data review. Therefore, a full deliverables package will be required.

If you have any questions regarding the analytical and sampling requirements, please contact me at (302) 323-4540.

Sincerely,



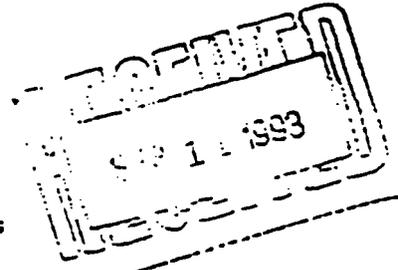
Karl F. Kalbacher, PG
Environmental Program Manager I
Superfund Branch

RMS/KFK:mlb/dw
KFK2523.wp

pc: Bob Schulte
Stephen Williams
Chris Lyon, Aware Environmental



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL
DIVISION OF AIR AND WASTE MANAGEMENT
715 GRANTHAM LANE
NEW CASTLE, DELAWARE 19720-4801



WASTE MANAGEMENT SECTION
SUPERFUND BRANCH

TELEPHONE (302) 323-4540
FAX (302) 323-4561

September 7, 1993

Christina Lyon, P.G.
Aware Environmental Inc.
9305 Monroe Road, Suite J
Charlotte, North Carolina 28270

Dear Ms. Lyon:

Pursuant to our discussion on August 16, 1993, I am writing to confirm a slight modification to the Data Quality Objectives (DQO's) for the Remedial Investigation of CBI Inc. State Superfund site.

The DNREC recognizes the expeditions nature of the soil excavation of this project. Aware Environmental needs a seven (7) day turnaround for analytical results. The quick turnaround is essential to help minimize excavation costs. Therefore, I recommend the following changes to the DQO's:

- (1) The metal analysis of Pb, Zn, Cr⁺³ should be analyzed by Inductively Coupled Plasma (ICP) provided the laboratory can achieve practical quantitation limits below clean-up criteria objectives as stated in Remedial Investigation Workplan.
- (2) The laboratory will not be required to use Gel Permeation Chromatography to clean-up extracts provided practical quantitation for analysis is less than clean-up criteria objectives as stated in Remedial Investigation Workplan.
- (3) Ending Calibration criteria for semivolatile and volatiles for soil samples will be waived provided that all initial and continuing calibrations are per the SOP of HSCA.

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Delaware's good nature depends on you!

Christian Lyons, P.G.

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September 7, 1993

(4) All groundwater samples will remain as stated in the original DQO letter. The turnaround time required will be 35 days from the date of receipt of samples.

If the changes are mutually agreeable to Aware Environmental Inc, and your laboratory contractor, than please submit a letter to DNREC which confirms this agreement. A copy of this letter and the confirmation letter will be placed in the DQO section of Remedial Investigation workplan.

If you have any further questions, please contact me at (302) 323-4540.

Sincerely,



Robert M. Schulte
Environmental Scientist
Laboratory Specialist

RMS:dmw
RMS93121

cc: K. Kalbacher
Lisa Fiorile, Net Inc.

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News Journal

Legal Notice

**PROPOSED PLAN OF
REMEDIAL ACTION
FOR CBI SERVICES, INC.**

The Delaware Department of Natural Resources and Environmental Control (DNREC) Announces The Release of the Proposed Plan of Remedial Action for CBI Services, Inc., New Castle, Delaware under the authority of the Hazardous Substance Cleanup Act (HSCA).

The facility has undergone an Assessment and Interim Action of the impacted areas associated with the Former Fabrication Shop and the corresponding Background Area (referred to as the NUS Background Area). These two areas of the CBI site (the Former Fabrication Shop and the NUS Background Area) are referred to as Operable Unit #1.

Based on the Interim Response Activities conducted at the Former Fabrication Shop and the NUS Background Area, with respect to soils only, the Department has determined that these areas (Operable Unit #1) do not present an unacceptable risk to public health, safety or the environment. Further assessment of the groundwater media in the areas defined as Operable Unit #1 will be conducted as part of the Remedial Investigation of the entire CBI Facility (known as Operable Unit #2.)

A copy of the Proposed Plan of Remedial Action for CBI Services, Inc. (Operable Unit #1, soils only) is available at the following location:

DNREC's New Castle
Office
715 Grantham Lane
New Castle, De. 19720
(302) 323-4540

DNREC invites written comments on this Plan. Members of the public may also request a public hearing on the Proposed Plan of Remedial Action pursuant to 7 Del. C. § 9112. The comment period begins on August 9, 1995 and ends on August 29, 1995. Comments and/or requests for a public hearing may be submitted in writing to Zsolt Haverland by the close of business (4:30 p.m.) on August 29, 1995 at the above address.

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Newspaper

Legal Notice

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