RISK ASSESSMENT -
PHASE 1 AND 2 REMEDIAL INVESTIGATION,
PEERLESS PHOTO PRODUCTS SITE,
(I.D. NO. 1-52-031)
SHOREHAM, NEW YORK

Prepared For

Agfa Division of Bayer Corporation
Ridgefield Park, New Jersey

Prepared By

ENVIRON Corporation
Princeton, New Jersey

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APPENDICES

I. EXECUTIVE SUMMARY

ENVIRON Corporation has prepared this risk assessment for the Peerless Photo Products Site (Site I.D. No.: 1-52-031) located in Shoreham, New York. The risk assessment was prepared following established State and Federal methodologies using the recently acquired Phase 1 and Phase 2 Remedial Investigation (RI) sampling data. The purpose of the risk assessment is to evaluate the potential impact (i.e., risk) that contaminants found at the site may pose to human health and/or the environment.

The receptors considered in this risk assessment were adult and child on-site and off-site residents, a youth trespasser, a park groundskeeper, and adult and child park visitors. These exposure scenarios were developed based on Agfa's anticipated future use of the property including residential development or possible use of the site as a museum. Surface soil and ground water sampling data collected by Fluor Daniel GTI, Inc., during the Phase 1 and 2 RI were used to evaluate the risk to each receptor. The pathways used to determine the hypothetical future risk to receptors from surface soil were incidental ingestion of, and dermal contact with, surface soil. Potential risks associated with ingestion of vegetables grown in site surface soils were also assessed under a backyard garden scenario presented in Appendix E. The pathways used to determine the hypothetical future risk to receptors from ground water were ingestion (i.e., drinking) of the ground water and dermal contact with the ground water.

Use of ground water as a drinking water source was included in the risk assessment even though this greatly overestimates the risk the site poses to future residents, visitors, and employees. This exposure pathway is unlikely to occur given the availability of a municipal water supply and the depth to ground water. However, as an additional conservative measure, the ground water exposure pathways were included in the risk assessment.

A total of seventeen chemicals of concern were identified in the risk assessment, all of which were target analyte list (TAL) metals. Volatile organics, semi-volatile organics, and

pesticides/PCBs were tested for but were not identified as chemicals of concern for the risk assessment.

Carcinogenic risk was not evaluated in this risk assessment because none of the chemicals of concern has been classified by the USEPA as a carcinogen by the oral route.

Risk from exposure to noncarcinogenic chemicals of concern is expressed as the hazard quotient and was calculated for each chemical of concern for each exposure scenario. The hazard quotients were summed to calculate the hazard indices, which provide a rough estimate of receptor-specific risk. Hazard indices less than one (1) indicate that it is unlikely that even sensitive subpopulations will experience adverse effects. Hazard indices that exceed one (1) suggest a greater likelihood of developing an adverse health effect but do not necessarily predict that an adverse health effect will occur. Table I-1 presents the hazard indices for each receptor and exposure pathway evaluated in the risk assessment.

As is demonstrated by this risk assessment, none of the surface soils at the site, or in the LILCO right-of-way, pose any current or foreseeable future risk to human health or the environment. Note that the inclusion of the ground water ingestion pathway results in hazard indices that exceed unity. Each of the other pathways considered (e.g., incidental ingestion of, and dermal contact with surface soils, and dermal contact with ground water) yielded hazard indices below one (1). In addition, the hazard indices estimated for adult and child residents under a backyard garden scenario (see Appendix E) which includes ingestion of root vegetables are below one. Thus, the only potential exposure pathway at the site that presents an increased likelihood of developing an adverse health effect is ingestion of ground water, which is not expected to be a realistic exposure pathway for the site.

The potential impact to the environment due to site-related contaminants was evaluated following New York State Department of Environmental Conservation's (NYSDEC's) *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (FWIA)* (NYSDEC 1994a). A Step I Fish and Wildlife Impact Analysis has been conducted for the site in accordance with NYSDEC (1994a) guidance, as modified in a NYSDEC-approved site-specific scope of work dated 9 May 1996 (ENVIRON 1996). The results of this Step I analysis are presented in Appendix D. The results of the Step I analysis indicate that a Step II analysis is not needed.

TABLE I-1
Summary of Hazard Indices at the
Peerless Photo Products Site (I.D. # 1-52-031)

	Hazard Index	
	Excluding Ground Water Exposure	Including Ground Water Exposure
Future On-site Adult Resident		
Surface Soil Ingestion	3.8e-02*	3.8e-02
Surface Soil Dermal Contact	1.9e-03	1.9e-03
Ground Water Ingestion		1.4e+01
Ground Water Dermal Contact		1.4e-01
Total	**4.0e-02**	**1.4e+01**
Future On-site Child (age 1-6) Resident		
Surface Soil Ingestion	5.4e-01	5.4e-01
Surface Soil Dermal Contact	5.6e-03	5.6e-03
Ground Water Ingestion		6.7e+01
Ground Water Dermal Contact		2.6e-01
Total	**5.4e-01**	**6.7e+01**
Future Off-site (Area 11) Adult Resident		
Surface Soil Ingestion	3.7e-02	3.7e-02
Surface Soil Dermal Contact	1.8e-03	1.8e-03
Ground Water Ingestion		1.4e+01
Ground Water Dermal Contact		1.4e-01
Total	**3.9e-02**	**1.4e+01**
Future Off-site (Area 11) Child (age 1-6) Resident		
Surface Soil Ingestion	5.2e-01	5.2e-01
Surface Soil Dermal Contact	5.4e-03	5.4e-03
Ground Water Ingestion		6.7e+01
Ground Water Dermal Contact		2.6e-01
Total	**5.2e-01**	**6.7e+01**
Future Off-site (Area 11) Trespasser (age 9-18)		
Surface Soil Ingestion	3.9e-02	3.9e-02
Surface Soil Dermal Contact	3.6e-03	3.6e-03
Total	**4.2e-02**	**4.2e-02**
Future On-site Park Groundskeeper		
Surface Soil Ingestion	4.4e-01	4.4e-01
Surface Soil Dermal Contact	4.4e-03	4.4e-03
Ground Water Ingestion		5.5e+00
Total	**4.4e-01**	**5.5e+00**

TABLE I-1 (continued)
Summary of Hazard Indices at the
Peerless Photo Products Site (I.D. # 1-52-031)

	Hazard Index	
	Excluding Ground Water Exposure	**Including Ground Water Exposure**
Future Adult Park Visitor		
Surface Soil Ingestion	3.8e-02	3.8e-02
Surface Soil Dermal Contact	1.9e-03	1.9e-03
Total	**4.0e-02**	**4.0e-02**
Future Child (age 1-6) Park Visitor		
Surface Soil Ingestion	5.4e-01	5.4e-01
Surface Soil Dermal Contact	5.6e-03	5.6e-03
Total	**5.4e-01**	**5.4e-01**

Note:

* Scientific notation expressed as 3.8e-02, for example, equals 3.8 x 10^{-2} or 0.038.

II. BACKGROUND

ENVIRON Corporation (ENVIRON) has been retained by Agfa Division of Bayer Corporation (Agfa) to conduct a risk assessment at the Peerless Photo Products site in Shoreham, New York. The risk assessment was conducted as part of a Remedial Investigation (RI) for Class 2 Inactive Hazardous Waste sites required by NYSDEC to evaluate the potential impact, if any, of site-related contaminants on human health or the environment.

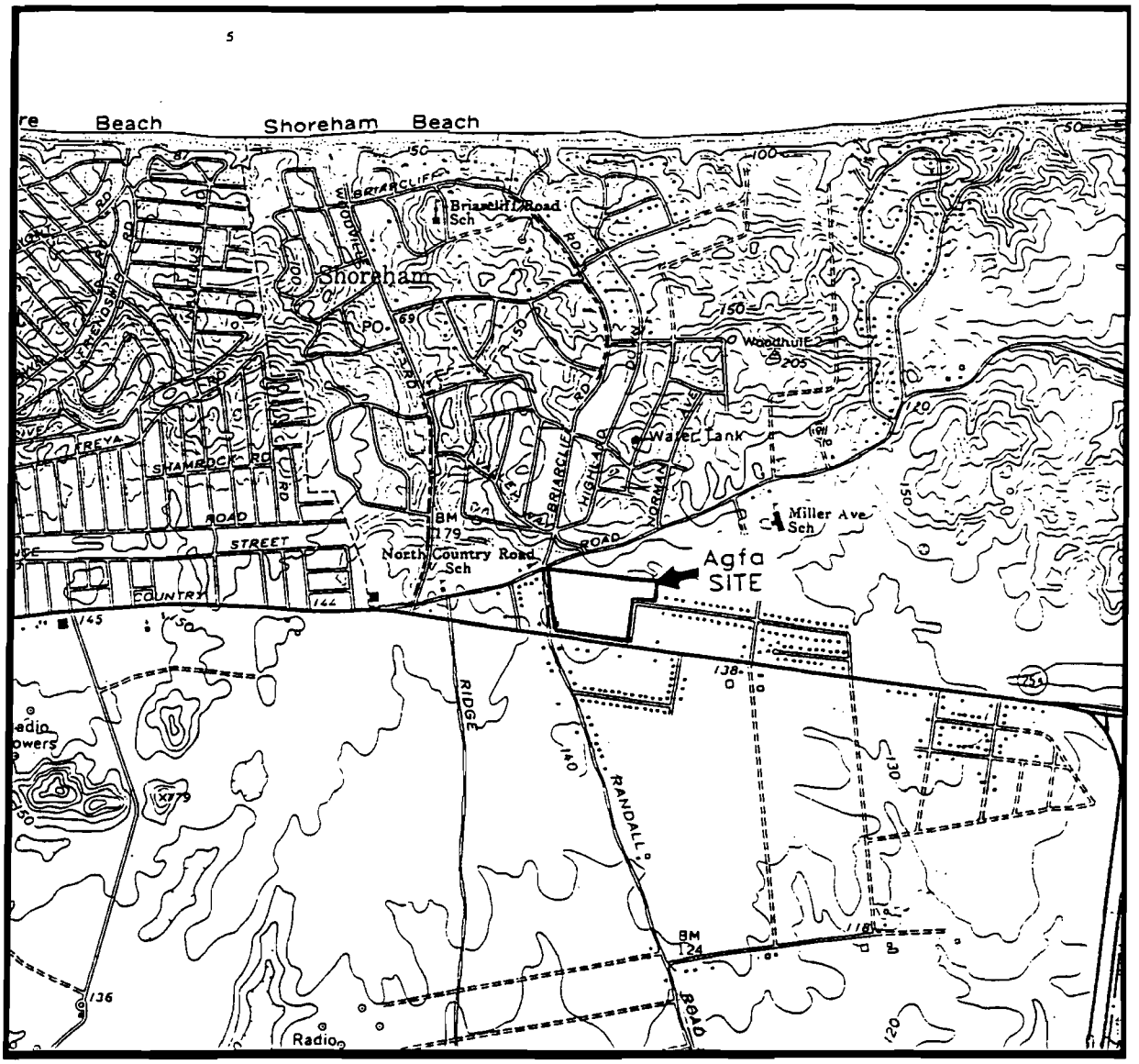
A. Site Description and History

The Peerless Photo Products site occupies 16 acres in a residential/commercial area with residences bordering the property on the north and east; to the south is Route 25A, and to the west is Randall Road (see Figure II-1). A Long Island Lighting Company right-of-way runs along the northern border of the site (see Figure II-2).

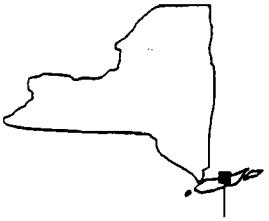
The site was first developed in 1903 as a residence and laboratory. In 1939 Peerless Photo Products, Inc. began manufacturing photographic paper at the site. Agfa purchased the facility in 1969 and continued to manufacture photograph paper. Manufacturing operations began to slow in 1984 and completely ceased in mid 1987. The primary operations throughout the site's industrial vitality were the production of photographic emulsions used in the manufacture of photographic film and the emulsion coating of photographic paper.

Currently the site is completely encircled by a six foot high chain linked fence and is guarded 24-hours per day. The perimeter of the fence area is inspected daily for breaches.

There have been several environmental investigations and data gathering events at the site. The four major investigations included: a Phase I Preliminary Investigation conducted by NYSDEC in 1983 (NYSDEC 1984); a Phase II Investigation conducted by agents of Agfa between 1986 and 1988 (ERM 1988); an underground storage tank removal program



SOURCE: U.S.G.S. TOPOGRAPHIC QUADRANGLE
MIDDLE ISLAND, N.Y.
7.5 MINUTE SERIES
DATE: 1967



MAP LOCATION

SCALE 1:24,000

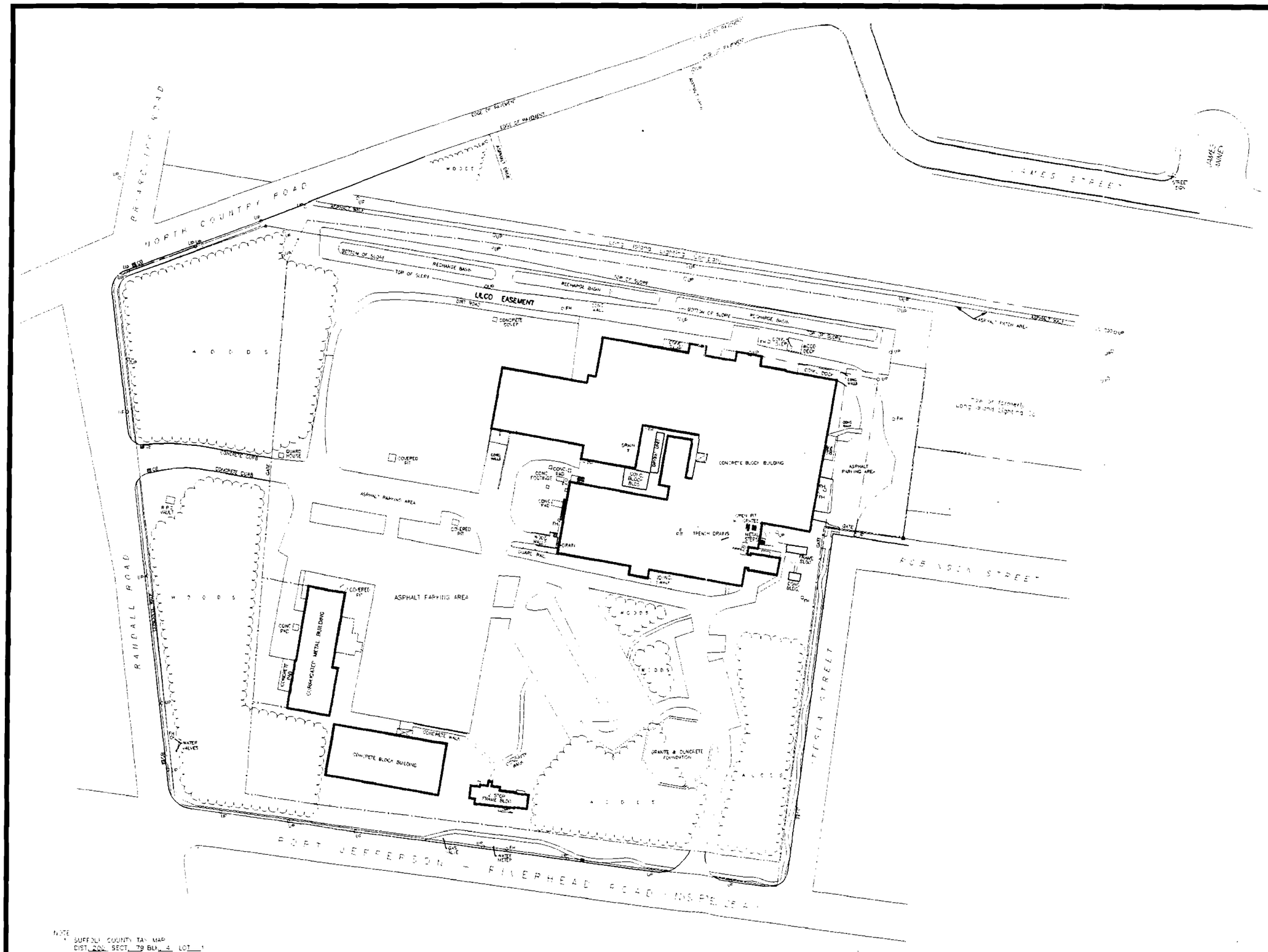
0 2,000 4,000

SCALE FEET

N

Risk Assessment - Phase 1 and 2 RI

GROUNDWATER TECHNOLOGY 101-1 COLIN DRIVE HOLBROOK, NEW YORK (516) 472-4000	DESIGNED: JB DETAILED: TS CHECKED: JB	**SITE LOCATION**	
		NAME: PEERLESS PHOTO PRODUCTS SITE SITE ID# 1-52-031	DRAWING DATE: 4/27/95
		LOCATION: AGFA DIVISION OF BAYER CORPORATION RANDALL ROAD SHOREHAM, NEW YORK	FIGURE: **II-1**



NOTE
1. SUFFOLK COUNTY TAX MAP
   DIST. 200 SECT. 79 BLK. 4 LOT 1
   DIST. 200 SECT. 80 BLK. 4 LOT 31
   DIST. 200 SECT. 80 BLK. 4 LOT 45
2. TOTAL AREA = 742883 s.f. OR 17.0567 ac.
3. ELEVATIONS SHOWN HEREON ARE REFERENCED TO N.G.V.D. (MSL 1929

NO.	DATE	BY	REVISION

LEGEND:
- UP UTILITY POLE
- FH HYDRANT
- CB CATCH BASIN
- —X— CHAIN LINK FENCE

N

TOMAC & YOUNG
404 OSTRANDER AVENUE, RIVERHEAD, N.Y.
HOWARD W. YOUNG, N.Y.S. L.S. LIC. NO. 49893
THOMAS C. WOLPERT, N.Y.S. P.E. LIC. NO. 61463
KENNETH F. ARRUZZO, N.Y.S. L.S. LIC. NO. 49999
REV. DATE: SEPT. 10, 1994

60 0 60 120
SCALE FEET

SIGNATURE	DATE
REVIEW ENGR:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

GROUNDWATER TECHNOLOGY
101-1 COLIN DRIVE
HOLBROOK, N.Y. 11741 (516) 472-4000

PEERLESS PHOTO PRODUCTS SITE
(SITE I.D. NO. 1 - 52 - 031)
Risk Assessment - Phase 1 and 2 RI

SITE MAP

DESIGNED BY:	DETAILED BY:	CHECKED BY:
SEE SOURCE	TRS	
DRAWING DATE: 8/12/95		ACAD FILE: 4128SITE
PROJECT NO.: 041001238		CONTRACT:
DRAWING: II-2	REVISION:	

conducted by an agent of Agfa in 1990; and a Phase 1 and Phase 2 Remedial Investigation conducted by agents of Agfa between 1994 and 1996 (FD GTI 1995, 1996).

A complete detailed description of the site's history, geology, hydrogeology, and summaries of previous investigations is provided in the Phase 1 and Phase 2 Remedial Investigation Reports for the Peerless Photo Products Site (FD GTI 1995, 1996) and is not presented in this risk assessment.

B. Constituent Fate and Transport

All manufacturing operations at the site ceased in 1987. Prior to that time, treated process water and cooling water were pumped into the recharge basins at the facility. Contaminants from these recharge basins may have contributed to the inorganic contamination at the site. With the cessation of manufacturing at the plant, one major potential source of inorganic contamination was abated such that further contamination from that source is unlikely.

Contamination at the site may be transported from potential areas of concern to uncontaminated areas by the movement of contaminated media via natural processes. Chemical contamination has been detected in surface and subsurface soils as well as in ground water. In general, chemical transport will occur as ground water moves away from areas of contamination. Ground water transport will depend on the nature of the geologic materials as well as the direction and velocity of ground water flow and the locations of ground water recharge and discharge.

Subsurface soils contaminated by inorganics can act as a source of contamination to ground water through leaching. The extent of this process cannot be evaluated at this time because the pH and eH (oxidation/reduction potential) of the soils are unknown. These measurements provide information on the acidity and oxidation state of the different media and can be used to predict the equilibrium state of the inorganics in the soil and ground water. Additional processes that will affect the movement of inorganics through soils include ion exchange and desorption. These processes also cannot be predicted because the cation-exchange capacity of the site soils is unknown. Several models and data bases are available to

evaluate transport of chemicals through soils (USEPA 1989). The transport of cadmium through subsurface soils to ground water is evaluated in Section VI.E.

Migration of inorganics in ground water is a complex process, dependent on whether the inorganic exists as a dissolved species, suspended particulate, or colloid. Dissolved inorganics are generally transported in the direction of ground water flow although concentrations are lessened by dispersion, dilution, and adsorption to geologic materials. Facilitated transport of inorganics by colloids and suspended particulates in ground water has been shown to dramatically increase the mobility of some inorganics.

Estimated concentrations (i.e., "J" values) of some volatile organics (VOCs), including chloroform and methylene chloride, were reported in ground water at the site. These VOCs were also detected at estimated low concentrations in subsurface soils. The presence of VOCs in ground water may have resulted from leaching processes, since these compounds are highly soluble in water and poorly sorbed to soils. Ground water concentrations are predicted to diminish further through horizontal transport from the site as a result of dispersion and dilution in the water column and adsorption to geologic materials.

Phthalate esters, including bis(2-ethylhexyl)phthalate, were among the semi-volatile organics (SVOCs) detected at very low estimated concentrations in ground water and subsurface soils. These constituents have very limited water solubilities and high sorptive properties; therefore, significant transport is not likely. The limited presence of these compounds in ground water supports this premise.

C. Fish and Wildlife Resources

The potential impact to the environment due to site-related contaminants was evaluated following NYSDEC's *Fish and Wildlife Impact Analysis for Inactive Hazardous Waste Sites (FWIA)* (NYSDEC 1994a). A Step I Fish and Wildlife Impact Analysis has been conducted for the site in accordance with NYSDEC (1994a) guidance, as modified in a NYSDEC-approved site-specific scope of work dated 9 May 1996 (ENVIRON 1996). The results of this Step I analysis are presented in Appendix D. The objectives of Step I of the FWIA are "(1) to identify the fish and wildlife resources that presently exist and that existed before contaminant

introduction, and (2) to provide information necessary for the design of a remedial investigation." This guidance emphasizes that "if no resources are associated with the site or if there is no potential for contaminant migration to the resources, then only the necessary information to support that conclusion should be provided" in the report (NYSDEC 1994a).

The Step I analysis included an evaluation of the site as well as the area within a half-mile radius of the site (referred to herein as the "study area"). Analysis of site conditions indicated that there are no aquatic habitats present within the study area and wetland habitats are limited to small artificial basins which are only temporarily flooded. Thus, habitat for wetland- and aquatic-dependent fish and wildlife species is absent or very limited within the study area. There are no significant habitats or regulated wetlands present within the study area, nor are there any known recent occurrences of rare or endangered plant or animal species. As directed by the FWIA, no further assessment of the facility is necessary at this point (NYSDEC 1994a). As no ecological receptors or ecological exposure pathways were identified at the site, the remainder of this risk assessment will focus on potential exposure of human receptors to site-related chemicals.

D. Methods

The risk assessment for the Peerless Photo Products site followed the basic steps in the risk assessment process as outlined by the National Research Council's Committee on the Institutional Means for Assessment of Risks to the Public (NRC 1983). These steps are summarized as follows:

- **Hazard Identification:** The chemicals detected in environmental media sampled during the Phase 1 and Phase 2 Remedial Investigation are identified, and the analytical data are summarized in Section III.

- **Toxicity Assessment:** The toxicological properties of the detected chemicals are discussed, and health-effects criteria used in the quantitative risk assessment are summarized in Section IV.

- **Exposure Assessment:** Populations that may be exposed to the substances are identified, and exposure pathways to these receptors are selected for further evaluation. The magnitude, frequency, and duration of exposure are estimated, and the potential chemical intakes are quantified in Section V.

- **Risk Characterization:** Human exposure information and toxicity criteria are integrated to develop estimates regarding the nature and magnitude of the risk to human health in Section VI.

- **Uncertainty:** Sources of uncertainty in the risk calculations which may lead to overestimation or underestimation of risks are discussed in Section VII.

Risk assessments performed according to the above framework and standard USEPA guidance as well as State of New York guidance, where available, are designed to be conservative (i.e., health protective). This is generally achieved by the use of conservative assumptions and models that place an "upper bound" on the estimates of risk (i.e., the "true" risk is expected to be between the upper bound and zero). Actual risks are unlikely to be higher and most probably are lower than those risks estimated using the above described methodology. ENVIRON has, where possible, developed reasonable maximum rather than "worst case" risk estimates, in accordance with USEPA guidance (1992a). When available, ENVIRON has employed a guidance hierarchy citing NYSDEC, USEPA Region II, USEPA Headquarters, and USEPA Region VI, in that order.

III. HAZARD IDENTIFICATION

This section summarizes the analytical results of the samples used for this risk assessment that were collected by Fluor Daniel GTI, Inc., for the Phase 1 and Phase 2 Remedial Investigation (Phase 1 and 2 RI) at the Peerless Photo Products site. Soil and ground water samples were analyzed by Laboratory Resources, Inc. (NYSDOH Certification No. 1132). The chemical test results were subjected to a quality assurance review by ChemWorld Environmental, Inc., whereby it was concluded that the analytical results reported by the laboratory were of sufficient accuracy to satisfy the purpose of the site assessment. Quality assurance/quality control (QA/QC) samples consisting of wash blanks, trip blanks, and duplicates were collected and analyzed during the site assessment to evaluate Fluor Daniel GTI, Inc.'s procedure for equipment decontamination, sample handling, transport and storage, and to judge the reproducibility of laboratory results.

Given Agfa's anticipated future use of the property, including residential development or possible use of the site as a museum, ENVIRON determined that only surface soils and ground water required analysis in this risk assessment. Ground water exposure was included even though it is highly unlikely that a future resident would install a ground water well as a source of drinking water given the availability of a municipal water supply and depth to ground water. A detailed discussion on the rationale for limiting the risk assessment to these environmental media is presented in Section V (Exposure Assessment). Historical Briarcliff Road Well Field sampling data (1984 through 1994) can be found in Section 5.0 of the Phase 1 RI report (FD GTI 1995).

A. Data Analysis

Tables III-1A and III-1B list all monitoring well and surface soil samples used in the risk assessment from the Phase 1 RI and Phase 2 RI, respectively. The sampling locations from

TABLE III-1A
Phase 1 RI Samples Used in the Risk Assessment,
Peerless Photo Products Site (I.D. # 1-52-031)

Sample ID #	Validator ID #	Date(s) Collected	Notes
Monitoring Well Background Samples			
MW-5	MW-5	8/15/94 & 11/29/94	
MW-5R	MW-5R	8/15/94	Duplicate of MW-5
Monitoring Well Samples			
MW-1	MW-1	8/15/94 & 11/29/94	
MW-2	MW-2	8/16/94 & 11/30/94	
MW-2A	MW-2A	8/17/94 & 12/1/94	Deep well couplet of MW-2
MW-3	MW-3	8/16/94 & 11/30/94	
MW-4	MW-4	8/17/94 & 11/30/94	
MW-6	MW-6	8/18/94 & 12/1/94	
MW-9	MW-9	8/18/94 & 12/1/94	
MW-9R	MW-9R	12/1/94	Duplicate of MW-9
MW-10	MW-10	8/17/94 & 11/29/94	
Surface Soil Background Sample			
SB-16:5-7'	SB-16	6/21/94	
On-Site Surface Soil Samples			
B-2	B-2	10/3/94	
B-7	B-7	10/3/94	
SB-1:0-2'	SB-2	5/19/94	
SB-2:0-2'	SB-2:0-2'	5/17/94	
SB-3:0-2'	SB-3:0-2'	5/18/94	
SB-4:0-2'	SB-4:0-2'	5/18/94	
SB-7:0-0.25'	SB-7	5/26/94	
SB-8:0-0.25'	SB-8	5/26/94	
SB-9:0-0.25'	SB-9	5/26/94	
SB-9R:0-0.25'	SB-9R	5/26/94	Duplicate of SB-9

TABLE III-1A (continued)
Phase 1 RI Samples Used in the Risk Assessment,
Peerless Photo Products Site (I.D. # 1-52-031)

Sample ID #	Validator ID #	Date(s) Collected	Notes
SB-10:0-0.25'	SB-10	5/26/94	
SB-11:0-0.25'	SB-11	5/26/94	
SB-12:0-0.25'	SB-12	5/26/94	
SB-13:0-0.25'	SB-13	5/26/94	
SB-20:0.5-2.5'	B20-2.5	8/4/94	
SB-20R:0.5-2.5'	20R-2.5	8/4/94	Duplicate of SB-20
Off-Site Surface Soil Samples			
A-1	A-1S	10/3/94	
A-2	A-2S	10/3/94	
A-3	A-3S	10/3/94	
A-3R	A-3SR	10/3/94	Duplicate of A-3S
A-4	A-4S	10/3/94	
A-5	A-5S	10/3/94	
A-6	A-6S	10/3/94	
B-1	B-1	10/3/94	
B-3	B-3	10/3/94	
B-4	B-4	10/3/94	
B-5	B-5	10/3/94	
B-5R	B-5R	10/3/94	Duplicate of B-5
B-6	B-6	10/3/94	
B-8	B-8	10/3/94	
B-9	B-9	10/3/94	
B-10	B-10	10/3/94	
B-11	B-11	10/3/94	
B-12	B-12	10/3/94	
B-13	B-13	10/3/94	

TABLE III-1A (continued)
Phase 1 RI Samples Used in the Risk Assessment,
Peerless Photo Products Site (I.D. # 1-52-031)

Sample ID #	Validator ID #	Date(s) Collected	Notes
C-1	C-1	10/3/94	
C-2	C-2	10/3/94	
C-3	C-3	10/3/94	
C-4	C-4	10/3/94	
C-5	C-5	10/3/94	
C-6	C-6	10/3/94	
C-7	C-7	10/3/94	
SB-22:0-2'	B22-2	7/11/94	

TABLE III-1B
Phase 2 RI Samples Used in the Risk Assessment,
Peerless Photo Products Site (I.D. # 1-52-031)

Sample ID #	Validator ID #	Date(s) Collected	Notes
Monitoring Well Background Samples			
MW-5	MW-5	3/28/96 & 7/16/96	
Monitoring Well Samples			
MW-1	MW-1	3/28/96 & 7/17/96	
MW-2	MW-2	3/29/96 & 7/17/96	
MW-2A	MW-2A	3/29/96 & 7/18/96	Deep well couplet of MW-2
MW-3	MW-3	4/3/96 & 7/18/96	
MW-4	MW-4	3/29/96 & 7/17/96	
MW-6	MW-6	3/28/96 & 7/17/96	
MW-6 (DUP)	MW-11	7/17/96	Duplicate of MW-6
MW-7S	MW-7S	7/16/96	
MW-7D	MW-7D	7/16/96	
MW-8S	MW-8S	9/12/96	
MW-8S (DUP)	MW-9S	9/12/96	Duplicate of MW-8S
MW-9	MW-9	3/28/96 & 7/18/96	
MW-9 (DUP)	MW-8	3/28/96	Duplicate of MW-9
MW-10	MW-10	3/29/96 & 7/18/96	
Surface Soil Background Sample			
H1	H1	7/22/96	
H2	H2	7/22/96	
H3	H3	7/22/96	
K1	K1	7/22/96	
K2	K2	7/22/96	
M1	M1	7/22/96	
M2	M2	7/22/96	
M3	M3	7/22/96	

TABLE III-1B (continued)
Phase 2 RI Samples Used in the Risk Assessment,
Peerless Photo Products Site (I.D. # 1-52-031)

Sample ID #	Validator ID #	Date(s) Collected	Notes
On-Site Surface Soil Samples			
B-2-1S	B-2-1S	9/5/96	
B-2-1D	B-2-1D	9/5/96	
B-2-2S	B-2-2S	9/5/96	
B-2-2D	B-2-2D	9/5/96	
B-2-3S	B-2-3S	9/5/96	
B-2-3D	B-2-3D	9/5/96	
B-2-4S	B-2-4S	9/5/96	
B-2-4D	B-2-4D	9/5/96	
B-2-5S	B-2-5S	9/5/96	
B-2-5S (DUP)	B-2-5S (DUP)	9/5/96	Duplicate of B-2-5S
B-2-5D	B-2-5D	9/5/96	
B-2-6S	B-2-6S	9/5/96	
B-2-6D	B-2-6D	9/5/96	
B-2-7S	B-2-7S	9/5/96	
B-2-7D	B-2-7D	9/5/96	
B-2-8S	B-2-8S	9/5/96	
B-2-8D	B-2-8D	9/5/96	
B-2-9S	B-2-9S	9/5/96	
B-2-9D	B-2-9D	9/5/96	
B-2-10S	B-2-10S	9/5/96	
B-2-10D	B-2-10D	9/5/96	
B-2-10D (DUP)	B-2-10D (DUP)	9/5/96	Duplicate of B-2-10D
B-2-11S	B-2-11S	9/5/96	
B-2-11D	B-2-11D	9/5/96	
B-2-12S	B-2-12S	9/5/96	

TABLE III-1B (continued)
Phase 2 RI Samples Used in the Risk Assessment,
Peerless Photo Products Site (I.D. # 1-52-031)

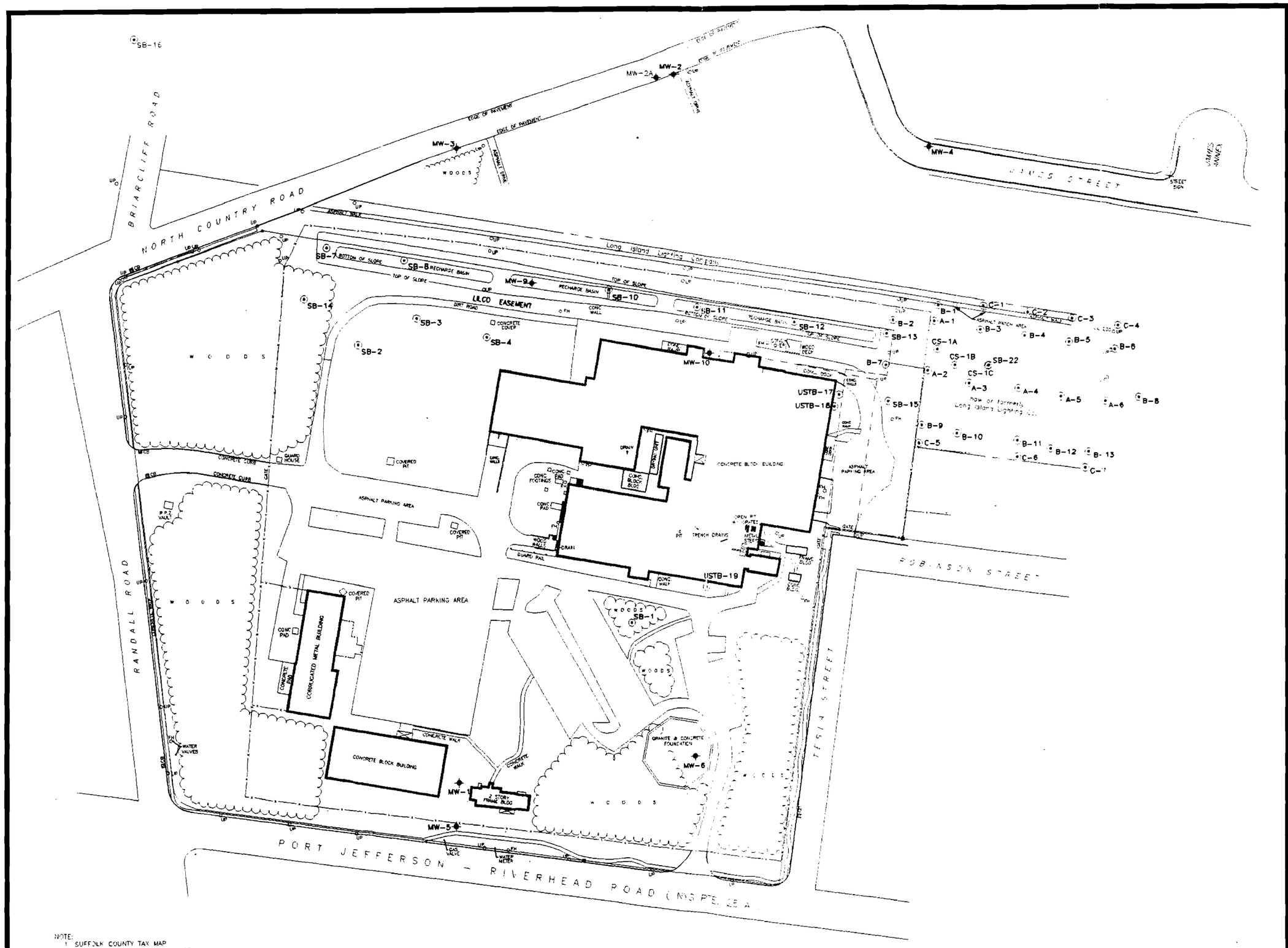
Sample ID #	Validator ID #	Date(s) Collected	Notes
B-2-12D	B-2-12D	9/5/96	
B-2-13S	B-2-13S	9/5/96	
B-2-13D	B-2-13D	9/5/96	
B-2-14S	B-2-14S	9/5/96	
B-2-14D	B-2-14D	9/5/96	
B-2-15S	B-2-15S	9/5/96	
B-2-15D	B-2-15D	9/5/96	
B-2-16S	B-2-16S	9/5/96	
B-2-16D	B-2-16D	9/5/96	
B-2-17S	B-2-17S	9/5/96	
B-2-17D	B-2-17D	9/5/96	
B-2-18S	B-2-18S	9/5/96	
Off-Site Surface Soil Samples			
B-1N1S	B-1N1S	6/13/96	
C-1N1S	C-1N1S	6/13/96	
C-1W1S	C-1W1S	6/13/96	
C-1W2S	C-1W2S	6/13/96	
C-1W3S	C-1W3S	6/13/96	
C-1W4S	C-1W4S	6/13/96	

the Phase 1 RI are shown on Figure III-1. The sampling locations from the Phase 2 RI are depicted in the Phase 2 RI report (FD GTI 1996). The validated monitoring well analytical data from the Phase 1 RI and Phase 2 RI are presented in Tables A-1A and A-1B (Appendix A), respectively. Only current ground water sampling data (i.e., collected during the Phase 1 and 2 RI) were used in the risk assessment, as these data are most relevant to reflect current and future conditions at the site. The validated surface soil analytical data from the Phase 1 and Phase 2 RI on-site sampling locations are presented in Tables A-2A and A-2B (Appendix A), respectively. The validated surface soil analytical data from the Phase 1 and Phase 2 RI off-site sampling locations are presented in Tables A-3A and A-3B (Appendix A), respectively. Validation qualifiers were treated according to USEPA guidance (USEPA 1989). Nondetection results ("U" qualifiers) were included only if other results for a given constituent in a particular medium indicated that the constituent may be present. In these instances, half the reported sample quantitation limit was used. Estimated results, indicated by a "J" qualifier, were included in the calculation of the summary statistics, which are provided in Table A-4 (Appendix A).

Results of duplicate samples were averaged. The resulting value was the arithmetic mean of positive results or the arithmetic mean of one half of the reported detection limits if both samples were non-detects. If one sample showed a detected result and the other a non-detected result, the detected result was used to be conservative.

Summary statistics for all chemicals detected in each medium are presented in Table A-4 (Appendix A). The table lists for each analyte the number of detects, the number of samples analyzed, the maximum detected concentration, the arithmetic mean, the standard deviation, and the upper 95-percent confidence limit of the log-transformed data (UCL_H 95) of the arithmetic mean.

In accordance with current USEPA guidance (USEPA 1989), risk calculations for the "reasonable maximum exposure" scenario were based either on the UCL_H 95 or the maximum detected concentration, whichever value was lower (hereafter referred to as the site identified concentration).



NOTE:
1. SUFFOLK COUNTY TAX MAP
   DIST. 200 SECT. 79 BLK. 4 LOT 1
   DIST. 200 SECT. 80 BLK. 4 LOT 31
   DIST. 200 SECT. 80 BLK. 4 LOT 46
2. TOTAL AREA = 742989 s.f. or 17.0567 ac
3. ELEVATIONS SHOWN HEREON ARE REFERENCED TO N.G.V.D. (MSL 1929)

NO.	DATE	BY	REVISION

LEGEND
- MONITORING WELL
- SOIL BORING
- UP UTILITY POLE
- FH HYDRANT
- CB CATCH BASIN
- —X— CHAIN LINK FENCE

N

SCALE 60 0 60 120 FEET

YOUNG & YOUNG
640 OSTRANDER AVENUE, RIVERHEAD, N.Y.
HOWARD W. YOUNG, N.Y.S. L.S. LIC. NO. 49893
THOMAS C. WOLPERT, N.Y.S. P.E. LIC. NO. 61453
KENNETH F. ABRUZZO, N.Y.S. L.S. LIC. NO. 49999

REV. DATE: SEPT. 10, 1994

SIGNATURE	DATE
REVIEW ENGR:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

GROUNDWATER TECHNOLOGY
101-1 COLIN DRIVE
HOLSBROOK, N.Y. 11741 (516) 472-4000

PEERLESS PHOTO PRODUCTS SITE

(SITE I.D. NO. : 1 - 52 - 031)

Risk Assessment - Phase 1 and 2 RI

Phase 1 RI
SOIL BORING/MONITORING WELL LOCATION MAP

DESIGNED BY:	DETAILED BY:	CHECKED BY:
SEE SOURCE	TRS	

DRAWING DATE:	ACAD FILE:
6/12/95	412BMS95

PROJECT NO.:	CONTRACT:
041001238	

DRAWING: III-1 REVISION:

The following equation was used to calculate the UCL_H 95 (USEPA 1992b):

$$UCL_H\ 95 = e^{\left(mean + \frac{1}{2} std^2 + \frac{std \times H}{\sqrt{n-1}} \right)}$$

where:

mean	=	arithmetic mean of log-transformed data;
std	=	sample standard deviation of log-transformed data;
H	=	H statistic for n-1 degrees of freedom at the 95-percent confidence level; and
n	=	sample size (number of samples analyzed).

B. Selection of Chemicals of Concern

Chemicals of concern (COCs) in surface soils and ground water were selected qualitatively based on the following criteria: chemical concentration, toxicity, and frequency of detection. In general, the most toxic constituents and those found most frequently and at high concentrations were selected as COCs. This conservative selection process favored the inclusion of most chemicals in the risk evaluation rather than the selection of only a few indicator chemicals.

All volatile organics, semi-volatile organics, and pesticides/PCBs presented in Tables A-1A through A-3B (Appendix A) were eliminated from further consideration because they were not detected in the surface soil or ground water samples or because the chemicals with "J" values were common laboratory contaminants (e.g., phthalates and methylene chloride) that were not detected at concentrations in excess of ten times the maximum concentration detected in the blank samples, or because the chemicals (e.g., chloroform) were not detected at concentrations in excess of five times the maximum concentration detected in the blank samples (USEPA 1989). In addition, cyanide, selenium and thallium were eliminated from ground water, cyanide and thallium were eliminated from on-site surface soils, and antimony, cyanide and sodium were eliminated from off-site (Area 11) surface soils due to the absence of detected concentrations.

Soil boring depths ranging from 0-2.5 feet were grouped together as surface soils. Surface soil data were compared to the New York State Technical and Administrative Guidance Memorandum (TAGM) Recommended Soil Cleanup Objectives (RSCO) (NYSDEC 1994b) for the various inorganics present at the site. If the maximum detected concentration for a given chemical was below the New York State TAGM RSCO, that chemical was eliminated from further consideration as a COC (see Table A-5). Using this criterion, arsenic, chromium, cobalt, nickel, selenium, and vanadium were eliminated from on-site surface soils, while arsenic, barium, cobalt, nickel, and vanadium were eliminated from off-site (Area 11) surface soils.

The selection of soil COCs was also based on a comparison of inorganic surface soil data with the background soil sample (USEPA 1989). Soil boring SB-16 was included as a background soil boring as designated in the Phase 1 RI/FS Work Plan (FD GTI 1993). The analytical results for this soil boring were provided only for the 5-7 foot depth. Although background soil concentrations between 0-2.5 feet would be expected to be greater than those concentrations at 5-7 feet, this soil boring was, nonetheless, conservatively used as a background sample. If the maximum background concentration plus 10 percent was found to be greater than the site identified concentration for an analyte, the analyte was eliminated from further consideration as a COC in surface soil (see Table A-6). Using this criterion, aluminum, beryllium, iron, lead, manganese, potassium and sodium were eliminated from further consideration in on-site surface soils; additionally, aluminum, beryllium, iron and potassium were eliminated from off-site (Area 11) soils.

The COCs in ground water were selected by first comparing sampling data with New York State Water Quality Standards for Class GA Ground Water (NYSDEC 1993). If the New York State Water Quality Standard exceeded the maximum detected concentration, that chemical was eliminated from further consideration as a COC (see Table A-5). Using this criterion, arsenic, barium, beryllium, copper, magnesium, mercury and silver were eliminated from further consideration.

Ground water data were then compared with site-specific background well data (USEPA 1989). In accordance with the Phase 1 RI/FS Work Plan (FD GTI 1993), the upgradient

monitoring well MW-5 was designated the background well. If the arithmetic mean plus two standard deviations of the background concentration was found to be greater than the site identified concentration for that chemical in ground water, then that chemical was eliminated from further consideration as a COC in ground water (see Table A-6). Using this criterion, antimony, lead, potassium and sodium were eliminated from further consideration.

Due to their low toxicity and lack of relevant toxicity criteria, the essential human nutrients calcium, magnesium, potassium, and sodium were eliminated from further consideration as COCs in each medium. Table III-2 lists by environmental medium those chemicals retained as COCs.

TABLE III-2
Chemicals of Concern Evaluated in the Risk Assessment
Peerless Photo Products Site (I.D. # 1-52-031)

Ground Water	On-Site Surface Soils	Off-Site (Area 11) Surface Soils
Aluminum	--	--
--	Antimony	--
--	Barium	--
Cadmium	Cadmium	Cadmium
Chromium	--	Chromium
Cobalt	--	--
--	Copper	Copper
Iron	--	--
--	--	Lead*
Manganese	--	Manganese
--	Mercury	Mercury
Nickel	--	--
--	--	Selenium
--	Silver	Silver
--	--	Thallium
Vanadium	--	--
Zinc	Zinc	Zinc

Note:
*Qualitative evaluation only.

IV. TOXICITY ASSESSMENT

For the evaluation of health risks, chemical constituents are divided into two categories depending on the type of effects they exhibit: carcinogenic (cancer-causing) or noncarcinogenic. A chemical can be evaluated in one or both of these categories depending upon its properties and the extent of available toxicological information. Carcinogenic and noncarcinogenic toxicity values for COCs at the site are presented in Table IV-1.

A. Carcinogenic Effects

USEPA assumes that there is some risk associated with any level of exposure to a carcinogen (i.e., that no tolerable threshold exists) and that the risk increases with increasing exposure. Therefore, risk evaluation for carcinogens traditionally involves estimating cancer risks at low levels of exposure. This is accomplished by the application of models which allow prediction of low dose risks based on the frequency of cancers seen at higher doses in laboratory animals or, less frequently, in humans.

The toxicity criterion used to evaluate the carcinogenic effects of a chemical is the cancer slope factor (CSF). The CSF is defined as the upper limit on the probability that the carcinogen will cause cancer at a dose of 1 mg chemical/kg body weight/day (mg/kg-day) administered over the course of a lifetime. The use of the term "upper limit" means that the actual risk is probably lower than the predicted risk and may even be zero.

As shown in Table IV-1, none of the COCs have USEPA-published cancer slope factors for the oral route. Therefore, carcinogenic risk was not evaluated quantitatively in this risk assessment.

TABLE IV-1
Toxicity Values for Chemicals of Concern at the Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	Weight-of-Evidence Classification[1]	Oral Cancer Slope Factor (per mg/kg-day) CSFo	Oral RfD[2] (mg/kg-day) RfDo	Derived Dermal RfD[e] (mg/kg-day) RfDd
Aluminum	D	NA	1.00e+00 (a)	2.00e-01 (a)
Antimony	*	NA	4.00e-04 (b)	8.00e-05 (b)
Barium	*	NA	7.00e-02 (b)	1.40e-02 (b)
Cadmium (diet)	***	NA	1.00e-03 (b)	2.00e-04 (b)
Cadmium (water)	***	NA	5.00e-04 (b)	1.00e-04 (b)
Chromium	***	NA	5.00e-03 (b,f)	1.00e-03 (b,f)
Cobalt	*	NA	NA	NA
Copper	D	NA	3.70e-02 (d)	7.40e-03 (d)
Iron	D	NA	3.00e-01 (c)	6.00e-02 (c)
Manganese**	D	NA	1.40e-01 (b)	2.80e-02 (b)
Mercury	D	NA	3.00e-04 (d)	6.00e-05 (d)
Nickel	*	NA	2.00e-02 (b)	4.00e-03 (b)
Selenium	D	NA	5.00e-03 (b)	1.00e-03 (b)
Silver	D	NA	5.00e-03 (b)	1.00e-03 (b)
Thallium	D	NA	NA	NA
Vanadium	*	NA	7.00e-03 (d)	1.40e-03 (d)
Zinc	D	NA	3.00e-01 (b)	6.00e-02 (b)

TABLE IV-1 (continued)
Toxicity Values for Chemicals of Concern at the
Peerless Photo Products Site (I.D. # 1-52-031)

Notes:

(1) The USEPA weight-of-evidence categories for human carcinogenicity are Group A, Human Carcinogen; Group B, Probable Human Carcinogen; Group C, Possible Human Carcinogen; Group D, Not Classifiable as to Human Carcinogenicity; and Group E, Probable Noncarcinogen.

(2) In finalizing this report after receiving comments from NYSDEC in September 1995, a review of changes in IRIS and HEAST toxicity criteria was performed. This review indicates that an RfD for ingestion of manganese in soil and ground water has become available and the RfD for mercury has been withdrawn. However, the revised toxicological values would not change the overall conclusions of the risk assessment, and thus have not been incorporated into this final report.

* Currently unclassified by USEPA as to oral carcinogenicity.
** Personal communication with Susan Velazquez (IRIS Contact for manganese) indicated that the diet RfD for manganese could be used for both soil and ground water ingestion.
*** Cadmium and chromium currently have USEPA weight-of-evidence classifications only for inhalation exposures.
NA No toxicity values available from IRIS, HEAST, or ECAO.
(a) USEPA. ECAO. 1994. Derivation of a Provisional Oral RfD for Aluminum (CASRN 7429-90-5). June 20.
(b) USEPA. 1995. Integrated Risk Information System (IRIS). March.
(c) USEPA. ECAO. 1993. Derivation of a Provisional RfD for Iron (CASRN 7439-89-6). July 7.
(d) USEPA. 1994a. Health Effects Assessment Summary Tables (HEAST). EPA/540/R-94/020. March.
(e) ENVIRON-derived according to guidance in USEPA (1989) which specifies that an oral reference dose may be adjusted in order to derive a dermal reference dose.
(f) Oral RfD for chromium (VI) was used to estimate exposure to chromium, since the sampling data reported total chromium and made no distinction between chromium (III) and chromium (VI). Therefore, the RfD used for chromium is conservative.

B. Noncarcinogenic Effects

When assessing noncarcinogenic risk, it is generally accepted that toxic effects will not be induced below a certain dose (i.e., a threshold exists). This assumption is supported by experiments which indicate that a certain amount of a substance must reach and interact with some component of a cell before an adverse noncarcinogenic effect is produced. The minimum amount that evokes a toxic noncarcinogenic response is called the threshold dose.

Safe exposure levels for noncarcinogens are typically determined by first identifying the highest dose at which no adverse effect is observed in an exposed population. This dose, known as the "no-observed-adverse-effect level" (NOAEL), is a conservative approximation of a threshold dose for the population under study. When data corresponding to a NOAEL are not available, a LOAEL, or "lowest-observed-adverse-effect level," can be used to derive a safe exposure level.

The NOAEL (or LOAEL) determined from animal studies or observations in limited human populations is usually not considered acceptable as a safe limit for the general population. This is due to possible differences in susceptibilities between the test population and the general human population. Instead, NOAELs or LOAELs are used to calculate a reference dose (RfD) through the application of uncertainty factors.

$$RfD = \frac{NOAEL\ (or\ LOAEL)}{Uncertainty\ Factor}$$

Uncertainty factors generally consist of multiples of 10 and reflect specific areas of uncertainty inherent in the available data. The bases for application of uncertainty factors are as follows:

- a factor of 10 is applied to account for variation in the general population and is intended to protect sensitive subpopulations;

- a factor of 10 is used to account for interspecies variability between humans and other mammals when the NOAEL (or LOAEL) is based on animal data;

- a factor of 10 is applied when a LOAEL is used instead of a NOAEL;
- a factor of 10 is used when the NOAEL (or LOAEL) is derived from a subchronic instead of a chronic study; and
- a factor of 10 is applied if there is an incomplete database (e.g., no reproductive studies).

USEPA-derived oral RfDs presented in Table IV-1 were used when available. USEPA has not developed reference doses specifically for the dermal pathway. As a surrogate for dermal RfDs, oral values were adjusted for absorption to allow comparison with calculated dermal doses which consider absorption of the chemical (USEPA 1989). In this risk assessment, oral RfDs were multiplied by 20%, the USEPA Region IV default value for inorganics. These derived RfD values, presented in Table IV-1, were used to evaluate dermal contact risks.

V. ESTIMATE OF HUMAN EXPOSURE

A. Receptors and Exposure Routes

One of the first steps in the estimate of human exposure is the identification of populations (i.e., receptors) that may be exposed to chemicals from the site. The primary receptors of concern for chemicals present at the site are future residents, including both children and adults. These receptors were assumed to reside either on-site or on the off-site parcel of land abutting the site (Area 11). Due to different behavioral patterns and lower body weights, children generally receive higher doses of substances in environmental media than adults. Based on conversations with Agfa and Fluor Daniel GTI, Inc., ENVIRON also developed a youth (age 9-18) trespasser scenario for the currently fenced off-site parcel of land (Area 11). Furthermore, at Agfa's request, a future use scenario was developed to account for possible use of the site as a museum or park. Hypothetical receptors evaluated for the museum/park scenario were a groundskeeper working on-site and visitors to the museum/park who use the site as a recreational area (i.e., local residents who frequent the park on a regular basis, rather than a visitor who might visit the museum no more than a few times each year). Both an adult and a child were evaluated in the park visitor scenario.

Ground water consumption and usage are unlikely given the existence of a public water supply in the immediate vicinity of the site (ERM 1995). However, as a conservative measure, ingestion of chemicals in ground water as well as dermal contact with chemicals in ground water while showering were evaluated. Incidental ingestion of surface soil as well as dermal contact with surface soil are both possible routes of exposure, so these pathways were evaluated for future residents, the trespasser, the groundskeeper, and the park visitors. Estimation of risks from ingestion of root vegetables grown in site soils under a backyard garden scenario is presented in Appendix E. Due to site conditions, including vegetation and pavement, risks posed by the inhalation of fugitive dusts were not evaluated. In addition,

vegetation and pavement used in future development of the site would limit or eliminate the potential for fugitive dust generation.

B. Intake Calculations and Exposure Assumptions

Chemical intakes (also referred to as daily doses) are expressed in terms of the mass of substance in contact with the body per unit body weight per time (or mg/kg-day). Doses are calculated as a function of chemical concentration in the medium, contact rate, exposure frequency and duration, body weight, and averaging time (USEPA 1989). The generic equation for calculating the intake is as follows:

$$Dose\ (mg/kg\text{-}day) = \frac{C \times CR \times EF \times ED}{BW \times AT}$$

where:

C	=	Chemical concentration in medium, e.g., mg/L or mg/kg;
CR	=	Contact rate, e.g., L/day or mg/day;
EF	=	Exposure frequency, events/year;
ED	=	Exposure duration, years;
BW	=	Body weight, kg; and
AT	=	Averaging time (period over which exposure is averaged), days.

Accurate prediction of exposures is complicated by uncertainties in future behavior patterns of receptors and limitations in knowledge of other exposure variable values. In light of these uncertainties, USEPA (1989) recommends that intakes reflect an estimate of the reasonable maximum exposure (RME), defined as the highest exposure which could reasonably be expected to occur. USEPA's intent with the RME "is to estimate a conservative exposure case (i.e., well above the average case) that is still within the range of possible exposures" (USEPA 1989). As discussed in the *Exposure Factors Handbook* (USEPA 1990)

and *Standard Default Exposure Factors* (USEPA 1991a), USEPA recommends that not all values be at their individual maximum in calculating the RME; professional judgment should be used to combine values to arrive at a set of variables that adequately estimates the RME.

The intake generally employed in the assessment of noncarcinogenic effects is the average daily dose an individual is likely to receive on any day during the period of exposure. In cases when exposure is intermittent, USEPA guidance states that it is appropriate to average the intake over the period of exposure (i.e., set the averaging time equal to the exposure duration). The dose calculated in this manner is referred to as the average daily dose (ADD).

In this assessment, estimates of human intake have been developed for children (1-6 years old), youth trespassers, and adults. Exposure assumptions developed from site-specific information and from USEPA guidance (1989, 1990, 1991a, 1991b) are presented in Table V-1. Specific intake assumptions used to calculate average daily doses are presented in Tables B-1 through B-4 (Appendix B).

For the exposures to surface soils, ENVIRON assumed 78 days/year exposure frequency for the adult resident and the adult park visitor. The rate of 78 days/year includes 2 days per week during the spring, summer, and fall for a total of 39 weeks. No exposure during the winter was assumed, due to the fact that the surface soil would be frozen in the winter. An exposure frequency of 117 days/year was assumed for the child resident, child park visitor, and the youth trespasser. This includes 5 days per week during the summer (13 months) and 2 days per week during the spring and fall (26 weeks). The 185 days/year exposure frequency for the groundskeeper represents 5 days per week during the spring, summer, and fall (39 weeks) minus 10 days vacation.

The exposure duration for the adult resident was assumed to be 30 years, the national 90th percentile value for time spent at one residence (USEPA 1989). The 6 and 10 year exposure durations for the child (1-6 years old) and youth trespasser (9-18 years old) are the cumulative years for the ages represented. The 25 year exposure duration for the groundskeeper is the 95th percentile value for the time spent at one place of employment (USEPA 1990).

TABLE V-1
Exposure Routes and Factors for the Peerless Photo Products Site (I.D. # 1-51-031)

	Future On-site Adult Resident	Future On-site Child (age 1-6) Resident	Future Off-site (Area 11) Adult Resident	Future Off-site (Area 11) Child (age 1-6) Resident	Future Off-site (Area 11) Youth (age 9-18) Trespasser	Future Park Groundskeeper	Future Adult Park Visitor	Future Child (age 1-6) Park Visitor
GROUND WATER								
General Assumptions								
Exposure Frequency (days/year)	350 (a)	350 (a)	350 (a)	350 (a)		250 (a)		
Exposure Duration (years)	30 (b,g)	6 (a)	30 (b,g)	6 (a)		25 (a)		
Body Weight (kg)	70 (a)	15 (a)	70 (a)	15 (a)		70 (a)		
Ingestion of Groundwater								
Ingestion Rate (L/day)	2 (a)	2 (a)	2 (a)	2 (a)		1 (a)		
Dermal Contact with Groundwater While Showering								
Exposure Time (hours/day)	0.2 (b)	0.2 (b)	0.2 (b)	0.2 (b)				
Skin Surface Area Contacted (cm^2)	18150 (c)	7280 (c)	18150 (c)	7280 (c)				
Conversion Factor (L/cm^3)	1.0e-03 (b)	1.0e-03 (b)	1.0e-03 (b)	1.0e-03 (b)				
SURFACE SOILS								
General Assumptions								
Exposure Frequency (days/year)	78 (d)	117 (e)	78 (d)	117 (e)	117 (e)	185 (f)	78 (d)	117 (e)
Exposure Duration (years)	30 (b,g)	6 (a)	30 (b,g)	6 (a)	10 (a)	25 (a)	30 (b,g)	6 (a)
Body Weight (kg)	70 (a)	15 (a)	70 (a)	15 (a)	50 (h)	70 (a)	70 (a)	15 (a)
Ingestion of Surface Soils								
Ingestion Rate (mg/day)	100 (b)	200 (b)	100 (b)	200 (b)	50 (a)	480 (a)	100 (b)	200 (b)
Conversion Factor (kg/mg)	1.0e-06 (b)	1.0e-06 (b)	1.0e-06 (b)	1.0e-06 (b)	1.0e-06 (b)	1.0e-06 (b)	1.0e-06 (b)	1.0e-06 (b)
Fraction Ingested (unitless)	1	1	1	1	1	1	1	1

TABLE V-1 (continued)
Exposure Routes and Factors for the Peerless Photo Products Site (I.D. # 1-51-031)

	Future On-site Adult Resident	Future On-site Child (age 1-6) Resident	Future Off-site (Area 11) Adult Resident	Future Off-site (Area 11) Child (age 1-6) Resident	Future Off-site (Area 11) Youth (age 9-18) Trespasser	Future Park Groundskeeper	Future Adult Park Visitor	Future Child (age 1-6) Park Visitor
Skin Surface Area (cm^2)	4820 (c, i)	2090 (c, h, i)	4820 (c, i)	2090 (c, h, i)	4690 (h, i)	4820 (c, i)	4820 (c, i)	2090 (c, h, i)
Adherence Factor (mg/cm^2)	0.2 (c)	0.2 (c)	0.2 (c)	0.2 (c)	0.2 (c)	0.2 (c)	0.2 (c)	0.2 (c)
Absorption Factor - inorganics (unitless)	0.001 (c)	0.001 (c)	0.001 (c)	0.001 (c)	0.001 (c)	0.001 (c)	0.001 (c)	0.001 (c)

Notes:
(a) USEPA 1991a.
(b) USEPA 1989.
(c) USEPA 1992c.
(d) The 78 days/year exposure frequency for the adult represents 2 days per week during the spring, summer, and fall (39 weeks).
(e) The 117 days/year exposure frequency for the child and trespasser represents 5 days per week during the summer (13 weeks) and 2 days per week during the spring and fall (26 weeks).
(f) The 185 days/year exposure frequency for the groundskeeper represents 5 days per week during the spring, summer, and fall (39 weeks minus 10 days vacation).
(g) 30 years exposure duration for the adult represents the 90th percentile length of time spent at one residence (USEPA 1989).
(h) USEPA 1990.
(i) Skin surface area is the total exposed skin surface area for the lower arms, hands, and lower legs for each age group.

VI. RISK CHARACTERIZATION

A. Risk Calculations

Risk characterization is the final step of the risk assessment process and involves combining the information and analysis of the previous three sections to generate estimates of risk. Simply stated, the receptors (i.e., adult, child, etc.) identified in Section V are combined with the toxicological properties of the chemicals of concern tabulated in Section IV for the hypothetical future uses of the site (i.e., residential, museum).

In evaluating potential noncarcinogenic risks, average daily doses (ADD) are compared to RfDs as follows to derive the hazard quotient (USEPA 1989):

$$HQ = \frac{ADD}{RfD}$$

where:

HQ = Hazard quotient (unitless);
ADD = Average daily dose (mg/kg-day); and
RfD = Reference dose (mg/kg-day).

The RfD is "an estimate of daily exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious effects during the lifetime" (USEPA 1989). A hazard quotient (HQ) is calculated for each chemical in each exposure scenario. The HQs are summed to derive a hazard index (HI). An HI that is less than 1 indicates that no RfDs have been exceeded, and that it is unlikely that even sensitive subpopulations will experience adverse effects. If an HI exceeds 1, it is often necessary to perform a more detailed evaluation of potential exposure and mechanisms of toxicity.

B. Potential Carcinogenic Risks

As was presented in Section IV.A, none of the COCs have USEPA-published cancer slope factors for the oral route. Therefore, carcinogenic risk was not evaluated in this risk assessment.

C. Potential Noncarcinogenic Risks (Hazard Indices)

The calculation of noncarcinogenic risks is presented in Table VI-1. This table summarizes the potential noncarcinogenic risks (hazard indices) posed by exposure to COCs in ground water, on-site surface soils, and off-site (Area 11) surface soils for each receptor and exposure pathway evaluated in this risk assessment. The hazard index column has been divided in two so that the impact of including ground water exposure can be seen. As stated previously, ground water exposure is not deemed a very realistic future exposure scenario.

Future on-site residents may be exposed to COCs in on-site surface soils and ground water. For the future on-site adult resident, the hazard indices due to incidental ingestion of, and dermal contact with, surface soils were 0.04 and 0.002, respectively. Hazard indices due to ingestion of, and dermal contact with, ground water were 14 and 0.1, respectively. For the future on-site child resident, the hazard indices due to incidental ingestion of and dermal contact with surface soils were 0.5 and 0.006, respectively. Hazard indices due to ingestion of and dermal contact with ground water were 67 and 0.3, respectively.

Future off-site (Area 11) residents may be exposed to COCs in off-site (Area 11) surface soils and ground water. For the future off-site (Area 11) adult resident, the overall hazard index for the future off-site (Area 11) adult resident was 14, due entirely to ingestion of ground water. The hazard indices due to incidental ingestion of and dermal contact with surface soils were 0.04 and 0.002, respectively. For the future off-site (Area 11) child resident, the overall hazard index for the future off-site (Area 11) child resident was 67, driven by ingestion of ground water. The hazard indices due to incidental ingestion of and dermal contact with surface soils were 0.5 and 0.005, respectively.

TABLE VI-1
Summary of Hazard Indices at the
Peerless Photo Products Site (I.D. # 1-52-031)

	Hazard Index	
	Excluding Ground Water Exposure	Including Ground Water Exposure
Future On-site Adult Resident		
Surface Soil Ingestion	3.8e-02*	3.8e-02
Surface Soil Dermal Contact	1.9e-03	1.9e-03
Ground Water Ingestion		1.4e+01
Ground Water Dermal Contact		1.4e-01
Total	**4.0e-02**	**1.4e+01**
Future On-site Child (age 1-6) Resident		
Surface Soil Ingestion	5.4e-01	5.4e-01
Surface Soil Dermal Contact	5.6e-03	5.6e-03
Ground Water Ingestion		6.7e+01
Ground Water Dermal Contact		2.6e-01
Total	**5.4e-01**	**6.7e+01**
Future Off-site (Area 11) Adult Resident		
Surface Soil Ingestion	3.7e-02	3.7e-02
Surface Soil Dermal Contact	1.8e-03	1.8e-03
Ground Water Ingestion		1.4e+01
Ground Water Dermal Contact		1.4e-01
Total	**3.9e-02**	**1.4e+01**
Future Off-site (Area 11) Child (age 1-6) Resident		
Surface Soil Ingestion	5.2e-01	5.2e-01
Surface Soil Dermal Contact	5.4e-03	5.4e-03
Ground Water Ingestion		6.7e+01
Ground Water Dermal Contact		2.6e-01
Total	**5.2e-01**	**6.7e+01**
Future Off-site (Area 11) Trespasser (age 9-18)		
Surface Soil Ingestion	3.9e-02	3.9e-02
Surface Soil Dermal Contact	3.6e-03	3.6e-03
Total	**4.2e-02**	**4.2e-02**
Future On-site Park Groundskeeper		
Surface Soil Ingestion	4.4e-01	4.4e-01
Surface Soil Dermal Contact	4.4e-03	4.4e-03
Ground Water Ingestion		5.5e+00
Total	**4.4e-01**	**5.5e+00**

TABLE VI-1 (continued)
Summary of Hazard Indices at the
Peerless Photo Products Site (I.D. # 1-52-031)

	Hazard Index	
	Excluding Ground Water Exposure	**Including Ground Water Exposure**
Future Adult Park Visitor		
Surface Soil Ingestion	3.8e-02	3.8e-02
Surface Soil Dermal Contact	1.9e-03	1.9e-03
Total	**4.0e-02**	**4.0e-02**
Future Child (age 1-6) Park Visitor		
Surface Soil Ingestion	5.4e-01	5.4e-01
Surface Soil Dermal Contact	5.6e-03	5.6e-03
Total	**5.4e-01**	**5.4e-01**

Note:

* Scientific notation expressed as 3.8e-02, for example, equals 3.8×10^{-2} or 0.038.

Future off-site (Area 11) trespassers may be exposed only to off-site (Area 11) surface soils. The hazard indices due to incidental ingestion of and dermal contact with surface soils were 0.04 and 0.004, respectively, resulting in an overall hazard index of 0.04. Potential risks to a hypothetical current on-site trespasser were not quantitatively evaluated in this risk assessment. However, the current on-site trespasser scenario can be semiquantitatively evaluated using the results of the hypothetical future on-site child resident scenario. The risk to a current on-site trespasser would be less than that of the on-site child resident (i.e., less than an HI of 0.5, excluding ground water exposure), given that the trespasser's body weight is greater then the child's and the trespasser's ingestion rate is less than the child's. Ground water ingestion is not a relevant exposure pathway for the current on-site trespasser scenario.

The future on-site park groundskeeper may be exposed to COCs in on-site surface soils and ground water. The overall hazard index for the groundskeeper was 6, due predominantly to ingestion of ground water. The hazard indices due to incidental ingestion of and dermal contact with surface soils were 0.4 and 0.004, respectively. The potential risk to a current on-site groundskeeper was not quantitatively evaluated in this risk assessment. However, the estimated risk for a current on-site groundskeeper would be the same as that assessed for the future on-site groundskeeper excluding ground water exposure (i.e., an HI of 0.4), since the exposure assumptions for the current groundskeeper would be the same as those for the future groundskeeper, and the chemical concentrations used for the current scenario would be the same as the concentrations assumed for the future scenario (i.e., based on concentrations detected at the site during the Phase 1 and 2 RI assuming no attenuation of chemicals over time).

Future park visitors may be exposed to on-site surface soils. For the future adult park visitor, the hazard indices due to incidental ingestion of and dermal contact with surface soils were 0.04 and 0.002, respectively, resulting in an overall hazard index of 0.04. For the future child park visitor, the hazard indices due to incidental ingestion of and dermal contact with surface soils were 0.5 and 0.006, respectively, resulting in an overall hazard index of 0.5.

With the inclusion of ground water exposure, almost all the hazard indices presented above exceed the USEPA benchmark of unity, thereby indicating that noncarcinogenic health

effects may be posed to receptors due to exposure to chemicals at the site. Ground water ingestion was the single major contributor to the noncarcinogenic risk in each of the cases where unity was exceeded. Were ingestion of ground water not included in the risk calculations, none of the overall hazard indices would have exceeded unity.

D. Risk-based Preliminary Remediation Goals for Surface Soils

In accordance with USEPA's *Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals)* (USEPA 1991b), risk-based preliminary remediation goals (PRGs) were developed for chemicals of concern identified either in on-site surface soils or in off-site (Area 11) surface soils. In general, PRGs may be used during the analysis and selection of remedial alternatives. Standard reasonable maximum exposure default assumptions were used to generate the PRGs for the residential land use soil ingestion pathway (USEPA 1991b). The PRGs for the surface soils are presented in Table VI-2. These PRGs are significantly higher than the maximum detected concentration in surface soil samples for each chemical of concern (see Table A-4, Appendix A).

E. Subsurface Soil Screening Level for Cadmium

The analytical results from ground water sampling indicate that the ground water quality on-site appears to have been impacted by selected COC metals, most notably, cadmium (GTI 1995). TAL inorganics detected in ground water samples whose maximum detected concentrations did not exceed New York State Ground Water Quality Standards (NYSDEC 1993) include arsenic, barium, beryllium, copper, magnesium, mercury and silver. Maximum detected concentrations of other inorganics, including antimony, cadmium, chromium, iron, lead, manganese, sodium and zinc exceeded the New York State Ground Water Quality Standard (NYSDEC 1993), whereas the average lead concentration in ground water (7.7 ppb) is below the Ground Water Quality Standard (25 ppb). The risk assessment demonstrated that the risk posed to hypothetical receptors by the contribution of cadmium far outweighed the risks posed by any of the other inorganics. Therefore, the contribution of current levels of

TABLE VI-2
Risk-Based Preliminary Remediation Goals
for Chemicals of Concern in Surface Soils
Peerless Photo Products Site (I.D. # 1-52-031)

Chemical of Concern*	Oral Reference Dose (mg/kg)	Risk-based Preliminary Remediation Goal (mg/kg)
Antimony	4.0e-04	108
Barium	7.0e-02	18,900
Cadmium	1.0e-03	270
Chromium	5.0e-03	1,350
Copper	3.7e-02	9,990
Manganese**	1.4e-01	37,800
Mercury**	3.0e-04	81
Selenium	5.0e-03	1,350
Silver	5.0e-03	1,350
Zinc	3.0e-01	81,000

Note:
* No oral reference dose exists for thallium; thus, no PRG was calculated.
** In finalizing this report after receiving comments from NYSDEC in September 1995, a review of changes in IRIS and HEAST toxicity criteria was performed. This review indicates that an RfD for ingestion of manganese in soil and ground water has become available and the RfD for mercury has been withdrawn. However, the revised toxicological values would not change the overall conclusions of the risk assessment, and thus have not been incorporated into this final report.

cadmium in on-site subsurface soils to ground water quality was evaluated, as discussed below.

The detected concentrations of cadmium in ground water ranged from 2.6B ppb in MW-4 to 269 ppb in MW-6. The average concentration across the ten monitoring wells is 44.3 ppb. The average and maximum concentrations exceed the New York State Ground Water Quality Standard for Class GA waters level of 10 ppb (NYSDEC 1993), thus indicating that former site activities involving cadmium may have impacted ground water quality at the site. It is, however, important to note that all manufacturing activities at the site ceased in 1987, thereby eliminating future sources of contamination at the site.

In an effort to evaluate the contribution of current levels of cadmium in on-site subsurface soils to ground water quality, ENVIRON consulted the draft *Soil Screening Guidance* from USEPA's Office of Solid Waste and Emergency Response (USEPA 1994b). In relation to migration of contaminants from soils to ground water, USEPA (1994b) states:

> "The methodology for addressing migration of contaminants from soil to ground water reflects the complex nature of contaminant fate and transport in the subsurface. In this methodology, a concentration in soil is backcalculated from an acceptable ground water concentration....
>
> As contaminants move through soil and ground water, they are subjected to a number of physical, chemical, and biological processes that generally reduce the eventual contaminant concentration level at receptor points. The reduction in concentration can be expressed succinctly by the DAF [Dilution/Attenuation Factor], defined as the ratio of the soil leachate concentration to the receptor point concentration..."

The soil screening level partitioning equation for migration to ground water is as follows (USEPA 1994b):

$$\textit{Screening Level in Soil (mg/kg)} = C_w \left[K_d + \frac{(\theta_w + \theta_a H')}{\rho_b} \right]$$

where:

C_w = Target soil leachate concentration, mg/L;

K_d = Soil-water partition coefficient for cadmium, 120 L/kg;

θ_w = Water-filled soil porosity, 0.3 L_{water}/L_{soil};

θ_a = Air-filled soil porosity, 0.13 L_{air}/L_{soil};

H' = Henry's Law constant, unitless, 0 for cadmium; and

ρ_b = Dry soil bulk density, 1.5 kg/L.

The New York State Ground Water Quality Standard for Class GA waters of 10 ppb times a DAF of 10 was used as the target soil leachate concentration. According to USEPA (1994b), the default DAF of 10 is "conservatively protective of the majority of site conditions." The resulting screening level in soil is 12 mg/kg or 12 ppm cadmium in subsurface soils. This screening level is consistent with NYSDEC's proposed soil cleanup level for cadmium of 10 ppm (NYSDEC 1995), which is based on the New York State drinking water standard of 5 ppb for cadmium. If the 5 ppb target for cadmium in ground water is used in conjunction with the USEPA (1994b) partitioning models, the corresponding target in soil is 6 ppm. For cadmium, the mean concentration in on-site and off-site (Area 11) subsurface soils combined is 4.9 ppm, based on the sampling results presented in the Phase 1 and Phase 2 RI Reports (FD GTI 1995, 1996). The mean concentration in on-site subsurface soils is 5.6 ppm and the mean concentration in off-site (Area 11) subsurface soils is 0.22 ppm.

F. NYSDOH Site-Specific Cleanup Goals for Cadmium and Silver in Soils

Based on the June 19, 1997 letter from the New York State Department of Health (NYSDOH) to the New York State Department of Environmental Conservation (NYSDEC) (NYSDOH 1997) shown in Appendix G, NYSDOH has proposed the following site-specific cleanup goals for cadmium and silver in soils at the Peerless Photo Products Site. NYSDEC has approved these cleanup goals for the site.

- 10 mg/kg for cadmium in surface soils (0 to 2 feet below grade);
- 10 mg/kg for cadmium in subsurface soils (greater than 2 feet below grade);
- 137 mg/kg for silver in surface soils (0 to 2 feet below grade);
- 300 mg/kg for silver in subsurface soils (greater than 2 feet below grade);

- For areas off-site, in the LILCO right-of-way, the surface and subsurface soils cleanup goal for silver will be 137 mg/kg; and
- In addition, all areas where soil is removed to meet the above cleanup goals will be backfilled to grade with clean soils. This should prevent subsurface soil from becoming surface soils where excavation occurs.

G. Other Potential Risks

Lead was detected in 8 of the 14 on-site surface soil samples and in 18 of the 18 off-site (Area 11) surface soil samples at concentrations up to 45.8 ppm (B-7) and 69.0 ppm (B-10), respectively. These maximum levels exceeded the maximum background concentration of 26.4 ppm. The mean on-site lead concentration was 10.7 ppm while the mean off-site (Area 11) lead concentration was 25.5 ppm. The on-site and off-site (Area 11) surface soil lead levels are, however, well below the USEPA draft Generic Soil Screening Levels for Superfund value of 400 ppm (USEPA 1992b).

Lead was detected in 21 of the 35 ground water samples at concentrations up to 34 ppb (MW-1). This maximum level exceeded the maximum background concentration of 22.2 ppb. In addition, the maximum detected lead concentration exceeded the USEPA action level of 15 ppb (56 *FR* 26460, June 7, 1991). The mean lead concentration in ground water was 7.7 ppb, below the 15 ppb action level.

VII. UNCERTAINTY

The noncarcinogenic risk estimates presented in this report are not intended to be calculations of absolute risk to individuals who reside at or adjacent to and/or frequent the Peerless Photo Products site. Uncertainties in underlying data prevent exact determination of risk to receptor populations. The goal of the risk assessment is to provide reasonable, conservative risk estimates to guide decision-making. Moreover, USEPA guidance (1989) acknowledges that uncertainty in a risk assessment can cause differences in the numerical results of more than an order of magnitude. Therefore, it is important to document and discuss the types of uncertainties that may affect the risk estimates calculated in Section VI.

A. Site Characterization

It is sometimes impossible from a statistical standpoint to completely characterize heterogeneous environmental media. Soil constituent concentrations may vary by orders of magnitude over intervals of an inch or less. Risk estimates based on a limited database may not be representative of actual contamination. In the case of the Peerless Photo Products site, sampling efforts were concentrated in those areas suspected to have been affected by site-related constituents, and therefore, are considered a conservative representation of the impacts due to site activities.

B. Toxicological Information

Toxicity data used in human health risk assessments can be limited. Much of the data used to generate health criteria are derived from animal studies. Sources of uncertainty include the following:

- Both the endpoints of toxicity (effect or target organ) and the doses at which effects are observed are extrapolated from animals to humans;

- Results of short-term exposure studies are used to predict the effects of long-term exposures;

- Results of studies using high doses are used to predict effects from exposures to the low doses usually expected at hazardous waste sites; and

- Effects exhibited by homogeneous populations of animals (or humans) are used to predict effects in heterogeneous populations with variable sensitivities (e.g., the young, elderly, or infirm).

Oral reference doses are currently unavailable for both cobalt and thallium. The lack of toxicity criteria for cobalt and thallium may, in general, lead to an underestimation of risk. The oral RfD for cobalt is currently under review by USEPA (USEPA 1995a). While no oral RfD exists for elemental thallium, USEPA has verified oral RfDs for several thallium salts. These RfDs range from 8×10^{-5} mg/kg-day for thallium carbonate and thallium chloride to 9×10^{-5} mg/kg-day for thallium acetate and thallium nitrate. The average daily doses for off-site residents and the trespasser are well below these RfDs for the thallium salts (see Appendix B); thus, thallium would not contribute significantly to the overall noncarcinogenic risk calculations if either of these RfDs were used in the risk calculations.

In addition, exposure to aluminum and iron were evaluated using interim (provisional) toxicity criteria obtained through USEPA's Environmental Criteria and Assessment Office (ECAO). The use of toxicity criteria values not yet confirmed and entered into the IRIS database or HEAST may lead to additional uncertainty in risk estimates.

Two oral RfDs are currently available to evaluate manganese exposure: 5×10^{-3} mg/kg-day for water consumption and 1.4×10^{-1} mg/kg-day for food consumption. USEPA's Environmental Criteria and Assessment Office currently recommends the use of the food RfD

rather than the water RfD for evaluating water exposures (Velazquez 1995), because the bioavailability of manganese from food and water are similar (USEPA 1995b). Thus, in this risk assessment, the food RfD was used for soil and ground water ingestion exposures. Additionally, the food RfD was used to derive the dermal RfD used in evaluating soil and ground water dermal exposures[1].

C. Plant Uptake of COCs

In general, uptake of inorganic chemicals in soil by plants is not a highly efficient process. Factors influencing root uptake include water solubility, the ratio of root concentration to the concentration in soil pore water for a given inorganic, and the soil water partition coefficient for the chemical. Based on these considerations and the concentrations of COCs at the site, plant uptake of inorganics is not expected to contribute significantly to any risk posed by exposure to site-related chemicals. However, to address questions raised by NYSDEC, the potential risks associated with a backyard garden scenario, including ingestion of root vegetables, were evaluated. This evaluation is presented in Appendix E. Under the backyard garden scenario, the noncarcinogenic risks for an on-site adult resident and off-site adult resident from incidental ingestion of site soils while gardening, dermal contact with site soils while gardening, and ingestion of root vegetables grown in site soils, were found to be below one. In addition, the noncarcinogenic risks for an on-site and off-site child resident from ingestion of vegetables grown in site soils, were found to be below one. None of the COCs have been classified as potential carcinogens by USEPA; thus, carcinogenic risks are negligible.

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[1] In finalizing this report after receiving comments from NYSDEC in September 1995, a review of changes in IRIS and HEAST toxicity criteria was performed. This review indicates that an RfD for ingestion of manganese in soil and ground water has become available and the RfD for mercury has been withdrawn. However, the revised toxicological values would not change the overall conclusions of the risk assessment, and thus have not been incorporated into this final report.

D. Exposure Assumptions

Evaluating exposure to environmental constituents requires a number of different inputs and assumptions concerning, for example, the types of exposed populations (ages and health conditions); average lifespans; activity patterns such as time spent indoors versus outdoors, time spent at different locations; time spent working or residing in the vicinity of the site; contact rates for contaminated media; skin surface area for dermal contact; and absorption rates via the skin and digestive tracts.

Current USEPA guidance for conducting risk assessments recommends values to be used for many of these parameters. This serves to reduce unwarranted variability in exposure assumptions used to perform baseline risk assessments across different sites. Because values specified in guidance documents are often conservative, upper-bound figures, they would rarely lead to underestimates of risks. Site-specific exposure parameters should be used over standard default exposure parameters when they are known in order to account for site-specific variations.

Baseline risk assessments also estimate current and future exposure scenarios based on chemical concentrations detected at the site during the Phase 1 and 2 RI. In general, no attenuation of chemicals over space or time is assumed. This also results in a conservative estimate of risk.

E. Dermal Contact Pathway

The use of adjusted toxicity values for the assessment of dermal risks is another source of uncertainty in this risk assessment. Adjusted oral toxicity values were generated based on currently available oral absorption factors. The adjustment factor of 20 percent was applied to toxicity values to account for absorbed doses. Oral absorption factors are based primarily on animal studies that are not always the same species associated with the toxicity study. There are significant uncertainties regarding the extent to which a constituent is absorbed from soil through the skin, thus risk estimates due to absorption of chemicals from soils may overestimate the actual risk.

F. Risk Characterization

In accordance with USEPA guidance on assessing chemical mixtures, chemical-specific risks are generally assumed to be additive, even though some constituents are thought to act synergistically (e.g., 1 + 1 > 2) while others act antagonistically (e.g., 1 + 1 < 2). The overall effect of these mechanisms on multi-constituent, multi-media risk estimates is difficult to determine but the effects are usually assumed to balance out.

G. Site-specific Uncertainties

The background ground water and background surface soils were characterized with relatively few samples. There is inherent variability in the environmental sampling results given the spatial distribution of contamination and the composition of the matrix sampled. Small numbers of samples may not completely characterize the number and concentrations of constituents actually present. However, the background surface soil inorganic sampling results do fall within published ranges for metals detected in soils (NYSDEC 1994b; Shacklette and Boerngen 1984). Additionally, SB-16 (5-7 ft depth) was conservatively used as a surface soil background sample, since it is expected that the concentrations of inorganic constituents at the surface would be higher than at 5-7 feet below grade.

USEPA Region II currently supports the use of the "two times background rule" during the selection of chemicals of concern (USEPA 1995c). If the mean concentration of a chemical is found to be less than two times the mean background concentration for that chemical then that chemical may be eliminated from further consideration as a COC. This approach is, in actuality, much less conservative than the approach taken by ENVIRON, as described in Section III.B. Were the two times background rule used to select COCs in ground water in this risk assessment, the mean concentrations for only aluminum, beryllium, cadmium, chromium, cobalt, copper, iron, manganese, nickel, vanadium and zinc would exceed two times the background mean. All other ground water inorganics would be screened out of the COC selection process at this point. For on-site surface soils, the mean concentrations of antimony, barium, cadmium, calcium, copper, magnesium, mercury and silver would exceed two times the background mean. For off-site (Area 11) surface soils, the

mean concentrations of cadmium, copper, mercury, selenium, silver, thallium, and zinc would exceed two times the background mean. These comparisons would result in the elimination of a greater number of chemicals based on comparison with background concentrations than were eliminated as a result of comparison with background in Section III.B, resulting in an even lower level of risk from exposure to site-related chemicals.

Based on the past history of site activities, iron would not be expected to be a site-specific contaminant. Therefore, the presence of elevated iron concentrations in ground water may be attributable to sources other than the site itself.

Future land use and future use of public drinking water supplies are difficult to define. The ground water ingestion scenario may overestimate risk because it assumes that the site will be developed residentially, for example, and that a resident will install a private drinking water well that draws ground water impacted by site-related constituents beneath the site. Due to factors such as the existence of a current drinking water supply, future ingestion of ground water seems highly unlikely. This conclusion is supported by the well search conducted by ERM-Northeast (ERM 1995 - see Appendix C), in accordance with the Phase 1 RI/FS Work Plan (FD GTI 1993). ERM's area of investigation was comprised of a half mile radius of the site in the upgradient and side gradient directions and a two-mile distance in the downgradient direction, ending at the Long Island Sound. ERM identified only eight private wells within the well search area of investigation. Five of those wells are on-site; two are upgradient of the site; and the one downgradient well is not used for potable water, as the address is also supplied by public water (ERM 1995). As described in Appendix F, the Suffolk County Department of Health Services (SCDHS) collected a water sample from this downgradient well on December 12, 1996. According to a memo by Environmental Communications (EC 1997), the SCDHS determined that with the exception of one pesticide, the ground water sample met New York State drinking water standards. The one pesticide that was detected (tetrachloroterephthalic acid) is not related to site contaminants. In addition, the depth to ground water is at least 100 feet, such that future residents who might install a well to be used solely to water their lawn or garden would encounter extensive costs to have the well installed. Also, the receptors would not be drinking the water in this case, so the noncarcinogenic risks

due to ground water ingestion would not be an issue. Finally, as described in a letter dated June 4, 1996, from the Suffolk County Water Authority (SCWA), the Briarcliff Road Well Field is not currently operating due to tetrachloroterephthalic acid (TCPA) contamination (not related to site contaminants) and plans to permanently shut the well down.

USEPA guidance recommends summing hazard quotients only for chemicals with similar toxic endpoints (USEPA 1989). To this end, Table VII-1 presents the hazard indices calculated for the ground water ingestion scenarios attributable to central nervous system effects, whole body/major organ effects, kidney effects, liver effects, gastrointestinal effects and blood effects. These results indicate that whole body/major organ effects due to exposure to nickel, gastrointestinal effects due to exposure to chromium, and blood effects due to exposure to zinc would not be expected. Due to the conservative nature of the exposure assumptions used in this risk analysis, the hazard index of 1.6 resulting from exposure to aluminum, chromium and manganese in ground water probably do not warrant increased concern for receptors developing central nervous system effects. On this same basis, the hazard indices of 1.2 and 5.5 resulting from exposure to iron and chromium in ground water probably do not warrant increased concern for receptors developing liver effects. The hazard indices of 4.6, 13 and 60 for kidney effects due to exposure to cadmium and chromium in ground water are primarily driven by cadmium, and indicate that an increased possibility exists for developing noncarcinogenic health effects if the ground water were to be ingested.

TABLE VII-1
Hazard Indices by Health Effects from Ground Water Ingestion
Peerless Photo Products Site (I.D. # 1-52-031)

	Central Nervous System Effects Due to Aluminum, Chromium and Manganese	Whole Body, Major Organ Effects Due to Nickel	Kidney Effects Due to Cadmium and Chromium	Liver Effects Due to Iron and Chromium	Gastrointestinal Effects Due to Chromium	Blood Effects Due to Zinc
Future On-Site Adult Resident	3.5e-01	2.0e-02	1.3e+01	1.2e+00	6.5e-02	7.8e-03
Future On-Site Child (age 1-6) Resident	1.6e+00	9.5e-02	6.0e+01	5.5e+00	3.0e-01	3.6e-02
Future Off-Site Adult Resident	3.5e-01	2.0e-02	1.3e+01	1.2e+00	6.5e-02	7.8e-03
Future Off-Site Child (Age 1-6) Resident	1.6e+00	9.5e-02	6.0e+01	5.5e+00	3.0e-01	3.6e-02
Future On-site Park Groundskeeper	1.3e-01	7.3e-03	4.6e+00	4.2e-01	2.3e-02	2.8e-03

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APPENDIX A

Site Data and COC Selection

TABLE A-1A
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-1	MW-1	MW-2	MW-2	MW-2A	MW-2A	MW-3
Screened Interval*	108-128'	108-128'	116-136'	116-136'	170-180'	170-180'	115-135'
Date Collected	8/15/94	11/29/94	8/16/94	11/30/94	8/17/94	12/1/94	8/16/94
TAL Inorganics & Cyanide (ppb)							
Aluminum	4,880	3,830	3,310	1,430	167 B	159 B	734
Antimony	12 U	14.4 B	15.1 B	12 U	12 U	12 U	12 U
Arsenic	7 J	4 U	4.3 J	4 U	3 U	4 U	3 U
Barium	178 B	125 B	118 B	96.5 B	36.2 B	13.6 B	23.6 B
Beryllium	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	4.8 J	3 U	135	107	3.4 J	6.2	11.2 J
Calcium	23,000	17,900	12,300	12,800	19,600	10,800	8,720
Chromium	18.6	21	11.1 U	8.9 B	8.6 B	7.7 B	6.4 U
Cobalt	13.4 B	9.9 B	11.5 B	5 B	2 U	2.1 B	2 U
Copper	35.2	21.8 B	31.5	12 B	14.4 B	5.4 B	19.4 B
Cyanide	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Iron	14,800	10,700	10,700	5,300	553	552	5,070
Lead	29.8	34	20.3 U	10.2	11.2 U	7.4	26.3 U
Magnesium	5,080	5,680	6,210	6,380	3,650 B	1,550 B	3,240 B
Manganese	1,680	1,280	1,390	533	129	31.3	63.7
Mercury	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Nickel	22.1 B	15.9 B	21.4 B	12 U	14.6 B	12 U	12 U
Potassium	3,380 B	3,440 B	5,430	3,630 B	5,200	2,650 B	2,500 B
Selenium	2 U	1 U	2 U	1 U	2 U	1 U	2 U
Silver	2 UJ	2 U	3 J	2 U	2.5 J	2 U	2 J
Sodium	17,400	15,900	22,400	23,600	8,010	5,510	12,800
Thallium	3 U	1 U	3 U	1 U	3 U	1 U	3 U
Vanadium	18 B	13.5 B	13 B	7.4 B	3 U	4.9 B	6.4 B
Zinc	158	56.8	76.1	52.3	56.6	251	42.8
TCL Semi-Volatile Organic Compounds (ppb)							
Phenol	10 U	NA	10 U	NA	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	NA	10 U	NA	10 U	10 U	10 U
2-Chlorophenol	10 U	NA	10 U	NA	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	NA	10 U	NA	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	NA	10 U	NA	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	NA	10 U	NA	10 U	10 U	10 U
2-Methylphenol	10 U	NA	10 U	NA	10 U	10 U	10 U
2,2-Oxybis(chloropropane)	10 UJ	NA	10 UJ	NA	10 UJ	10 UJ	10 UJ
4-Methylphenol	10 U	NA	10 U	NA	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	NA	10 U	NA	10 U	10 U	10 U
Hexachloroethane	10 U	NA	10 U	NA	10 U	10 U	10 U
Nitrobenzene	10 U	NA	10 U	NA	10 U	10 U	10 U
Isophorone	10 U	NA	10 U	NA	10 U	10 U	10 U
2-Nitrophenol	10 U	NA	10 U	NA	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	NA	10 U	NA	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	NA	10 U	NA	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	NA	10 U	NA	10 U	10 U	10 U
1,2,4-Trichlorbenzene	10 U	NA	10 U	NA	10 U	10 U	10 U
Naphthalene	10 U	NA	10 U	NA	10 U	10 U	10 U
4-Chloroaniline	10 U	NA	10 U	NA	10 U	10 U	10 U
Hexachlorobutadiene	10 U	NA	10 U	NA	10 U	10 U	10 U

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-1	MW-1	MW-2	MW-2	MW-2A	MW-2A	MW-3
Screened Interval*	108-128'	108-128'	116-136'	116-136'	170-180'	170-180'	115-135'
Date Collected	8/15/94	11/29/94	8/16/94	11/30/94	8/17/94	12/1/94	8/16/94
4-Chloro-3-methylphenol	10 U	NA	10 U	NA	10 U	10 U	10 U
2-Methylnaphthalene	10 U	NA	10 U	NA	1 J	10 U	10 U
Hexachlorocyclopentadiene	10 U	NA	10 U	NA	10 U	10 UJ	10 U
2,4,6-Trichlorophenol	10 U	NA	10 U	NA	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	NA	25 U	NA	25 U	25 U	25 U
2-Chloronaphthalene	10 U	NA	10 U	NA	10 U	10 U	10 U
2-Nitroaniline	25 UJ	NA	25 UJ	NA	25 UJ	25 U	25 UJ
Dimethylphthalate	10 U	NA	10 U	NA	10 U	10 U	10 U
Acenaphthylene	10 U	NA	10 U	NA	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	NA	10 U	NA	10 U	10 U	10 U
3-Nitroaniline	25 U	NA	25 U	NA	25 U	25 U	25 U
Acenaphthene	10 U	NA	10 U	NA	10 U	10 U	10 U
2,4-Dinitrophenol	25 UJ	NA	25 UJ	NA	25 UJ	25 U	25 UJ
4-Nitrophenol	25 U	NA	25 U	NA	25 U	25 U	25 U
Dibenzofuran	10 U	NA	10 U	NA	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	NA	10 U	NA	10 U	10 U	10 U
Diethylphthalate	10 U	NA	10 U	NA	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	NA	10 U	NA	10 U	10 U	10 U
Fluorene	10 U	NA	10 U	NA	10 U	10 U	10 U
4-Nitroaniline	25 U	NA	25 U	NA	25 U	25 U	25 U
4,6-Dinitro-2-methyphenol	25 U	NA	25 U	NA	25 U	25 U	25 U
N-Nitrosodiphenylamine (1)	10 U	NA	10 U	NA	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	NA	10 U	NA	10 U	10 U	10 U
Hexachlorobenzene	10 U	NA	10 U	NA	10 U	10 U	10 U
Pentachlorophenol	25 U	NA	25 U	NA	25 U	25 U	25 U
Phenanthrene	10 U	NA	10 U	NA	10 U	10 U	10 U
Anthracene	10 U	NA	10 U	NA	10 U	10 U	10 U
Carbazole	10 U	NA	10 U	NA	10 U	10 U	10 U
Di-n-butylphthalate	10 U	NA	10 U	NA	10 U	1 J	10 U
Fluoranthene	10 U	NA	10 U	NA	10 U	10 U	10 U
Pyrene	10 U	NA	10 U	NA	10 U	10 U	10 U
Butylbenzylphthalate	10 U	NA	10 U	NA	10 U	10 U	10 U
3,3-Dichlorobenzidine	10 U	NA	10 U	NA	10 U	10 U	10 U
Benzo(a)anthracene	10 U	NA	10 U	NA	10 U	10 U	10 U
Chrysene	10 U	NA	10 U	NA	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	10 U	NA	10 U	NA	10 U	150 E	10 U
Di-n-octylphthalate	10 U	NA	10 U	NA	10 U	10 U	10 U
Benzo(b)fluoranthene	10 UJ	NA	10 UJ	NA	10 UJ	10 U	10 UJ
Benzo(k)fluoranthene	10 UJ	NA	10 UJ	NA	10 UJ	10 UJ	10 UJ
Benzo(a)pyrene	10 U	NA	10 U	NA	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	NA	10 U	NA	10 U	10 U	10 U
Dibenzo(a,h)anthracene	10 U	NA	10 U	NA	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	NA	10 U	NA	10 U	10 U	10 U
TCL Volatile Organic Compounds (ppb)							
Chloromethane	10 U	NA	10 U	NA	10 U	NA	10 U
Bromomethane	10 U	NA	10 UJ	NA	10 UJ	NA	10 UJ
Vinyl chloride	10 U	NA	10 U	NA	10 U	NA	10 U
Chloroethane	10 U	NA	10 U	NA	10 U	NA	10 U
Methylene chloride	10 U	NA	10 U	NA	10 U	NA	10 U

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-1	MW-1	MW-2	MW-2	MW-2A	MW-2A	MW-3
Screened Interval*	108-128'	108-128'	116-136'	116-136'	170-180'	170-180'	115-135'
Date Collected	8/15/94	11/29/94	8/16/94	11/30/94	8/17/94	12/1/94	8/16/94
Acetone	10 U	NA	10 U	NA	10 U	NA	10 U
Carbon Disulfide	10 U	NA	10 U	NA	10 U	NA	10 U
1,1-Dichloroethene	10 U	NA	10 U	NA	10 U	NA	10 U
1,1-Dichloroethane	10 U	NA	10 U	NA	10 U	NA	10 U
1,2-Dichloroethene (Total)	10 U	NA	10 U	NA	10 U	NA	10 U
Chloroform	10 U	NA	10 U	NA	10 U	NA	10 U
1,2-Dichloroethane	10 U	NA	10 U	NA	10 U	NA	10 U
2-Butanone	10 UJ	NA	10 UJ	NA	10 UJ	NA	10 UJ
1,1,1-Trichloroethane	10 U	NA	10 U	NA	10 U	NA	10 U
Carbon tetrachloride	10 U	NA	10 U	NA	10 U	NA	10 U
Bromodichloromethane	10 U	NA	10 U	NA	10 U	NA	10 U
1,2-Dichloropropane	10 U	NA	10 U	NA	10 U	NA	10 U
cis-1,3-Dichloropropene	10 U	NA	10 U	NA	10 U	NA	10 U
Trichloroethene	10 U	NA	10 U	NA	10 U	NA	10 U
Dibromochloromethane	10 U	NA	10 U	NA	10 U	NA	10 U
1,1,2-Trichloroethane	10 U	NA	10 U	NA	10 U	NA	10 U
Benzene	10 U	NA	10 U	NA	10 U	NA	10 U
trans-1,3-Dichloropropene	10 U	NA	10 U	NA	10 U	NA	10 U
Bromoform	10 U	NA	10 U	NA	10 U	NA	10 U
4-Methyl-2-pentanone	10 UJ	NA	10 U	NA	10 U	NA	10 U
2-Hexanone	10 U	NA	10 U	NA	10 U	NA	10 U
Tetrachloroethene	10 U	NA	10 U	NA	10 U	NA	10 U
1,1,2,2-Tetrachloroethane	10 U	NA	10 U	NA	10 U	NA	10 U
Toluene	10 U	NA	10 U	NA	10 U	NA	10 U
Chlorobenzene	10 U	NA	10 U	NA	10 U	NA	10 U
Ethylbenzene	10 U	NA	10 U	NA	10 U	NA	10 U
Styrene	10 U	NA	10 U	NA	10 U	NA	10 U
Xylene (Total)	10 U	NA	10 U	NA	10 U	NA	10 U
Pesticides/PCBs (ppb)							
alpha-BHC	0.05 U	NA	0.05 U	NA	0.05 U	NA	0.05 U
beta-BHC	0.05 U	NA	0.05 U	NA	0.05 U	NA	0.05 U
delta-BHC	0.05 U	NA	0.05 U	NA	0.05 U	NA	0.05 U
gamma-BHC (Lindane)	0.05 U	NA	0.05 U	NA	0.05 U	NA	0.05 U
Heptachlor	0.05 U	NA	0.05 U	NA	0.05 U	NA	0.05 U
Aldrin	0.05 U	NA	0.05 U	NA	0.05 U	NA	0.05 U
Heptachlor epoxide	0.05 U	NA	0.05 U	NA	0.05 U	NA	0.05 U
Endosulfan I	0.05 UJ	NA	0.05 UJ	NA	0.05 UJ	NA	0.05 UJ
Dieldrin	0.1 U	NA	0.1 U	NA	0.1 U	NA	0.1 U
4,4'-DDE	0.1 U	NA	0.1 U	NA	0.1 U	NA	0.1 U
Endrin	0.1 U	NA	0.1 U	NA	0.1 U	NA	0.1 U
Endosulfan II	0.1 U	NA	0.1 U	NA	0.1 U	NA	0.1 U
4,4'-DDD	0.1 U	NA	0.1 U	NA	0.1 U	NA	0.1 U
Endosulfan sulfate	0.1 U	NA	0.1 U	NA	0.1 U	NA	0.1 U
4,4'-DDT	0.1 U	NA	0.1 U	NA	0.1 U	NA	0.1 U
Methoxychlor	0.5 U	NA	0.5 U	NA	0.5 U	NA	0.5 U
Endrin ketone	0.1 U	NA	0.1 U	NA	0.1 U	NA	0.1 U
Endrin aldehyde	0.1 U	NA	0.1 U	NA	0.1 U	NA	0.1 U
alpha-Chlordane	0.05 U	NA	0.05 U	NA	0.05 U	NA	0.05 U
gamma-Chlordane	0.05 U	NA	0.05 U	NA	0.05 U	NA	0.05 U

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-1	MW-1	MW-2	MW-2	MW-2A	MW-2A	MW-3
Screened Interval*	108-128'	108-128'	116-136'	116-136'	170-180'	170-180'	115-135'
Date Collected	8/15/94	11/29/94	8/16/94	11/30/94	8/17/94	12/1/94	8/16/94
Toxaphene	5 U	NA	5 U	NA	5 U	NA	5 U
Aroclor 1016	1 U	NA	1 U	NA	1 U	NA	1 U
Aroclor 1221	2 U	NA	2 U	NA	2 U	NA	2 U
Aroclor 1232	1 U	NA	1 U	NA	1 U	NA	1 U
Aroclor 1242	1 U	NA	1 U	NA	1 U	NA	1 U
Aroclor 1248	1 U	NA	1 U	NA	1 U	NA	1 U
Aroclor 1254	1 U	NA	1 U	NA	1 U	NA	1 U
Aroclor 1260	1 U	NA	1 U	NA	1 U	NA	1 U

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-3	MW-4	MW-4	MW-6	MW-6	MW-9	MW-9
Screened Interval*	115-135'	115-135'	115-135'	110-130'	110-130'	105-125'	105-125'
Date Collected	11/30/94	8/17/94	11/30/94	8/18/94	12/1/94	8/18/94	12/1/94
TAL Inorganics & Cyanide (ppb)							
Aluminum	298	72.3 U	109 B	602	972	140 B	3.120
Antimony	12 U	12 U	15.5 B	12 U	16.1 B	12 U	12.9 B
Arsenic	4 U	3 U	4 U	3 U	4 U	3 U	4 U
Barium	27.2 B	67.7 B	87.7 B	60.6 B	44.9 B	58.9 B	83.4 B
Beryllium	1 U	1 U	1 U	1 U	1.1 B	1 U	1.4 B
Cadmium	17.3	30.8	12.8	269	165	57.8	36.4
Calcium	10,500	16,300	13,000	18,100	14,200	11,800	10,300
Chromium	2.1 B	2 U	2.4 B	2.3 B	5 B	2 U	14.7
Cobalt	2 U	2 U	2 U	6.5 B	2.9 B	2 U	7.4 B
Copper	8.8 B	2 U	2 U	3.9 U	13 B	3.8 U	17.9 B
Cyanide	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Iron	1,900	79 B	258	2,000	4,190	291	9,370
Lead	20.4	1.6 U	4.3	3.2 U	11.3	5 U	17
Magnesium	4,080 B	4,930 B	6,460	6,060	5,970	4,580 B	4,790 B
Manganese	172	333	355	103	73.7	203	1,040
Mercury	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Nickel	12 U	14.1 B	12 U	12 U	12 U	12 U	12 U
Potassium	1,710 U	4,210 B	5,010	1,710 U	4,110 B	1,710 U	1,710 U
Selenium	1 U	2 U	1 U	2 U	1 U	2 U	1 U
Silver	2 U	2 UJ	2 U	2 UJ	2.6 B	2 UJ	2 UJ
Sodium	14,400	16,700	20,900	23,400	21,100	14,200	12,400
Thallium	1 U	3 U	1 U	3 U	1 U	3 U	1 U
Vanadium	3 U	3 U	3 U	3.1 B	6.9 B	3 U	11.3 B
Zinc	34.9	39.6	31.9	55.8	81.2	24.4	69.9
TCL Semi-Volatile Organic Compounds (ppb)							
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,2-Oxybis(chloropropane)	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-3	MW-4	MW-4	MW-6	MW-6	MW-9	MW-9
Screened Interval*	115-135'	115-135'	115-135'	110-130'	110-130'	105-125'	105-125'
Date Collected	11/30/94	8/17/94	11/30/94	8/18/94	12/1/94	8/18/94	12/1/94
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 UJ	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 UJ	25 U	25 UJ	25 U	25 UJ	25 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 UJ	25 U	25 U	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methyphenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U
N-Nitrosodiphenylamine (1)	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	10 U	11
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ	10 U
Benzo(k)fluoranthene	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 U	10 UJ
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzo(a,h)anthracene	10 U	10 U	10 U	10 UJ	10 U	10 UJ	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
TCL Volatile Organic Compounds (ppb)							
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 UJ	10 UJ	10 U	10 U	10 UJ	10 U	10 UJ
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 UJ	10 U	10 U	10 U	10 UJ	10 U	10 UJ
Methylene chloride	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-3	MW-4	MW-4	MW-6	MW-6	MW-9	MW-9
Screened Interval*	115-135'	115-135'	115-135'	110-130'	110-130'	105-125'	105-125'
Date Collected	11/30/94	8/17/94	11/30/94	8/18/94	12/1/94	8/18/94	12/1/94
Acetone	10 UJ	10 U	10 U	10 U	10 UJ	10 U	10 UJ
Carbon Disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	2 J	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene (Total)	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	2 J	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone	10 UJ	10 UJ	10 U	10 U	10 UJ	10 U	10 UJ
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 UJ	10 U	10 U	10 U	10 UJ	10 U	10 UJ
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	10 UJ	10 U	10 U	10 U	10 UJ	10 U	10 UJ
2-Hexanone	10 UJ	10 U	10 U	10 U	10 UJ	10 U	10 UJ
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylene (Total)	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pesticides/PCBs (ppb)							
alpha-BHC	NA	0.05 U	NA	0.05 U	NA	0.05 U	NA
beta-BHC	NA	0.05 U	NA	0.05 U	NA	0.05 U	NA
delta-BHC	NA	0.05 U	NA	0.05 U	NA	0.05 U	NA
gamma-BHC (Lindane)	NA	0.05 U	NA	0.05 U	NA	0.05 U	NA
Heptachlor	NA	0.05 U	NA	0.05 U	NA	0.05 U	NA
Aldrin	NA	0.05 U	NA	0.05 U	NA	0.05 U	NA
Heptachlor epoxide	NA	0.1 U	NA	0.05 U	NA	0.05 U	NA
Endosulfan I	NA	0.05 UJ	NA	0.05 UJ	NA	0.05 UJ	NA
Dieldrin	NA	0.1 U	NA	0.1 U	NA	0.1 U	NA
4,4'-DDE	NA	0.1 U	NA	0.1 U	NA	0.1 U	NA
Endrin	NA	0.1 U	NA	0.1 U	NA	0.1 U	NA
Endosulfan II	NA	0.1 U	NA	0.1 U	NA	0.1 U	NA
4,4'-DDD	NA	0.1 U	NA	0.1 U	NA	0.1 U	NA
Endosulfan sulfate	NA	0.1 U	NA	0.1 U	NA	0.1 U	NA
4,4'-DDT	NA	0.1 U	NA	0.1 U	NA	0.1 U	NA
Methoxychlor	NA	0.5 U	NA	0.5 U	NA	0.5 U	NA
Endrin ketone	NA	0.1 U	NA	0.1 U	NA	0.1 U	NA
Endrin aldehyde	NA	0.1 U	NA	0.1 U	NA	0.1 U	NA
alpha-Chlordane	NA	0.05 U	NA	0.05 U	NA	0.05 U	NA
gamma-Chlordane	NA	0.05 U	NA	0.05 U	NA	0.05 U	NA

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-3	MW-4	MW-4	MW-6	MW-6	MW-9	MW-9
Screened Interval*	115-135'	115-135'	115-135'	110-130'	110-130'	105-125'	105-125'
Date Collected	11/30/94	8/17/94	11/30/94	8/18/94	12/1/94	8/18/94	12/1/94
Toxaphene	NA	5 U	NA	5 U	NA	5 U	NA
Aroclor 1016	NA	1 U	NA	1 U	NA	1 U	NA
Aroclor 1221	NA	2 U	NA	2 U	NA	2 U	NA
Aroclor 1232	NA	1 U	NA	1 U	NA	1 U	NA
Aroclor 1242	NA	1 U	NA	1 U	NA	1 U	NA
Aroclor 1248	NA	1 U	NA	1 U	NA	1 U	NA
Aroclor 1254	NA	1 U	NA	1 U	NA	1 U	NA
Aroclor 1260	NA	1 U	NA	1 U	NA	1 U	NA

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells			Background Wells		
Well Number	MW-9R	MW-10	MW-10	MW-5	MW-5R	MW-5
Screened Interval*	105-125'	110-130'	110-130'	110-130'	110-130'	110-130'
Date Collected	12/1/94	8/17/94	11/29/94	8/15/94	8/15/94	11/29/94
TAL Inorganics & Cyanide (ppb)						
Aluminum	3,120	171 B	107 B	474	326	388
Antimony	20.3 B	12 U	12 U	12 U	12 U	19.6 B
Arsenic	4 U	3 U	4 U	3.6 J	3 U	4 U
Barium	89.1 B	33 B	53.2 B	59.8 B	57 B	66.4 B
Beryllium	1.3 B	1 U	1 U	1 U	1 U	1 U
Cadmium	39.4	46.4	73.4	3.9 J	3 U	3 U
Calcium	11,400	11,200	11,600	11,400	11,100	12,300
Chromium	17.6	2 U	2 U	2 U	2 U	4.7 B
Cobalt	9.3 B	2 U	2 U	2 U	2 U	3.7 B
Copper	20.1 B	2 U	2 U	6.6 U	3.5 U	4.9 B
Cyanide	10 U	10 U	10 U	10 U	10 U	10 U
Iron	9,400	104	174	1,280	426	1,100
Lead	12.6	2.7 U	20.3	5.1 U	6 U	22.2
Magnesium	5,270	3,520 B	4,230 B	4,040 B	3,900 B	5,090
Manganese	1,060	94.6	104	358	258	188
Mercury	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Nickel	12 U	12 U	12 U	12 U	12 U	12 U
Potassium	3,940 B	2,110 B	1,710 U	3,420 B	3,570 B	5,390
Selenium	1 U	2 U	1 U	2 U	2 U	1 U
Silver	6.3 B	2 UJ	2 UJ	2 UJ	2 UJ	2.4 B
Sodium	13,800	16,100	19,100	25,700	25,300	23,300
Thallium	1 U	3 U	1 U	3 U	1 U	3 U
Vanadium	14.9 B	3 U	3 U	3 U	3 U	3.7 B
Zinc	64.6	27.4	20.8	39 U	35.3 U	20.2
TCL Semi-Volatile Organic Compounds (ppb)						
Phenol	10 U	10 U	NA	10 U	10 U	NA
Bis(2-chloroethyl)ether	10 U	10 U	NA	10 U	10 U	NA
2-Chlorophenol	10 U	10 U	NA	10 U	10 U	NA
1,3-Dichlorobenzene	10 U	10 U	NA	10 U	10 U	NA
1,4-Dichlorobenzene	10 U	10 U	NA	10 U	10 U	NA
1,2-Dichlorobenzene	10 U	10 U	NA	10 U	10 U	NA
2-Methylphenol	10 U	10 U	NA	10 U	10 U	NA
2,2-Oxybis(chloropropane)	10 UJ	10 UJ	NA	10 UJ	10 UJ	NA
4-Methylphenol	10 U	10 U	NA	10 U	10 U	NA
N-Nitroso-di-n-propylamine	10 U	10 U	NA	10 U	10 U	NA
Hexachloroethane	10 U	10 U	NA	10 U	10 U	NA
Nitrobenzene	10 U	10 U	NA	10 U	10 U	NA
Isophorone	10 U	10 U	NA	10 U	10 U	NA
2-Nitrophenol	10 U	10 U	NA	10 U	10 U	NA
2,4-Dimethylphenol	10 U	10 U	NA	10 U	10 U	NA
Bis(2-chloroethoxy)methane	10 U	10 U	NA	10 U	10 U	NA
2,4-Dichlorophenol	10 U	10 U	NA	10 U	10 U	NA
1,2,4-Trichlorbenzene	10 U	10 U	NA	10 U	10 U	NA
Naphthalene	10 U	10 U	NA	10 U	10 U	NA
4-Chloroaniline	10 U	10 U	NA	10 U	10 U	NA
Hexachlorobutadiene	10 U	10 U	NA	10 U	10 U	NA

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells			Background Wells		
Well Number	MW-9R	MW-10	MW-10	MW-5	MW-5R	MW-5
Screened Interval*	105-125'	110-130'	110-130'	110-130'	110-130'	110-130'
Date Collected	12/1/94	8/17/94	11/29/94	8/15/94	8/15/94	11/29/94
4-Chloro-3-methylphenol	10 U	10 U	NA	10 U	10 U	NA
2-Methylnaphthalene	10 U	10 U	NA	10 U	10 U	NA
Hexachlorocyclopentadiene	10 UJ	10 U	NA	10 U	10 U	NA
2,4,6-Trichlorophenol	10 U	10 U	NA	10 U	10 U	NA
2,4,5-Trichlorophenol	25 U	25 U	NA	25 U	25 U	NA
2-Chloronaphthalene	10 U	10 U	NA	10 U	10 U	NA
2-Nitroaniline	25 U	25 UJ	NA	25 UJ	25 UJ	NA
Dimethylphthalate	10 U	10 U	NA	10 U	10 U	NA
Acenaphthylene	10 U	10 U	NA	10 U	10 U	NA
2,6-Dinitrotoluene	10 U	10 U	NA	10 U	10 U	NA
3-Nitroaniline	25 U	25 U	NA	25 U	25 U	NA
Acenaphthene	10 U	10 U	NA	10 U	10 U	NA
2,4-Dinitrophenol	25 U	25 UJ	NA	25 UJ	25 UJ	NA
4-Nitrophenol	25 U	25 U	NA	25 U	25 U	NA
Dibenzofuran	10 U	10 U	NA	10 U	10 U	NA
2,4-Dinitrotoluene	10 U	10 U	NA	10 U	10 U	NA
Diethylphthalate	10 U	10 U	NA	10 U	10 U	NA
4-Chlorophenyl-phenylether	10 U	10 U	NA	10 U	10 U	NA
Fluorene	10 U	10 U	NA	10 U	10 U	NA
4-Nitroaniline	25 U	25 U	NA	25 U	25 U	NA
4,6-Dinitro-2-methyphenol	25 U	25 U	NA	25 U	25 U	NA
N-Nitrosodiphenylamine (1)	10 U	10 U	NA	10 U	10 U	NA
4-Bromophenyl-phenylether	10 U	10 U	NA	10 U	10 U	NA
Hexachlorobenzene	10 U	10 U	NA	10 U	10 U	NA
Pentachlorophenol	25 U	25 U	NA	25 U	25 U	NA
Phenanthrene	10 U	10 U	NA	10 U	10 U	NA
Anthracene	10 U	10 U	NA	10 U	10 U	NA
Carbazole	10 U	10 U	NA	10 U	10 U	NA
Di-n-butylphthalate	1 J	10 U	NA	10 U	10 U	NA
Fluoranthene	10 U	10 U	NA	10 U	10 U	NA
Pyrene	10 U	10 U	NA	10 U	10 U	NA
Butylbenzylphthalate	10 U	10 U	NA	10 U	10 U	NA
3,3-Dichlorobenzidine	10 U	10 U	NA	10 U	10 U	NA
Benzo(a)anthracene	10 U	10 U	NA	10 U	10 U	NA
Chrysene	10 U	10 U	NA	10 U	10 U	NA
Bis(2-ethylhexyl)phthalate	10 U	10 U	NA	10 U	10 U	NA
Di-n-octylphthalate	10 U	10 U	NA	10 U	10 U	NA
Benzo(b)fluoranthene	10 U	10 UJ	NA	10 UJ	10 UJ	NA
Benzo(k)fluoranthene	10 UJ	10 UJ	NA	10 U	10 U	NA
Benzo(a)pyrene	10 U	10 U	NA	10 U	10 U	NA
Indeno(1,2,3-cd)pyrene	10 U	10 U	NA	10 U	10 U	NA
Dibenzo(a,h)anthracene	10 U	10 U	NA	10 U	10 U	NA
Benzo(g,h,i)perylene	10 U	10 U	NA	10 U	10 U	NA
TCL Volatile Organic Compounds (ppb)						
Chloromethane	10 U	10 U	NA	10 U	10 U	NA
Bromomethane	10 UJ	10 UJ	NA	10 U	10 U	NA
Vinyl chloride	10 U	10 U	NA	10 U	10 U	NA
Chloroethane	10 UJ	10 U	NA	10 U	10 U	NA
Methylene chloride	10 U	10 U	NA	10 U	10 U	NA

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells			Background Wells		
Well Number	MW-9R	MW-10	MW-10	MW-5	MW-5R	MW-5
Screened Interval*	105-125'	110-130'	110-130'	110-130'	110-130'	110-130'
Date Collected	12/1/94	8/17/94	11/29/94	8/15/94	8/15/94	11/29/94
Acetone	10 UJ	10 U	NA	10 U	10 U	NA
Carbon Disulfide	10 U	10 U	NA	10 U	10 U	NA
1,1-Dichloroethene	10 U	10 U	NA	10 U	10 U	NA
1,1-Dichloroethane	10 U	10 U	NA	10 U	10 U	NA
1,2-Dichloroethene (Total)	10 U	10 U	NA	10 U	10 U	NA
Chloroform	10 U	10 U	NA	10 U	10 U	NA
1,2-Dichloroethane	10 U	10 U	NA	10 U	10 U	NA
2-Butanone	10 UJ	10 UJ	NA	10 UJ	10 UJ	NA
1,1,1-Trichloroethane	10 U	10 U	NA	10 U	10 U	NA
Carbon tetrachloride	10 UJ	10 U	NA	10 U	10 U	NA
Bromodichloromethane	10 U	10 U	NA	10 U	10 U	NA
1,2-Dichloropropane	10 U	10 U	NA	10 U	10 U	NA
cis-1,3-Dichloropropene	10 U	10 U	NA	10 U	10 U	NA
Trichloroethene	10 U	10 U	NA	10 U	10 U	NA
Dibromochloromethane	10 U	10 U	NA	10 U	10 U	NA
1,1,2-Trichloroethane	10 U	10 U	NA	10 U	10 U	NA
Benzene	10 U	10 U	NA	10 U	10 U	NA
trans-1,3-Dichloropropene	10 U	10 U	NA	10 U	10 U	NA
Bromoform	10 U	10 U	NA	10 U	10 U	NA
4-Methyl-2-pentanone	10 UJ	10 U	NA	10 UJ	10 UJ	NA
2-Hexanone	10 UJ	10 U	NA	10 U	10 U	NA
Tetrachloroethene	10 U	10 U	NA	10 U	10 U	NA
1,1,2,2-Tetrachloroethane	10 U	10 U	NA	10 U	10 U	NA
Toluene	10 U	10 U	NA	10 U	10 U	NA
Chlorobenzene	10 U	10 U	NA	10 U	10 U	NA
Ethylbenzene	10 U	10 U	NA	10 U	10 U	NA
Styrene	10 U	10 U	NA	10 U	10 U	NA
Xylene (Total)	10 U	10 U	NA	10 U	10 U	NA
Pesticides/PCBs (ppb)						
alpha-BHC	NA	0.05 U	NA	0.05 U	0.05 U	NA
beta-BHC	NA	0.05 U	NA	0.05 U	0.05 U	NA
delta-BHC	NA	0.05 U	NA	0.05 U	0.05 U	NA
gamma-BHC (Lindane)	NA	0.05 U	NA	0.05 U	0.05 U	NA
Heptachlor	NA	0.05 U	NA	0.05 U	0.05 U	NA
Aldrin	NA	0.05 U	NA	0.05 U	0.05 U	NA
Heptachlor epoxide	NA	0.05 U	NA	0.05 U	0.05 U	NA
Endosulfan I	NA	0.05 UJ	NA	0.05 UJ	0.05 UJ	NA
Dieldrin	NA	0.1 U	NA	0.1 U	0.1 U	NA
4,4'-DDE	NA	0.1 U	NA	0.1 U	0.1 U	NA
Endrin	NA	0.1 U	NA	0.1 U	0.1 U	NA
Endosulfan II	NA	0.1 U	NA	0.1 U	0.1 U	NA
4,4'-DDD	NA	0.1 U	NA	0.1 U	0.1 U	NA
Endosulfan sulfate	NA	0.1 U	NA	0.1 U	0.1 U	NA
4,4'-DDT	NA	0.1 U	NA	0.1 U	0.1 U	NA
Methoxychlor	NA	0.5 U	NA	0.5 U	0.5 U	NA
Endrin ketone	NA	0.1 U	NA	0.1 U	0.1 U	NA
Endrin aldehyde	NA	0.1 U	NA	0.1 U	0.1 U	NA
alpha-Chlordane	NA	0.05 U	NA	0.05 U	0.05 U	NA
gamma-Chlordane	NA	0.05 U	NA	0.05 U	0.05 U	NA

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells			Background Wells		
Well Number	MW-9R	MW-10	MW-10	MW-5	MW-5R	MW-5
Screened Interval*	105-125'	110-130'	110-130'	110-130'	110-130'	110-130'
Date Collected	12/1/94	8/17/94	11/29/94	8/15/94	8/15/94	11/29/94
Toxaphene	NA	5 U	NA	5 U	5 U	NA
Aroclor 1016	NA	1 U	NA	1 U	1 U	NA
Aroclor 1221	NA	2 U	NA	2 U	2 U	NA
Aroclor 1232	NA	1 U	NA	1 U	1 U	NA
Aroclor 1242	NA	1 U	NA	1 U	1 U	NA
Aroclor 1248	NA	1 U	NA	1 U	1 U	NA
Aroclor 1254	NA	1 U	NA	1 U	1 U	NA
Aroclor 1260	NA	1 U	NA	1 U	1 U	NA

TABLE A-1A (continued)
Phase 1 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

Notes:

* = Feet below grade.
TAL = Target Analyte List Metals
TCL = Target Compound List Organics

Validation Qualifiers for Inorganics:
U - Analyzed for but not detected at or above the CRQL, or the compound is not detected due to qualification through the method or field blank.
B - Reported value is between IDL and CRDL.
J - Reported value is an estimate due to variance from quality control limits.
UJ - The compound was analyzed for, but not detected.
R - Reported value is unusable and rejected due to variance from quality control limits.
NA - Not analyzed.

Validation Qualifiers for Organics:
U - Analyzed for but not detected at or above the CRQL, or the compound is not detected due to qualification through the method or field blank.
B - Analyte was found in the associated blank as well as the sample.
J - Reported value is an estimated quantity.
UJ - The compound was analyzed for, but not detected.
E - Reported value is estimated due to quantitation above the calibration range.
D - Reported result taken from diluted sample analysis.
R - Reported value is unusable and rejected due to variance from quality control limits.
NA - Not analyzed.

Table A-1B
Phase 2 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-1	MW-1	MW-2	MW-2	MW-2A	MW-2A	MW-3
Screened Interval*	108-128'	108-128'	116-136'	116-136'	170-180'	170-180'	115-135'
Date Collected	3/28/96	7/17/96	3/29/96	7/17/96	3/29/96	7/18/96	4/3/96
TAL Inorganics & Cyanide (ppb)							
Aluminum	4,710	1,060	2,490	829	363 U	257 U	95.5 B
Antimony	3.0 U	6.0 U	3.0 U	6.0 U	3.0 U	6.0 U	3.0 U
Arsenic	5.9 B	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U
Barium	329	59.5 B	91.4 B	51.6 B	13.7 B	7.9 U	26.1 B
Beryllium	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	1.0 U	1.0 U	115	84.7	5.1	8.8	15.9
Calcium	51,300	9,800	10,900	8,950	5,780	5,020	9,520
Chromium	64	6.7 B	17.8	7.7 B	3.6 U	4.0 U	3.5 U
Cobalt	12.0 B	2.6 B	12.0 B	2.4 B	1.0 B	1.0 U	4.0 U
Copper	30.6	4.4 B	27.3	4.5 B	11.7 B	3.3 B	8.4 U
Cyanide	2.0 U	NA	2.0 U	NA	2.0 U	NA	2.0 U
Iron	14,000	2,510	6,920	2,110	757	397	285
Lead	14.4	4.6 J	7.4	3.0 J	2.0 U	2.1 J	5.3
Magnesium	4,860 B	4,200 B	5,710	4,570 B	1,520 B	1,900 B	4,610 B
Manganese	1,460	276	917	256	31.8	14.2 U	16.3
Mercury	0.19 J	0.08 U	0.15 U	0.08 U	0.15 U	0.08 U	0.15 U
Nickel	50.1	5.7 B	29.2 B	11.7 B	5.1 B	6.0 B	2.9 U
Potassium	2,720 B	2,460 B	2,500 B	2,460 B	2,420 B	823 B	1,100 B
Selenium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	2.0 U
Silver	1.5 B	1.2 B	1.2 B	1.0 U	1.0 U	1.2 B	1.0 U
Sodium	16,000	12,900	13,000	10,300	20,600	4,780 B	8,990
Thallium	5.0 U	6.0 U	5.0 U	6.0 U	5.0 U	6.0 U	3.4 U
Vanadium	13.4 B	2.8 B	8.1 B	2.4 B	1.3 B	1.0 U	1.0 U
Zinc	65.6 U	26.3 U	61.8 U	41.2	149	144	19.9 U

Table A-1B (continued)
Phase 2 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-3	MW-4	MW-4	MW-6	MW-6	MW-6 (Dup)	MW-7D
Screened Interval*	115-135'	115-135'	115-135'	110-130'	110-130'	110-130'	195-205'
Date Collected	7/18/96	3/29/96	7/17/96	3/28/96	7/17/96	7/17/96	7/16/96
TAL Inorganics & Cyanide (ppb)							
Aluminum	242 U	409 U	220 U	246 U	218	180 U	806
Antimony	6.0 U	3.0 U	6.0 U	3.0 U	6.0 U	6.0 U	6.0 U
Arsenic	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Barium	21.3 B	81 B	79.9 B	38.1 B	24.6 B	22.4 B	41.9 B
Beryllium	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	13.4	2.6 B	10.9	33.9	192	177	1.0 U
Calcium	6,750	29,000	11,500	12,500	14,700	13,200	16,900
Chromium	4.0 U	2.4 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U
Cobalt	1.0 U	1.0 U	1.0 U	1.0 U	1.3 B	1.1 B	2.2 B
Copper	2.9 B	9.7 B	1.0 U	9.0 U	1.2 B	5.9 B	2.3 B
Cyanide	NA	2.0 U	NA	2.0 U	NA	NA	NA
Iron	199.0 U	610.0	161.0	295.0	141.0	53.2 B	1,050
Lead	3.8 J	2.0 U	2.0 U	2.0 U	2.0 U	3.9 J	3.4 J
Magnesium	3,560 B	6,170	6,220	7,240	5,990	5,480	6,590
Manganese	5.7 B	264	258	27.1	28.2	24.8	462
Mercury	0.08 U	0.15 U	0.08 U	0.15 U	0.08 U	0.08 U	0.08 U
Nickel	3.0 U	9.2 B	3.0 U	5.4 B	6.7 B	15.3 B	21.6 B
Potassium	1,610 B	12,700	4,370 B	2,120 B	2,590 B	2,280 B	3,670 B
Selenium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Silver	1.0 U	1.0 B	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Sodium	9,120	31,100	17,400	20,500	16,300	14,400	11,300
Thallium	6.0 U	5.0 U	6.0 U	5.0 U	6.0 U	6.0 U	6.0 U
Vanadium	1.0 U	1.5 B	1.0 U	1.0 U	1.0 U	1.0 U	1.4 B
Zinc	19.6 U	423	44.4	35.5 U	35.4	30.3	25.0 U

Table A-1B (continued)
Phase 2 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells						
Well Number	MW-7S	MW-8S	MW-8S (DUP)	MW-9	MW-9 (Dup)	MW-9	MW-10
Screened Interval*	154-174'	119-144'	119-144'	105-125'	105-125'	105-125'	110-130'
Date Collected	7/16/96	9/12/96	9/12/96	3/28/96	3/28/96	7/18/96	3/29/96
TAL Inorganics & Cyanide (ppb)							
Aluminum	321 U	121 U	420	1,170	933	2,940	97.1 B
Antimony	6.0 U	6.0 U	6.0 U	3.0 U	3.0 U	6.0 U	3.0 U
Arsenic	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.0 U
Barium	39.2 B	30.5 B	41.3 B	65.9 B	56.2 B	68.7 B	23.0 B
Beryllium	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	1.0 U	1.0 U	1.0 U	17.3	15.0	18.1	44.1
Calcium	13,700	13,200	13,800	8,030	7,530	9,000	7,120
Chromium	10.1	4.0 U	5.2 B	9.3 B	7.2 U	15.6	2.2 U
Cobalt	2.4 B	1.6 B	2.2 B	25.5 B	22.4 B	7.8 B	4.0 U
Copper	1.0 U	5.6 U	10.3 B	10.1 B	9.0 U	20.4 B	2.7 U
Cyanide	NA	4.0 U	4.0 U	2.0 U	2.0 U	NA	2.0 U
Iron	428	321	1,630	3,070	2,280	9,580	70.9 U
Lead	2.0 U	2.0 U	4.0	10.0	7.7	14.7	2.0 U
Magnesium	7,540	3,790	4,030 B	3,980 B	3,760 B	4,740 B	2,910 B
Manganese	253	500	513	447	339	871	58.2
Mercury	0.08 U	0.05 U	0.05 U	0.15 U	0.15 U	0.0 U	0.15 U
Nickel	14.7 B	8.9 B	10.9 B	7.3 B	7.3 B	11.4 B	2.8 U
Potassium	1,990 B	1,150 B	1,230 B	1,600 B	1,460 B	2,600 B	1,230 B
Selenium	3.0 U	3.0 UJ	3.0 UJ	3.0 U	3.0 U	3.0 U	2.0 U
Silver	1.0 U	1.0 U	1.0 U	1.3 B	1.2 B	1.4 B	1.0 U
Sodium	12,800	12,900 J	13,500 J	10,700	10,100	10,300	8,990
Thallium	6.0 U	6.0 U	6.0 U	5.0 U	5.0 U	6.0 U	3.0 U
Vanadium	1.0 U	1.0 U	1.1 B	3.5 B	3.0 B	10.3 B	1.0 U
Zinc	36.5 U	46.5	52.3	36.6 U	31.2 U	61.0	30.0 U

Table A-1B (continued)
Phase 2 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Monitoring Wells	Background Wells	
Well Number	MW-10	MW-5	MW-5
Screened Interval*	110-130'	110-130'	110-130'
Date Collected	7/18/96	3/28/96	7/16/96
TAL Inorganics & Cyanide (ppb)			
Aluminum	249	233 U	262
Antimony	6.0 U	3.0 U	6.0 U
Arsenic	5.0 U	5.0 U	5.0 U
Barium	20.6 B	50.0 B	39.8 B
Beryllium	1.0 U	1.0 U	1.0 U
Cadmium	14.9	1.0 U	1.0 U
Calcium	7,580	7,920	7,550
Chromium	4.0 U	1.2 U	4.0 U
Cobalt	1.0 U	1.0 U	1.0 U
Copper	1.0 U	9.0 U	1.0 U
Cyanide	NA	2.0 U	NA
Iron	150 U	101	308
Lead	2.0 U	2.0 U	2.1 J
Magnesium	3,700 B	4,090 B	3,690 B
Manganese	29.4	50.2	47.0
Mercury	0.08 U	0.15 U	0.09 B
Nickel	3.0 U	5.8 B	3.0 U
Potassium	1,610 B	1,980 B	2,370 B
Selenium	3.0 U	3.0 U	3.0 U
Silver	1.0 U	1.0 U	1.0 U
Sodium	8,510	18,700	17,700
Thallium	6.0 U	5.0 U	6.0 U
Vanadium	1.0 U	1.0 U	1.0 U
Zinc	23.8	17.7 U	13.8 U

Table A-1B (continued)
Phase 2 RI Ground Water Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

Notes:

* Feet Below Grade.

TAL = Target Analyte List Metals

Validation Qualifiers for Inorganics

U	-	Analyzed for but not detected at or above the CRQL, or the compound is not detected due to qualification through the method or field blank.
B	-	Reported value is between IDL and CRDL.
J	-	Reported value is an estimate due to variance from quality control limits.
UJ	-	The compound was analyzed for, but not detected.
R	-	Reported value is unusable and rejected due to variance from quality control limits.
NA	-	Not Analyzed.

Table A-2A
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	B-2	B-7	SB-1	SB-2	SB-3	SB-4	SB-7
Sample Depth	0-0.5'	0-0.5'	0-2'	0-2'	0-2'	0-2'	0-0.25'
Date Collected	10/3/94	10/3/94	5/19/94	5/17/94	5/18/94	5/18/94	5/26/94
TAL Inorganics & Cyanide (ppm)							
Aluminum	1,360	5,750	10,200	5,690	8,680	4,310	858
Antimony	2.5 UJ	2.7 UJ	5 J	2.4 U	2.4 U	2.4 U	2.4 U
Arsenic	0.42 U	1.6 B	2.4 J	0.4 U	1.8 J	1.4 B	0.69 J
Barium	1,240	9.3 B	20.8 B	69.6	106	14.5 B	216
Beryllium	0.2 U	0.2 U	0.35 B	0.2 U	0.31 B	0.2 U	0.2 U
Cadmium	1.6 U	0.66 U	0.85 B	22.1	2.2	1.1	1.3
Calcium	507 B	266 B	175 U	365 B	24,700	264 B	160 B
Chromium	3	5.7	9.8	9	8.7	5.7	3.1
Cobalt	1.8 B	0.94 B	2 B	1.4 B	2 B	1.9 B	0.55 B
Copper	18.4	3.5 B	6.4 U	17.1	11.4	4.9 B	16 J
Cyanide	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U
Iron	1,670	7,660	10,800	7,360	8,470	5,490	1,380
Lead	5.3 J	45.8	17.6 J	7.4	8.8	5.8	5.5 U
Magnesium	236 B	451 B	760 B	754 B	14,900	637 B	175 B
Manganese	19.4	26.2	44.2 J	58.2	81.3	76.4	16
Mercury	0.13 UJ	0.13 UJ	0.16	0.4 U	0.4 U	0.15	0.4 U
Nickel	2.5 U	2.7 U	6.6 B	4.8 U	4.9 U	2.7 U	2.4 U
Potassium	359 U	378 U	434 U	342.4 U	406 B	374 B	342.4 U
Selenium	0.21 U	0.4 B	0.3 B	0.2 U	0.2 U	0.2 U	0.2 U
Silver	158	2.5	2.6	307	108	69.7	235
Sodium	31 U	32.5 U	37.1 U	46.9 B	63.8 B	23.4 U	33.9 U
Thallium	0.21 U	0.22 U	3 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	4.2 B	13.4	19.7	13.4	19.6	11.3	3.5 B
Zinc	25.3 J	14.4	19 U	36.2	50.3	12	6.4 U
TCL Semi-Volatile Organic Compounds (ppb)							
Phenol	NA	NA	410 U	NA	NA	NA	350 UJ
Bis(2-chloroethyl)ether	NA	NA	410 U	NA	NA	NA	350 U
2-Chlorophenol	NA	NA	410 U	NA	NA	NA	350 UJ
1,3-Dichlorobenzene	NA	NA	410 U	NA	NA	NA	350 U
1,4-Dichlorobenzene	NA	NA	410 U	NA	NA	NA	350 U
1,2-Dichlorobenzene	NA	NA	410 U	NA	NA	NA	350 U
2-Methylphenol	NA	NA	410 U	NA	NA	NA	350 U
2,2-Oxybis(chloropropane)	NA	NA	410 U	NA	NA	NA	350 U
4-Methylphenol	NA	NA	410 U	NA	NA	NA	350 U
N-Nitroso-di-n-propylamine	NA	NA	410 U	NA	NA	NA	350 U
Hexachloroethane	NA	NA	410 U	NA	NA	NA	350 U
Nitrobenzene	NA	NA	410 U	NA	NA	NA	350 UJ
Isophorone	NA	NA	410 U	NA	NA	NA	350 U
2-Nitrophenol	NA	NA	410 U	NA	NA	NA	350 U
2,4-Dimethylphenol	NA	NA	410 U	NA	NA	NA	350 U
Bis(2-chloroethoxy)methane	NA	NA	410 U	NA	NA	NA	350 U
2,4-Dichlorophenol	NA	NA	410 U	NA	NA	NA	350 U
1,2,4-Trichlorbenzene	NA	NA	410 U	NA	NA	NA	350 U
Naphthalene	NA	NA	410 U	NA	NA	NA	350 U
4-Chloroaniline	NA	NA	410 U	NA	NA	NA	350 U
Hexachlorobutadiene	NA	NA	410 U	NA	NA	NA	350 U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	B-2	B-7	SB-1	SB-2	SB-3	SB-4	SB-7
Sample Depth	0-0.5'	0-0.5'	0-2'	0-2'	0-2'	0-2'	0-0.25'
Date Collected	10/3/94	10/3/94	5/19/94	5/17/94	5/18/94	5/18/94	5/26/94
4-Chloro-3-methylphenol	NA	NA	410 U	NA	NA	NA	350 U
2-Methylnaphthalene	NA	NA	410 U	NA	NA	NA	350 U
Hexachlorocyclopentadiene	NA	NA	410 UJ	NA	NA	NA	350 UJ
2,4,6-Trichlorophenol	NA	NA	410 U	NA	NA	NA	350 U
2,4,5-Trichlorophenol	NA	NA	1,000 U	NA	NA	NA	870 U
2-Chloronaphthalene	NA	NA	410 U	NA	NA	NA	350 U
2-Nitroaniline	NA	NA	1,000 UJ	NA	NA	NA	870 U
Dimethylphthalate	NA	NA	410 U	NA	NA	NA	350 U
Acenaphthylene	NA	NA	410 U	NA	NA	NA	350 U
2,6-Dinitrotoluene	NA	NA	410 U	NA	NA	NA	350 U
3-Nitroaniline	NA	NA	1,000 U	NA	NA	NA	870 U
Acenaphthene	NA	NA	410 U	NA	NA	NA	350 U
2,4-Dinitrophenol	NA	NA	1,000 U	NA	NA	NA	870 UJ
4-Nitrophenol	NA	NA	1,000 U	NA	NA	NA	870 U
Dibenzofuran	NA	NA	410 U	NA	NA	NA	350 U
2,4-Dinitrotoluene	NA	NA	410 U	NA	NA	NA	350 U
Diethylphthalate	NA	NA	410 U	NA	NA	NA	350 U
4-Chlorophenyl-phenylether	NA	NA	410 U	NA	NA	NA	350 U
Fluorene	NA	NA	410 U	NA	NA	NA	350 U
4-Nitroaniline	NA	NA	1,000 U	NA	NA	NA	870 U
4,6-Dinitro-2-methyphenol	NA	NA	1,000 U	NA	NA	NA	870 UJ
N-Nitrosodiphenylamine (1)	NA	NA	410 U	NA	NA	NA	350 U
4-Bromophenyl-phenylether	NA	NA	410 U	NA	NA	NA	350 U
Hexachlorobenzene	NA	NA	410 U	NA	NA	NA	350 U
Pentachlorophenol	NA	NA	1,000 U	NA	NA	NA	870 U
Phenanthrene	NA	NA	110 J	NA	NA	NA	350 U
Anthracene	NA	NA	410 U	NA	NA	NA	350 U
Carbazole	NA	NA	410 U	NA	NA	NA	350 U
Di-n-butylphthalate	NA	NA	410 U	NA	NA	NA	350 U
Fluoranthene	NA	NA	150 J	NA	NA	NA	350 U
Pyrene	NA	NA	140 J	NA	NA	NA	350 U
Butylbenzylphthalate	NA	NA	410 U	NA	NA	NA	350 U
3,3-Dichlorobenzidine	NA	NA	410 U	NA	NA	NA	350 U
Benzo(a)anthracene	NA	NA	70 J	NA	NA	NA	350 U
Chrysene	NA	NA	88 J	NA	NA	NA	350 U
Bis(2-ethylhexyl)phthalate	NA	NA	41 J	NA	NA	NA	350 U
Di-n-octylphthalate	NA	NA	410 U	NA	NA	NA	350 U
Benzo(b)fluoranthene	NA	NA	76 J	NA	NA	NA	350 U
Benzo(k)fluoranthene	NA	NA	61 J	NA	NA	NA	350 U
Benzo(a)pyrene	NA	NA	63 J	NA	NA	NA	350 U
Indeno(1,2,3-cd)pyrene	NA	NA	40 J	NA	NA	NA	350 U
Dibenzo(a,h)anthracene	NA	NA	410 U	NA	NA	NA	350 U
Benzo(g,h,i)perylene	NA	NA	45 J	NA	NA	NA	350 U
TCL Volatile Organic Compounds (ppb)							
Chloromethane	NA	NA	12 UJ	NA	NA	NA	10 U
Bromomethane	NA	NA	12 U	NA	NA	NA	10 U
Vinyl chloride	NA	NA	12 UJ	NA	NA	NA	10 U
Chloroethane	NA	NA	12 U	NA	NA	NA	10 U
Methylene chloride	NA	NA	12 U	NA	NA	NA	10 U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	B-2	B-7	SB-1	SB-2	SB-3	SB-4	SB-7
Sample Depth	0-0.5'	0-0.5'	0-2'	0-2'	0-2'	0-2'	0-0.25'
Date Collected	10/3/94	10/3/94	5/19/94	5/17/94	5/18/94	5/18/94	5/26/94
Acetone	NA	NA	12 U	NA	NA	NA	10 U
Carbon Disulfide	NA	NA	12 U	NA	NA	NA	10 U
1,1-Dichloroethene	NA	NA	12 U	NA	NA	NA	10 U
1,1-Dichloroethane	NA	NA	12 U	NA	NA	NA	10 U
1,2-Dichloroethene (Total)	NA	NA	12 U	NA	NA	NA	10 U
Chloroform	NA	NA	12 U	NA	NA	NA	10 U
1,2-Dichloroethane	NA	NA	12 U	NA	NA	NA	10 U
2-Butanone	NA	NA	12 U	NA	NA	NA	10 U
1,1,1-Trichloroethane	NA	NA	12 U	NA	NA	NA	10 U
Carbon tetrachloride	NA	NA	12 U	NA	NA	NA	10 U
Bromodichloromethane	NA	NA	12 U	NA	NA	NA	10 U
1,2-Dichloropropane	NA	NA	12 U	NA	NA	NA	10 U
cis-1,3-Dichloropropene	NA	NA	12 U	NA	NA	NA	10 U
Trichloroethene	NA	NA	12 U	NA	NA	NA	10 U
Dibromochloromethane	NA	NA	12 U	NA	NA	NA	10 U
1,1,2-Trichloroethane	NA	NA	12 U	NA	NA	NA	10 U
Benzene	NA	NA	12 U	NA	NA	NA	10 U
trans-1,3-Dichloropropene	NA	NA	12 U	NA	NA	NA	10 U
Bromoform	NA	NA	12 U	NA	NA	NA	10 U
4-Methyl-2-pentanone	NA	NA	12 U	NA	NA	NA	10 U
2-Hexanone	NA	NA	12 U	NA	NA	NA	10 U
Tetrachloroethene	NA	NA	12 U	NA	NA	NA	10 U
1,1,2,2-Tetrachloroethane	NA	NA	12 U	NA	NA	NA	10 U
Toluene	NA	NA	12 U	NA	NA	NA	10 U
Chlorobenzene	NA	NA	12 U	NA	NA	NA	10 U
Ethylbenzene	NA	NA	12 U	NA	NA	NA	10 U
Styrene	NA	NA	12 U	NA	NA	NA	10 U
Xylene (Total)	NA	NA	12 U	NA	NA	NA	10 U
Pesticides/PCBs (ppb)							
alpha-BHC	NA	NA	2 U	NA	NA	NA	1.7 U
beta-BHC	NA	NA	2 U	NA	NA	NA	1.7 U
delta-BHC	NA	NA	2 UJ	NA	NA	NA	1.7 UJ
gamma-BHC (Lindane)	NA	NA	2 U	NA	NA	NA	1.7 U
Heptachlor	NA	NA	2 U	NA	NA	NA	1.7 U
Aldrin	NA	NA	2 U	NA	NA	NA	1.7 U
Heptachlor epoxide	NA	NA	2 U	NA	NA	NA	1.7 U
Endosulfan I	NA	NA	2 UJ	NA	NA	NA	1.7 UJ
Dieldrin	NA	NA	4.1 U	NA	NA	NA	3.5 U
4,4'-DDE	NA	NA	4.1 U	NA	NA	NA	3.5 U
Endrin	NA	NA	4.1 U	NA	NA	NA	3.5 U
Endosulfan II	NA	NA	4.1 U	NA	NA	NA	3.5 U
4,4'-DDD	NA	NA	4.1 U	NA	NA	NA	3.5 U
Endosulfan sulfate	NA	NA	4.1 U	NA	NA	NA	3.5 U
4,4'-DDT	NA	NA	4.1 U	NA	NA	NA	3.5 U
Methoxychlor	NA	NA	2 U	NA	NA	NA	17 U
Endrin ketone	NA	NA	4.1 U	NA	NA	NA	3.5 U
Endrin aldehyde	NA	NA	4.1 U	NA	NA	NA	3.5 U
alpha-Chlordane	NA	NA	2 U	NA	NA	NA	1.7 U
gamma-Chlordane	NA	NA	2 U	NA	NA	NA	1.7 U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	B-2	B-7	SB-1	SB-2	SB-3	SB-4	SB-7
Sample Depth	0-0.5'	0-0.5'	0-2'	0-2'	0-2'	0-2'	0-0.25'
Date Collected	10/3/94	10/3/94	5/19/94	5/17/94	5/18/94	5/18/94	5/26/94
Toxaphene	NA	NA	200 U	NA	NA	NA	170 U
Aroclor 1016	NA	NA	41 U	NA	NA	NA	35 U
Aroclor 1221	NA	NA	81 U	NA	NA	NA	69 U
Aroclor 1232	NA	NA	41 U	NA	NA	NA	35 U
Aroclor 1242	NA	NA	41 U	NA	NA	NA	35 U
Aroclor 1248	NA	NA	41 U	NA	NA	NA	35 U
Aroclor 1254	NA	NA	41 U	NA	NA	NA	35 U
Aroclor 1260	NA	NA	41 U	NA	NA	NA	35 U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	SB-8	SB-9	SB-9R	SB-10	SB-11	SB-12	SB-13
Sample Depth	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'
Date Collected	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94
TAL Inorganics & Cyanide (ppm)							
Aluminum	849	587	436	779	2,120	3,310	1,250
Antimony	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
Arsenic	0.4 UJ	0.4 UJ	0.4 UJ	0.4 UJ	1.3 J	2.4 J	0.73 J
Barium	8 B	12.8 B	6.5 B	66.5	32.9 B	696	379
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.6 U	0.6 U	0.6 U	0.77 B	2.2	0.77 B	2
Calcium	135 U	168 B	99.6 U	120 U	367 B	449 B	468 B
Chromium	2.8	6.5	6.4	3.7	5.3	8	3.1
Cobalt	0.4 U	0.4 U	0.4 U	0.72 B	0.93 B	1.7 B	0.53 B
Copper	25.2 J	36.1 J	22.3 J	54.5 J	98.4 J	496 J	41.1 J
Cyanide	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U
Iron	1,380	1,000	726	1,430	3,300	4,360	1,620
Lead	5.4 U	5.2 U	4.4 U	4.6 U	18.4	23.5	4.4 U
Magnesium	151 B	127 B	81.4 B	130 B	372 B	617 B	348 B
Manganese	14.2	6.9	5.5	18.4	44.6	51.3	21.5
Mercury	0.4 U	0.4 U	0.14	0.16	0.15	0.2	0.18
Nickel	2.6 B	2 B	2.4 U	2.4 U	5.6 B	6.3 B	2.6 B
Potassium	342.4 U	342.4 U	342.4 U	350 B	335 B	342.4 U	342.4 U
Selenium	0.2 U	0.38 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Silver	193	244	265	244	232	282	234
Sodium	22.6 U	29.6 U	29.5 U	20.5 U	29.4 U	26.9 U	24.6 U
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	3 B	2.1 B	1.6 B	3.4 B	8.4 B	10.2 B	4.2 B
Zinc	7.2 U	6.7 U	4.7 U	5.7 U	25.3	69	15.7
TCL Semi-Volatile Organic Com ounds (ppb)							
Phenol	350 UJ	360 UJ	370 UJ	350 UJ	370 UJ	390 UJ	350 UJ
Bis(2-chloroethyl)ether	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2-Chlorophenol	350 UJ	360 UJ	370 UJ	350 UJ	370 UJ	390 UJ	350 UJ
1,3-Dichlorobenzene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
1,4-Dichlorobenzene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
1,2-Dichlorobenzene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2-Methylphenol	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2,2-Oxybis(chloropropane)	350 U	360 U	370 U	350 U	370 U	390 U	350 U
4-Methylphenol	350 U	360 U	370 U	350 U	370 U	390 U	350 U
N-Nitroso-di-n-propylamine	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Hexachloroethane	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Nitrobenzene	350 UJ	360 UJ	370 UJ	350 UJ	370 UJ	390 UJ	350 UJ
Isophorone	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2-Nitrophenol	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2,4-Dimethylphenol	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Bis(2-chloroethoxy)methane	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2,4-Dichlorophenol	350 U	360 U	370 U	350 U	370 U	390 U	350 U
1,2,4-Trichlorbenzene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Naphthalene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
4-Chloroaniline	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Hexachlorobutadiene	350 U	360 U	370 U	350 U	370 U	390 U	350 U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	SB-8	SB-9	SB-9R	SB-10	SB-11	SB-12	SB-13
Sample Depth	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'
Date Collected	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94
4-Chloro-3-methylphenol	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2-Methylnaphthalene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Hexachlorocyclopentadiene	350 UJ	360 UJ	370 UJ	350 UJ	370 UJ	390 UJ	350 UJ
2,4,6-Trichlorophenol	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2,4,5-Trichlorophenol	890 U	910 U	930 U	870 U	930 U	970 U	880 U
2-Chloronaphthalene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2-Nitroaniline	890 U	910 U	930 U	870 U	930 U	970 U	880 U
Dimethylphthalate	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Acenaphthylene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2,6-Dinitrotoluene	890 U	360 U	370 U	350 U	370 U	390 U	350 U
3-Nitroaniline	890 U	910 U	930 U	870 U	930 U	970 U	880 U
Acenaphthene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2,4-Dinitrophenol	890 UJ	910 UJ	930 UJ	870 UJ	930 UJ	970 UJ	880 UJ
4-Nitrophenol	890 U	910 U	930 U	870 U	930 U	970 U	880 U
Dibenzofuran	350 U	360 U	370 U	350 U	370 U	390 U	350 U
2,4-Dinitrotoluene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Diethylphthalate	350 U	360 U	370 U	350 U	370 U	390 U	350 U
4-Chlorophenyl-phenylether	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Fluorene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
4-Nitroaniline	890 U	910 U	930 U	870 U	930 U	970 U	880 U
4,6-Dinitro-2-methyphenol	890 UJ	910 UJ	930 UJ	870 UJ	930 UJ	970 U	880 UJ
N-Nitrosodiphenylamine (1)	350 U	360 U	370 U	350 U	370 U	390 U	350 U
4-Bromophenyl-phenylether	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Hexachlorobenzene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Pentachlorophenol	890 U	910 U	930 U	870 U	930 U	970 U	880 U
Phenanthrene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Anthracene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Carbazole	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Di-n-butylphthalate	41 J	38 J	370 U	350 U	370 U	390 U	35 J
Fluoranthene	350 U	360 U	370 U	350 U	43 J	24 J	350 U
Pyrene	350 U	360 U	370 U	350 U	44 J	23 J	350 U
Butylbenzylphthalate	350 U	360 U	370 U	350 U	370 U	390 U	350 U
3,3-Dichlorobenzidine	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Benzo(a)anthracene	350 U	360 U	370 U	350 U	24 J	390 U	350 U
Chrysene	350 U	360 U	370 U	350 U	30 J	390 U	350 U
Bis(2-ethylhexyl)phthalate	350 U	360 U	370 U	350 U	370 U	31 J	350 U
Di-n-octylphthalate	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Benzo(b)fluoranthene	350 U	360 U	370 U	350 U	30 J	390 U	350 U
Benzo(k)fluoranthene	350 U	360 U	370 U	350 U	36 J	390 U	350 U
Benzo(a)pyrene	350 U	360 U	370 U	350 U	25 J	390 U	350 U
Indeno(1,2,3-cd)pyrene	350 U	360 U	370 U	350 U	26 J	390 U	350 U
Dibenzo(a,h)anthracene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
Benzo(g,h,i)perylene	350 U	360 U	370 U	350 U	370 U	390 U	350 U
TCL Volatile Organic Compounds (ppb)							
Chloromethane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Bromomethane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Vinyl chloride	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Chloroethane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Methylene chloride	11 U	11 U	10 U	11 U	11 U	12 U	11 U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	SB-8	SB-9	SB-9R	SB-10	SB-11	SB-12	SB-13
Sample Depth	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'
Date Collected	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94
Acetone	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Carbon Disulfide	11 U	11 U	10 U	11 U	11 U	12 U	11 U
1,1-Dichloroethene	11 U	11 U	10 U	11 U	11 U	12 U	11 U
1,1-Dichloroethane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
1,2-Dichloroethene (Total)	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Chloroform	11 U	11 U	10 U	11 U	11 U	12 U	11 U
1,2-Dichloroethane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
2-Butanone	11 U	11 U	10 U	11 U	11 U	12 U	11 U
1,1,1-Trichloroethane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Carbon tetrachloride	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Bromodichloromethane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
1,2-Dichloropropane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
cis-1,3-Dichloropropene	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Trichloroethene	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Dibromochloromethane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
1,1,2-Trichloroethane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Benzene	11 U	11 U	10 U	11 U	11 U	12 U	11 U
trans-1,3-Dichloropropene	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Bromoform	11 U	11 U	10 U	11 U	11 U	12 U	11 U
4-Methyl-2-pentanone	11 U	11 U	10 U	11 U	11 U	12 U	11 U
2-Hexanone	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Tetrachloroethene	11 U	11 U	10 U	11 U	11 U	12 U	11 U
1,1,2,2-Tetrachloroethane	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Toluene	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Chlorobenzene	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Ethylbenzene	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Styrene	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Xylene (Total)	11 U	11 U	10 U	11 U	11 U	12 U	11 U
Pesticides/PCBs (ppb)							
alpha-BHC	1.8 U	1.8 U	1.9 U	1.7 U	1.9 U	1.9 U	1.8 U
beta-BHC	1.8 U	1.8 U	1.9 U	1.7 U	1.9 U	1.9 U	1.8 U
delta-BHC	1.8 UJ	1.8 UJ	1.9 UJ	1.7 UJ	1.9 UJ	1.9 UJ	1.8 UJ
gamma-BHC (Lindane)	1.8 U	1.8 U	1.9 U	1.7 U	1.9 U	1.9 U	1.8 U
Heptachlor	1.8 U	1.8 U	1.9 U	1.7 U	1.9 U	1.9 U	1.8 U
Aldrin	1.8 U	1.8 U	1.9 U	1.7 U	1.9 U	1.9 U	1.8 U
Heptachlor epoxide	1.8 U	1.8 U	1.9 U	1.7 U	1.9 U	1.9 U	1.8 U
Endosulfan I	1.8 UJ	1.8 UJ	1.9 UJ	1.7 UJ	1.9 UJ	1.9 UJ	1.8 UJ
Dieldrin	3.5 U	1.8 U	3.7 U	3.5 U	3.7 U	3.9 U	3.5 U
4,4'-DDE	3.5 U	3.6 U	3.7 U	3.5 U	3.7 U	3.9 U	3.5 U
Endrin	3.5 U	3.6 U	3.7 U	3.5 U	3.7 U	3.9 U	3.5 U
Endosulfan II	3.5 U	3.6 U	3.7 U	3.5 U	3.7 U	3.9 U	3.5 U
4,4'-DDD	3.5 U	3.6 U	3.7 U	3.5 U	3.7 U	3.9 U	3.5 U
Endosulfan sulfate	3.5 U	3.6 U	3.7 U	3.5 U	3.7 U	3.9 U	3.5 U
4,4'-DDT	3.5 U	18 U	3.7 U	3.5 U	3.7 U	3.9 U	3.5 U
Methoxychlor	18 U	3.6 U	19 U	17 U	19 UJ	19 UJ	18 U
Endrin ketone	3.5 U	3.6 U	3.7 U	3.5 U	3.7 U	3.9 U	3.5 U
Endrin aldehyde	3.5 U	3.6 U	3.7 U	3.5 U	3.7 U	3.9 U	3.5 U
alpha-Chlordane	1.8 U	1.8 U	1.9 U	1.7 U	1.9 U	1.9 U	1.8 U
gamma-Chlordane	1.8 U	1.8 U	1.9 U	1.7 U	1.9 U	1.9 U	1.8 U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	SB-8	SB-9	SB-9R	SB-10	SB-11	SB-12	SB-13
Sample Depth	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'	0-0.25'
Date Collected	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94	5/26/94
Toxaphene	180 U	180 U	190 U	170 U	190 U	190 U	180 U
Aroclor 1016	35 U	36 U	37 U	35 U	37 U	39 U	35 U
Aroclor 1221	71 U	72 U	74 U	69 U	74 U	78 U	70 U
Aroclor 1232	35 U	36 U	37 U	35 U	37 U	39 U	35 U
Aroclor 1242	35 U	36 U	37 U	35 U	37 U	39 U	35 U
Aroclor 1248	35 U	36 U	37 U	35 U	37 U	39 U	35 U
Aroclor 1254	35 U	36 U	37 U	35 U	37 U	39 U	35 U
Aroclor 1260	35 U	36 U	37 U	35 U	37 U	39 U	35 U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils		Background
Sample Number	SB-20	SB-20R	SB-16
Sample Depth	0.5-2.5'	0.5-2.5'	5-7'
Date Collected	8/4/94	8/4/94	6/21/94
TAL Inorganics & Cyanide (ppm)			
Aluminum	1,890	2,120	8,990
Antimony	2.4 U	3 U	3.1 U
Arsenic	0.63 J	1.6 J	1.6 B
Barium	6.6 B	5.9 B	26.1 B
Beryllium	0.21 U	0.22 U	0.32 B
Cadmium	0.63 UJ	0.63 UJ	0.7 U
Calcium	261 B	766 B	280 U
Chromium	3.3 J	2.8 J	8.5
Cobalt	18.7	24.8	2.1 B
Copper	4 B	4.9 B	2.5 B
Cyanide	0.11 U	0.11 U	1.1 U
Iron	2,990	3,090	8,410
Lead	2.6 J	5.8 J	3
Magnesium	339 B	363 B	960 B
Manganese	48.1	50.7	77
Mercury	0.13 U	0.13 U	0.1 U
Nickel	1.7 U	3.1 B	5.2 B
Potassium	380 B	262 U	509 B
Selenium	0.4 U	0.4 U	0.4 UJ
Silver	9.3	11.3	0.4 U
Sodium	35.3 U	36.2 U	22.8 U
Thallium	0.63 U	0.65 U	0.7 U
Vanadium	4.9 J	5.3 J	15
Zinc	8.2 J	25.9 J	13.2 U
TCL Semi-Volatile Organic Compounds (ppb)			
Phenol	NA	NA	530 U
Bis(2-chloroethyl)ether	NA	NA	360 U
2-Chlorophenol	NA	NA	360 U
1,3-Dichlorobenzene	NA	NA	360 U
1,4-Dichlorobenzene	NA	NA	360 U
1,2-Dichlorobenzene	NA	NA	360 U
2-Methylphenol	NA	NA	360 U
2,2-Oxybis(chloropropane)	NA	NA	360 U
4-Methylphenol	NA	NA	360 U
N-Nitroso-di-n-propylamine	NA	NA	360 U
Hexachloroethane	NA	NA	360 U
Nitrobenzene	NA	NA	360 U
Isophorone	NA	NA	360 U
2-Nitrophenol	NA	NA	360 U
2,4-Dimethylphenol	NA	NA	360 U
Bis(2-chloroethoxy)methane	NA	NA	360 U
2,4-Dichlorophenol	NA	NA	360 U
1,2,4-Trichlorbenzene	NA	NA	360 U
Naphthalene	NA	NA	360 U
4-Chloroaniline	NA	NA	360 U
Hexachlorobutadiene	NA	NA	360 U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils		Background	
Sample Number	SB-20	SB-20R	SB-16	
Sample Depth	0.5-2.5'	0.5-2.5'	5-7'	
Date Collected	8/4/94	8/4/94	6/21/94	
4-Chloro-3-methylphenol	NA	NA	360	U
2-Methylnaphthalene	NA	NA	360	U
Hexachlorocyclopentadiene	NA	NA	360	U
2,4,6-Trichlorophenol	NA	NA	360	U
2,4,5-Trichlorophenol	NA	NA	910	U
2-Chloronaphthalene	NA	NA	360	U
2-Nitroaniline	NA	NA	910	U
Dimethylphthalate	NA	NA	360	U
Acenaphthylene	NA	NA	360	U
2,6-Dinitrotoluene	NA	NA	360	U
3-Nitroaniline	NA	NA	910	U
Acenaphthene	NA	NA	360	U
2,4-Dinitrophenol	NA	NA	910	U
4-Nitrophenol	NA	NA	910	U
Dibenzofuran	NA	NA	360	U
2,4-Dinitrotoluene	NA	NA	360	U
Diethylphthalate	NA	NA	360	U
4-Chlorophenyl-phenylether	NA	NA	360	U
Fluorene	NA	NA	360	U
4-Nitroaniline	NA	NA	910	U
4,6-Dinitro-2-methyphenol	NA	NA	910	U
N-Nitrosodiphenylamine (1)	NA	NA	360	U
4-Bromophenyl-phenylether	NA	NA	360	U
Hexachlorobenzene	NA	NA	360	U
Pentachlorophenol	NA	NA	910	U
Phenanthrene	NA	NA	360	U
Anthracene	NA	NA	360	U
Carbazole	NA	NA	360	U
Di-n-butylphthalate	NA	NA	360	U
Fluoranthene	NA	NA	360	U
Pyrene	NA	NA	360	U
Butylbenzylphthalate	NA	NA	360	U
3,3-Dichlorobenzidine	NA	NA	360	U
Benzo(a)anthracene	NA	NA	360	U
Chrysene	NA	NA	360	U
Bis(2-ethylhexyl)phthalate	NA	NA	360	U
Di-n-octylphthalate	NA	NA	360	U
Benzo(b)fluoranthene	NA	NA	360	U
Benzo(k)fluoranthene	NA	NA	360	U
Benzo(a)pyrene	NA	NA	360	U
Indeno(1,2,3-cd)pyrene	NA	NA	360	U
Dibenzo(a,h)anthracene	NA	NA	360	U
Benzo(g,h,i)perylene	NA	NA	360	U
TCL Volatile Organic Compounds (ppb)				
Chloromethane	NA	NA	11	U
Bromomethane	NA	NA	11	U
Vinyl chloride	NA	NA	11	U
Chloroethane	NA	NA	11	U
Methylene chloride	NA	NA	11	U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils		Background	
Sample Number	SB-20	SB-20R	SB-16	
Sample Depth	0.5-2.5'	0.5-2.5'	5-7'	
Date Collected	8/4/94	8/4/94	6/21/94	
Acetone	NA	NA	11	U
Carbon Disulfide	NA	NA	11	U
1,1-Dichloroethene	NA	NA	11	U
1,1-Dichloroethane	NA	NA	11	U
1,2-Dichloroethene (Total)	NA	NA	11	U
Chloroform	NA	NA	11	U
1,2-Dichloroethane	NA	NA	11	U
2-Butanone	NA	NA	11	U
1,1,1-Trichloroethane	NA	NA	11	U
Carbon tetrachloride	NA	NA	11	U
Bromodichloromethane	NA	NA	11	U
1,2-Dichloropropane	NA	NA	11	U
cis-1,3-Dichloropropene	NA	NA	11	U
Trichloroethene	NA	NA	11	U
Dibromochloromethane	NA	NA	11	U
1,1,2-Trichloroethane	NA	NA	11	U
Benzene	NA	NA	11	U
trans-1,3-Dichloropropene	NA	NA	11	U
Bromoform	NA	NA	11	U
4-Methyl-2-pentanone	NA	NA	11	U
2-Hexanone	NA	NA	11	U
Tetrachloroethene	NA	NA	11	U
1,1,2,2-Tetrachloroethane	NA	NA	11	U
Toluene	NA	NA	11	U
Chlorobenzene	NA	NA	11	U
Ethylbenzene	NA	NA	11	U
Styrene	NA	NA	11	U
Xylene (Total)	NA	NA	11	U
Pesticides/PCBs (ppb)				
alpha-BHC	NA	NA	1.8	U
beta-BHC	NA	NA	1.8	U
delta-BHC	NA	NA	1.8	UJ
gamma-BHC (Lindane)	NA	NA	1.8	U
Heptachlor	NA	NA	1.8	U
Aldrin	NA	NA	1.8	U
Heptachlor epoxide	NA	NA	1.8	U
Endosulfan I	NA	NA	1.8	UJ
Dieldrin	NA	NA	1.8	U
4,4'-DDE	NA	NA	3.6	U
Endrin	NA	NA	3.6	U
Endosulfan II	NA	NA	3.6	U
4,4'-DDD	NA	NA	3.6	U
Endosulfan sulfate	NA	NA	3.6	U
4,4'-DDT	NA	NA	18	U
Methoxychlor	NA	NA	3.6	UJ
Endrin ketone	NA	NA	3.6	U
Endrin aldehyde	NA	NA	3.6	U
alpha-Chlordane	NA	NA	1.8	U
gamma-Chlordane	NA	NA	1.8	U

Table A-2A (continued)
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils		Background
Sample Number	SB-20	SB-20R	SB-16
Sample Depth	0.5-2.5'	0.5-2.5'	5-7'
Date Collected	8/4/94	8/4/94	6/21/94
Toxaphene	NA	NA	180 U
Aroclor 1016	NA	NA	36 U
Aroclor 1221	NA	NA	72 U
Aroclor 1232	NA	NA	36 U
Aroclor 1242	NA	NA	36 U
Aroclor 1248	NA	NA	36 U
Aroclor 1254	NA	NA	36 U
Aroclor 1260	NA	NA	36 U

Table A-2A
Phase 1 RI On-Site Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

Notes:

TAL = Target Analyte List Metals
TCL = Target Compound List Organics

Validation Qualifiers for Inorganics:

U	-	Analyzed for but not detected at or above the CRQL, or the compound is not detected due to qualification through the method or field blank.
B	-	Reported value is between IDL and CRDL.
J	-	Reported value is an estimate due to variance from quality control limits.
UJ	-	The compound was analyzed for, but not detected.
R	-	Reported value is unusable and rejected due to variance from quality control limits.
NA	-	Not analyzed.

Validation Qualifiers for Organics:

U	-	Analyzed for but not detected at or above the CRQL, or the compound is not detected due to qualification through the method or field blank.
B	-	Analyte was found in the associated blank as well as the sample.
J	-	Reported value is an estimated quantity.
UJ	-	The compound was analyzed for, but not detected.
E	-	Reported value is estimated due to quantitation above the calibration range.
D	-	Reported result taken from diluted sample analysis.
R	-	Reported value is unusable and rejected due to variance from quality control limits.
NA	-	Not analyzed.

Table A-2B
Phase 2 RI On-Site Surface Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	B-2-1S	B-2-1D	B-2-2S	B-2-2D	B-2-3S	B-2-3D	B-2-4S
Sample Depth	0-0.2'	2.0-2.5'	0-0.2'	2.0-2.5'	0-0.2'	2.0-2.5'	0-0.2'
Date Collected	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96
TAL Inorganics (ppm)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	3.1	0.39 B	6.9	0.23 U	2	0.23 U	5.5
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	43	2.0 B	236	0.23 B	27.3	0.23 U	154
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA

Table A-2B (continued)
Phase 2 RI On-Site Surface Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	B-2-4D	B-2-5S	B-2-5S (DUP)	B-2-5D	B-2-6S	B-2-6D	B-2-7S
Sample Depth	2.0-2.5'	0-0.2'	0-0.2'	2.0-2.5'	0-0.2'	2.0-2.5'	0-0.2'
Date Collected	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96
TAL Inorganics (ppm)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.23 U	105	126	0.22 U	3.3	24.2	2.7
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	0.23 U	288	260	1.9 B	99	247	107
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA

Table A-2B (continued)
Phase 2 RI On-Site Surface Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	B-2-7D	B-2-8S	B-2-8D	B-2-9S	B-2-9D	B-2-10S	B-2-10D
Sample Depth	2.0-2.5'	0-0.2'	2.0-2.5'	0-0.2'	2.0-2.5'	0-0.2'	2.0-2.5'
Date Collected	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96
TAL Inorganics (ppm)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	1.4	2.8	0.97 B	6.1	0.22 U	2.6	0.22 U
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	0.29 B	88.8	290	157	0.22 U	222	0.22 U
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA

Table A-2B (continued)
Phase 2 RI On-Site Surface Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	B-2-10D (DUP)	B-2-11S	B-2-11D	B-2-12S	B-2-12D	B-2-13S	B-2-13D
Sample Depth	2.0-2.5'	0-0.2'	2.0-2.5'	0-0.2'	2.0-2.5'	0-0.2'	2.0-2.5'
Date Collected	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96
TAL Inorganics (ppm)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.23 U	2.1	0.22 U	1.8	0.22 U	2.2	0.22 U
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	0.23 U	129	0.22 U	93.3	0.22 U	448	0.22 U
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA

Table A-2B (continued)
Phase 2 RI On-Site Surface Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils						
Sample Number	B-2-14S	B-2-14D	B-2-15S	B-2-15D	B-2-16S	B-2-16D	B-2-17S
Sample Depth	0-0.2'	2.0-2.5'	0-0.2'	2.0-2.5'	0-0.2'	2.0-2.5'	0-0.2'
Date Collected	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96	9/5/96
TAL Inorganics (ppm)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	1.5	1.2	0.52 B	0.22 U	3.5	0.22 U	4.3
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	90.8	375	398	0.22 U	223	9.5	239
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA

Table A-2B (continued)
Phase 2 RI On-Site Surface Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	On-Site Soils		Background Soils				
Sample Number	B-2-17D	B-2-18S	H1	H2	H3	K1	K2
Sample Depth	2.0-2.5'	0-0.2'	0-0.2'	0-0.2'	0-0.2'	0-0.2'	0-0.2'
Date Collected	9/5/96	9/5/96	7/22/96	7/22/96	7/22/96	7/22/96	7/22/96
TAL Inorganics (ppm)							
Aluminum	NA	NA	791	5,040	2,140	7,990	7,070
Antimony	NA	NA	0.28 U	0.31 U	0.31 U	0.35 B	0.32 U
Arsenic	NA	NA	0.70 B	2.0	1.5	3.3	3.7
Barium	NA	NA	3.6 B	7.7 B	5.5 B	16.1 B	19.4 B
Beryllium	NA	NA	0.06 B	0.17 B	0.06 B	0.23 B	0.25 B
Cadmium	0.22 U	2.4	0.55	0.04 B	0.03 B	0.38 B	0.08 B
Calcium	NA	NA	465 B	113 B	70.7 B	428 B	1,220
Chromium	NA	NA	2.2	6.0	2.5	9.1	9.2
Cobalt	NA	NA	0.87 B	1.0 B	0.39 B	1.7 B	2.3 B
Copper	NA	NA	5.3	5.4	2.3 B	15.6	8.7
Iron	NA	NA	1,710	5,790	2,950	9,510	7,560
Lead	NA	NA	3.8	26.4	11.7	21.6	17.6
Magnesium	NA	NA	253 B	435 B	147 B	789	936
Manganese	NA	NA	53.4	23.5	8.7	36.4	89.5
Mercury	NA	NA	0.05 U	0.06 B	0.05 U	0.06 B	0.07 B
Nickel	NA	NA	1.8 B	3.2 B	1.1 B	5.6	5.3
Potassium	NA	NA	59.6 B	211 B	89.7 B	183 B	349 B
Selenium	NA	NA	0.14 U	0.16 U	0.18 B	0.45 B	0.26 B
Silver	0.22 U	29.9	72.1	15.8	0.54 B	0.70 B	16.2
Sodium	NA	NA	20.6 B	26.4 B	20.9 B	39.0 B	32.4 B
Thallium	NA	NA	0.20 U	0.22 U	0.22 U	0.24 U	0.23 U
Vanadium	NA	NA	3.5 B	21.9	10.2	20.5	17.1
Zinc	NA	NA	15.5 E	11.5 E	6.1 E	22.8 E	25.6 E

Table A-2B (continued)
Phase 2 RI On-Site Surface Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Background Soils		
Sample Number	M1	M2	M3
Sample Depth	0-0.2'	0-0.2'	0-0.2'
Date Collected	7/22/96	7/22/96	7/22/96
TAL Inorganics (ppm)			
Aluminum	5,490	4,880	5,870
Antimony	0.31 U	0.34 B	0.31 U
Arsenic	3.3	1.6	2.0
Barium	15.2 B	11.9 B	12.2 B
Beryllium	0.24 B	0.19 B	0.24 B
Cadmium	0.12 B	0.12 B	0.11 B
Calcium	1,000	1,650	631
Chromium	7.4	9.2	9.1
Cobalt	1.7 B	1.1 B	1.5 B
Copper	4.6	4.2	4.3
Iron	5,540	5,040	7,120
Lead	11.6	11.0	11.2
Magnesium	814	769	652
Manganese	64.7	48.7	62.0
Mercury	0.05 U	0.05 U	0.05 U
Nickel	3.9 B	3.3 B	3.8 B
Potassium	205 B	177 B	269 B
Selenium	0.16 U	0.26 B	0.21 B
Silver	0.09 B	0.32 B	0.33 B
Sodium	32.3 B	30.8 B	59.1 B
Thallium	0.22 U	0.21 U	0.22 U
Vanadium	12.1	12.4	14.4
Zinc	18.1 E	15.2 E	15.4 E

Table A-2B (continued)
Phase 2 RI On-Site Surface Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

Notes:

TAL = Target Analyte List Metals

Validation Qualifiers for Inorganics

U	-	Analyzed for but not detected at or above the CRQL, or the compound is not detected due to qualification through the method or field blank
B	-	Reported value is between IDL and CRDL
E	-	Reported value is estimated due to quantitation above the calibration range.
J	-	Reported value is an estimate due to variance from quality control limits
UJ	-	The compound was analyzed for, but not detected.
R	-	Reported value is unusable and rejected due to variance from quality control limits.
NA	-	Not Analyzed.

Table A-3A
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	A-1	A-2	A-3	A-3R	A-4	A-5	A-6
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
TAL Inorganics & Cyanide (ppm)							
Aluminum	3,880	3,810	4,170	4,160	2,280	2,140	1,330
Antimony	3 UJ	2.6 U	2.9 U	2.6 U	2.8 U	2.7 U	2.6 U
Arsenic	1.8 B	1.6 B	2.2	1.4 B	1.8 B	2.1 B	1.8 B
Barium	26.7 B	9.2 B	88.3	51.6	4.8 B	4.7 B	3.2 B
Beryllium	0.3 U	0.22 U	0.21 U	0.22 U	0.23 U	0.23 U	0.22 U
Cadmium	1 U	0.7 U	0.64 U	0.7 U	0.7 U	0.78 B	0.7 U
Calcium	1,250	168 U	200 U	216 U	196 U	106 U	140 U
Chromium	20.9	8.1	12.9	11.4	2.9	3.2	1.5 U
Cobalt	1.6 B	0.82 B	0.4 U	0.67 B	0.5 U	0.45 U	0.44 U
Copper	24.9	12.2	21.8	17.8	2.6 U	2.8 U	1.7 U
Cyanide	0.12 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U
Iron	6,260	3,980	4,450	4,630	3,890	3,800	1,620
Lead	29.3	17.7	21.4 J	13	15.2 J	13.6	10.6
Magnesium	651 B	635 B	605 B	655 B	180 B	174 B	107 B
Manganese	101	29.6	29.8	35.5	11	8	4.9
Mercury	0.2 UJ	0.13 U	0.18	0.2	0.14 U	0.14 U	0.13 U
Nickel	3.4 B	2.6 U	2.6 U	3.4 B	2.8 U	2.7 U	2.6 U
Potassium	424 U	376 U	367 U	412 B	400 U	488 B	375 U
Selenium	0.3 U	0.2 U	0.21 U	0.22 U	0.23 U	0.23 U	0.22 U
Silver	247	255	195	226	0.47 U	0.52 U	0.44 U
Sodium	31.4 U	32.3 U	21.3 U	23.8 U	42.3 U	53.9 U	27.3 U
Thallium	1.3 B	0.22 U	0.21 U	0.22 U	0.23 U	0.23 U	0.22 U
Vanadium	13.3	12.2	10.9	11.4	11.6 B	13.5	6.2 B
Zinc	42.2 J	16.2	12.3	11.8	19.9	11.6	8.6
TCL Semi-Volatile Organic Compounds (ppb)							
Phenol	NA	NA	360 U	370 U	NA	NA	NA
Bis(2-chloroethyl)ether	NA	NA	360 U	370 U	NA	NA	NA
2-Chlorophenol	NA	NA	360 U	370 U	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	360 U	370 U	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	360 U	370 U	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	360 U	370 U	NA	NA	NA
2-Methylphenol	NA	NA	360 U	370 U	NA	NA	NA
2,2-Oxybis(chloropropane)	NA	NA	360 U	370 U	NA	NA	NA
4-Methylphenol	NA	NA	360 U	370 U	NA	NA	NA
N-Nitroso-di-n-propylamine	NA	NA	360 U	370 U	NA	NA	NA
Hexachloroethane	NA	NA	360 U	370 U	NA	NA	NA
Nitrobenzene	NA	NA	360 U	370 U	NA	NA	NA
Isophorone	NA	NA	360 U	370 U	NA	NA	NA
2-Nitrophenol	NA	NA	360 U	370 U	NA	NA	NA
2,4-Dimethylphenol	NA	NA	360 U	370 U	NA	NA	NA
Bis(2-chloroethoxy)methane	NA	NA	360 U	370 U	NA	NA	NA
2,4-Dichlorophenol	NA	NA	360 U	370 U	NA	NA	NA
1,2,4-Trichlorbenzene	NA	NA	360 U	370 U	NA	NA	NA
Naphthalene	NA	NA	360 U	370 U	NA	NA	NA
4-Chloroaniline	NA	NA	360 U	370 U	NA	NA	NA
Hexachlorobutadiene	NA	NA	360 U	370 U	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	A-1	A-2	A-3	A-3R	A-4	A-5	A-6
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
4-Chloro-3-methylphenol	NA	NA	360 U	370 U	NA	NA	NA
2-Methylnaphthalene	NA	NA	360 U	370 U	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	360 UJ	370 U	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	360 U	370 U	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	900 U	920 U	NA	NA	NA
2-Chloronaphthalene	NA	NA	360 U	370 U	NA	NA	NA
2-Nitroaniline	NA	NA	900 U	920 U	NA	NA	NA
Dimethylphthalate	NA	NA	360 U	370 U	NA	NA	NA
Acenaphthylene	NA	NA	360 U	370 U	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	360 U	370 U	NA	NA	NA
3-Nitroaniline	NA	NA	900 U	920 U	NA	NA	NA
Acenaphthene	NA	NA	360 U	370 U	NA	NA	NA
2,4-Dinitrophenol	NA	NA	900 UJ	920 UJ	NA	NA	NA
4-Nitrophenol	NA	NA	900 U	920 U	NA	NA	NA
Dibenzofuran	NA	NA	360 U	370 U	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	360 U	370 U	NA	NA	NA
Diethylphthalate	NA	NA	360 U	370 U	NA	NA	NA
4-Chlorophenyl-phenylether	NA	NA	360 U	370 U	NA	NA	NA
Fluorene	NA	NA	360 U	370 U	NA	NA	NA
4-Nitroaniline	NA	NA	900 U	920 U	NA	NA	NA
4,6-Dinitro-2-methyphenol	NA	NA	900 U	920 U	NA	NA	NA
N-Nitrosodiphenylamine (1)	NA	NA	360 U	370 U	NA	NA	NA
4-Bromophenyl-phenylether	NA	NA	360 U	370 U	NA	NA	NA
Hexachlorobenzene	NA	NA	360 U	370 U	NA	NA	NA
Pentachlorophenol	NA	NA	900 U	920 U	NA	NA	NA
Phenanthrene	NA	NA	360 J	46 J	NA	NA	NA
Anthracene	NA	NA	360 U	370 U	NA	NA	NA
Carbazole	NA	NA	360 U	370 U	NA	NA	NA
Di-n-butylphthalate	NA	NA	360 U	370 U	NA	NA	NA
Fluoranthene	NA	NA	31 J	86 J	NA	NA	NA
Pyrene	NA	NA	29 J	83 J	NA	NA	NA
Butylbenzylphthalate	NA	NA	360 U	370 U	NA	NA	NA
3,3-Dichlorobenzidine	NA	NA	360 U	370 U	NA	NA	NA
Benzo(a)anthracene	NA	NA	360 U	40 J	NA	NA	NA
Chrysene	NA	NA	21 J	55 J	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	NA	31 J	58 J	NA	NA	NA
Di-n-octylphthalate	NA	NA	360 UJ	370 U	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	360 U	46 J	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	360 U	28 J	NA	NA	NA
Benzo(a)pyrene	NA	NA	360 U	30 J	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	360 U	30 J	NA	NA	NA
Dibenzo(a,h)anthracene	NA	NA	360 U	370 U	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	360 U	370 U	NA	NA	NA
TCL Volatile Organic Compounds (ppb)							
Chloromethane	NA	NA	NA	NA	NA	NA	NA
Bromomethane	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA
Chloroethane	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	A-1	A-2	A-3	A-3R	A-4	A-5	A-6
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
Acetone	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethene (Total)	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA
Bromoform	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA
Xylene (Total)	NA	NA	NA	NA	NA	NA	NA
Pesticides/PCBs (ppb)							
alpha-BHC	NA	NA	NA	NA	NA	NA	NA
beta-BHC	NA	NA	NA	NA	NA	NA	NA
delta-BHC	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	NA	NA	NA	NA	NA	NA	NA
Heptachlor	NA	NA	NA	NA	NA	NA	NA
Aldrin	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	NA	NA	NA	NA	NA	NA	NA
Dieldrin	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA
Endrin	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	A-1	A-2	A-3	A-3R	A-4	A-5	A-6
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
Toxaphene	NA	NA	NA	NA	NA	NA	NA
Aroclor 1016	NA	NA	NA	NA	NA	NA	NA
Aroclor 1221	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	B-1	B-3	B-4	B-5	B-5R	B-6	B-8
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
TAL Inorganics & Cyanide (ppm)							
Aluminum	5,870	6,100	5,080	4,630	4,670	6,780	8.480
Antimony	2.8 UJ	2.8 UJ	2.7 UJ	3.6 U	2.6 UJ	2.7 UJ	3.1 UJ
Arsenic	1.9 B	1.5 B	0.95 B	1.1 B	1.5 B	1.5 B	5.9
Barium	24.5 B	24.7 B	15.3 B	13.7 B	13.8 B	13.5 B	22.7 B
Beryllium	0.23 U	0.23 U	0.22 U	0.22 U	0.22 U	0.22 U	0.26 U
Cadmium	0.92 U	2.9 U	1.3 U	0.89 U	0.7 U	0.7 U	1.1 U
Calcium	1,890	551 B	310 B	189 U	190 U	210 U	1,460
Chromium	7	10.8	11.4	12.4	12.6	7.5	27.4
Cobalt	1.7 B	1.8 B	1.7 B	1.4 B	1.3 B	1.2 B	2.1 B
Copper	10.9	19.9	21.6	20.8	22.2	8.3	10
Cyanide	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.13 U
Iron	6,440	6,210	5,400	4,980	4,810	6,570	9,340
Lead	16.7 J	26.6	17.3	18	14.9 J	13.3 J	32.9
Magnesium	1,240	778 B	731 B	689 B	687 B	500 B	948 B
Manganese	60.1	61.7	45.6	38.4	33.7	27.8	91.7
Mercury	0.55 J	0.16 J	0.18 J	0.26 J	0.31 J	0.14 UJ	0.16 UJ
Nickel	6.2 B	3.9 B	2.7 U	2.6 U	2.6 B	3.7 B	4.5 B
Potassium	395 U	399 U	385 U	370 U	373 U	409 B	617 B
Selenium	0.37 B	0.37 B	0.28 B	0.2 U	0.24 B	3.4	0.75 B
Silver	136	246	169	239	5.7	95.4	1.6 U
Sodium	35.3 U	34.6 U	28.6 U	28.1 U	27 U	30.8 U	47.4 U
Thallium	0.33 B	0.25 B	0.22 U	1.2 B	0.29 B	0.22 U	0.26 U
Vanadium	15.4	15.7	12.2	10.7 B	11.4	14	22.1
Zinc	43.1 J	28.3 J	19.3	14.5	14.7	39.7 J	31.5 J
TCL Semi-Volatile Organic Compounds (ppb)							
Phenol	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2,2-Oxybis(chloropropane)	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorbenzene	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	B-1	B-3	B-4	B-5	B-5R	B-6	B-8
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methyphenol	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine (1)	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	NA	NA	NA	NA	NA
3,3-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octylphthalate	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
TCL Volatile Organic Compounds (ppb)							
Chloromethane	NA	NA	NA	NA	NA	NA	NA
Bromomethane	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA
Chloroethane	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	B-1	B-3	B-4	B-5	B-5R	B-6	B-8
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
Acetone	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethene (Total)	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA
Bromoform	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA
Xylene (Total)	NA	NA	NA	NA	NA	NA	NA
Pesticides/PCBs (ppb)							
alpha-BHC	NA	NA	NA	NA	NA	NA	NA
beta-BHC	NA	NA	NA	NA	NA	NA	NA
delta-BHC	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	NA	NA	NA	NA	NA	NA	NA
Heptachlor	NA	NA	NA	NA	NA	NA	NA
Aldrin	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	NA	NA	NA	NA	NA	NA	NA
Dieldrin	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA
Endrin	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	B-1	B-3	B-4	B-5	B-5R	B-6	B-8
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
Toxaphene	NA	NA	NA	NA	NA	NA	NA
Aroclor 1016	NA	NA	NA	NA	NA	NA	NA
Aroclor 1221	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	B-9	B-10	B-11	B-12	B-13	C-1	C-2
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
TAL Inorganics & Cyanide (ppm)							
Aluminum	9,780	10,000	8,680	14,100	6,080	NA	NA
Antimony	3 UJ	3.1 UJ	2.9 UJ	3.3 UJ	2.7 UJ	NA	NA
Arsenic	2.6	3.1	3.3	2.7	1.6 B	NA	NA
Barium	30.1 B	43.3 B	41.7 B	20.9 B	10.5 B	NA	NA
Beryllium	0.27 B	0.27 B	0.24 U	0.34 B	0.22 U	NA	NA
Cadmium	1.1 U	0.84 U	1.2 U	0.8 U	0.7 U	1.3 U	1.1 U
Calcium	2,010	3,150	3,000	243 B	315 B	NA	NA
Chromium	12.3	13.2	11.6	13.1	6.1	NA	NA
Cobalt	2.5 B	2.6 B	2.3 B	3 B	1.1 B	NA	NA
Copper	9.6	8.4	8.8	5.8 B	3.8 B	NA	NA
Cyanide	0.12 U	0.13 U	0.12 U	0.14 U	0.11 U	NA	NA
Iron	9,880	10,300	9,360	13,600	6,650	NA	NA
Lead	39.7	69	68.8	16.2 J	21.3	NA	NA
Magnesium	1,180 B	1,080 B	950 B	1,180 B	476 B	NA	NA
Manganese	149	288	289	79.9	55.4	NA	NA
Mercury	0.15 UJ	0.16 J	0.15 UJ	0.17 UJ	0.14 UJ	NA	NA
Nickel	7.3 B	7.7 B	6.9 B	5.8 B	2.9 B	NA	NA
Potassium	475 B	863 B	482 B	464 U	383 U	NA	NA
Selenium	0.43 B	0.52 B	0.57 B	0.48 B	0.25 B	NA	NA
Silver	8.2	3.6	10.3	0.54 U	0.45 U	393	72.3
Sodium	38.2 U	58.8 U	47.8 U	50.5 U	49 U	NA	NA
Thallium	0.25 U	0.26 U	0.24 U	0.45 B	0.36 B	NA	NA
Vanadium	25.2	31.6	28.8	27.3	15.2	NA	NA
Zinc	106 J	113 J	112 J	21.9 J	17.1	NA	NA
TCL Semi-Volatile Organic Compounds (ppb)							
Phenol	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA
2,2-Oxybis(chloropropane)	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NA	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorbenzene	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	B-9	B-10	B-11	B-12	B-13	C-1	C-2
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methyphenol	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine (1)	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	NA	NA	NA	NA	NA
3,3-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA
Di-n-octylphthalate	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA
TCL Volatile Organic Compounds (ppb)							
Chloromethane	NA	NA	NA	NA	NA	NA	NA
Bromomethane	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA
Chloroethane	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	B-9	B-10	B-11	B-12	B-13	C-1	C-2
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
Acetone	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethene (Total)	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA
Bromoform	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA
Xylene (Total)	NA	NA	NA	NA	NA	NA	NA
Pesticides/PCBs (ppb)							
alpha-BHC	NA	NA	NA	NA	NA	NA	NA
beta-BHC	NA	NA	NA	NA	NA	NA	NA
delta-BHC	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	NA	NA	NA	NA	NA	NA	NA
Heptachlor	NA	NA	NA	NA	NA	NA	NA
Aldrin	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	NA	NA	NA	NA	NA	NA	NA
Dieldrin	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA
Endrin	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils						
Sample Number	B-9	B-10	B-11	B-12	B-13	C-1	C-2
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94
Toxaphene	NA	NA	NA	NA	NA	NA	NA
Aroclor 1016	NA	NA	NA	NA	NA	NA	NA
Aroclor 1221	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	NA	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils					
Sample Number	C-3	C-4	C-5	C-6	C-7	SB-22
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-2'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	7/11/94
TAL Inorganics & Cyanide (ppm)						
Aluminum	NA	NA	NA	NA	NA	5,020
Antimony	NA	NA	NA	NA	NA	2.9 U
Arsenic	NA	NA	NA	NA	NA	0.78 B
Barium	NA	NA	NA	NA	NA	19.6 B
Beryllium	NA	NA	NA	NA	NA	1.2
Cadmium	1.1 U	0.83 U	1. B	0.7 U	0.7 U	2.4 U
Calcium	NA	NA	NA	NA	NA	664 B
Chromium	NA	NA	NA	NA	NA	10.8
Cobalt	NA	NA	NA	NA	NA	1.1 B
Copper	NA	NA	NA	NA	NA	29.1
Cyanide	NA	NA	NA	NA	NA	1 U
Iron	NA	NA	NA	NA	NA	5,440
Lead	NA	NA	NA	NA	NA	16.7
Magnesium	NA	NA	NA	NA	NA	738 B
Manganese	NA	NA	NA	NA	NA	41.8 J
Mercury	NA	NA	NA	NA	NA	0.15
Nickel	NA	NA	NA	NA	NA	3 B
Potassium	NA	NA	NA	NA	NA	248 U
Selenium	NA	NA	NA	NA	NA	0.41 U
Silver	21.5	20.2	2.8	2.5	0.47 U	460
Sodium	NA	NA	NA	NA	NA	30.4 U
Thallium	NA	NA	NA	NA	NA	0.62 U
Vanadium	NA	NA	NA	NA	NA	11.7
Zinc	NA	NA	NA	NA	NA	19.8
TCL Semi-Volatile Organic Compounds (ppb)						
Phenol	NA	NA	NA	NA	NA	NA
Bis(2-chloroethyl)ether	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA
2,2-Oxybis(chloropropane)	NA	NA	NA	NA	NA	NA
4-Methylphenol	NA	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorbenzene	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils					
Sample Number	C-3	C-4	C-5	C-6	C-7	SB-22
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-2'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	7/11/94
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA
Dimethylphthalate	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA
Diethylphthalate	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methyphenol	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine (1)	NA	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	NA	NA	NA	NA	NA	NA
3,3-Dichlorobenzidine	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA
Di-n-octylphthalate	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA
TCL Volatile Organic Compounds (ppb)						
Chloromethane	NA	NA	NA	NA	NA	NA
Bromomethane	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	NA	NA	NA	NA	NA
Chloroethane	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils					
Sample Number	C-3	C-4	C-5	C-6	C-7	SB-22
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-2'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	7/11/94
Acetone	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA
1,2-Dichloroethene (Total)	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	NA	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA
Dibromochloromethane	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	NA
Benzene	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA
Bromoform	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA
Xylene (Total)	NA	NA	NA	NA	NA	NA
Pesticides/PCBs (ppb)						
alpha-BHC	NA	NA	NA	NA	NA	NA
beta-BHC	NA	NA	NA	NA	NA	NA
delta-BHC	NA	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	NA	NA	NA	NA	NA	NA
Heptachlor	NA	NA	NA	NA	NA	NA
Aldrin	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	NA	NA	NA	NA	NA	NA
Endosulfan I	NA	NA	NA	NA	NA	NA
Dieldrin	NA	NA	NA	NA	NA	NA
4,4'-DDE	NA	NA	NA	NA	NA	NA
Endrin	NA	NA	NA	NA	NA	NA
Endosulfan II	NA	NA	NA	NA	NA	NA
4,4'-DDD	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	NA	NA	NA	NA	NA	NA
4,4'-DDT	NA	NA	NA	NA	NA	NA
Methoxychlor	NA	NA	NA	NA	NA	NA
Endrin ketone	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NA	NA	NA	NA	NA	NA
alpha-Chlordane	NA	NA	NA	NA	NA	NA
gamma-Chlordane	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site (Area 11) Surface Soils					
Sample Number	C-3	C-4	C-5	C-6	C-7	SB-22
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-2'
Date Collected	10/3/94	10/3/94	10/3/94	10/3/94	10/3/94	7/11/94
Toxaphene	NA	NA	NA	NA	NA	NA
Aroclor 1016	NA	NA	NA	NA	NA	NA
Aroclor 1221	NA	NA	NA	NA	NA	NA
Aroclor 1232	NA	NA	NA	NA	NA	NA
Aroclor 1242	NA	NA	NA	NA	NA	NA
Aroclor 1248	NA	NA	NA	NA	NA	NA
Aroclor 1254	NA	NA	NA	NA	NA	NA
Aroclor 1260	NA	NA	NA	NA	NA	NA

Table A-3A (continued)
Phase 1 RI Off-Site (Area 11) Surface Soil Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

Notes:

TAL = Target Analyte List Metals
TCL = Target Compound List Organics

Validation Qualifiers for Inorganics:

U	-	Analyzed for but not detected at or above the CRQL, or the compound is not detected due to qualification through the method or field blank.
B	-	Reported value is between IDL and CRDL.
J	-	Reported value is an estimate due to variance from quality control limits.
UJ	-	The compound was analyzed for, but not detected.
R	-	Reported value is unusable and rejected due to variance from quality control limits.
NA	-	Not analyzed.

Validation Qualifiers for Organics:

U	-	Analyzed for but not detected at or above the CRQL, or the compound is not detected due to qualification through the method or field blank.
B	-	Analyte was found in the associated blank as well as the sample.
J	-	Reported value is an estimated quantity.
UJ	-	The compound was analyzed for, but not detected.
E	-	Reported value is estimated due to quantitation above the calibration range.
D	-	Reported result taken from diluted sample analysis.
R	-	Reported value is unusable and rejected due to variance from quality control limits.
NA	-	Not analyzed.

Table A-3B
Phase 2 RI Off-Site (Area 11) Surface Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

	Off-Site Soils					
Sample Number	C-1N1S	C-1W1S	C-1W2S	C-1W3S	C-1W4S	B-1N1S
Sample Depth	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Collected	6/13/96	6/13/96	6/13/96	6/13/96	6/13/96	6/13/96
TAL Inorganics (ppm)						
Aluminum	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA
Cadmium	0.26 U	0.30 U	0.33 U	0.28 U	0.27 U	0.30 B
Calcium	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA
Silver	568 J	369 J	210 J	130 J	304 J	310 J
Sodium	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA

Table A-3B (continued)
Phase 2 RI Off-Site (Area 11) Surface Sample Analytical Data
Peerless Photo Products Site (I.D. # 1-52-031)

Notes:

TAL = Target Analyte List Metals

Validation Qualifiers for Inorganics

U	-	Analyzed for but not detected at or above the CRQL, or the compound is not detected due to qualification through the method or field blank
B	-	Reported value is between IDL and CRDL
J	-	Reported value is an estimate due to variance from quality control limits
UJ	-	The compound was analyzed for, but not detected.
R	-	Reported value is unusable and rejected due to variance from quality control limits.
NA	-	Not Analyzed.

TABLE A-4
Inorganic Analyte Summary Statistics
Peerless Photo Products Site (I.D. #1-52-031)

Chemical	Number of Detects	Number of Samples	Maximum Detected Value	Location of Maximum Detected Value	Mean	Standard Deviation	UCL_H 95	Site Identified Concentration*
Ground Water Monitoring Wells (ppb)								
Aluminum	27	35	4,880	MW-1	1,030.4	1,405.6	2,110.5	2,110.5
Antimony	5	35	16.6	MW-9	5.4	4.6	7.1	7.1
Arsenic	3	35	7	MW-1	2.4	1.2	2.7	2.7
Barium	34	35	329	MW-1	63.4	59.0	88.7	88.7
Beryllium	2	35	1.35	MW-9	0.5	0.2	0.6	0.6
Cadmium	29	35	269	MW-6	44.3	62.7	232.7	232.7
Calcium	35	35	51,300	MW-1	13,520.6	8,198.1	15,479.3	15,479.3
Chromium	18	35	64	MW-1	7.4	11.4	11.8	11.8
Cobalt	19	35	23.95	MW-9	4.1	5.2	6.7	6.7
Copper	23	35	35.2	MW-1	9.7	10.0	21.6	21.6
Cyanide	0	25	ND					
Iron	32	35	14,800	MW-1	3,117.6	4,314.2	12,162.2	12,162.2
Lead	21	35	34	MW-1	7.7	8.2	13.6	13.6
Magnesium	35	35	7,540	MW-7S	4,748.7	1,512.1	5,442.7	5,442.7
Manganese	34	35	1,680	MW-1	391.8	468.9	1,177.2	1,177.2
Mercury	1	35	0.19	MW-1	0.1	0.0	0.1	0.1
Nickel	19	35	50.1	MW-1	10.3	9.6	14.9	14.9
Potassium	31	35	12,700	MW-4	2,873.4	2,161.3	3,577.4	3,577.4
Selenium	0	35	ND					
Silver	12	35	6.3	MW-9	1.2	1.1	1.4	1.4
Sodium	35	35	31,100	MW-4	14,861.7	5,747.3	17,067.9	17,067.9
Thallium	0	35	ND					
Vanadium	19	35	18	MW-1	4.2	4.9	7.5	7.5
Zinc	25	35	423	MW-4	63.5	80.5	85.3	85.3
Ground Water Background Well (ppb)								
Aluminum	3	4	400	MW-5	291.6	132.4	NC	NC
Antimony	1	4	19.6	MW-5	7.5	8.3	NC	NC
Arsenic	1	4	3.6	MW-5	2.7	0.7	NC	NC
Barium	4	4	66.4	MW-5	53.7	11.4	NC	NC
Beryllium	0	4	ND					
Cadmium	1	4	3.9	MW-5	1.6	1.6	NC	NC
Calcium	4	4	12,300	MW-5	9,755.0	2,376.4	NC	NC
Chromium	1	4	4.7	MW-5	2.1	1.8	NC	NC
Cobalt	1	4	3.7	MW-5	1.4	1.5	NC	NC
Copper	1	4	4.9	MW-5	3.1	2.0	NC	NC
Cyanide	0	3	ND					
Iron	4	4	1,100	MW-5	590.5	464.7	NC	NC
Lead	2	4	22.2	MW-5	7.0	10.1	NC	NC
Magnesium	4	4	5,090	MW-5	4,210.0	610.1	NC	NC

TABLE A-4 (continued)
Inorganic Analyte Summary Statistics
Peerless Photo Products Site (I.D. #1-52-031)

Chemical	Number of Detects	Number of Samples	Maximum Detected Value	Location of Maximum Detected Value	Mean	Standard Deviation	UCL_H 95	Site Identified Concentration*
Manganese	4	4	308	MW-5	148.3	125.1	NC	NC
Mercury	1	4	0.12	MW-5	0.1	0.0	NC	NC
Nickel	1	4	6	MW-5	4.8	2.2	NC	NC
Potassium	4	4	5,390	MW-5	3,308.8	1,529.0	NC	NC
Selenium	0	4	ND					
Silver	1	4	2.4	MW-5	1.1	0.9	NC	NC
Sodium	4	4	25,500	MW-5	21,300.0	3,713.0	NC	NC
Thallium	0	4	ND					
Vanadium	1	4	3.7	MW-5	1.6	1.5	NC	NC
Zinc	1	4	20.2	MW-5	13.6	6.7	NC	NC
On-Site Surface Soil Samples (ppm)								
Aluminum	14	14	10,200	SB-1 0-2'	3,405.2	3,116.6	7,545.5	7,545.5
Antimony	1	14	5	SB-1 0-2'	1.5	1.0	1.8	1.8
Arsenic	9	14	2.4	SB-1 0-2'	1.0	0.8	2.6	2.4
Barium	14	14	1,240	B-2 0-0.5'	205.3	355.7	1,882.7	1,240.0
Beryllium	2	14	0.35	SB-1 0-2'	0.1	0.1	0.2	0.2
Cadmium	32	49	115.5	B-2-5S	4.8	16.8	7.9	7.9
Calcium	11	14	24,700	SB-3 0-2'	2,031.6	6,526.4	3,951.7	3,951.7
Chromium	14	14	9.8	SB-1 0-2'	5.5	2.5	7.3	7.3
Cobalt	12	14	21.75	SB-20 0.5-2.5'	2.6	5.5	5.9	5.9
Copper	13	14	496	SB-12 0-0.25'	58.8	128.5	204.2	204.2
Cyanide	0	14	ND					
Iron	14	14	10,800	SB-1 0-2'	4,201.6	3,226.9	7,826.4	7,826.4
Lead	8	14	45.8	B-7 0-0.5'	10.7	12.3	22.7	22.7
Magnesium	14	14	14,900	SB-3 0-2'	1,427.6	3,884.2	2,593.6	2,593.6
Manganese	14	14	81.3	SB-3 0-2'	37.7	23.8	65.0	65.0
Mercury	6	14	0.2	SB-12 0-0.25'	0.1	0.1	0.2	0.2
Nickel	6	14	6.6	SB-1 0-2'	2.9	1.9	4.2	4.2
Potassium	5	14	406	SB-3 0-2'	247.0	96.4	302.0	302.0
Selenium	2	14	0.4	B-7 0-0.5'	0.1	0.1	0.2	0.2
Silver	40	49	448	B-2-13S	129.0	126.9	22,684.1	448.0
Sodium	2	14	63.8	SB-3 0-2'	20.3	15.4	26.9	26.9
Thallium	0	0	ND					
Vanadium	14	14	19.7	SB-1 0-2'	8.7	6.1	14.9	14.9
Zinc	9	14	69	SB-12 0-0.25'	20.5	19.6	54.5	54.5
Off-Site (Area 11) Surface Soil Samples (ppm)								
Aluminum	18	18	14,100	B-12 0-0.5'	6,012.5	3,224.0	8,399.4	8,399.4
Antimony	0	18	ND					
Arsenic	18	18	5.9	B-8 0-0.5'	2.1	1.2	2.6	2.6

TABLE A-4 (continued)
Inorganic Analyte Summary Statistics
Peerless Photo Products Site (I.D. #1-52-031)

Chemical	Number of Detects	Number of Samples	Maximum Detected Value	Location of Maximum Detected Value	Mean	Standard Deviation	UCL_H 95	Site Identified Concentration*
Barium	18	18	70	A-35 0-0.5'	22.2	16.6	37.7	37.7
Beryllium	4	18	1.2	SB-22 0-2'	0.2	0.3	0.3	0.3
Cadmium	3	31	1.5	B-3 0-0.5'	0.5	0.3	0.6	0.6
Calcium	11	18	3,150	B-10 0-0.5'	858.4	1,029.5	2,502.2	2,502.2
Chromium	18	18	27.4	B-8 0-0.5'	10.7	6.3	19.1	19.1
Cobalt	15	18	3	B-12 0-0.5'	1.5	0.8	2.6	2.6
Copper	15	18	29.1	SB-22 0-2'	12.1	8.6	29.1	29.1
Cyanide	0	18	ND					
Iron	18	18	13,600	B-12 0-0.5'	6,565.3	2,926.9	8,474.3	8,474.3
Lead	18	18	69	B-10 0-0.5'	25.5	17.5	32.8	32.8
Magnesium	18	18	1,240	B-1 0-0.5'	714.8	345.2	1,126.2	1,126.2
Manganese	18	18	289	B-11 0-0.5'	78.5	84.5	181.8	181.8
Mercury	7	18	0.55	B-1 0-0.5'	0.1	0.1	0.2	0.2
Nickel	13	18	7.7	B-10 0-0.5'	3.8	2.2	5.4	5.4
Potassium	7	18	863	B-10 0-0.5'	325.3	197.8	425.5	425.5
Selenium	11	18	3.4	B-6 0-0.5'	0.5	0.8	0.7	0.7
Silver	24	31	568	C-1N1S	140.9	159.9	18,332.9	568.0
Sodium	0	18	ND					
Thallium	6	18	1.3	A-1 0-0.5'	0.3	0.3	0.4	0.4
Vanadium	18	18	31.6	B-10 0-0.5'	16.6	7.2	20.3	20.3
Zinc	18	18	113	B-10 0-0.5'	37.6	35.0	57.7	57.7
Surface Soil Background Samples (ppm)								
Aluminum	9	9	8,990	SB-16	5,362.3	NC	NC	
Antimony	2	9	0.35	K1	0.4	NC	NC	
Arsenic	9	9	3.7	K2	2.2	NC	NC	
Barium	9	9	26.1	SB-16	13.1	NC	NC	
Beryllium	9	9	0.32	SB-16	0.2	NC	NC	
Cadmium	8	9	0.55	H1	0.2	NC	NC	
Calcium	8	9	1,650	M2	635.3	NC	NC	
Chromium	9	9	9.2	M2	7.0	NC	NC	
Cobalt	9	9	2.3	K2	1.4	NC	NC	
Copper	9	9	15.6	K1	5.9	NC	NC	
Cyanide	0	1	ND					
Iron	9	9	9,510	K1	5,958.9	NC	NC	
Lead	9	9	26.4	H2	13.1	NC	NC	
Magnesium	9	9	960	SB-16	639.4	NC	NC	

TABLE A-4 (continued)
Inorganic Analyte Summary Statistics
Peerless Photo Products Site (I.D. #1-52-031)

Chemical	Number of Detects	Number of Samples	Maximum Detected Value	Location of Maximum Detected Value	Mean	Standard Deviation	UCL_H 95	Site Identified Concentration*
Manganese	9	9	89.5	K2	51.5	NC	NC	
Mercury	3	9	0.07	K2	0.04	NC	NC	
Nickel	9	9	5.6	K1	3.7	NC	NC	
Potassium	9	9	509	SB-16	228.0	NC	NC	
Selenium	5	9	0.45	K1	0.2	NC	NC	
Silver	8	9	72.1	H1	11.8	NC	NC	
Sodium	8	9	59.1	M3	30.3	NC	NC	
Thallium	0	9	ND			NC	NC	
Vanadium	9	9	21.9	H2	14.1	NC	NC	
Zinc	8	9	25.6	K2	15.2	NC	NC	

Notes:

* = Site Identified concentration is the lesser of the maximum detected value and the UCL_H 95.

UCL_H 95 = Upper 95% confidence level.

NC = Not Calculated.

ND = Not Detected.

TABLE A-5
Comparison of Summary Statistics with Guidance Criteria
Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	Maximum Detected Concentration	NYS GQS	NYS TAGM RSCO
Ground Water Monitoring Wells (ppb)			
Aluminum	4,880		
Antimony	16.6	3 *	
Arsenic	7	25	
Barium	329	1,000	
Beryllium	1.35	3 *	
Cadmium	269	10	
Calcium	51,300		
Chromium	64	50	
Cobalt	23.95		
Copper	35.2	200	
Cyanide	ND	100	
Iron	14,800	300	
Lead	34	25	
Magnesium	7,540	35,000 *	
Manganese	1,680	300	
Mercury	0.19	2	
Nickel	50.1		
Potassium	12,700		
Selenium	ND	10	
Silver	6.3	50	
Sodium	31,100	20,000	
Thallium	ND	4 *	
Vanadium	18		
Zinc	423	300	
On-Site Surface Soil Samples (ppm)			
Aluminum	10,200		SB
Antimony	5		SB
Arsenic	2.4		7.5
Barium	1,240		300
Beryllium	0.35		0.16
Cadmium	115.5		1
Calcium	24,700		SB
Chromium	9.8		10
Cobalt	21.75		30
Copper	496		25
Cyanide	ND		

TABLE A-5 (continued)
Comparison of Summary Statistics with Guidance Criteria
Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	Maximum Detected Concentration	NYS GQS	NYS TAGM RSCO
Iron	10,800		2,000
Lead	45.8		SB
Magnesium	14,900		SB
Manganese	81.3		SB
Mercury	0.2		0.1
Nickel	6.6		13
Potassium	406		SB
Selenium	0.4		2
Silver	448		SB
Sodium	63.8		SB
Thallium	ND		SB
Vanadium	19.7		150
Zinc	69		20
Off-Site (Area 11) Surface Soil Samples (ppm)			
Aluminum	14,100		SB
Antimony	ND		SB
Arsenic	5.9		7.5
Barium	70		300
Beryllium	1.2		0.16
Cadmium	1.5		1
Calcium	3,150		SB
Chromium	27.4		10
Cobalt	3		30
Copper	29.1		25
Cyanide	ND		
Iron	13,600		2,000
Lead	69		SB
Magnesium	1,240		SB
Manganese	289		SB
Mercury	0.55		0.1
Nickel	7.7		13
Potassium	863		SB
Selenium	3.4		2

TABLE A-5 (continued)
Comparison of Summary Statistics with Guidance Criteria
Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	Maximum Detected Concentration	NYS GQS	NYS TAGM RSCO
Silver	568		SB
Sodium	ND		SB
Thallium	1.3		SB
Vanadium	31.6		150
Zinc	113		20

Notes:

* New York State Ground Water Quality Guidance Value (NYSDEC 1993)

NYS GQS = New York State Ground Water Quality Standards for Class GA waters (NYSDEC 1993).

NYS TAGM RSCO = Revised New York State Technical and Administrative Guidance Memorandum Recommended Soil Cleanup Objectives (NYSDEC 1994b).

SB = Site Background.

TABLE A-6
Rationale for Elimination of Chemicals from Risk Assessment
Peerless Photo Products Site (I.D. #1-52-031)

Chemical	Decision	Rationale for Elimination from Further Consideration
Ground Water Monitoring Wells		
Aluminum	Retain	
Antimony	Eliminate	Site identified concentration < background mean + 2 standard deviations.
Arsenic	Eliminate	Maximum detected value < NYS GQS, and Site identified concentration < background + 2 standard deviations.
Barium	Eliminate	Maximum detected value < NYS GQS.
Beryllium	Eliminate	Maximum detected value < NYS GQS.
Cadmium	Retain	
Calcium	Eliminate	Essential nutrient.
Chromium	Retain	
Cobalt	Retain	
Copper	Eliminate	Maximum detected value < NYS GQS.
Cyanide	Eliminate	Not Detected.
Iron	Retain	
Lead	Eliminate	Site identified concentration < background mean + 2 standard deviations.
Magnesium	Eliminate	Essential nutrient, and maximum detected value < NYS GQS.
Manganese	Retain	
Nickel	Retain	
Mercury	Eliminate	Maximum detected value < NYS GQS.
Potassium	Eliminate	Essential nutrient, and Site identified concentration < background mean + 2 standard deviations.
Selenium	Eliminate	Not Detected.
Silver	Eliminate	Maximum detected value < NYS GQS, and Site identified concentration < background mean + 2 standard deviations.
Sodium	Eliminate	Essential nutrient, and Site identified concentration < background mean + 2 standard deviations.
Thallium	Eliminate	Not Detected.
Vanadium	Retain	
Zinc	Retain	
On-Site Surface Soil Samples		
Aluminum	Eliminate	Site identified concentration is not significantly different from background (background + 10%).
Antimony	Eliminate	Not Detected.
Arsenic	Eliminate	Maximum detected value < NYS TAGM RSCO, and Site identified concentration is not significantly different from background (background + 10%).
Barium	Retain	
Beryllium	Eliminate	Site identified concentration is not significantly different from background (background + 10%).
Cadmium	Retain	
Calcium	Eliminate	Essential nutrient.

TABLE A-6 (continued)
Rationale for Elimination of Chemicals from Risk Assessment
Peerless Photo Products Site (I.D. #1-52-031)

Chemical	Decision	Rationale for Elimination from Further Consideration
Chromium	Eliminate	Maximum detected value < NYS TAGM RSCO, and Site identified concentration is not significantly different from background (background + 10%).
Cobalt	Eliminate	Maximum detected value < NYS TAGM RSCO.
Copper	Retain	
Cyanide	Eliminate	Not Detected.
Iron	Eliminate	Site identified concentration is not significantly different from background (background + 10%).
Lead	Eliminate	Site identified concentration is not significantly different from background (background + 10%).
Magnesium	Eliminate	Essential nutrient.
Manganese	Eliminate	Site identified concentration is not significantly different from background (background + 10%).
Mercury	Retain	
Nickel	Eliminate	Maximum detected value < NYS TAGM RSCO, and Site identified concentration is not significantly different from background (background + 10%).
Potassium	Eliminate	Essential nutrient, and Site identified concentration is not significantly different from background (background + 10%).
Selenium	Eliminate	Maximum detected value < NYS TAGM RSCO, and Site identified concentration is not significantly different from background (background + 10%).
Silver	Retain	
Sodium	Eliminate	Essential nutrient, and Site identified concentration is not significantly different from background (background + 10%).
Thallium	Eliminate	Not Detected.
Vanadium	Eliminate	Maximum detected value < NYS TAGM RSCO, and Site identified concentration is not significantly different from background (background + 10%).
Zinc	Retain	
Off-Site (Area 11) Surface Soil Samples		
Aluminum	Eliminate	Site identified concentration is not significantly different from background (background + 10%).
Antimony	Eliminate	Not Detected.
Arsenic	Eliminate	Maximum detected value < NYS TAGM RSCO, and Site identified concentration is not significantly different from background (background + 10%).
Barium	Eliminate	Maximum detected value < NYS TAGM RSCO.
Beryllium	Eliminate	Site identified concentration is not significantly different from background (background + 10%).
Cadmium	Retain	
Calcium	Eliminate	Essential nutrient.
Chromium	Retain	
Cobalt	Eliminate	Maximum detected value < NYS TAGM RSCO.
Copper	Retain	
Cyanide	Eliminate	Not Detected.

TABLE A-6 (continued)
Rationale for Elimination of Chemicals from Risk Assessment
Peerless Photo Products Site (I.D. #1-52-031)

Chemical	Decision	Rationale for Elimination from Further Consideration
Iron	Eliminate	Site identified concentration is not significantly different from background (background + 10%).
Lead	Retain	*Evaluated Qualitatively.*
Magnesium	Eliminate	Essential nutrient.
Manganese	Retain	
Mercury	Retain	
Nickel	Eliminate	Maximum detected value < NYS TAGM RSCO, and Site identified concentration is not significantly different from background (background + 10%).
Potassium	Eliminate	Essential nutrient, and Site identified concentration is not significantly different from background (background + 10%).
Selenium	Retain	
Silver	Retain	
Sodium	Eliminate	Not Detected.
Thallium	Retain	
Vanadium	Eliminate	Maximum detected value < NYS TAGM RSCO, and Site identified concentration is not significantly different from background (background + 10%).
Zinc	Retain	

Notes:
NYS GQS = New York State Ground Water Quality Standards for Class GA waters (NYSDEC 1993)
NYS TAGM RSCO = Revised New York State Technical and Administrative Guidance Memorandum Recommended Soil Cleanup Objectives (NYSDEC 1994b).

APPENDIX B

Site Risk Calculations and Summary

TABLE B-1
Intake Assumptions for Ingestion of Ground Water

Equation:

$$Dose\ (mg/kg\text{-}day) = \frac{C_w \times IR \times EF \times ED}{BW \times AT}$$

Parameter	Values	Reference
C_w = Chemical Concentration in Ground Water (mg/L)	Measured See Table B-5	
IR = Ground Water Ingestion Rate (L/day)		USEPA 1991a
Future Adult Resident	2	
Future Child (age 1-6) Resident	2	
Future Park Groundskeeper	1	
EF = Exposure Frequency (days/year)		USEPA 1991a
Future Adult Resident	350	
Future Child (age 1-6) Resident	350	
Future Park Groundskeeper	250	(assumes 5 day work week for 50 weeks/year)
ED = Exposure Duration (years)		
Future Adult Resident	30	USEPA 1989 (90th percentile for time at a single residence)
Future Child (age 1-6) Resident	6	USEPA 1991a (total years in age group)
Future Park Groundskeeper	25	USEPA 1991a
BW = Body Weight (kg)		USEPA 1991a
Future Adult Resident	70	
Future Child (age 1-6) Resident	15	
Future Park Groundskeeper	70	
AT = Averaging Time (days)		USEPA 1989
Future Adult Resident	10,950	
Future Child (age 1-6) Resident	2,190	
Future Park Groundskeeper	9,125	

TABLE B-2
Intake Assumptions for Dermal Contact with Ground Water

Equation:

$$Dose\ (mg/kg\text{-}day) = \frac{C_w \times SA \times PC \times ET \times EF \times ED \times CF}{BW \times AT}$$

Parameter	Values	Reference
C_w = Chemical Concentration in Ground Water (mg/L)	Measured See Table B-5	
SA = Skin Surface Area Available for Contact (cm^2)		USEPA 1992c
Future Adult Resident	18,150	(50th percentile value averaged for adult males and females)
Future Child (age 1-6) Resident	7,280	(50th percentile value averaged over entire age group)
PC = Dermal Permeability Constant (cm/hr)	Chemical-Specific See Table B-6	USEPA 1992c
ET = Exposure Time (hours/day)		USEPA 1989
Future Adult Resident	0.2	
Future Child (age 1-6) Resident	0.2	
EF = Exposure Frequency (days/year)		USEPA 1991a
Future Adult Resident	350	
Future Child (age 1-6) Resident	350	
ED = Exposure Duration (years)		
Future Adult Resident	30	USEPA 1989 (90th percentile for time at a single residence)
Future Child (age 1-6) Resident	6	USEPA 1991a (total years in age group)
CF = Volumetric Conversion Factor (L/cm^3)	1×10^{-3}	USEPA 1989
BW = Body Weight (kg)		USEPA 1991a
Future Adult Resident	70	
Future Child (age 1-6) Resident	15	
AT = Averaging Time (days)		USEPA 1989
Future Adult Resident	10,950	
Future Child (age 1-6) Resident	2,190	

TABLE B-3
Intake Assumptions for Incidental Surface Soil Ingestion

Equation:

$$Dose\ (mg/kg\text{-}day) = \frac{C_s \times IR \times CF \times FI \times EF \times ED}{BW \times AT}$$

Parameter	Values	Reference
C_s = Chemical Concentration in Surface Soil (mg/kg)	Measured See Table B-5	
IR = Soil Ingestion Rate (mg/day)		
Future Adult Resident	100	USEPA 1989
Future Child (age 1-6) Resident	200	USEPA 1989
Future Off-site Youth (age 9-18) Trespasser	50	USEPA 1991a
Future Park Groundskeeper	480	USEPA 1991a
Future Adult Park Visitor	100	USEPA 1989
Future Child (age 1-6) Visitor	200	USEPA 1989
CF = Conversion Factor (kg/mg)	1×10^{-6}	USEPA 1989
FI = Fraction Ingested from Contaminated Source (unitless)	1	
EF = Exposure Frequency (days/year)		USEPA 1991a
Future Adult Resident	78	(assumes 2 days/week outdoors during spring, summer and fall-39 weeks total)
Future Child (age 1-6) Resident	117	(assumes 5 days/week outdoors during spring, summer and fall-39 weeks total)
Future Off-site Youth (age 9-18) Trespasser	117	(assumes 5 days/week outdoors during spring, summer and fall-39 weeks total)
Future Park Groundskeeper	185	(assumes 5 day work week for 37 weeks/year)
Future Adult Park Visitor	78	(assumes 2 days/week outdoors during spring, summer and fall-39 weeks total)
Future Child (age 1-6) Visitor	117	(assumes 2 days/week outdoors during spring, summer and fall-39 weeks total)

TABLE B-3 (continued)
Intake Assumptions for Incidental Surface Soil Ingestion

ED = Exposure Duration (years)		
Future Adult Resident	30	USEPA 1989 (90th percentile for time at a single residence)
Future Child (age 1-6) Resident	6	USEPA 1991a (total years in age group)
Future Off-site Youth (age 9-18) Trespasser	10	USEPA 1991a (total years in age group)
Future Park Groundskeeper	25	
Future Adult Park Visitor	30	USEPA 1989 (90th percentile for time at a single residence)
Future Child (age 1-6) Visitor	6	USEPA 1991a (total years in age group)
BW = Body Weight (kg)		
Future Adult Resident	70	USEPA 1991a
Future Child (age 1-6) Resident	15	USEPA 1991a
Future Off-site Youth (age 9-18) Trespasser	50	USEPA 1990
Future Park Groundskeeper	70	USEPA 1991a
Future Adult Park Visitor	70	USEPA 1991a
Future Child (age 1-6) Visitor	15	USEPA 1991a
AT = Averaging Time (days)		USEPA 1989
Future Adult Resident	10,950	
Future Child (age 1-6) Resident	2,190	
Future Off-site Youth (age 9-18) Trespasser	3,650	
Future Park Groundskeeper	9,125	
Future Adult Park Visitor	10,950	
Future Child (age 1-6) Park Visitor	2,190	

TABLE B-4
Intake Assumptions for Dermal Contact with Surface Soil

Equation:

$$Dose\ (mg/kg\text{-}day) = \frac{C_S \times CF \times SA \times AF \times ABS \times EF \times ED}{BW \times AT}$$

Parameter	Values	Reference
C_s = Chemical Concentration in surface Soil (mg/kg)	Measured See Table B-5	
CF = Conversion Factor (kg/mg)	1×10^{-6}	USEPA 1989
SA = Skin Surface Area Available for Contact (cm^2)*		
Future Adult Resident	4,820	USEPA 1992c (50th percentile value averaged for adult males and females)
Future Child (age 1-6) Resident	2,090	USEPA 1992c, USEPA 1990
Future Off-site Youth (age 9-18) Trespasser	4,690	USEPA 1990
Future Park Groundskeeper	4,820	USEPA 1992c (50th percentile value averaged for adult males and females)
Future Adult Park Visitor	4,820	USEPA 1992c (50th percentile value averaged for adult males and females)
Future Child (age 1-6) Visitor	2,090	USEPA 1992c, USEPA 1990
AF = Soil to Skin Adherence Factor (mg/cm^2)	0.2	USEPA 1992c
ABS = Absorption Factor (unitless)		
Inorganic Chemicals	0.001	USEPA 1992c
EF = Exposure Frequency (events/year)		
Future Adult Resident	78	USEPA 1991a (assumes 2 days/week outdoors during spring, summer and fall-39 weeks total)
Future Child (age 1-6) Resident	117	(assumes 5 days/week outdoors during summer and 2 days/week during spring and fall-39 weeks total)

TABLE B-4 (continued)
Intake Assumptions for Dermal Contact with Surface Soil

EF (cont'd)	Future Off-site Youth (age 9-18) Trespasser	117	USEPA 1991a (assumes 5 days/week outdoors during summer and 2 days/week during spring and fall-39 weeks total)
	Future Park Groundskeeper	185	(assumes 5 day work week for 37 weeks/year)
	Future Adult Park Visitor	78	(assumes 2 days/week outdoors during spring, summer and fall-39 weeks total)
	Future Child (age 1-6) Visitor	117	(assumes 5 days/week outdoors during summer and 2 days/week during spring and fall-39 weeks total)
ED =	Exposure Duration (years)		
	Future Adult Resident	30	USEPA 1989 (90th percentile for time at a single residence)
	Future Child (age 1-6) Resident	6	USEPA 1991a (total years in age group)
	Future Off-site Youth (age 9-18) Trespasser	10	USEPA 1991a (total years in age group)
	Future Park Groundskeeper	25	USEPA 1991a
	Future Adult Park Visitor	30	USEPA 1989 (90th percentile for time at a single residence)
	Future Child (age 1-6) Visitor	6	USEPA 1991a (total years in age group)
BW =	Body Weight (kg)		
	Future Adult Resident	70	USEPA 1991a
	Future Child (age 1-6) Resident	15	USEPA 1991a
	Future Off-site Youth (age 9-18) Trespasser	50	USEPA 1990
	Future Park Groundskeeper	70	USEPA 1991a
	Future Adult Park Visitor	70	USEPA 1991a
	Future Child (age 1-6) Visitor	15	USEPA 1991a
AT =	Averaging Time (days)		USEPA 1989
	Future Adult Resident	10,950	
	Future Child (age 1-6) Resident	2,190	
	Future Off-site Youth (age 9-18) Trespasser	3,650	
	Future Park Groundskeeper	9,125	
	Future Adult Park Visitor	10,950	
	Future Child (age 1-6) Visitor	2,190	

Note:

* Calculated assuming dermal contact of soil with head, hands, forearms and lower legs. Surface areas are based on information from USEPA (1990).

TABLE B-5
Site Identified Concentration of Chemicals of Concern at the Peerless Photo Products Site (I.D. #1-52-031)

Chemical	On-site Surface Soil Concentration (ppm)	Off-site (Area 11) Surface Soil Concentration (ppm)	Ground Water Concentration (ppb)
Aluminum	NA	NA	2110.54
Antimony	1.8	NA	NA
Barium	1240	NA	NA
Cadmium (diet)	7.87	0.61	NA
Cadmium (water)	NA	NA	232.67
Chromium	NA	19.1	11.78
Cobalt	NA	NA	6.72
Copper	204.23	29.1	NA
Iron	NA	NA	12,162.23
Manganese (diet)	NA	181.82	NA
Manganese (water)	NA	NA	1177.17
Mercury	0.2	0.18	NA
Nickel	NA	NA	14.9
Selenium	NA	0.74	NA
Silver	448	568	NA
Thallium	NA	0.41	NA
Vanadium	NA	NA	7.47
Zinc	54.55	57.74	85.29

TABLE B-6
Permeability Coefficients for Chemicals of Concern at the Peerless Photo Products Site (I.D. #1-52-031)

Chemical	Permeability Coefficient (cm/hour) PC
Aluminum	1.55e-03*
Antimony	1.55e-03*
Barium	1.55e-03*
Cadmium (water)	1.00e-03
Chromium	2.00e-03
Cobalt	4.00e-04
Copper	1.55e-03*
Iron	1.55e-03*
Manganese (water)	1.55e-03*
Mercury	1.00e-03
Nickel	1.00e-04
Selenium	1.55e-03*
Silver	6.00e-04
Thallium	1.55e-03*
Vanadium	1.55e-03*
Zinc	6.00e-04

Notes:

All permeability coefficients were obtained from USEPA (1992c).
* Default value, permeability coefficient for water.

TABLE B-7

Noncarcinogenic Calculations for the Peerless Photo Products Site (I.D. # 1-52-031)

Future On-site Adult Resident

	Surface Soil Ingestion			Surface Soil Dermal Contact			Ground Water Ingestion			Ground Water Dermal Contact		
Chemical	Dose	RfDo	Hazard Quotient	Dose	RFDd	Hazard Quotient	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient
Aluminum	0.00	1.00e+00	0.00	0.00	2.00e-01	0.00	5.78e-02	1.00e+00	5.78e-02	1.63e-04	2.00e-01	8.13e-04
Antimony	5.50e-07	4.00e-04	1.37e-03	5.30e-09	8.00e-05	6.62e-05	0.00	4.00e-04	0.00	0.00	8.00e-05	0.00
Barium	3.79e-04	7.00e-02	5.41e-03	3.65e-06	1.40e-02	2.61e-04	0.00	7.00e-02	0.00	0.00	1.40e-02	0.00
Cadmium (diet)	2.40e-06	1.00e-03	2.40e-03	2.32e-08	2.00e-04	1.16e-04	0.00	1.00e-03	0.00	0.00	2.00e-04	0.00
Cadmium (water)	0.00	5.00e-04	0.00	0.00	1.00e-04	0.00	6.37e-03	5.00e-04	1.27e+01	1.16e-05	1.00e-04	1.16e-01
Chromium	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00	3.23e-04	5.00e-03	6.45e-02	1.17e-06	1.00e-03	1.17e-03
Cobalt	0.00	NA	--	0.00	NA	--	1.84e-04	NA	--	1.34e-07	NA	--
Copper	6.23e-05	3.70e-02	1.69e-03	6.01e-07	7.40e-03	8.12e-05	0.00	3.70e-02	0.00	0.00	7.40e-03	0.00
Iron	0.00	3.00e-01	0.00	0.00	6.00e-02	0.00	3.33e-01	3.00e-01	1.11e+00	9.37e-04	6.00e-02	1.56e-02
Manganese (diet)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00
Manganese (water)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00	3.23e-02	1.40e-01	2.30e-01	9.07e-05	2.80e-02	3.24e-03
Mercury	6.11e-08	3.00e-04	2.04e-04	5.89e-10	6.00e-05	9.81e-06	0.00	3.00e-04	0.00	0.00	6.00e-05	0.00
Nickel	0.00	2.00e-02	0.00	0.00	4.00e-03	0.00	4.08e-04	2.00e-02	2.04e-02	7.41e-08	4.00e-03	1.85e-05
Selenium	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Silver	1.37e-04	5.00e-03	2.74e-02	1.32e-06	1.00e-03	1.32e-03	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Thallium	0.00	NA	--	0.00	NA	--	0.00	NA	--	0.00	NA	--
Vanadium	0.00	7.00e-03	0.00	0.00	1.40e-03	0.00	2.05e-04	7.00e-03	2.92e-02	5.76e-07	1.40e-03	4.11e-04
Zinc	1.67e-05	3.00e-01	5.55e-05	1.61e-07	6.00e-02	2.68e-06	2.34e-03	3.00e-01	7.79e-03	2.54e-06	6.00e-02	4.24e-05
HI			**3.85e-02**			**1.85e-03**			**1.43e+01**			**1.37e-01**
TOTAL HI	**1.44e+01**											

TABLE B-7 (continued)
Noncarcinogenic Calculations for the Peerless Photo Products Site (I.D. # 1-52-031)

Future On-site Child (age 1-6) Resident

	Surface Soil Ingestion			Surface Soil Dermal Contact			Ground Water Ingestion			Ground Water Dermal Contact		
Chemical	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient
Aluminum	0.00	1.00e+00	0.00	0.00	2.00e-01	0.00	2.70e-01	1.00e+00	2.70e-01	3.04e-04	2.00e-01	1.52e-03
Antimony	7.69e-06	4.00e-04	1.92e-02	1.61e-08	8.00e-05	2.01e-04	0.00	4.00e-04	0.00	0.00	8.00e-05	0.00
Barium	5.30e-03	7.00e-02	7.57e-02	1.11e-05	1.40e-02	7.91e-04	0.00	7.00e-02	0.00	0.00	1.40e-02	0.00
Cadmium (diet)	3.36e-05	1.00e-03	3.36e-02	7.03e-08	2.00e-04	3.51e-04	0.00	1.00e-03	0.00	0.00	2.00e-04	0.00
Cadmium (water)	0.00	5.00e-04	0.00	0.00	1.00e-04	0.00	2.97e-02	5.00e-04	5.95e+01	2.17e-05	1.00e-04	2.17e-01
Chromium	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00	1.51e-03	5.00e-03	3.01e-01	2.19e-06	1.00e-03	2.19e-03
Cobalt	0.00	NA	--	0.00	NA	--	8.59e-04	NA	--	2.50e-07	NA	--
Copper	8.73e-04	3.70e-02	2.36e-02	1.82e-06	7.40e-03	2.47e-04	0.00	3.70e-02	0.00	0.00	7.40e-03	0.00
Iron	0.00	3.00e-01	0.00	0.00	6.00e-02	0.00	1.55e+00	3.00e-01	5.18e+00	1.75e-03	6.00e-02	2.92e-02
Manganese (diet)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00
Manganese (water)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00	1.51e-01	1.40e-01	1.08e+00	1.70e-04	2.80e-02	6.07e-03
Mercury	8.55e-07	3.00e-04	2.85e-03	1.79e-09	6.00e-05	2.98e-05	0.00	3.00e-04	0.00	0.00	6.00e-05	0.00
Nickel	0.00	2.00e-02	0.00	0.00	4.00e-03	0.00	1.91e-03	2.00e-02	9.53e-02	1.39e-07	4.00e-03	3.47e-05
Selenium	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Silver	1.91e-03	5.00e-03	3.83e-01	4.00e-06	1.00e-03	4.00e-03	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Thallium	0.00	NA	--	0.00	NA	--	0.00	NA	--	0.00	NA	--
Vanadium	0.00	7.00e-03	0.00	0.00	1.40e-03	0.00	9.55e-04	7.00e-03	1.36e-01	1.08e-06	1.40e-03	7.70e-04
Zinc	2.33e-04	3.00e-01	7.77e-04	4.87e-07	6.00e-02	8.12e-06	1.09e-02	3.00e-01	3.63e-02	4.76e-06	6.00e-02	7.94e-05
HI			**5.39e-01**			**5.63e-03**			**6.66e+01**			**2.56e-01**
TOTAL HI	**6.74e+01**											

TABLE B-7 (continued)

Noncarcinogenic Calculations for the Peerless Photo Products Site (I.D. # 1-52-031)

Future Off-site Adult Resident

	Surface Soil Ingestion			Surface Soil Dermal Contact			Ground Water Ingestion			Ground Water Dermal Contact		
Chemical	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient
Aluminum	0.00	1.00e+00	0.00	0.00	2.00e-01	0.00	5.78e-02	1.00e+00	5.78e-02	1.63e-04	2.00e-01	8.13e-04
Antimony	0.00	4.00e-04	0.00	0.00	8.00e-05	0.00	0.00	4.00e-04	0.00	0.00	8.00e-05	0.00
Barium	0.00	7.00e-02	0.00	0.00	1.40e-02	0.00	0.00	7.00e-02	0.00	0.00	1.40e-02	0.00
Cadmium (diet)	1.86e-07	1.00e-03	1.86e-04	1.80e-09	2.00e-04	8.98e-06	0.00	1.00e-03	0.00	0.00	2.00e-04	0.00
Cadmium (water)	0.00	5.00e-04	0.00	0.00	1.00e-04	0.00	6.37e-03	5.00e-04	1.27e+01	1.16e-05	1.00e-04	1.16e-01
Chromium	5.83e-06	5.00e-03	1.17e-03	5.62e-08	1.00e-03	5.62e-05	3.23e-04	5.00e-03	6.45e-02	1.17e-06	1.00e-03	1.17e-03
Cobalt	0.00	NA	--	0.00	NA	--	1.84e-04	NA	--	1.34e-07	NA	--
Copper	8.88e-06	3.70e-02	2.40e-04	8.56e-08	7.40e-03	1.16e-05	0.00	3.70e-02	0.00	0.00	7.40e-03	0.00
Iron	0.00	3.00e-01	0.00	0.00	6.00e-02	0.00	3.33e-01	3.00e-01	1.11e+00	9.37e-04	6.00e-02	1.56e-02
Manganese (diet)	5.55e-05	1.40e-01	3.96e-04	5.35e-07	2.80e-02	1.91e-05	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00
Manganese (water)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00	3.23e-02	1.40e-01	2.30e-01	9.07e-05	2.80e-02	3.24e-03
Mercury	5.50e-08	3.00e-04	1.83e-04	5.30e-10	6.00e-05	8.83e-06	0.00	3.00e-04	0.00	0.00	6.00e-05	0.00
Nickel	0.00	2.00e-02	0.00	0.00	4.00e-03	0.00	4.08e-04	2.00e-02	2.04e-02	7.41e-08	4.00e-03	1.85e-05
Selenium	2.26e-07	5.00e-03	4.52e-05	2.18e-09	1.00e-03	2.18e-06	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Silver	1.73e-04	5.00e-03	3.47e-02	1.67e-06	1.00e-03	1.67e-03	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Thallium	1.25e-07	NA	--	1.21e-09	NA	--	0.00	NA	--	0.00	NA	--
Vanadium	0.00	7.00e-03	0.00	0.00	1.40e-03	0.00	2.05e-04	7.00e-03	2.92e-02	5.76e-07	1.40e-03	4.11e-04
Zinc	1.76e-05	3.00e-01	5.88e-05	1.70e-07	6.00e-02	2.83e-06	2.34e-03	3.00e-01	7.79e-03	2.54e-06	6.00e-02	4.24e-05
HI			**3.70e-02**			**1.78e-03**			**1.43e+01**			**1.37e-01**
TOTAL HI	**1.44e+01**											

TABLE B-7 (continued)

Noncarcinogenic Calculations for the Peerless Photo Products Site (I.D. # 1-52-031)

Future Off-site Child (age 1-6) Resident

	Surface Soil Ingestion			Surface Soil Dermal Contact			Ground Water Ingestion			Ground Water Dermal Contact		
Chemical	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient
Aluminum	0.00	1.00e+00	0.00	0.00	2.00e-01	0.00	2.70e-01	1.00e+00	2.70e-01	3.04e-04	2.00e-01	1.52e-03
Antimony	0.00	4.00e-04	0.00	0.00	8.00e-05	0.00	0.00	4.00e-04	0.00	0.00	8.00e-05	0.00
Barium	0.00	7.00e-02	0.00	0.00	1.40e-02	0.00	0.00	7.00e-02	0.00	0.00	1.40e-02	0.00
Cadmium (diet)	2.61e-06	1.00e-03	2.61e-03	5.45e-09	2.00e-04	2.72e-05	0.00	1.00e-03	0.00	0.00	2.00e-04	0.00
Cadmium (water)	0.00	5.00e-04	0.00	0.00	1.00e-04	0.00	2.97e-02	5.00e-04	5.95e+01	2.17e-05	1.00e-04	2.17e-01
Chromium	8.16e-05	5.00e-03	1.63e-02	1.71e-07	1.00e-03	1.71e-04	1.51e-03	5.00e-03	3.01e-01	2.19e-06	1.00e-03	2.19e-03
Cobalt	0.00	NA	--	0.00	NA	--	8.59e-04	NA	--	2.50e-07	NA	--
Copper	1.24e-04	3.70e-02	3.36e-03	2.60e-07	7.40e-03	3.51e-05	0.00	3.70e-02	0.00	0.00	7.40e-03	0.00
Iron	0.00	3.00e-01	0.00	0.00	6.00e-02	0.00	1.55e+00	3.00e-01	5.18e+00	1.75e-03	6.00e-02	2.92e-02
Manganese (diet)	7.77e-04	1.40e-01	5.55e-03	1.62e-06	2.80e-02	5.80e-05	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00
Manganese (water)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00	1.51e-01	1.40e-01	1.08e+00	1.70e-04	2.80e-02	6.07e-03
Mercury	7.69e-07	3.00e-04	2.56e-03	1.61e-09	6.00e-05	2.68e-05	0.00	3.00e-04	0.00	0.00	6.00e-05	0.00
Nickel	0.00	2.00e-02	0.00	0.00	4.00e-03	0.00	1.91e-03	2.00e-02	9.53e-02	1.39e-07	4.00e-03	3.47e-05
Selenium	3.16e-06	5.00e-03	6.33e-04	6.61e-09	1.00e-03	6.61e-06	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Silver	2.43e-03	5.00e-03	4.86e-01	5.07e-06	1.00e-03	5.07e-03	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Thallium	1.75e-06	NA	--	3.66e-09	NA	--	0.00	NA	--	0.00	NA	--
Vanadium	0.00	7.00e-03	0.00	0.00	1.40e-03	0.00	9.55e-04	7.00e-03	1.36e-01	1.08e-06	1.40e-03	7.70e-04
Zinc	2.47e-04	3.00e-01	8.23e-04	5.16e-07	6.00e-02	8.60e-06	1.09e-02	3.00e-01	3.63e-02	4.76e-06	6.00e-02	7.94e-05
HI			**5.17e-01**			**5.41e-03**			**6.66e+01**			**2.56e-01**
TOTAL HI	**6.74e+01**											

TABLE B-7 (continued)
Noncarcinogenic Calculations for the Peerless Photo Products Site (I.D. # 1-52-031)

Future Off-site Youth (age 9-18) Trespasser

Chemical	Surface Soil Ingestion			Surface Soil Dermal Contact		
	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient
Aluminum	0.00	1.00e+00	0.00	0.00	2.00e-01	0.00
Antimony	0.00	4.00e-04	0.00	0.00	8.00e-05	0.00
Barium	0.00	7.00e-02	0.00	0.00	1.40e-02	0.00
Cadmium (diet)	1.96e-07	1.00e-03	1.96e-04	3.67e-09	2.00e-04	1.83e-05
Cadmium (water)	0.00	5.00e-04	0.00	0.00	1.00e-04	0.00
Chromium	6.12e-06	5.00e-03	1.22e-03	1.15e-07	1.00e-03	1.15e-04
Cobalt	0.00	NA	--	0.00	NA	--
Copper	9.33e-06	3.70e-02	2.52e-04	1.75e-07	7.40e-03	2.36e-05
Iron	0.00	3.00e-01	0.00	0.00	6.00e-02	0.00
Manganese (diet)	5.83e-05	1.40e-01	4.16e-04	1.09e-06	2.80e-02	3.90e-05
Manganese (water)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00
Mercury	5.77e-08	3.00e-04	1.92e-04	1.08e-09	6.00e-05	1.80e-05
Nickel	0.00	2.00e-02	0.00	0.00	4.00e-03	0.00
Selenium	2.37e-07	5.00e-03	4.74e-05	4.45e-09	1.00e-03	4.45e-06
Silver	1.82e-04	5.00e-03	3.64e-02	3.42e-06	1.00e-03	3.42e-03
Thallium	1.31e-07	NA	--	2.47e-09	NA	--
Vanadium	0.00	7.00e-03	0.00	0.00	1.40e-03	0.00
Zinc	1.85e-05	3.00e-01	6.17e-05	3.47e-07	6.00e-02	5.79e-06
HI			**3.88e-02**			**3.64e-03**
TOTAL HI	**4.24e-02**					

TABLE B-7 (continued)
Noncarcinogenic Calculations for the Peerless Photo Products Site (I.D. # 1-52-031)

Future On-site Park Groundskeeper

	Surface Soil Ingestion			Surface Soil Dermal Contact			Ground Water Ingestion		
Chemical	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient	Dose	RFDo	Hazard Quotient
Aluminum	0.00	1.00e+00	0.00	0.00	2.00e-01	0.00	2.07e-02	1.00e+00	2.07e-02
Antimony	6.26e-06	4.00e-04	1.56e-02	1.26e-08	8.00e-05	1.57e-04	0.00	4.00e-04	0.00
Barium	4.31e-03	7.00e-02	6.16e-02	8.66e-06	1.40e-02	6.18e-04	0.00	7.00e-02	0.00
Cadmium (diet)	2.74e-05	1.00e-03	2.74e-02	5.49e-08	2.00e-04	2.75e-04	0.00	1.00e-03	0.00
Cadmium (water)	0.00	5.00e-04	0.00	0.00	1.00e-04	0.00	2.28e-03	5.00e-04	4.55e+00
Chromium	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00	1.15e-04	5.00e-03	2.31e-02
Cobalt	0.00	NA	--	0.00	NA	--	6.58e-05	NA	--
Copper	7.10e-04	3.70e-02	1.92e-02	1.43e-06	7.40e-03	1.93e-04	0.00	3.70e-02	0.00
Iron	0.00	3.00e-01	0.00	0.00	6.00e-02	0.00	1.19e-01	3.00e-01	3.97e-01
Manganese (diet)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00	0.00	1.40e-01	0.00
Manganese (water)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00	1.15e-02	1.40e-01	8.23e-02
Mercury	6.95e-07	3.00e-04	2.32e-03	1.40e-09	6.00e-05	2.33e-05	0.00	3.00e-04	0.00
Nickel	0.00	2.00e-02	0.00	0.00	4.00e-03	0.00	1.46e-04	2.00e-02	7.29e-03
Selenium	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00	0.00	5.00e-03	0.00
Silver	1.56e-03	5.00e-03	3.11e-01	3.13e-06	1.00e-03	3.13e-03	0.00	5.00e-03	0.00
Thallium	0.00	NA	--	0.00	NA	--	0.00	NA	--
Vanadium	0.00	7.00e-03	0.00	0.00	1.40e-03	0.00	7.31e-05	7.00e-03	1.04e-02
Zinc	1.90e-04	3.00e-01	6.32e-04	3.81e-07	6.00e-02	6.35e-06	8.35e-04	3.00e-01	2.78e-03
HI			**4.38e-01**			**4.40e-03**			**5.10e+00**
TOTAL HI	**5.54e+00**								

TABLE B-7 (continued)
Noncarcinogenic Calculations for the Peerless Photo Products Site (I.D. # 1-52-031)

Future Adult Park Visitor

	Surface Soil Ingestion			Surface Soil Dermal Contact		
Chemical	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient
Aluminum	0.00	1.00e+00	0.00	0.00	2.00e-01	0.00
Antimony	5.50e-07	4.00e-04	1.37e-03	5.30e-09	8.00e-05	6.62e-05
Barium	3.79e-04	7.00e-02	5.41e-03	3.65e-06	1.40e-02	2.61e-04
Cadmium (diet)	2.40e-06	1.00e-03	2.40e-03	2.32e-08	2.00e-04	1.16e-04
Cadmium (water)	0.00	5.00e-04	0.00	0.00	1.00e-04	0.00
Chromium	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Cobalt	0.00	NA	--	0.00	NA	--
Copper	6.23e-05	3.70e-02	1.69e-03	6.01e-07	7.40e-03	8.12e-05
Iron	0.00	3.00e-01	0.00	0.00	6.00e-02	0.00
Manganese (diet)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00
Manganese (water)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00
Mercury	6.11e-08	3.00e-04	2.04e-04	5.89e-10	6.00e-05	9.81e-06
Nickel	0.00	2.00e-02	0.00	0.00	4.00e-03	0.00
Selenium	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Silver	1.37e-04	5.00e-03	2.74e-02	1.32e-06	1.00e-03	1.32e-03
Thallium	0.00	NA	--	0.00	NA	--
Vanadium	0.00	7.00e-03	0.00	0.00	1.40e-03	0.00
Zinc	1.67e-05	3.00e-01	5.55e-05	1.61e-07	6.00e-02	2.68e-06
HI			**3.85e-02**			**1.85e-03**
TOTAL HI	**4.03e-02**					

TABLE B-7 (continued)
Noncarcinogenic Calculations for the Peerless Photo Products Site (I.D. # 1-52-031)

Future Child (age 1-6) Park Visitor

Chemical	Surface Soil Ingestion			Surface Soil Dermal Contact		
	Dose	RFDo	Hazard Quotient	Dose	RFDd	Hazard Quotient
Aluminum	0.00	1.00e+00	0.00	0.00	2.00e-01	0.00
Antimony	7.69e-06	4.00e-04	1.92e-02	1.61e-08	8.00e-05	2.01e-04
Barium	5.30e-03	7.00e-02	7.57e-02	1.11e-05	1.40e-02	7.91e-04
Cadmium (diet)	3.36e-05	1.00e-03	3.36e-02	7.03e-08	2.00e-04	3.51e-04
Cadmium (water)	0.00	5.00e-04	0.00	0.00	1.00e-04	0.00
Chromium	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Cobalt	0.00	NA	--	0.00	NA	--
Copper	8.73e-04	3.70e-02	2.36e-02	1.82e-06	7.40e-03	2.47e-04
Iron	0.00	3.00e-01	0.00	0.00	6.00e-02	0.00
Manganese (diet)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00
Manganese (water)	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00
Mercury	8.55e-07	3.00e-04	2.85e-03	1.79e-09	6.00e-05	2.98e-05
Nickel	0.00	2.00e-02	0.00	0.00	4.00e-03	0.00
Selenium	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Silver	1.91e-03	5.00e-03	3.83e-01	4.00e-06	1.00e-03	4.00e-03
Thallium	0.00	NA	--	0.00	NA	--
Vanadium	0.00	7.00e-03	0.00	0.00	1.40e-03	0.00
Zinc	2.33e-04	3.00e-01	7.77e-04	4.87e-07	6.00e-02	8.12e-06
HI			**5.39e-01**			**5.63e-03**
TOTAL HI	**5.44e-01**					

TABLE B-8
Noncarcinogenic Risk for the Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	Future On-site Adult Resident				Future On-site Child (age 1-6) Resident				Future Off-site Adult Resident			
	Surface Soil Ingestion	Surface Soil Dermal Contact	Ground Water Ingestion	Ground Water Dermal Contact	Surface Soil Ingestion	Surface Soil Dermal Contact	Ground Water Ingestion	Ground Water Dermal Contact	Surface Soil Ingestion	Surface Soil Dermal Contact	Ground Water Ingestion	Ground Water Dermal Contact
Aluminum			5.78e-02	8.13e-04			2.70e-01	1.52e-03			5.78e-02	8.13e-04
Antimony	1.37e-03	6.62e-05			1.92e-02	2.01e-04						
Barium	5.41e-03	2.61e-04			7.57e-02	7.91e-04						
Cadmium (diet)	2.40e-03	1.16e-04			3.36e-02	3.51e-04			1.86e-04	8.98e-06		
Cadmium (water)			1.27e+01	1.16e-01			5.95e+01	2.17e-01			1.27e+01	1.16e-01
Chromium			6.45e-02	1.17e-03			3.01e-01	2.19e-03	1.17e-03	5.62e-05	6.45e-02	1.17e-03
Cobalt												
Copper	1.69e-03	8.12e-05			2.36e-02	2.47e-04			2.40e-04	1.16e-05		
Iron			1.11e+00	1.56e-02			5.18e+00	2.92e-02			1.11e+00	1.56e-02
Manganese (diet)									3.96e-04	1.91e-05		
Manganese (water)			2.30e-01	3.24e-03			1.08e+00	6.07e-03			2.30e-01	3.24e-03
Mercury	2.04e-04	9.81e-06			2.85e-03	2.98e-05			1.83e-04	8.83e-06		
Nickel			2.04e-02	1.85e-05			9.53e-02	3.47e-05			2.04e-02	1.85e-05
Selenium									4.52e-05	2.18e-06		
Silver	2.74e-02	1.32e-03			3.83e-01	4.00e-03			3.47e-02	1.67e-03		
Thallium												
Vanadium			2.92e-02	4.11e-04			1.36e-01	7.70e-04			2.92e-02	4.11e-04
Zinc	5.55e-05	2.68e-06	7.79e-03	4.24e-05	7.77e-04	8.12e-06	3.63e-02	7.94e-05	5.88e-05	2.83e-06	7.79e-03	4.24e-05
HI	**3.85e-02**	**1.85e-03**	**1.43e+01**	**1.37e-01**	**5.39e-01**	**5.63e-03**	**6.66e+01**	**2.56e-01**	**3.70e-02**	**1.78e-03**	**1.43e+01**	**1.37e-01**
TOTAL HI	**1.44e+01**				**6.74e+01**				**1.44e+01**			

TABLE B-8 (continued)

Noncarcinogenic Risk for the Peerless Photo Products Site (I.D. # 1-52-031)

	Future Off-site Child (age 1-6) Resident				Future Off-site Youth (age 9-18) Trespasser		Future On-site Park Groundskeeper			Future Adult Park Visitor		Future Child (age 1-6) Park Visitor	
Chemical	Surface Soil Ingestion	Surface Soil Dermal Contact	Ground Water Ingestion	Ground Water Dermal Contact	Surface Soil Ingestion	Surface Soil Dermal Contact	Surface Soil Ingestion	Surface Soil Dermal Contact	Ground Water Ingestion	Surface Soil Ingestion	Surface Soil Dermal Contact	Surface Soil Ingestion	Surface Soil Dermal Contact
Aluminum			2.70e-01	1.52e-03					2.07e-02				
Antimony							1.56e-02	1.57e-04		1.37e-03	6.62e-05	1.92e-02	2.01e-04
Barium							6.16e-02	6.18e-04		5.41e-03	2.61e-04	7.57e-02	7.91e-04
Cadmium (diet)	2.61e-03	2.72e-05			1.96e-04	1.83e-05	2.74e-02	2.75e-04		2.40e-03	1.16e-04	3.36e-02	3.51e-04
Cadmium (water)			5.95e+01	2.17e-01					4.55e+00				
Chromium	1.63e-02	1.71e-04	3.01e-01	2.19e-03	1.22e-03	1.15e-04			2.31e-02				
Cobalt													
Copper	3.36e-03	3.51e-05			2.52e-04	2.36e-05	1.92e-02	1.93e-04		1.69e-03	8.12e-05	2.36e-02	2.47e-04
Iron			5.18e+00	2.92e-02					3.97e-01				
Manganese (diet)	5.55e-03	5.80e-05			4.16e-04	3.90e-05							
Manganese (water)			1.08e+00	6.07e-03					8.23e-02				
Mercury	2.56e-03	2.68e-05			1.92e-04	1.80e-05	2.32e-03	2.33e-05		2.04e-04	9.81e-06	2.85e-03	2.98e-05
Nickel			9.53e-02	3.47e-05					7.29e-03				
Selenium	6.33e-04	6.61e-06			4.74e-05	4.45e-06							
Silver	4.86e-01	5.07e-03			3.64e-02	3.42e-03	3.11e-01	3.13e-03		2.74e-02	1.32e-03	3.83e-01	4.00e-03
Thallium													
Vanadium			1.36e-01	7.70e-04					1.04e-02				
Zinc	8.23e-04	8.60e-06	3.63e-02	7.94e-05	6.17e-05	5.79e-06	6.32e-04	6.35e-06	2.78e-03	5.55e-05	2.68e-06	7.77e-04	8.12e-06
HI	**5.17e-01**	**5.41e-03**	**6.66e+01**	**2.56e-01**	**3.88e-02**	**3.64e-03**	**4.38e-01**	**4.40e-03**	**5.10e+00**	**3.85e-02**	**1.85e-03**	**5.39e-01**	**5.63e-03**
TOTAL HI	**6.74e+01**				**4.24e-02**		**5.54e+00**			**4.03e-02**		**5.44e-01**	

APPENDIX C

Well Search Report

ERM-Northeast

175 Froehlich Farm Blvd.
Woodbury, NY 11797
(516) 921-4300
(516) 921-5637 (Fax)

8 June 1995

Mr. Richard Rocha
Environmental Project Engineer
Agfa Division of Bayer Corporation
100 Challenger Road
Ridgefield Park, New Jersey 07660-2199

ERM

Re: Well Search Report
Agfa Division of Bayer Corporation (Peerless Photo Products Site
ID No.: 1-52-031)
Shoreham, New York

Dear Mr. Rocha:

ERM-Northeast (ERM) is pleased to submit this letter report concerning the well search performed in the vicinity of the Agfa's above referenced site, as per your authorization letter of 3 May 1995. The outline provided in your letter of 3 May was followed to prepare this letter report.

PURPOSE AND OBJECTIVE

The well search was conducted to identify potential ground water receptors in the area surrounding the Agfa facility in Shoreham, New York. This facility was previously owned by Peerless Photo Products. The intent of the well search was to identify potential public and private wells in the area, as well as to identify the use of these water supplies. The well search will be utilized as part of the site's risk assessment.

SCOPE OF WORK

The Scope of Work followed to perform this well search investigation is outlined in ERM's proposal dated 25 April 1995 and is summarized here. The area of investigation is comprised of a half mile radius of the site in the upgradient and side gradient directions and a two-mile distance in the downgradient direction, ending at the Long Island Sound. This area of interest is outlined in Figure 1.

Since there is no single comprehensive source for well information in this area, the following sources were investigated:

- NYSDEC Water Resources Well Information Records Review: includes well maps, well completion reports, well permits, and pumpage rates;
- Suffolk County Department of Health Services (SCDHS) File Review: information on water companies, authorities and districts in the area of interest;
- Suffolk County Water Authority (SCWA) File Review: includes customer lists, water distribution maps, current supply well status, pumpage rates and existence of any wellhead treatment;
- U.S. Department of Interior, Geological Survey (USGS) File Review: search USGS database, and obtain well record information as well as use codes used to identify well type; and
- Tax Assessor's Maps Review: obtain block and lot numbers for properties in area of interest;
- Area of Interest Site Reconnaissance: perform a windshield survey to determine street addresses of all residence and businesses within the area.

This well search identified public and private drinking water supply, industrial, and irrigation wells.

TECHNICAL APPROACH

For the purposes of this report, the approach to identifying public and private wells are discussed separately.

Public Wells: Public supply wells were initially identified by reviewing the NYSDEC Division of Water Resources files. These files contain maps with wells plotted, well completion reports, and annual pumpage rate reports for permitted wells. The SCWA was then contacted to confirm the wells

identified through the NYSDEC and to determine the current status of these wells. The SCDHS was also contacted to determine whether any other water supply companies, authorities, or districts are located within the target area.

Private Wells: The existence of private wells is much less straightforward to determine. Some private wells can be identified from the NYSDEC maps and well completion reports. The NYSDEC maps typically include those wells with greater than 45 gpm capacity and/or wells of geological interest to the State. The USGS maintains a list and mapping of wells used by the USGS for monitoring purposes. These wells were also included in the search.

ERM

Because these two sources are not necessarily comprehensive, additional "potential" wells were identified by comparing SCWA customer lists (organized by address) with all identifiable addresses in the area of investigation. A list of addresses in the area of investigation was compiled by a windshield survey. The SCWA customer list was obtained from SCWA through a Freedom of Information Act request. This customer list consisted of a computer print out of customers by addresses. It should be noted that numbered street addresses were not available for all customers. In some cases, the address consists only of a street name.

Addresses in the area of investigation which are not reported to be hooked up to SCWA (based on SCWA's customer printout list) were considered as "potential" wells. For addresses identified in this category, further investigation was performed. This included an additional windshield survey to confirm the addresses and identify property owners by posted names at residences. This information was then provided to SCWA for a more detailed review of their database to determine if the properties were hooked up to public water.

FINDINGS

Public Wells

Four public water supply wells were located within the target area (Table 1, see Figure 1). These wells are currently owned by the SCWA, but were originally owned by the Shorewood Water Corporation. Only three of these wells are currently used by the SCWA: Briarcliff Road #1, Briarcliff Road #2 and Tower Hill Road #3A. Tower Hill Road #3 (S-17241) was retired and

replaced with Tower Hill Road #3A prior to the purchase of these wells by the SCWA. The Briarcliff Road wells require treatment with granulated activated carbon (GAC) due to pesticide (dactal) contamination. These wells are not used in winter, because the GAC treatment system would freeze. According to the SCWA, in the 1994 Annual Production Report to the NYSDEC, the following actual pumpage rates were listed:

- Briarcliff Road #1: 46,136,000 gallons per year (2,782 hours in operation);
- Briarcliff Road #2: 87,430,000 gallons per year (4,763 hours in operation); and
- Tower Hill Road #3A: 44,916,000 gallons per year (1,731 hours in operation).

Private Wells

Eight private wells were identified within the target area through NYSDEC and USGS records (Table 2, see Figure 1). Five of these were listed as being owned by Peerless Photo at the time the wells were installed. One domestic well (S-36764) was identified downgradient of the site; however, SCWA records indicated that Dr. G. Pardo, residing at 8 Highland Down, is currently hooked up to public water. Therefore, the use of this well (S-36764) is unknown, but suspected not to be used for potable water.

One farm irrigation well (S-10064) was also identified upgradient of the site. One additional well (S-421), dated prior to 1906, was reported as "withdrawal, unspecified". Given the age of this well, its current use is questionable and exact location is not clear. Additional information on these wells is provided in Table 2.

An evaluation of SCWA records indicate all addresses identified during the windshield survey in this well search investigation have public water hook up.

We hope that you are pleased with this letter report. Please let us know if you have any questions so that ERM can address them.

Respectfully submitted,

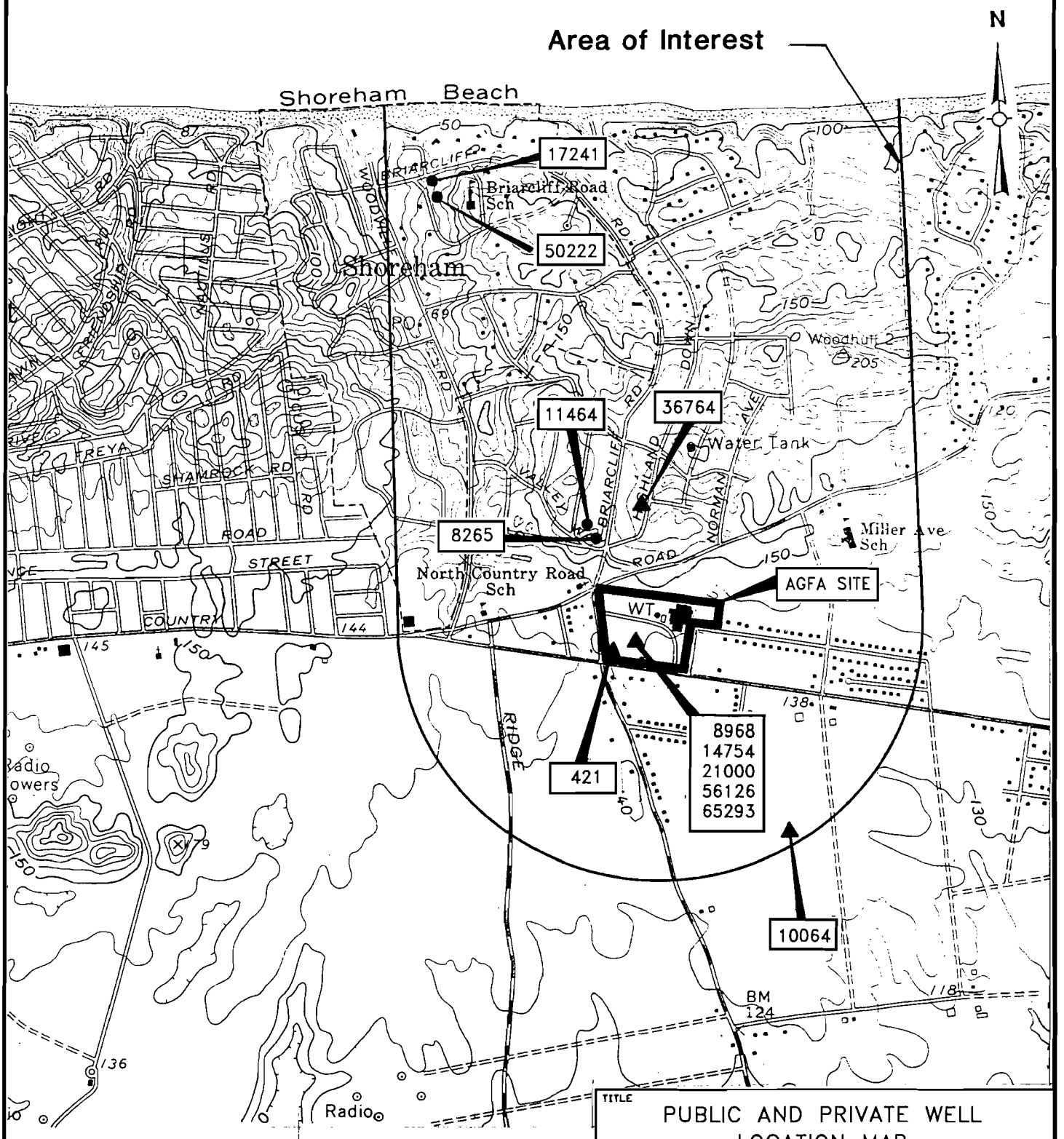
Joseph Camanzo
Project Scientist

Craig Werle

Craig A. Werle, P.G.
Principal

attachments

cc: J. L. Basile, Groundwater Technology, Inc.
S.A. Davis, Esq., Huber Lawrence & Abell
R.L. Shuler, Ph.D., ENVIRON Corporation



LEGEND

- ▲ Private Wells
- ● Public Wells

0 1000 2000

Approx. Scale in Feet

Note:
Private and Public Well Locations are Based on Well Completion Reports and Other Available Data and May be Approximate

SOURCE: U.S.G.S. Quadrangle Map, Middle Island, NY

TITLE

PUBLIC AND PRIVATE WELL LOCATION MAP
PEERLESS PHOTO PRODUCTS SITE
SHOREHAM, NY

PREPARED FOR

AGFA DIVISION

ERM-Northeast
Environmental Resources Management

SCALE	FIGURE
GRAPHIC	1

DRAWN	JOB NO.	FILE NAME	DATE
S.P.	1009.001	GEN-V	6/2/95

TABLE 1

PUBLIC SUPPLY WELLS IN VICINITY OF AGFA FACILITY, SHOREHAM, NY

Well Number	Well Owner	Location	Installation Date	Total Depth (feet)	Depth to Grd. Water (feet)	Capacity (gpm)	Listed Use	Actual Use If Known to be Different	Comments
S- 8265	SCWA	Briarcliff Road #1	11/50, new pump 6/81	186	137	325	public water supply	not used in winter (1)	Originally owned by Shorewood Water Corporation. New pump installed in 1981. Requires GAC treatment for Dactal contamination.
S-11464	SCWA	Briarcliff Road #2	7/54	175	137	300	water supply	not used in winter (1)	Originally owned by Shorewood Water Corporation. Requires GAC treatment for Dactal contamination.
S-17241	SCWA	Tower Hill Road #3	4/60	97	52	500	public use	not in use (2)	Originally owned by Shorewood Water Corporation.
S-50222	SCWA	Tower Hill Road #3a	5/74	212	44	500	none listed	public water supply	Replaces S-17241 (Tower Hill Road #3). Originally owned by Shorewood Water Corporation.

SCWA=Suffolk County Water Authority

References : All information obtained from the NYSDEC Well Completion Report unless otherwise noted. (NYSDEC, 1995)

(1) Personal Communication with the SCWA Laboratory on 5/19/95.

(2) Personal Communication with the SCWA Technical Assistance Group, 5/19/95.

TABLE 2

PRIVATE SUPPLY WELLS IN VICINITY OF AGFA FACILITY, SHOREHAM, NY

Well Number	Well Owner	Location	Installation Date	Total Depth (feet)	Depth to Grd. Water (ft)	Capacity (gpm)	Listed Use	Actual Use If Known to be Different	Comments
S- 8968	Peerless Photo	Tesla Road, Shoreham	12/50	167	115	200	general industrial		Suspected not in use - pump moved to S-56126
S-10064	Fred Nedos	Rt. 25A & Randall, Shoreham	8/52	160	105	500	farm irrigation		
S-14754	Peerless Photo	Rt. 25A, Shoreham	7/56	177	115	200	general		Replaces older well (S-1865) completed in 1940. (1)
S-21000	Peerless Photo	Rt. 25A, Shoreham	8/61	168	114	220	general		
S-36764	Dr. G. Pardo	Highland Down, Shoreham	2/70	175	145	11	domestic		Address hooked up to SCWA water.
S-56126	Peerless Photo	Rt. 25A, Shoreham	12/75	184	112	190	NA	recharge well, not currently in use (2)	Completion Report notes that pump from well S-8968 moved to this well.
S-65293	Peerless Photo	Rt. 25A, Shoreham	12/78	180	NA	250	NA	industrial well, not currently in use (2)	
S-421 (3)	N. Tesla	Randall & Rt 25A Shoreham	prior to 1906	347	NA	NA	withdrawal, unspecified		Information obtained from USGS files. (3)

References : All information obtained from the NYSDEC Well Completion Report unless otherwise noted. (NYSDEC, 1995)

(1) Official Record of the Decision concerning Long Island Well Application No. W-1461, 6/7/55.
(2) NYSDEC Industrial Well annualized pumpage report database. (NYSDEC, 1995)
(3) File search information at USGS office. (USGS, 1995)

NA = Not Available

APPENDIX D

STEP I
FISH AND WILDLIFE IMPACT ANALYSIS

PEERLESS PHOTO PRODUCTS SITE
I.D. NO. 1-52-031
SHOREHAM, NEW YORK

CONTENTS

CONTENTS
(continued)

Page

TABLES

FIGURES

PLATE

I. INTRODUCTION

The Peerless Photo Site (Site) is located in the village of Shoreham, town of Brookhaven, Suffolk County, Long Island, New York. The Site has been classified as a Class 2 Inactive Hazardous Waste Disposal Site under the New York State Inactive Hazardous Waste Site Program. As requested in New York State Department of Environmental Conservation (NYSDEC) comments on the June 1995 Risk Assessment conducted as part of the Phase 1 Remedial Investigation (ENVIRON 1995), a modified Step I Fish and Wildlife Impact Analysis has been conducted for the Site. The results of this Step I analysis, which was conducted by ENVIRON Corporation (ENVIRON), are contained in this appendix.

A. Summary of Findings

The results of this Step I analysis indicate that there are no aquatic habitats present within the study area and wetland habitats are limited to small artificial basins which are only temporarily flooded. Thus, habitat for wetland- and aquatic-dependent fish and wildlife species is absent or very limited within the study area. There are no significant habitats or regulated wetlands present within the study area, nor are there any known recent occurrences of rare or endangered plant or animal species. Thus, a Step II analysis is not needed.

B. Scope of Work

This Step I analysis follows NYSDEC guidance for such assessments (NYSDEC 1994), as modified in a NYSDEC-approved site-specific scope of work dated 9 May 1996. This Step I analysis includes the following major components:

- Description of Existing Habitats - this component provides a description of the habitat types present on the Site and in the surrounding area. Particular attention is given to

identifying any special resource areas, such as regulated wetlands, streams, lakes, and other significant habitats.

- Description of Fish and Wildlife Resources - this component provides a description of the fish and wildlife species that could potentially utilize the habitat types present on the Site and in the surrounding area. Particular attention is given to identifying any rare or endangered species which may be present.

- Description of Fish and Wildlife Resource Values - this component provides a qualitative appraisal of habitat quality, in terms of the ability of the study area habitats to support fish and wildlife species, and of the value of these fish and wildlife resources to humans.

C. Technical Approach

In this appendix, the "Site" is defined as the Peerless Photo property (Figure D-1). The "study area" is defined as the area within a 0.5-mile radius of the Peerless Photo property. A description of the fish and wildlife resources and cover (habitat) types present within the study area was developed by conducting a field reconnaissance survey, reviewing the literature for relevant material, and consulting with natural resource agencies. A one-day field reconnaissance survey of the study area was conducted by an ENVIRON biologist on 3 June 1996. During this survey, the general habitat types determined from available mapping and aerial photographs were field-checked against actual conditions, a qualitative appraisal of habitat quality was made for each habitat type/location within the study area, and observations of fauna and flora were noted.

Specific information sources used for this evaluation include: (1) National Wetland Inventory (NWI) and U.S. Geological Survey (USGS) topographical maps for the Middle Island 7.5-minute quadrangle; (2) NYSDEC wetland maps; (3) soil survey of Suffolk County (USDA 1975); (4) color infrared aerial photographs of the Site and surrounding area taken in April 1994; (5) Christmas Bird Count data compiled by the National Audubon Society; and (6)

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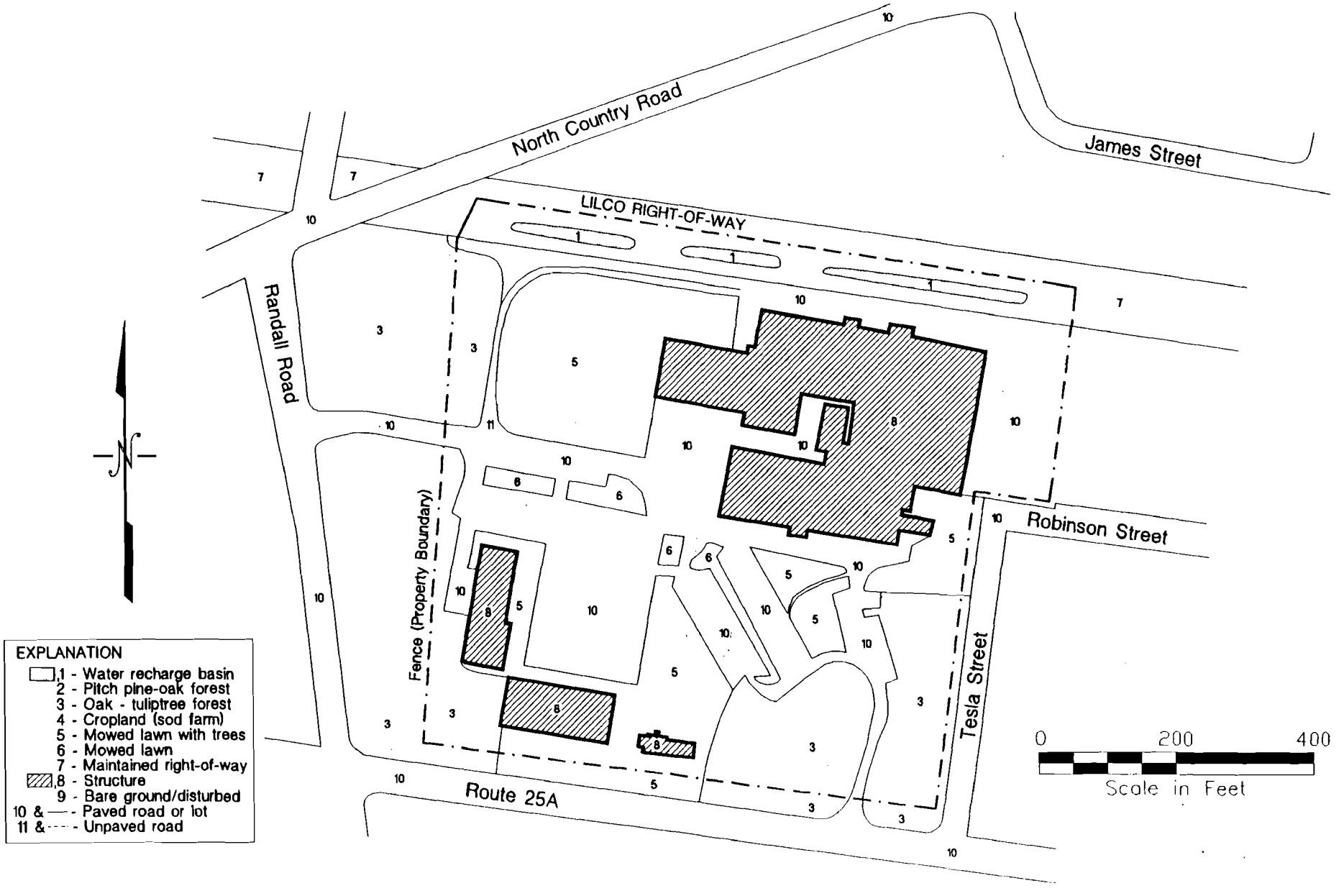

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SITE MAP

Figure
D-1

New York State Breeding Bird Atlas project data (Andrle and Carroll 1988; NYSDEC 1996). In addition, the available literature was searched for reports containing relevant data pertaining to the study area and for general references on the habitats and geographical ranges of wildlife species.

The following state and federal natural resource agencies were contacted for information concerning fish and wildlife resources (including rare and endangered species): (1) U.S. Fish and Wildlife Service (USFWS); (2) NYSDEC Region 1 office; (3) NYSDEC Wildlife Pathology Unit; (4) NYSDEC Toxic Substances Monitoring Program; and (5) New York State Natural Heritage Program.

II. SITE AND STUDY AREA DESCRIPTION

The Site is located in a predominantly residential area and is bordered to the south by Route 25A, to the west by Randall Road, to the north by residences and a Long Island Lighting Company (LILCO) power line right-of-way (ROW), and to the east by Tesla Street and residential properties (Figure D-1). The Site is enclosed by a 6-foot high chain-link fence and is guarded 24 hours per day. The perimeter of the fenced area is inspected daily. Structures on the 16.2-acre Site include the main plant, composed of 13 interconnected buildings, two administration buildings, a wastewater treatment facility, and two small storage sheds. Portions of the Site are also covered by asphalt roads and parking lots. Recharge basins associated with an on-site wastewater treatment plant are located on the northern boundary of the Site, adjacent to the LILCO ROW. Manufacturing operations on the Site ceased in 1987, at which time the wastewater treatment plant was closed (Fluor Daniel GTI, Inc. 1995).

The study area is located within the Coastal Lowlands ecozone (Andrle and Carroll 1988). The Coastal Lowlands ecozone, a part of the Atlantic Coastal Plain, is characterized by low relief, with most elevations below 200 feet above mean sea level (msl). Scrub oaks dominate the ecozone. Pitch pine is the dominant conifer, often occurring in mixed stands with scrub oak. In addition, tulip poplar, sweet birch, sugar maple, red maple, elm, and other hardwood species occur. Forested areas, which account for less than a third of the total area of the ecozone, and farmland have been, and continue to be, lost to rapid urban and suburban development (Andrle and Carroll 1988).

The climate in this region of Long Island is moderated by the ocean. Annual precipitation averages 45 inches (114 cm) and annual snowfall averages 18 inches (46 cm). Mean daily air temperatures range from a minimum of -3°C in January to a maximum of 29°C in July. The

growing season averages 192 days (range of 180 to 210 days) (Connor 1971; Andrle and Carroll 1988; Golet et al. 1993).

The topography of the southern half of the study area, including the Site, is nearly level to gently sloping, with elevations ranging from approximately 130 to 140 feet above msl. The northern half of the study area exhibits more relief, consisting of rolling terrain; elevations range from about 100 to 200 feet msl.

Soils in the southern half of the study area fall within the Haven-Riverhead association and are composed of deep (20 to 36 inches), nearly level to gently sloping, well-drained, medium (loam) to moderately coarse (sandy loam) textured soils on outwash plains (USDA 1975). In the northern half of the study area, soils are of the Carver-Plymouth-Riverhead association. These soils are deep (18 to 36 inches), rolling, excessively drained to well drained, coarse (gravel and sand) to moderately coarse (sandy loam) textured and are located on moraines (USDA 1975). Portions of the northern half of the study area are also composed of cut and fill land, where the soils have been modified through grading operations associated with development (USDA 1975). Soils on the Site consist of Haven loam (0 to 2 percent slopes) and graded Riverhead/Haven soils (0 to 8 percent slopes) (USDA 1975).

III. DESCRIPTION OF EXISTING HABITATS

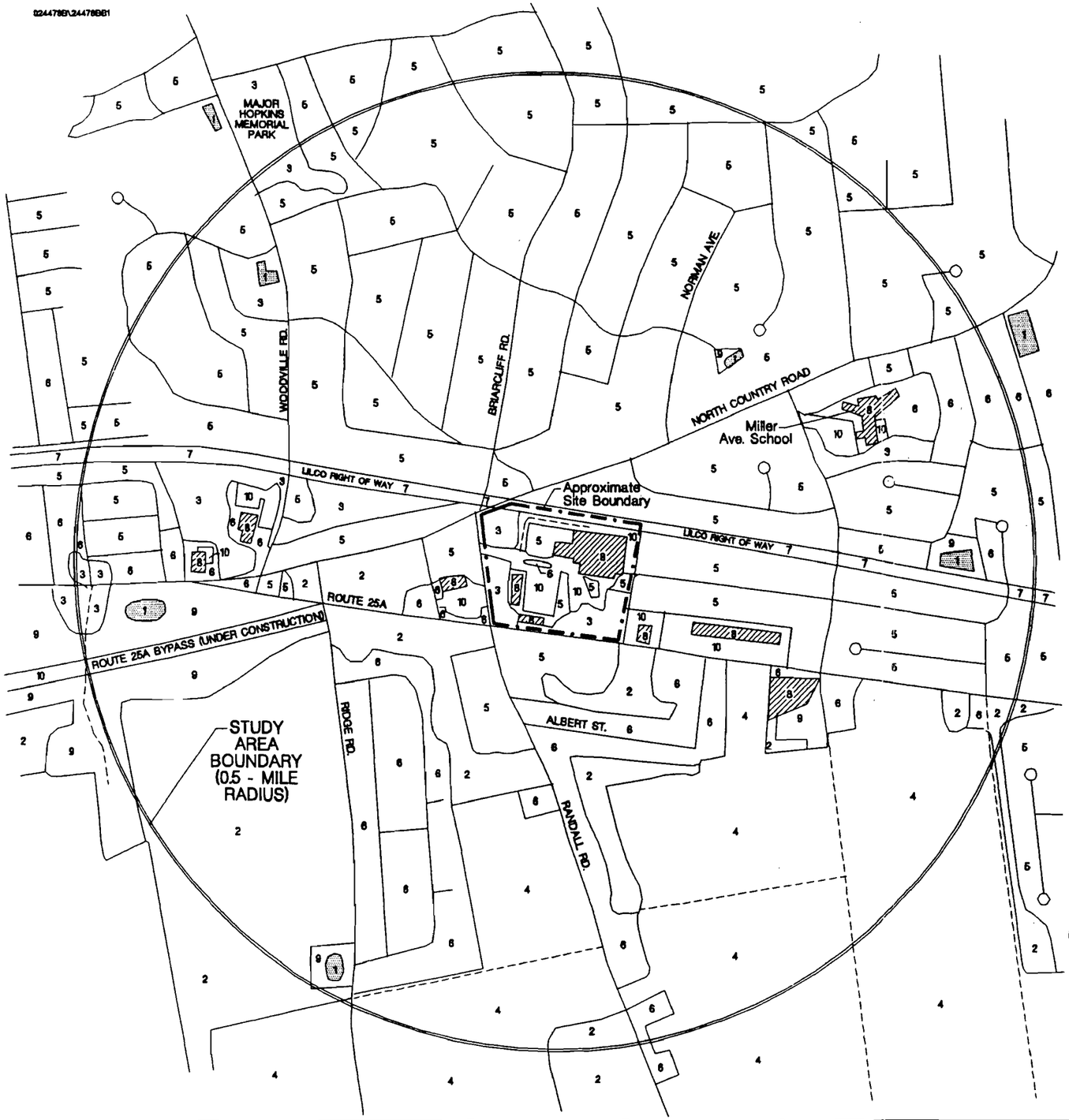
In this section, the existing habitat types present within the study area are delineated and described. Habitat type descriptions utilized in this assessment generally follow the habitat classification scheme used by the New York State Natural Heritage Program (Reschke 1990). Wildlife use of these habitats is described in Section IV.

A. Aquatic/Wetland Habitats Within the Study Area

There are no natural water bodies (lakes, ponds, rivers, and streams) present on the Site or within the study area. The nearest major water body is Long Island Sound, approximately one mile north of the Site (0.5 miles north of the study area boundary). A number of artificially excavated basins occur within the study area (Figure D-2) and represent the only aquatic/wetland habitat types present within the study area:

Covertype 1 - Artificial Water Basin (Water Recharge Basin). These are constructed depressions near a road or development that receive runoff from paved surfaces and allow the water to percolate through the soil, thereby recharging the underlying groundwater. These basins are generally flooded only intermittently during periods of heavy precipitation. The type and amount of vegetation is variable, typically consisting of herbaceous species (grasses and forbs) and small woody shrubs.

Five such artificially excavated basins occur within the study area, only one of which appears on NWI maps (USFWS 1994). This basin, along Woodville Road in the northwestern corner of the study area, is classified as a Palustrine Unconsolidated Bottom, semi-permanently flooded, excavated wetland (Figure D-3). The remaining four basins are of relatively recent construction, as evidenced by the sparseness of the vegetation in and surrounding these basins (Figure D-2). All five of these basins, except for the newly



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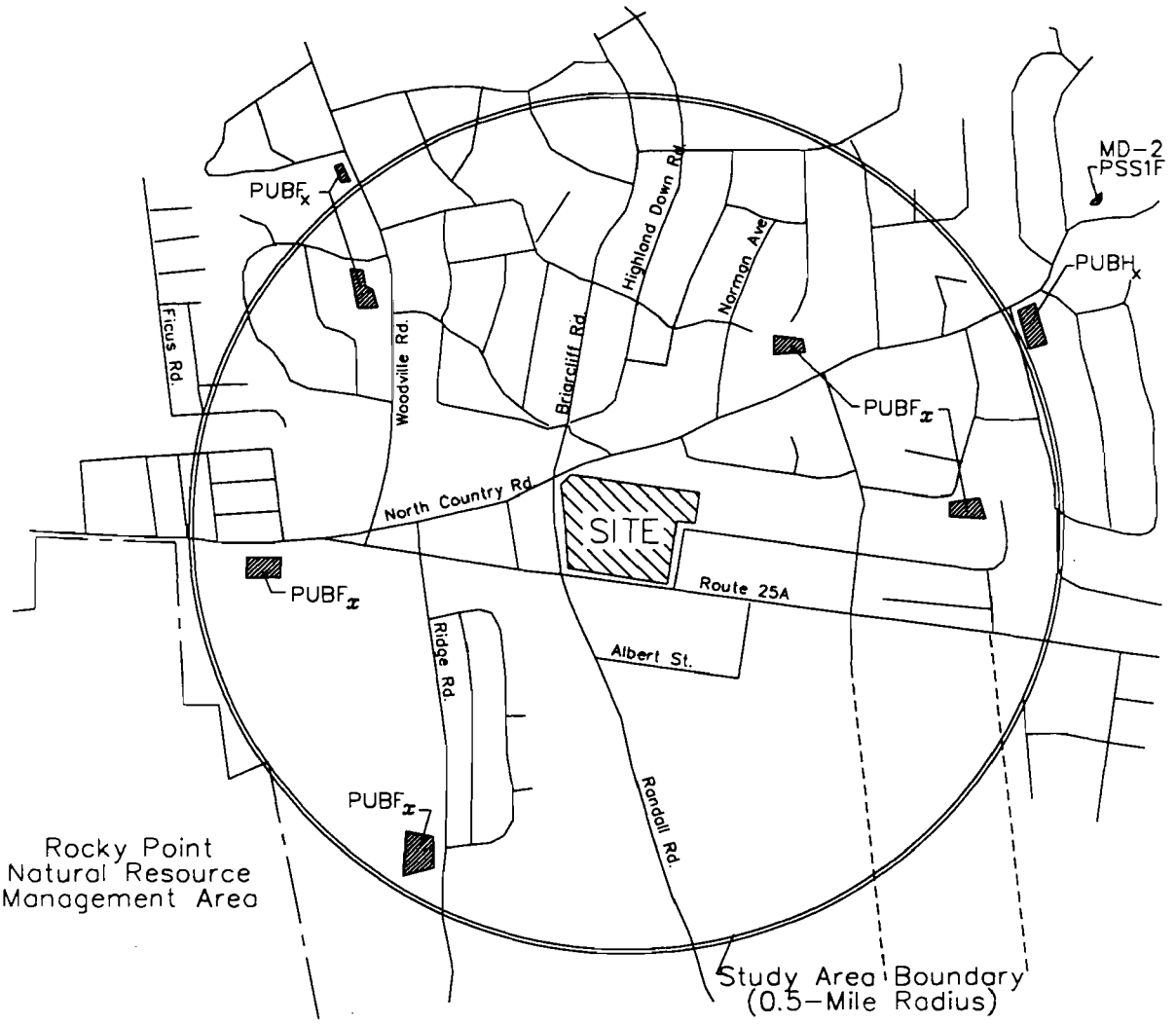
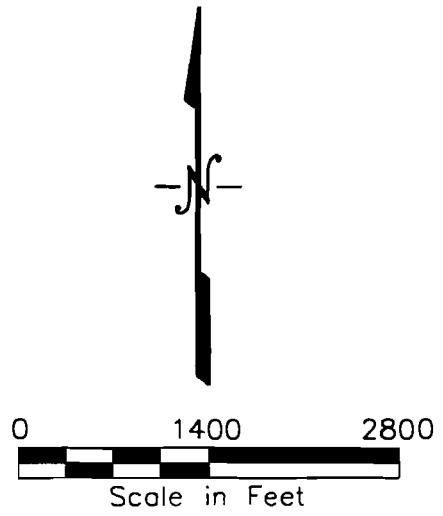
COVER TYPES WITHIN A 0.5-MILE RADIUS OF THE PEERLESS PHOTO SITE

Figure
D-2





EXPLANATION

- Peerless Photo Site
- Artificial water basin (water recharge basin)
- ——— Paved road
- - - - - - Unpaved road

Wetland Types (Cowardin et al. 1979)

- PSS – Palustrine scrub – shrub
- PUB – Palustrine unconsolidated bottom

Modifiers

- 1 – Broad-leaved deciduous
- F – Semi-permanantly flooded
- H – Permanently flooded
- x – Excavated

Note: Wetlands with x in italics (x) are not shown on NWI maps

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WETLANDS WITHIN A 0.5-MILE RADIUS OF THE PEERLESS PHOTO SITE

Figure D-3

constructed one along Route 25A in the extreme western portion of the study area (Figure D-2), are fenced with 6-foot chain-link fences topped with barbed wire.

Two additional excavated basins occur just outside of the study area boundaries; both appear on NWI maps (Figure D-3). The first, along Woodville Road, is classified as a Palustrine Unconsolidated Bottom, semi-permanently flooded, excavated wetland. The second, along North County Road, is classified as a Palustrine Unconsolidated Bottom, permanently flooded, excavated wetland and represents the nearest permanently flooded wetland or water body to the study area.

No NYSDEC-regulated wetlands occur on, or within a 0.5-mile radius of, the Site (NYSDEC 1991). The nearest NYSDEC-regulated wetland (MD-2) occurs approximately 0.7 miles northeast of the Site (Figure D-3). This wetland is shown on National Wetland Inventory maps (USFWS 1994) as a palustrine scrub-shrub, broad-leaved deciduous, semi-permanently flooded wetland.

B. Terrestrial Habitats Within the Study Area

Terrestrial habitats identified on, or within a 0.5-mile radius of, the Site are shown on Figure D-2 and include:

Covertype 2 - Pitch pine-oak forest. This cover type is the predominant forested habitat type present within the study area and mainly occurs south of Route 25A (Figure D-2). A relatively large woodlot located along Ridge Road is composed of this habitat type and represents the largest non-agricultural parcel of undeveloped land (about 70 acres) within the study area. Within this woodlot, the dominant tree species in the overstory is red oak (*Quercus rubra*), with pitch pine (*Pinus rigida*) occurring at relative densities ranging from zero to about 30 percent. The canopy height is approximately 60 feet and canopy cover is about 75 percent. The understory is relatively open. Typical species within the shrub stratum include blueberry (*Vaccinium spp.*). The ground stratum is relatively

well-developed (50 to 60 percent cover) and is dominated by bracken fern (*Pteridium aquilinum*). Snags (standing dead trees) are uncommon.

Covertype 3 - Oak-tulip tree forest. This cover type occurs in scattered mature woodlots on the Site and in the northern portion of the study area (Figure D-2). Typical canopy heights range from 60 to 80 feet with canopy cover ranging from 35 to 65 percent. The dominant tree species present in the overstory is red oak. The understory/shrub stratum, which is typically open, includes species such as flowering dogwood (*Cornus florida*), black cherry (*Prunus serotina*), sassafras (*Sassafras albidum*), black birch (*Betula lenta*), sugar maple (*Acer saccharum*), and white oak (*Quercus alba*). Low shrubs include blueberry and sassafras. The ground stratum is variable (40 to 90 percent cover) and is typically dominated by woody sprouts (e.g., sassafras) and other species such as poison ivy (*Rhus radicans*). Climbing vines, typically grape (*Vitis spp.*) and poison ivy, are also abundant in some areas. Snags are very uncommon in this cover type.

Covertype 4 - Cropland. Cropland habitat types contained within the study area are restricted to sod farms located within the southern portion of the study area (south of Route 25A; Figure D-2). At the time of the field visit, fields varied from mature turf (in the process of being harvested) to bare dirt (newly planted or recently harvested areas). Vegetation consists of a monoculture of grass species, typically Kentucky bluegrass. Herbicide and pesticide use in such areas is often relatively high.

Covertype 5 - Mowed lawn with trees. This cover type is defined as residential, recreational, or commercial land in which the ground cover is dominated by clipped grasses and forbs, and which is shaded by at least 30 percent tree cover. Ornamental shrubs are also typically present at less than 50 percent cover (Reschke 1990). This habitat type dominates the study area north of Route 25A (Figure D-2). Older subdivisions within the northern portion of the study area often contain up to 60 percent tree cover. Mature (60 to 70 feet) native trees include those associated with Covertypes 2

and 3, especially red oak. Ornamental trees include species such as blue spruce (*Picea pungens*), gray birch (*Betula populifolia*), black cherry, Norway maple (*Acer platanoides*), Norway spruce (*Picea abies*), flowering dogwood, sugar maple, silver maple (*Acer saccharinum*), and northern white cedar or arbor vitae (*Thuja occidentalis*). Ornamental shrubs include species such as rhododendron, azalea and yews. Snags are very uncommon within this habitat type.

On-site areas of this habitat type are typically dominated by relatively mature (50 feet) red oak. Ornamental tree and shrub species include white pine (*Pinus strobus*), rhododendron, Norway spruce, gray birch, azalea, northern white cedar, and yews. Two small on-site areas surrounded by snow fences are unmowed.

Covertype 6 - Mowed lawn. This cover type is similar to Covertype 5 except that there is less than 30 percent cover by trees. This cover type is much less common than Covertype 5 within the study area and is generally restricted to the newer subdivisions, such as the one along Ridge Road, and the play fields associated with the Miller Avenue School (Figure D-2).

Covertype 7 - Maintained right-of-way. This cover type is associated with the LILCO power line right-of-way which runs through the center of the study area in an east-west direction (Figure D-2). Within the right-of-way, a maintained gravel or dirt path exists between the two sets of power lines. On either side of the road, dense woody growth 6 to 20 feet high occurs.

Covertype 8 - Structures. Non-residential structures located within the study area are shown on Figure D-2. Because of their large number, individual residences (associated with Covertypes 5 and 6) are not depicted on Figure D-2.

Covertype 9 - Bare ground/disturbed. This cover type includes unpaved parking lots and areas disturbed by recent construction (such as the Route 25A bypass and several

artificial water basins [water recharge basins]). Areas of bare dirt are interspersed with weedy herbaceous plants and/or small woody shrubs.

Covertype 10 - Paved road or lot. This cover type includes roads and parking lots covered by asphalt.

Covertype 11 - Unpaved road. This cover type includes unpaved roads and trails. Within the study area, this type of road is associated with sod farming on the southern portion of the study area (Figure D-2).

C. Significant Habitats

No significant habitats are present within the study area based on New York State Natural Heritage Program records (NYSDEC 1996). The nearest documented significant habitat (a tiger salamander pond) occurs between 1.5 and 2 miles southeast of the Site.

NYSDEC-regulated wetlands were discussed in Section III.A; none occur within the study area. Other habitats of note include the Rocky Point State Natural Resource Management Area which is managed by NYSDEC and is located southwest of the Site outside of the study area boundary (Figure D-3).

D. Observations of Stress

During the field visit, no evidence of stress was noted in the vegetation present on the Site or within the study area. Dead or dying trees were uncommon and those observed appear to be due to natural processes (such as insect infestation). Observed areas of bare ground were only associated with locations where current or recent construction has occurred.

IV. FISH AND WILDLIFE RESOURCES

Fish and wildlife species which may occur within the study area were determined through literature review, agency consultation, and a reconnaissance-level field survey. These species are discussed by major taxonomic group, below.

A. Birds

Through 1974, 410 species of birds have been definitely recorded in New York State, of which 228 are regular breeders (Bull 1985). Within Suffolk County, at least 283 species of birds are known to occur (NYSDEC 1996). No attempt was made to quantitatively assess the avian communities present in the study area. Bird species observed during the reconnaissance-level field survey were typical of those commonly found in suburban residential and deciduous forested habitats in north-central Long Island. Representative bird species which may occur within the study area are listed in Table D-1 (observed species are indicated).

1. Breeding Birds

The New York State Breeding Bird Atlas Database lists 86 bird species known or suspected of breeding in the two survey blocks encompassing the study area, including 65 species listed as confirmed breeders, 16 species listed as probable breeders, and 5 species listed as possible breeders (NYSDEC 1996) (Table D-2). Since the two survey blocks encompass a much larger area with more diverse habitats than the study area, not all of the species listed in Table D-2 would be expected to breed within the study area. For example, survey block 6753A encompasses a portion of Long Island Sound, thus including aquatic and wetland habitats not found within the study area. Thus, water-dependent bird species, such as waterfowl, rails, herons, and kingfishers, listed in Table D-2 as breeding within this block would not likely breed within the study area.

Similarly, survey block 6753B contains relatively large areas of undisturbed forested habitats not present within the study area. Thus, bird species which require large areas of relatively undisturbed and unfragmented forested habitat to breed, such as hawks, which are listed in Table D-2 as breeding within this block would not likely breed within the study area.

Table D-3 lists breeding bird species and densities typical of suburban-type wooded habitats on Long Island. These data are from breeding bird censuses conducted in a suburban bird sanctuary in northeastern Nassau County, Long Island (Richard 1993, 1994, 1995). The census plot includes relatively mature upland deciduous woods (oak-tulip tree forest type), suburban backyards, a cemetery, landscaped woods, and mixed shrub and herbaceous areas. These habitat types are broadly similar to those found within the study area. Based on these studies, the five most abundant breeding bird species found in these habitats are gray catbird, American robin, common grackle, house wren, and house sparrow (Table D-3).

2. Wintering Birds

To characterize winter bird usage of the study area, Christmas Bird Count data from 1990 to 1995 were used (Clinton and Ruscica 1991, 1992, 1993, 1994, 1995). Christmas Bird Counts are one day counts conducted annually during the months of December or January within a circle with a diameter of 15 miles. Birds seen or heard are enumerated during these counts.

The nearest Christmas Bird Count plot is centered approximately 7.5 miles southeast of the Site in Manorville, New York. Thus, the Site (and about half of the study area) is within the 15-mile diameter of the census plot. Table D-4 lists the number of birds, by species, observed during the past five surveys; a total of 153 species were observed during this period. Since the census plot encompasses a much larger area and more diverse habitats than are present in the study area, many of the species listed in Table D-4 may not occur within the study area. This is especially true of water-dependent species, such as loons and waterfowl, since there are no water bodies present in the study area and the

census plot stretches from Long Island Sound to the south shore of Long Island, including a number of rivers. Based upon five-year mean values, the ten most commonly observed bird species during the winter period which would be expected to regularly occur within the study area are: (1) European starling, (2) American crow, (3) red-winged blackbird, (4) mourning dove, (5) house sparrow, (6) common grackle, (7) house finch, (8) blue jay, (9) white-throated sparrow, and (10) rock dove.

B. Mammals

At least 35 species of mammals are known to occur in Suffolk County and in surface waters controlled by Suffolk County (NYSDEC 1996). Representative mammalian species which may occur in the study area are listed in Table D-1 (observed species are indicated). These include species, such as gray squirrels, which are commonly observed by suburban residents, as well as abundant, but less readily observed, species such as white-footed and house mice. Larger species, such as white-tailed deer, may occur in the larger woodlots present within the study area.

C. Amphibians and Reptiles

Eighteen species of amphibians, including nine species of salamanders and nine species of frogs/toads, are known to occur within Suffolk County. Excluding sea turtles, 18 species of reptiles, including seven species of turtles and 11 species of snakes, are known to occur within Suffolk County (NYSDEC 1996).

Representative amphibian and reptile species which may occur in the study area are listed in Table D-1. Amphibians are expected to be relatively uncommon based on the lack of aquatic habitats and wetland habitats other than artificial water basins (water recharge basins), although species better adapted to terrestrial habitats, such as the redback salamander, American toad, and wood frog, may be present. Turtle species which are adapted to terrestrial habitats, such as the eastern box turtle, may also occur within the study area. A variety of terrestrial snakes are likely to be found throughout the study area, including such common species as the eastern garter snake.

D. Fish and Other Aquatic Organisms

Because water bodies with permanent standing water are lacking within the study area, fish are not expected to occur within the study area. Aquatic invertebrates, such as mosquito larvae, which utilize temporarily flooded areas, such as artificial water basins (water recharge basins), may be present within these types of habitats. Overall, the abundance and diversity of aquatic invertebrates is expected to be relatively low. Terrestrial invertebrates, such as butterflies and moths, would be expected to be abundant within the study area.

E. Threatened and Endangered Species

Except for occasional transient individuals, no federally-listed or proposed endangered or threatened species are known to occur in the study area (USFWS 1996). Based on a search of the New York State Natural Heritage database, there are no recent (1970 to present) reported occurrences of state-listed endangered, threatened, or special concern species within the study area (NYSDEC 1996).

F. Observations of Stress

Based on consultations with the NYSDEC Toxic Substances Monitoring Program, there are no known records of fish and wildlife contamination or mortality events associated with the Site (Sloan 1996). During the field visit, no evidence of wildlife mortality or other adverse effects was observed on or near the Site.

G. Summary of Existing Wildlife Communities

Table D-1 provides a matrix of preferred and utilized habitats for each of the wildlife species likely to regularly occur within the study area. Thus, this table provides a summary of the potential wildlife community associated with each habitat type present within the study area.

V. FISH AND WILDLIFE RESOURCE VALUES

The evaluation of fish and wildlife resource values includes a qualitative discussion of the ability of the existing habitats within the study area to support fish and wildlife species as well as a discussion of the value of these fish and wildlife resources for human users. These aspects are discussed in the following two subsections.

A. Qualitative Evaluation of Habitat Quality

All of the habitats within the study area have been impacted by human-related activities to some degree. Residential development, especially in the northern portion of the study area, has resulted in the alteration and fragmentation of forested habitats through the clearing of trees for houses and lawns. With the exception of one relatively large (70 acre) woodlot present in the southwestern portion of the study area, large tracts of relatively undisturbed and unfragmented forested habitats do not exist within the study area, although they are common south and east of the study area. The high number of mast-producing trees (oaks) in suburban residential and woodlot habitats do provide an abundant and valuable food source for urban-adapted species such as gray squirrels. The low numbers of snags in all wooded habitats reduces habitat quality for cavity-nesting species, such as woodpeckers, although artificial nest boxes that may be placed in residential areas will mitigate this somewhat for species which will use these boxes. The presence of mowed lawns and feeders in residential areas will benefit species which utilize these habitat features.

Large areas of the southern portion of the study area consist of sod farms, which are monocultures of mowed grass with little structural diversity. Thus, they provide relatively low quality habitat for most wildlife species.

There are no aquatic habitats present within the study area and wetland habitats are limited to small artificial basins which are only temporarily flooded. Thus, habitat for wetland- and

aquatic-dependent fish and wildlife species is absent or very limited within the study area. There are no significant habitats or regulated wetlands present within the study area, nor are there any known recent occurrences of rare or endangered plant or animal species.

In summary, the study area provides relatively good quality habitat for wildlife species which are adapted to suburban settings featuring mowed lawns and fragmented woodlots. This includes mammalian species such as gray squirrels, bird species such as American robins and mourning doves, and reptilian species such as garter snakes. The study area provides essentially no habitat for wildlife species, such as waterfowl, turtles, and most amphibians, which require wetland or aquatic cover types. In addition, the study area would provide low quality habitat for species which require relatively large tracts of unfragmented wooded habitats, such as hawks, or unmowed grassland habitats, such as meadowlarks.

B. Qualitative Evaluation of Resource Value to Humans

The fish and wildlife resources present in the study area provide very limited recreational values to humans. The lack of aquatic and wetland habitats precludes wildlife-related activities such as fishing and duck hunting. Since the hunting of upland game species requires a set-back from structures of at least 500 feet (for safety reasons), the study area provides few possible areas for such activities due to the density of residential development. Resource values within the study area would thus be limited to such activities as wildlife observation and bird feeding which are popular in many suburban areas.

The Rocky Point Natural Resource Management Area, which begins just southwest of the study area boundary (Figure D-3), has been managed by NYSDEC since the late 1970s for multiple uses and would serve as a much more attractive area for wildlife-related recreation. This area is mostly forested (pitch pine-oak forest type), with some openings managed to increase habitat diversity (Knoch 1996). Uses include small game (rabbit, squirrel, quail, woodcock, and [stocked] pheasant) and big game (white-tailed deer [bow and shotgun seasons]) hunting, trapping (red fox), hiking, biking, horse-back riding, and dog training. This area reportedly receives tens of thousands of use-days each year (Knoch 1996).

VI. REFERENCES

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TABLES OF APPENDIX D

TABLE D-1
Habitat Utilization of Representative Wildlife Species Potentially Present in the Study Area[a]
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Temporary Pond	Forested Habitats		Field Habitats		Developed/ Residential
			Red Oak	Pine-Oak	Grass/Forb	Field/Shrub	
Amphibians							
Redback salamander	*Plethodon cinereus*		bw	bw			bw
Spotted salamander	*Ambystoma maculatum*	b	w	w			
Eastern spadefoot	*Scaphiopus holbrookii*			w	w		
Fowler's toad	*Bufo woodhousei fowleri*	b		w	w		
Gray treefrog	*Hyla versicolor*	b	w	w			
Northern spring peeper	*Hyla crucifer*	b	w	w			
Wood frog	*Rana sylvatica*	b	w	w			
Reptiles							
Eastern box turtle	*Terrapene carolina*		Bw	Bw	bw	bw	
Eastern garter snake	*Thamnophis s. sirtalis*	w	bw	bw	bw	bw	bw
Eastern milk snake	*Lampropeltis t. triangulum*		bw	bw	bw		BW
Northern black racer	*Coluber c. constrictor*		bw	Bw	Bw	bw	bw
Northern brown snake	*Storeria d. dekayi*		bw	bw	bw	bw	BW
Northern redbelly snake	*Storeria o. occipitomaculata*		bw	Bw	bw		bw
Northern ringneck snake	*Diadophis punctatus edwardsii*		bw		bw		bw

TABLE D-1 (continued)
Habitat Utilization of Representative Wildlife Species Potentially Present in the Study Area[a]
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Temporary Pond	Forested Habitats		Field Habitats		Developed/ Residential
			Red Oak	Pine-Oak	Grass/Forb	Field/Shrub	
Birds							
✓ American crow	*Corvus brachyrhynchos*		bw	Bw	BW		bw
✓ American goldfinch	*Carduelis tristis*			w	bw	Bw	bw
American kestrel	*Falco sparverius*				BW	w	bw
American redstart	*Setophaga ruticilla*		b	b			
✓ American robin	*Turdus migratorius*		b	bw	b		Bw
American tree sparrow	*Spizella arborea*				w	w	
Barn swallow	*Hirundo rustica*	b			B	b	B
Black-and-white warbler	*Mniotilta varia*		b	B			
Black-billed cuckoo	*Coccyzus erythropthalmus*		B	B		b	
✓ Black-capped chickadee	*Parus atricapillus*		bw	bw			bw
Blue-gray gnatcatcher	*Polioptila caerulea*		b	B		b	
✓ Blue jay	*Cyanocitta cristata*		bw	BW			bw
✓ Blue-winged warbler	*Vermivora pinus*				b	B	
✓ Brown-headed cowbird	*Molothrus ater*		b	b	BW	b	bw
Brown thrasher	*Toxostoma rufum*				Bw	Bw	
Carolina wren	*Thryothorus ludovicianus*		bw	bw		b	bw
Cedar waxwing	*Bombycilla cedrorum*		w	w	bw	bw	
Chestnut-sided warbler	*Dendroica pensylvanica*					b	
Chimney swift	*Chaetura pelagica*				b	b	B
Chipping sparrow	*Spizella passerina*				b		b

TABLE D-1 (continued)
Habitat Utilization of Representative Wildlife Species Potentially Present in the Study Area[a]
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Temporary Pond	Forested Habitats		Field Habitats		Developed/ Residential
			Red Oak	Pine-Oak	Grass/Forb	Field/Shrub	
✓ Common grackle	*Quiscalus quiscula*				BW	b	bw
✓ Common yellowthroat	*Geothlypis trichas*	b	b	B	B	B	
Dark-eyed junco	*Junco hyemalis*		w	w	w	w	w
✓ Downy woodpecker	*Picoides pubescens*		bw	BW			bw
Eastern kingbird	*Tyrannus tyrannus*				b	b	
✓ Eastern phoebe	*Sayornis phoebe*		b	b			B
Eastern screech-owl	*Otus asio*		bw	bw	bw	bw	bw
✓ Eastern wood-pewee	*Contopus virens*		B	b			
✓ European starling	*Sturnus vulgaris*		bw	bw	bW		BW
Field sparrow	*Spizella pusilla*				BW	bW	
Golden-crowned kinglet	*Regulus satrapa*			w			
✓ Gray catbird	*Dumetella carolinensis*		b	b	b	B	b
Great crested flycatcher	*Myiarchus crinitus*		b	b			
Hairy woodpecker	*Picoides villosus*		bw	bw			
Horned lark	*Eremophila alpestris*				Bw	bw	
House finch	*Carpodacus mexicanus*			bw			bw
✓ House sparrow	*Passer domesticus*				bw		BW
House wren	*Troglodytes aedon*		b	b		b	B
Indigo bunting	*Passerina cyanea*				B	B	
Killdeer	*Charadrius vociferus*				Bw		bw
✓ Mourning dove	*Zenaida macroura*		w	Bw	BW	bw	Bw

TABLE D-1 (continued)
Habitat Utilization of Representative Wildlife Species Potentially Present in the Study Area[a]
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Temporary Pond	Forested Habitats		Field Habitats		Developed/ Residential
			Red Oak	Pine-Oak	Grass/Forb	Field/Shrub	
Northern bobwhite	*Colinus virginianus*			W	BW	bw	
✓ Northern cardinal	*Cardinalis cardinalis*			bw		bw	bw
Northern flicker	*Colaptes auratus*		b	B	BW	bw	bw
✓ Northern mockingbird	*Mimus polyglottos*				bw	Bw	bw
Northern oriole	*Icterus galbula*		b	b			b
Orchard oriole	*Icterus spurius*			b			b
Ovenbird	*Seiurus aurocapillus*		B	B			
Prairie warbler	*Dendroica discolor*				b	B	
Purple finch	*Carpodacus purpureus*			w			bw
Red-bellied woodpecker	*Melanerpes carolinus*		bw	BW			
✓ Red-eyed vireo	*Vireo olivaceus*		b	b			
Red-tailed hawk	*Buteo jamaicensis*		bw	Bw	Bw	bw	
Red-winged blackbird	*Agelaius phoeniceus*	b			b	b	
Rock dove	*Columba livia*				BW		BW
Rose-breasted grosbeak	*Pheucticus ludovicianus*		b	b		b	
Ruby-throated hummingbird	*Archilochus colubris*		B	b		b	b
✓ Rufous-sided towhee	*Pipilo erythrophthalmus*			B		b	
Scarlet tanager	*Piranga olivacea*		b	B			
✓ Song sparrow	*Melospiza melodia*		bw	bw	BW	BW	bw
✓ Tufted titmouse	*Parus bicolor*		bw	BW			bw
White-breasted nuthatch	*Sitta carolinensis*		bw	BW			w

TABLE D-1 (continued)
Habitat Utilization of Representative Wildlife Species Potentially Present in the Study Area[a]
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Temporary Pond	Forested Habitats		Field Habitats		Developed/ Residential
			Red Oak	Pine-Oak	Grass/Forb	Field/Shrub	
White-throated sparrow	*Zonotrichia albicollis*		w	w	w	W	
✓ Wood thrush	*Hylocichla mustelina*		b	B			b
Yellow-billed cuckoo	*Coccyzus americanus*		b	B		b	
Yellow-rumped warbler	*Dendroica coronata*		w	w		w	
Yellow warbler	*Dendroica petechia*					b	
Mammals							
Big brown bat	*Eptesicus fuscus*		bw	bw	b	b	B
Eastern chipmunk	*Tamias striatus*		bw	bw	bw	bw	
Eastern cottontail	*Sylvilagus floridanus*				B	BW	bw
Eastern mole	*Scalopus aquaticus*		bw	bw	BW	bw	
✓ Gray squirrel	*Sciurus carolinensis*		BW	BW			bw
House mouse	*Mus musculus*						BW
Little brown bat	*Myotis lucifugus*		bw	bw	b	b	B
Masked shrew	*Sorex cinereus*		bw	bw	bw	bw	
Norway rat	*Rattus norvegicus*						BW
Pine vole	*Microtus pinetorum*		bw	bw	BW	bw	
Raccoon	*Procyon lotor*		bw	bw			bw
Red bat	*Lasiurus borealis*		b	b	b	b	
Red fox	*Vulpes vulpes*		bw	bw	BW	bw	
Short-tailed shrew	*Blarina brevicauda*		bw	bw	bw	bw	b
Striped skunk	*Mephitis mephitis*		bw	bw	b	bW	

TABLE D-1 (continued)
Habitat Utilization of Representative Wildlife Species Potentially Present in the Study Area[a]
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Temporary Pond	Forested Habitats		Field Habitats		Developed/ Residential
			Red Oak	Pine-Oak	Grass/Forb	Field/Shrub	
Southern flying squirrel	*Glaucomys volans*		BW	BW			
Virginia opossum	*Didelphis virginiana*		bw	bW	w	w	bw
White-footed mouse	*Peromyscus leucopus*		BW	BW	bw	BW	BW
White-tailed deer	*Odocoileus virginianus*		b	b	b	bw	

[a] Lower case = occurrence; upper case = preferred habitat. B = Breeding season; W = Winter (non-breeding) season (adapted from DeGraaf and Richard [1986], DeGraaf and Rudis [1987], and DeGraaf et al. [1992]).

✓ Observed during the 3 June 1996 field visit.

TABLE D-2
Breeding Birds Potentially Present In or Near the Study Area
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Breeding Status[a]	
		Block 6753A	Block 6753C
American black duck	*Anas rubripes*	C	--
American crow	*Corvus brachyrhynchos*	C	C
American goldfinch	*Carduelis tristis*	Pr	Pr
American redstart	*Setophaga ruticilla*	C	--
American robin	*Turdus migratorius*	C	C
American woodcock	*Scolopax minor*	--	C
Bank swallow	*Riparia riparia*	C	--
Barn swallow	*Hirundo rustica*	Pr	C
Belted kingfisher	*Ceryle alcyon*	Pr	--
Black-and-white warbler	*Mniotilta varia*	C	C
Black-billed cuckoo	*Coccyzus erythropthalmus*	C	C
Black-capped chickadee	*Parus atricapillus*	C	C
Blue jay	*Cyanocitta cristata*	C	C
Blue-gray gnatcatcher	*Polioptila caerulea*	Pr	--
Blue-winged warbler	*Vermivora pinus*	C	C
Broad-winged hawk	*Buteo platypterus*	Pr	Pr
Brown thrasher	*Toxostoma rufum*	C	C
Brown-headed cowbird	*Molothrus ater*	C	C
Canada goose	*Branta canadensis*	C	--
Carolina wren	*Thryothorus ludovicianus*	C	C

TABLE D-2 (continued)
Breeding Birds Potentially Present In or Near the Study Area
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Breeding Status[a]	
		Block 6753A	Block 6753C
Cedar waxwing	*Bombycilla cedrorum*	Po	Pr
Chestnut-sided warbler	*Dendroica pensylvanica*	C	Pr
Chimney swift	*Chaetura pelagica*	Po	--
Chipping sparrow	*Spizella passerina*	C	C
Chuck-will's-widow	*Caprimulgus carolinensis*	--	Po
Clapper rail	*Rallus longirostris*	Pr	--
Common grackle	*Quiscalus quiscula*	C	C
Common yellowthroat	*Geothlypis trichas*	C	C
Downy woodpecker	*Picoides pubescens*	C	C
Eastern kingbird	*Tyrannus tyrannus*	C	--
Eastern meadowlark	*Sturnella magna*	--	C
Eastern phoebe	*Sayornis phoebe*	--	C
Eastern screech-owl	*Otus asio*	C	C
Eastern wood-pewee	*Contopus virens*	C	C
European starling	*Sturnus vulgaris*	C	C
Field sparrow	*Spizella pusilla*	C	Pr
Fish crow	*Corvus ossifragus*	Pr	--
Gray catbird	*Dumetella carolinensis*	C	C
Great crested flycatcher	*Myiarchus crinitus*	C	Pr
Great horned owl	*Bubo virginianus*	Po	Pr

TABLE D-2 (continued)
Breeding Birds Potentially Present In or Near the Study Area
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Breeding Status[a]	
		Block 6753A	Block 6753C
Green heron	*Butorides striatus*	Pr	Po
Hairy woodpecker	*Picoides villosus*	C	C
Hermit thrush	*Catharus guttatus*	--	Po
House finch	*Carpodacus mexicanus*	C	C
House sparrow	*Passer domesticus*	C	C
House wren	*Troglodytes aedon*	C	C
Indigo bunting	*Passerina cyanea*	C	Pr
Killdeer	*Charadrius vociferus*	--	C
Mallard	*Anas platyrhynchos*	C	C
Mourning dove	*Zenaida macroura*	C	C
Mute swan	*Cygnus olor*	C	--
Northern rough-winged swallow	*Stelgidopteryx serripennis*	Pr	--
Northern bobwhite	*Colinus virginianus*	C	C
Northern cardinal	*Cardinalis cardinalis*	C	C
Northern flicker	*Colaptes auratus*	C	C
Northern mockingbird	*Mimus polyglottos*	C	C
Northern oriole	*Icterus galbula*	C	C
Orchard oriole	*Icterus spurius*	C	--
Ovenbird	*Seiurus aurocapillus*	C	C
Pine warbler	*Dendroica pinus*	Pr	Po

TABLE D-2 (continued)
Breeding Birds Potentially Present In or Near the Study Area
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Breeding Status[a]	
		Block 6753A	Block 6753C
Prairie warbler	*Dendroica discolor*	Pr	C
Purple finch	*Carpodacus purpureus*	Pr	--
Purple martin	*Progne subis*	--	C
Red-bellied woodpecker	*Melanerpes carolinus*	C	--
Red-eyed vireo	*Vireo olivaceus*	C	C
Red-tailed hawk	*Buteo jamaicensis*	--	Pr
Red-winged blackbird	*Agelaius phoeniceus*	C	C
Ring-necked pheasant	*Phasianus colchicus*	Po	C
Rock dove	*Columba livia*	C	Po
Rose-breasted grosbeak	*Pheucticus ludovicianus*	C	Po
Ruffed grouse	*Bonasa umbellus*	--	C
Rufous-sided towhee	*Pipilo erythrophthalmus*	C	C
Scarlet tanager	*Piranga olivacea*	C	C
Song sparrow	*Melospiza melodia*	C	C
Swamp sparrow	*Melospiza georgiana*	Pr	--
Tree swallow	*Tachycineta bicolor*	Pr	Pr
Tufted titmouse	*Parus bicolor*	C	C
Veery	*Catharus fuscescens*	Po	--
Whip-poor-will	*Caprimulgus vociferus*	Pr	Pr
White-breasted nuthatch	*Sitta carolinensis*	C	Pr

TABLE D-2 (continued)
Breeding Birds Potentially Present In or Near the Study Area
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Breeding Status[a]	
		Block 6753A	Block 6753C
White-eyed vireo	*Vireo griseus*	C	--
Wood thrush	*Hylocichla mustelina*	C	C
Yellow warbler	*Dendroica petechia*	C	--
Yellow-billed cuckoo	*Coccyzus americanus*	C	C
Yellow-breasted chat	*Icteria virens*	Po	--
Yellow-rumped warbler	*Dendroica coronata*	--	C

[a] C - Confirmed breeder; Pr - Probable breeder; Po - Possible breeder; -- Not observed breeding in this block.

TABLE D-3
Breeding Bird Densities in Long Island Suburban Wooded Habitats[a]
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Breeding Density (Number of Territories per 40 ha)			
		1994	1993	1992	Average
Gray catbird	*Dumetella carolinensis*	13.0	10.0	7.5	10.2
American robin	*Turdus migratorius*	9.0	8.0	5.0	7.3
Common grackle	*Quiscalus quiscula*	8.0	4.5	6.0	6.2
House wren	*Troglodytes aedon*	8.0	4.0	6.0	6.0
House sparrow	*Passer domesticus*	8.0	4.0	3.5	5.2
Northern cardinal	*Cardinalis cardinalis*	5.0	2.5	3.5	3.7
Tufted titmouse	*Parus bicolor*	6.0	3.0	1.5	3.5
Red-bellied woodpecker	*Melanerpes carolinus*	3.5	2.5	3.0	3.0
Mourning dove	*Zenaida macroura*	2.0	4.0	3.0	3.0
House finch	*Carpodacus mexicanus*	4.0	3.0	2.0	3.0
Chipping sparrow	*Spizella passerina*	2.0	4.5	2.5	3.0
Black-capped chickadee	*Parus atricapillus*	4.0	2.0	1.5	2.5
European starling	*Sturnus vulgaris*	4.0	1.0	1.0	2.0
Blue jay	*Cyanocitta cristata*	2.0	1.0	2.0	1.7
Northern oriole	*Icterus galbula*	2.0	1.0	1.5	1.5
White-breasted nuthatch	*Sitta carolinensis*	2.0	2.0	0.5	1.5
Downy woodpecker	*Picoides pubescens*	3.0	1.0	0.5	1.5

TABLE D-3 (continued)
Breeding Bird Densities in Long Island Suburban Wooded Habitats[a]
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	Breeding Density (Number of Territories per 40 ha)			
		1994	1993	1992	Average
Northern flicker	*Colaptes auratus*	2.0	1.0	0.5	1.2
American crow	*Corvus brachyrhynchos*	0.0	1.5	1.5	1.0
Carolina wren	*Thryothorus ludovicianus*	1.0	1.0	1.0	1.0
Eastern wood-pewee	*Contopus virens*	1.0	1.0	1.0	1.0
Wood thrush	*Hylocichla mustelina*	0.0	1.5	1.0	0.8
Hairy woodpecker	*Picoides villosus*	2.0	0.0	0.0	0.7
Orchard oriole	*Icterus spurius*	0.0	1.0	1.0	0.7
Ovenbird	*Seiurus aurocapillus*	0.0	1.0	1.0	0.7
Red-eyed vireo	*Vireo olivaceus*	1.0	1.0	0.0	0.7
Cedar waxwing	*Bombycilla cedrorum*	0.0	0.5	1.0	0.5
Scarlet tanager	*Piranga olivacea*	1.0	0.5	0.0	0.5
Yellow warbler	*Dendroica petechia*	1.0	0.0	0.0	0.3
American goldfinch	*Carduelis tristis*	0.0	1.0	0.0	0.3
Eastern screech-owl	*Otus asio*	1.0	0.0	0.0	0.3
Northern mockingbird	*Mimus polyglottos*	0.0	1.0	0.0	0.3

[a] From Richard (1995, 1994, 1993) for a suburban bird sanctuary in northern Nassau County, Long Island, New York.

TABLE D-4
Christmas Bird Count Data, 1990-1995, Central Suffolk County, New York
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	1994-1995	1993-1994	1992-1993	1991-1992	1990-1991	5-Year Average
European starling	*Sturnus vulgaris*	7,474	4,260	3,204	4,944	9,234	5,823.2
Herring gull	*Larus argentatus*	1,613	5,546	3,976	6,444	5,788	4,673.4
Canada goose	*Branta canadensis*	3,308	5,210	2,996	4,288	3,780	3,916.4
American black duck	*Anas rubripes*	3,221	3,139	5,217	4,280	1,417	3,454.8
American crow	*Corvus brachyrhynchos*	10,327	540	440	568	652	2,505.4
Ring-billed gull	*Larus delawarensis*	1,217	1,859	939	2,899	2,171	1,817.0
Red-breasted merganser	*Mergus serrator*	1,167	990	1,758	1,497	1,445	1,371.4
Greater scaup	*Aythya marila*	278	881	2,598	1,610	1,171	1,307.6
Mallard	*Anas platyrhynchos*	1,266	1,242	1,162	1,146	1,339	1,231.0
Red-winged blackbird	*Agelaius phoeniceus*	1,555	2,090	798	614	165	1,044.4
Mourning dove	*Zenaida macroura*	894	426	775	746	958	759.8
Great black-backed gull	*Larus marinus*	260	1,052	456	1,231	783	756.4
House sparrow	*Passer domesticus*	654	425	863	914	572	685.6
Bufflehead	*Bucephala albeola*	470	341	825	498	593	545.4
Common grackle	*Quiscalus quiscula*	1	398	732	1,502	5	527.6
House finch	*Carpodacus mexicanus*	775	363	581	361	390	494.0
Blue jay	*Cyanocitta cristata*	506	572	250	293	660	456.2
Mute swan	*Cygnus olor*	270	519	573	514	384	452.0

TABLE D-4 (continued)
Christmas Bird Count Data, 1990-1995, Central Suffolk County, New York
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	1994-1995	1993-1994	1992-1993	1991-1992	1990-1991	5-Year Average
White-throated sparrow	*Zonotrichia albicollis*	371	555	676	310	347	451.8
Rock dove	*Columba livia*	588	426	561	267	394	447.2
Gadwall	*Anas strepera*	453	428	401	592	278	430.4
Dark-eyed junco	*Junco hyemalis*	295	443	579	337	436	418.0
Gull spp.	*Larus spp.*	14	0	1,000	530	517	412.2
Brant	*Branta bernicla*	657	314	290	381	170	362.4
Song sparrow	*Melospiza melodia*	214	418	371	188	434	325.0
Canvasback	*Aythya valisineria*	318	180	307	349	451	321.0
Black-capped chickadee	*Parus atricapillus*	345	402	383	184	274	317.6
Yellow-rumped warbler	*Dendroica coronata*	159	124	946	102	55	277.2
Bonaparte's gull	*Larus philadelphia*	130	262	291	345	105	226.6
Hooded merganser	*Lophodytes cucullatus*	244	260	167	134	135	188.0
American coot	*Fulica americana*	373	84	146	223	86	182.4
Ring-necked duck	*Aythya collaris*	295	94	151	193	162	179.0
Brown-headed cowbird	*Molothrus ater*	39	2	310	280	169	160.0
Northern cardinal	*Cardinalis cardinalis*	197	165	144	101	183	158.0
Dunlin	*Calidris alpina*	4	381	178	98	72	146.6
American robin	*Turdus migratorius*	95	30	305	140	113	136.6

TABLE D-4 (continued)
Christmas Bird Count Data, 1990-1995, Central Suffolk County, New York
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	1994-1995	1993-1994	1992-1993	1991-1992	1990-1991	5-Year Average
American wigeon	*Anas americana*	196	56	51	177	109	117.8
Northern mockingbird	*Mimus polyglottos*	138	98	120	112	89	111.4
Great blue heron	*Ardea herodias*	66	94	144	135	113	110.4
Common goldeneye	*Bucephala clangula*	100	117	45	101	179	108.4
Tufted titmouse	*Parus bicolor*	118	134	107	58	86	100.6
Field sparrow	*Spizella pusilla*	73	53	143	85	127	96.2
Scaup spp.	*Aythya spp.*	0	351	0	0	126	95.4
Sanderling	*Calidris alba*	330	34	19	71	7	92.2
Snow bunting	*Plectrophenax nivalis*	50	173	99	45	76	88.6
American tree sparrow	*Spizella arborea*	25	170	42	65	103	81.0
Carolina wren	*Thryothorus ludovicianus*	89	101	68	62	34	70.8
Northern bobwhite	*Colinus virginianus*	11	94	148	30	57	68.0
Northern flicker	*Colaptes auratus*	73	44	60	78	80	67.0
Golden-crowned kinglet	*Regulus satrapa*	37	73	107	40	75	66.4
Green-winged teal	*Anas crecca*	62	70	94	25	64	63.0
Downy woodpecker	*Picoides pubescens*	61	65	52	32	59	53.8
Common merganser	*Mergus merganser*	1	110	120	6	9	49.2
Eastern meadowlark	*Sturnella magna*	6	60	108	12	53	47.8

TABLE D-4 (continued)
Christmas Bird Count Data, 1990-1995, Central Suffolk County, New York
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	1994-1995	1993-1994	1992-1993	1991-1992	1990-1991	5-Year Average
Horned lark	*Eremophila alpestris*	107	40	67	15	7	47.2
Belted kingfisher	*Ceryle alcyon*	55	49	36	46	38	44.8
American goldfinch	*Carduelis tristis*	32	51	42	26	63	42.8
White-breasted nuthatch	*Sitta carolinensis*	27	44	37	15	45	33.6
Horned grebe	*Podiceps auritus*	49	26	67	14	11	33.4
Swamp sparrow	*Melospiza georgiana*	15	43	42	16	30	29.2
Red-tailed hawk	*Buteo jamaicensis*	34	30	32	25	20	28.2
Northern pintail	*Anas acuta*	59	9	24	25	8	25.0
White-winged scoter	*Melanitta fusca*	1	44	18	57	2	24.4
Northern shoveler	*Anas clypeata*	44	23	20	23	2	22.4
Black-bellied plover	*Pluvialis squatarola*	0	29	28	31	23	22.2
Red-bellied woodpecker	*Melanerpes carolinus*	31	30	20	10	20	22.2
Savannah sparrow	*Passercilus sandwichensis*	13	31	22	21	22	21.8
Northern harrier	*Circus cyaneus*	15	20	27	22	24	21.6
Double-crested cormorant	*Phalacrocorax auritus*	19	4	17	54	11	21.0
Oldsquaw	*Clangula hyemalis*	15	37	40	7	3	20.4
Black scoter	*Melanitta nigra*	37	28	23	10	2	20.0
Common loon	*Gavia immer*	15	13	50	8	12	19.6

TABLE D-4 (continued)
Christmas Bird Count Data, 1990-1995, Central Suffolk County, New York
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	1994-1995	1993-1994	1992-1993	1991-1992	1990-1991	5-Year Average
Killdeer	*Charadrius vociferus*	7	27	30	20	13	19.4
Black-crowned night heron	*Nycticorax nycticorax*	12	13	25	17	30	19.4
Common snipe	*Gallinago gallinago*	2	14	26	19	33	18.8
Northern gannet	*Sula bassanus*	0	5	7	75	4	18.2
Ring-necked pheasant	*Phasianus colchicus*	11	7	17	39	12	17.2
Lesser scaup	*Aythya affinis*	13	5	3	30	35	17.2
Pied-billed grebe	*Podilymbus podiceps*	22	20	13	10	6	14.2
Red-breasted nuthatch	*Sitta canadensis*	1	45	8	2	13	13.8
American kestrel	*Falco sparverius*	7	11	20	17	11	13.2
Rufous-sided towhee	*Pipilo erythrophthalmus*	6	31	6	5	14	12.4
Eastern screech-owl	*Otus asio*	18	9	9	11	10	11.4
Eastern bluebird	*Sialia sialis*	6	10	17	13	9	11.0
Sharp-shinned hawk	*Accipiter striatus*	11	11	7	8	14	10.2
Brown creeper	*Certhia americana*	3	13	25	4	5	10.0
Hairy woodpecker	*Picoides villosus*	10	11	7	5	16	9.8
Cedar waxwing	*Bombycilla cedrorum*	29	0	15	0	0	8.8
Fish crow	*Corvus ossifragus*	14	3	26	0	0	8.6
Gray catbird	*Dumetella carolinensis*	7	7	18	4	5	8.2

TABLE D-4 (continued)
Christmas Bird Count Data, 1990-1995, Central Suffolk County, New York
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	1994-1995	1993-1994	1992-1993	1991-1992	1990-1991	5-Year Average
Scoter spp.	*Melanitta spp.*	0	0	40	1	0	8.2
Hermit thrush	*Catharus guttatus*	17	7	11	1	4	8.0
Sharp-tailed sparrow	*Ammospiza caudacuta*	8	7	14	4	6	7.8
Greater yellowlegs	*Tringa melanoleuca*	0	11	8	6	8	6.6
Great horned owl	*Bubo virginianus*	8	9	7	3	6	6.6
Rusty blackbird	*Euphagus carolinus*	1	21	3	6	2	6.6
Ruby-crowned kinglet	*Regulus calendula*	2	18	5	4	3	6.4
Crow spp.	*Corvus spp.*	0	0	0	31	0	6.2
Red-throated loon	*Gavia stellata*	14	2	4	7	2	5.8
Snow goose	*Chen caerulescens*	1	1	1	20	2	5.0
Chipping sparrow	*Spizella passerina*	10	3	1	1	9	4.8
Fox sparrow	*Passerella iliaca*	6	1	6	4	7	4.8
Ruddy duck	*Oxyura jamaicensis*	3	2	8	0	11	4.8
Surf scoter	*Melanitta perspicillata*	0	5	7	6	5	4.6
Redhead	*Aythya americana*	4	4	7	3	5	4.6
Winter wren	*Troglodytes troglodytes*	3	7	4	1	7	4.4
Brown thrasher	*Toxostoma rufum*	1	6	8	1	5	4.2
Wood duck	*Aix sponsa*	2	7	2	9	1	4.2

TABLE D-4 (continued)
Christmas Bird Count Data, 1990-1995, Central Suffolk County, New York
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	1994-1995	1993-1994	1992-1993	1991-1992	1990-1991	5-Year Average
Blue-winged teal	*Anas discors*	0	3	6	0	10	3.8
Wild turkey	*Meleagris gallopavo*	17	0	0	0	0	3.4
Purple finch	*Carpodacus purpureus*	3	0	10	0	2	3.0
Pine warbler	*Dendroica pinus*	0	13	1	0	1	3.0
American woodcock	*Scolopax minor*	0	4	4	5	0	2.6
Tree swallow	*Tachycineta bicolor*	0	1	11	0	0	2.4
Palm warbler	*Dendroica palmarum*	10	1	0	0	1	2.4
Marsh wren	*Cistothorus palustris*	3	0	2	0	5	2.0
Eastern phoebe	*Sayornis phoebe*	0	1	5	1	3	2.0
Common barn-owl	*Tyto alba*	4	2	1	3	0	2.0
Virginia rail	*Rallus limicola*	2	5	2	0	0	1.8
Cooper's hawk	*Accipiter cooperii*	1	4	1	1	1	1.6
Snowy owl	*Nyctea scandiaca*	0	0	4	1	3	1.6
Duck spp.		8	0	0	0	0	1.6
Short-eared owl	*Asio flammeus*	5	1	1	0	1	1.6
Seaside sparrow	*Ammospiza maritima*	2	3	1	1	0	1.4
American bittern	*Botaurus lentiginosus*	2	0	2	1	2	1.4
Merlin	*Falco columbarius*	0	3	1	2	0	1.2

TABLE D-4 (continued)
Christmas Bird Count Data, 1990-1995, Central Suffolk County, New York
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	1994-1995	1993-1994	1992-1993	1991-1992	1990-1991	5-Year Average
White-crowned sparrow	*Zonotrichia leucophrys*	5	1	0	0	0	1.2
American pipit	*Anthus rubescens*	0	5	0	0	0	1.0
Harlequin duck	*Histrionicus histrionicus*	0	2	0	2	0	0.8
Clapper rail	*Rallus longirostris*	1	0	0	1	2	0.8
Long-eared owl	*Asio otus*	0	0	1	1	2	0.8
Laughing gull	*Larus atricilla*	0	1	3	0	0	0.8
Tundra swan	*Cygnus columbianus*	0	3	0	0	0	0.6
Red-necked grebe	*Podiceps grisegena*	1	1	0	1	0	0.6
Hawk spp.	*Accipiter spp.*	0	1	2	0	0	0.6
Yellow-bellied sapsucker	*Sphyrapicus varius*	1	2	0	0	0	0.6
Monk parakeet	*Myiopsita monachus*	0	0	3	0	0	0.6
Tufted duck	*Aythya fuligula*	1	1	0	0	0	0.4
Rough-legged hawk	*Buteo lagopus*	0	0	0	0	2	0.4
Falcon spp.	*Falco spp.*	0	0	0	2	0	0.4
Bald eagle	*Haliaeetus leucocephalus*	0	1	0	1	0	0.4
Sora	*Porzana carolina*	0	1	0	1	0	0.4
Ruffed grouse	*Bonasa umbellus*	2	0	0	0	0	0.4
Red knot	*Calidris canutus*	0	0	0	2	0	0.4

TABLE D-4 (continued)
Christmas Bird Count Data, 1990-1995, Central Suffolk County, New York
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	1994-1995	1993-1994	1992-1993	1991-1992	1990-1991	5-Year Average
Eurasian wigeon	*Anas penelope*	0	0	2	0	0	0.4
Peregrine falcon	*Falco peregrinus*	0	0	1	0	1	0.4
Lapland longspur	*Calcarius lapponicus*	0	1	0	0	0	0.2
Northern oriole	*Icterus galbula*	0	1	0	0	0	0.2
Black vulture	*Coragyps atratus*	0	0	0	1	0	0.2
Orange-crowned warbler	*Vermivora celata*	0	0	0	0	1	0.2
Semipalmated plover	*Charadrius semipalmatus*	0	0	0	0	1	0.2
Solitary sandpiper	*Tringa solitaria*	0	0	0	1	0	0.2
Yellow-breasted chat	*Icteria virens*	0	0	0	0	1	0.2
Yellow warbler	*Dendroica petechia*	0	1	0	0	0	0.2
Vesper sparrow	*Pooecetes gramineus*	1	0	0	0	0	0.2
Razorbill	*Alca torda*	0	0	0	1	0	0.2
Dowitcher spp.	*Limnodromus spp.*	1	0	0	0	0	0.2
Loon spp.	*Gavia spp.*	0	0	0	1	0	0.2
Common yellowthroat	*Geothlypis trichas*	0	0	0	0	1	0.2
Cormorant spp.	*Phalacrocorax spp.*	0	0	0	1	0	0.2
Loggerhead shrike	*Lanius ludovicianus*	1	0	0	0	0	0.2
Hawk spp.	*Buteo spp.*	0	0	0	1	0	0.2

TABLE D-4 (continued)
Christmas Bird Count Data, 1990-1995, Central Suffolk County, New York
Peerless Photo Products Site (I.D. # 1-52-031)

Common Name	Scientific Name	1994-1995	1993-1994	1992-1993	1991-1992	1990-1991	5-Year Average
Lark sparrow	*Chondestes grammacus*	0	1	0	0	0	0.2
Iceland gull	*Larus glaucoides*	0	0	0	0	1	0.2
Total Species		118	129	124	119	121	122.2
Total Individuals		42,381	37,286	37,967	41,081	38,031	39,349.2

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For additional figure, see Project Manger.

APPENDIX E

Potential Risks Associated with a Backyard Garden Scenario

Potential Risks Associated with a Backyard Garden Scenario

ENVIRON has assessed the potential risks to hypothetical on-site and off-site (area 11) residents under a backyard garden scenario for the Peerless Photo Products Site (I.D. No. 1-52-031). Potential risks were estimated for an on-site and an off-site (area 11) adult resident from incidental ingestion of site soils while gardening, dermal contact with site soils while gardening and ingestion of root vegetables grown in site soils. Potential risks were also assessed for an on-site and an off-site (area 11) child (1 to 6 years old) resident from ingestion of root vegetables grown in site soils.

The chemicals of concern (COCs) and the site identified concentrations used to assess the risks to on-site and off-site (area 11) residents under a backyard garden scenario are listed in Table E-1. The COCs and site identified concentrations are based on Phase 1 and Phase 2 Remedial Investigation data, and are the same as those used in the main text of the risk assessment report. A discussion of how the COCs were selected and how the site identified concentrations were derived can be found in Section III.B and III.A of the main text, respectively.

The toxicity values used in this assessment are listed in Table E-2. There are no USEPA-published cancer slope factors for the oral route for the site COCs, therefore the risk calculations were based solely on noncarcinogenic toxicity values. The reference doses (RfDs) used in this assessment are the same as those used in the main text of the risk assessment report. An explanation of these RfDs is presented in Section IV.B of the main text.

Equations from USEPA guidance (1989, 1994a) were employed to estimate the average daily dose of each COC to on-site and off-site (area 11) residents under the backyard garden scenario. The equations used to calculate the dose to an adult resident from incidental ingestion of soil and dermal contact with soil while gardening are shown in Table E-3 and E-4, respectively. With the exception of the exposure frequency term, the specific exposure parameters used in these equations to estimate dose are the same as those used in the main text of the risk assessment for an adult resident. See Section V.B of the main text for a detailed explanation of these parameters. The exposure frequency term was set at 44 days per year in this assessment, based on the assumption that an adult works in the garden for two days per week during the spring and summer (22 weeks total).

The equation used to calculate dose from ingestion of root vegetables follows USEPA guidance (1989) and is shown in equation 1 below:

Equation 1:

$$Dose\ (mg/kg\text{-}day) = \left(\frac{CF \times IR \times FI \times EF \times ED}{BW \times AT} \right)$$

where:

CF = Contaminant concentration in food (mg/kg);
IR = Ingestion rate (kg/day);
FI = Fraction ingested from contaminated source (unitless);
EF = Exposure frequency (days/year);
ED = Exposure duration (years);
BW = Body weight (kg); and
AT = Averaging time (period over which exposure is averaged, days).

The first parameter in Equation 1, contaminant concentration in food (CF) is determined by the following equation taken from USEPA (1994a) guidance:

Equation 2:

$$CF\ (mg/kg) = \frac{C_s \times (VG_{bg} \times RCF)}{Kd}$$

where

C_s = Soil concentration (mg/kg);

VG_{bg} = Below ground vegetable correction factor (unitless);

RCF = Ratio of root concentration to concentration in soil pore water $\left(\frac{\mu g/g}{\mu g/mL}\right)$;

and

Kd = Soil water partition coefficient (ml/g).

Substituting Equation 2 for the CF term in Equation 1 results in the equation shown in Table E-5 for calculating dose of COC from ingestion of root vegetables. Table E-5 presents the specific exposure parameters used in this equation to estimate dose for an adult resident and a child resident.

The below ground vegetable correction factor (Vg_{bg}) term was set at 0.01 based on USEPA (1994a) guidance. The chemical specific values used for the ratio of root concentration to concentration in soil pore water (RCF) term are shown in Table E-6. With the exception of copper, manganese and zinc, the RCF values are taken from USEPA (1994a) guidance. USEPA (1994a) guidance did not provide RCF values for copper, manganese and zinc; therefore, the highest RCF provided for an inorganic in USEPA (1994a) guidance (0.1 μg/g per μg/ml) was used for these COCs. Soil-water partition coefficient (Kd) values used in this assessment are shown in Table E-6. With the exception of copper, manganese and zinc, the Kd values are taken from USEPA (1996) guidance. USEPA (1996) and USEPA (1994a) do

not provide Kd values for copper, manganese and zinc, therefore the Kd values for these COCs were taken from Baes et al. (1984).

As shown in Table E-5, the adult and child residents were assumed to ingest 0.2 kg of vegetables per day for 182.5 days per year. In addition, forty percent of the ingested vegetables were assumed to have been grown in site soils. These assumptions are based on USEPA (1990) guidance.

Consistent with the exposure assumptions used for adult and child residents in the main text of this report (see Section V.B), the exposure duration for the adult resident and child resident was assumed to be 30 years and 6 years, respectively. The body weight of the adult resident was set at 70 kg while the body weight of the child resident was set at 15 kg based on USEPA (1991) guidance. The averaging time for the adult and child resident is equal to the exposure duration for each receptor in days, based on USEPA (1989) guidance.

Noncarcinogenic risks, known as hazard quotients (HQs), are calculated by dividing the average daily dose of a COC by the RfD for that COC (USEPA 1989). An HQ is calculated for each chemical in each exposure scenario. The HQs are summed to derive a hazard index (HI). An HI less than 1 indicates that no RfDs have been exceeded, and that it is unlikely that even sensitive subpopulations will experience adverse effects.

Table E-7 summarizes the HQs estimated for each COC for each exposure pathway evaluated under the backyard garden scenario. Table E-8 summarizes the HIs for each receptor. The HI is 0.03 for both an on-site and an off-site (area 11) adult resident based on incidental ingestion of soils while gardening, dermal contact with soils while gardening and ingestion of vegetables grown in site soils. This HI is well below the level of concern of 1. In addition, if these risks are combined with the HI estimates for site soils in the main text of the risk assessment report for an on-site adult resident (HI = 0.04) and an off-site (area 11) adult resident (HI = 0.04), the total HI from site soils (total HI = 0.07 for both on-site and off-site (area 11) adult residents) remains well below the level of concern.

As shown in Table E-8, the HI is 0.03 for an on-site child resident and 0.04 for an off-site (area 11) child resident based on ingestion of vegetables grown in site soils. In addition, if these risks are combined with the HI estimates for site soils in the main text of the risk assessment report for an on-site child resident (HI = 0.54) and an off-site (area 11) child resident (HI = 0.52), the total HI from site soils (total HI = approximately 0.6 for both on-site and off-site (area 11) child residents) remains below the level of concern.

Thus, no adverse noncarcinogenic effects would be expected to occur to an on-site or off-site (area 11) adult resident from incidental ingestion of site soils while gardening, dermal contact with soil while gardening and ingestion of vegetables grown in site soils. In addition, no adverse noncarcinogenic risks would be expected to occur from ingestion of vegetables grown in site soils by an on-site or off-site (area 11) child resident.

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TABLES OF APPENDIX E

TABLE E-1
COCs and Site Identified Concentrations in Surface Soils, Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	On-site Surface Soil Concentration (mg/kg)	Off-site Surface Soil Concentration (mg/kg)
Antimony	1.8	NA
Barium	1,240	NA
Cadmium (diet)	7.87	0.61
Chromium	NA	19.1
Copper	204.23	29.1
Manganese (diet)	NA	181.82
Mercury	0.2	0.18
Selenium	NA	0.74
Silver	448	568
Thallium	NA	0.41
Zinc	54.55	57.74

Note:

NA = Constituent screened out as a COC for these soils (see Section III.B of main text).

TABLE E-2
Toxicity Values for the COCs at the
Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	Oral RfD	Reference	Dermal RfD
Antimony	4.00E-04	USEPA 1995	8.00E-05
Barium	7.00E-02	USEPA 1995	1.40E-02
Cadmium (diet)	1.00E-03	USEPA 1995	2.00E-04
Chromium	5.00E-03	USEPA 1995	1.00E-03
Copper	3.70E-02	USEPA 1994b	7.40E-03
Manganese (diet)	1.40E-01	USEPA 1995	2.80E-02
Mercury	3.00E-04	USEPA 1994b	6.00E-05
Selenium	5.00E-03	USEPA 1995	1.00E-03
Silver	5.00E-03	USEPA 1995	1.00E-03
Thallium	NA		NA
Zinc	3.00E-01	USEPA 1995	6.00E-02

TABLE E-3
Equation and Exposure Parameters Used to Calculate Dose from Incidental Ingestion of Soil by an Adult Resident While Gardening, Peerless Photo Products Site (I.D. # 1-52-031)

$$Dose\ (mg/kg\text{-}day) = \left(\frac{C_s \times IR \times CF \times FI \times EF \times ED}{BW \times AT} \right)$$

Parameter	Value	Reference
C_s = Chemical Concentration in surface soil (mg/kg)	Chemical Specific See Table E-1	Site-specific data
IR = Soil Ingestion Rate (mg/day)	100	USEPA 1989
CF = Conversion Factor (kg/mg)	1.0×10^{-6}	USEPA 1989
FI = Fraction Ingested from Contaminated Source (unitless)	1	
EF = Exposure Frequency (days/year)	44	Assumes 2 days per week during spring and summer - (22 weeks total)
ED = Exposure Duration (years)	30	USEPA 1989 90th percentile for time at a single residence
BW = Body Weight (kg)	70	USEPA 1991
AT = Averaging Time (days)	10,950	USEPA 1989

TABLE E-4
Equation and Exposure Parameters Used to Calculate Dose from Dermal Contact with Soil by an Adult Resident While Gardening, Peerless Photo Products Site (I.D. # 1-52-031)

$$Dose\ (mg/kg\text{-}day) = \left(\frac{C_s \times CF \times SA \times AF \times ABS \times EF \times ED}{BW \times AT} \right)$$

Parameter	Value	Reference
C_s = Chemical Concentration in surface soil (mg/kg)	Chemical Specific See Table E-1	Site-specific data
CF = Standard Conversion Factor (kg/mg)	1.0×10^{-6}	USEPA 1989
SA = Skin surface area available for contact (cm^2/event)*	4,820	USEPA 1992 (50th percentile value averaged for adult males and females)
AF = Soil to skin Adherence Factor (mg/cm^2)	0.2	USEPA 1992
ABS = Absorption Factor (unitless)	0.001	USEPA 1992
EF = Exposure Frequency (days/year)	44	Assumes 2 days per week during spring and summer - (22 weeks total)
ED = Exposure Duration (years)	30	USEPA 1989 90th percentile for time at a single residence
BW = Body Weight (kg)	70	USEPA 1991
AT = Averaging Time (days)	10,950	USEPA 1989

Note:
* Calculated assuming dermal contact of soil with head, hands, forearms, and lower legs. Surface areas are based on information from USEPA (1990).

TABLE E-5
Equation and Exposure Parameters Used to Calculate Dose from Ingestion of Root Vegetables by Adult and Child Residents, Peerless Photo Products Site (I.D. # 1-52-031)

$$Dose\ (mg/kg\text{-}day) = \left(\frac{\left(\frac{C_s \times (VG_{bg} \times RCF)}{Kd} \right) \times IR \times FI \times EF \times ED}{BW \times AT} \right)$$

Parameter	Value	Reference
C_s = Chemical Concentration in surface soil (mg/kg)	Chemical Specific See Table E-1	Site-specific data
VG_{bg} = Below ground vegetable correction factor (unitless)	0.01	USEPA 1994a
RCF = Ratio of root concentration to concentration in soil pore water $\left(\frac{\mu g/g}{\mu g/mL}\right)$	Chemical Specific See Table E-6	
Kd = Soil-water Partition Coefficient (L/kg)	Chemical Specific See Table E-6	
IR = Ingestion Rate of Root Vegetables (kg/day)		USEPA 1990 Average Value
Adult	0.200	
Child	0.200	
FI = Fraction Ingested (unitless)		USEPA 1990 Reasonable Worst Case Value
Adult	0.4	
Child	0.4	
EF = Exposure Frequency (days/year)		USEPA 1990 Reasonable Worst Case Value
Adult	182.5	
Child	182.5	
ED = Exposure Duration (years)		USEPA 1990
Adult	30	90th percentile for time at a single residence
Child (age 1-6)	6	Total years in age group
BW = Body Weight (kg)		USEPA 1991
Adult	70	
Child	15	
AT = Averaging Time (days)		USEPA 1989
Adult	10,950	
Child	2,190	

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TABLE E-6
Chemical Specific Parameters Used to Calculate Noncarcinogenic Risks, Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	RCF (ug/g per ug/ml)	Reference	Kd (L/kg)	Reference
Antimony	0.03	USEPA 1994a	45	USEPA 1996
Barium	0.015	USEPA 1994a	41	USEPA 1996
Cadmium (diet)	0.032	USEPA 1994a	75	USEPA 1996
Chromium	0.0045	USEPA 1994a	19	USEPA 1996
Copper	0.1	*	35	Baes
Manganese (diet)	0.1	*	65	Baes
Mercury	0.007	USEPA 1994a	52	USEPA 1996
Selenium	0.02	USEPA 1994a	5	USEPA 1996
Silver	0.1	USEPA 1994a	8.3	USEPA 1996
Thallium	0.0004	USEPA 1994a	71	USEPA 1996
Zinc	0.1	*	62	Baes

Notes:

* Based on the highest RCF presented for a metal in USEPA 1994a

TABLE E-7
Noncarcinogenic Calculations for the
Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	On-site Adult Resident (AR)								
	Root Vegetable Ingestion			Soil Ingestion			Dermal Contact		
	Dose	RfDo	Hazard Quotient	Dose	RfDo	Hazard Quotient	Dose	RFDd	Hazard Quotient
Antimony	6.86e-09	4.00e-04	1.71e-05	3.10e-07	4.00e-04	7.75e-04	2.99e-09	8.00e-05	3.74e-05
Barium	2.59e-06	7.00e-02	3.70e-05	2.14e-04	7.00e-02	3.05e-03	2.06e-06	1.40e-02	1.47e-04
Cadmium (diet)	1.92e-08	1.00e-03	1.92e-05	1.36e-06	1.00e-03	1.36e-03	1.31e-08	2.00e-04	6.53e-05
Chromium	0.00	5.00e-03	0.00	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Copper	3.33e-06	3.70e-02	9.01e-05	3.52e-05	3.70e-02	9.51e-04	3.39e-07	7.40e-03	4.58e-05
Manganese (diet)	0.00	1.40e-01	0.00	0.00	1.40e-01	0.00	0.00	2.80e-02	0.00
Mercury	1.54e-10	3.00e-04	5.13e-07	3.44e-08	3.00e-04	1.15e-04	3.32e-10	6.00e-05	5.53e-06
Selenium	0.00	5.00e-03	0.00	0.00	5.00e-03	0.00	0.00	1.00e-03	0.00
Silver	3.08e-05	5.00e-03	6.17e-03	7.72e-05	5.00e-03	1.54e-02	7.44e-07	1.00e-03	7.44e-04
Thallium	0.00	NA	--	0.00	NA	--	0.00	NA	--
Zinc	5.03e-07	3.00e-01	1.68e-06	9.39e-06	3.00e-01	3.13e-05	9.06e-08	6.00e-02	1.51e-06
HI			**6.33e-03**			**2.17e-02**			**1.05e-03**
Total HI	**2.91e-02**								

TABLE E-7 (continued)
Noncarcinogenic Calculations for the
Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	On-site Child (age 1-6) Resident		
	Root Vegetable Ingestion		
	Dose	RfDo	Hazard Quotient
Antimony	3.20e-08	4.00e-04	8.00e-05
Barium	1.21e-05	7.00e-02	1.73e-04
Cadmium (diet)	8.95e-08	1.00e-03	8.95e-05
Chromium	0.00	5.00e-03	0.00
Copper	1.56e-05	3.70e-02	4.21e-04
Manganese (diet)	0.00	1.40e-01	0.00
Mercury	7.18e-10	3.00e-04	2.39e-06
Selenium	0.00	5.00e-03	0.00
Silver	1.44e-04	5.00e-03	2.88e-02
Thallium	0.00	NA	--
Zinc	2.35e-06	3.00e-01	7.82e-06
HI			**2.96e-02**
Total HI	**2.96e-02**		

TABLE E-7 (continued)
Noncarcinogenic Calculations for the
Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	Off-site Adult Resident								
	Root Vegetable Ingestion			Soil Ingestion			Dermal Contact		
	Dose	RfDo	Hazard Quotient	Dose	RfDo	Hazard Quotient	Dose	RFDd	Hazard Quotient
Antimony	0.00	4.00e-04	0.00	0.00	4.00e-04	0.00	0.00	8.00e-05	0.00
Barium	0.00	7.00e-02	0.00	0.00	7.00e-02	0.00	0.00	1.40e-02	0.00
Cadmium (diet)	1.49e-09	1.00e-03	1.49e-06	1.05e-07	1.00e-03	1.05e-04	1.01e-09	2.00e-04	5.06e-06
Chromium	2.58e-08	5.00e-03	5.17e-06	3.29e-06	5.00e-03	6.58e-04	3.17e-08	1.00e-03	3.17e-05
Copper	4.75e-07	3.70e-02	1.28e-05	5.01e-06	3.70e-02	1.35e-04	4.83e-08	7.40e-03	6.53e-06
Manganese (diet)	1.60e-06	1.40e-01	1.14e-05	3.13e-05	1.40e-01	2.24e-04	3.02e-07	2.80e-02	1.08e-05
Mercury	1.38e-10	3.00e-04	4.62e-07	3.10e-08	3.00e-04	1.03e-04	2.99e-10	6.00e-05	4.98e-06
Selenium	1.69e-08	5.00e-03	3.38e-06	1.27e-07	5.00e-03	2.55e-05	1.23e-09	1.00e-03	1.23e-06
Silver	3.91e-05	5.00e-03	7.82e-03	9.78e-05	5.00e-03	1.96e-02	9.43e-07	1.00e-03	9.43e-04
Thallium	1.32e-11	NA	--	7.06e-08	NA	--	6.81e-10	NA	--
Zinc	5.32e-07	3.00e-01	1.77e-06	9.94e-06	3.00e-01	3.31e-05	9.59e-08	6.00e-02	1.60e-06
HI			**7.86e-03**			**2.08e-02**			**1.00e-03**
Total HI	**2.97e-02**								

TABLE E-7 (continued)
Noncarcinogenic Calculations for the
Peerless Photo Products Site (I.D. # 1-52-031)

Chemical	Off-site Child (age 1-6) Resident		
	Root Vegetable Ingestion		
	Dose	RfDo	Hazard Quotient
Antimony	0.00	4.00e-04	0.00
Barium	0.00	7.00e-02	0.00
Cadmium (diet)	6.94e-09	1.00e-03	6.94e-06
Chromium	1.21e-07	5.00e-03	2.41e-05
Copper	2.22e-06	3.70e-02	5.99e-05
Manganese (diet)	7.46e-06	1.40e-01	5.33e-05
Mercury	6.46e-10	3.00e-04	2.15e-06
Selenium	7.89e-08	5.00e-03	1.58e-05
Silver	1.82e-04	5.00e-03	3.65e-02
Thallium	6.16e-11	NA	--
Zinc	2.48e-06	3.00e-01	8.28e-06
HI			**3.67e-02**
Total HI	**3.67e-02**		

TABLE E-8
Summary of Estimated Hazard Indices for the Peerless Photo Products Site (I.D. # 1-52-031)

Receptor	Exposure Pathway	HI
On-site Adult Resident	Root Vegetable Ingestion	**0.006**
	Soil Ingestion	**0.022**
	Dermal Contact	**0.001**
	Total HI	**0.029**
On-site Child (age 1-6) Resident	Root Vegetable Ingestion	**0.030**
Off-site Adult Resident	Root Vegetable Ingestion	0.008
	Soil Ingestion	0.021
	Dermal Contact	0.001
	Total HI	**0.030**
Off-site Child (age 1-6) Resident	Root Vegetable Ingestion	**0.037**

APPENDIX F

Sampling Results for the Private Well Located Downgradient of the Site

ENVIRONMENTAL COMMUNICATIONS

TO: J. Basile, Fluor Daniel GTI
J. Bryson, ENVIRON
S. Davis, Esq., Huber Lawrence & Abell
R. Rocha, Agfa

FROM: W. Rundle, Environmental Communications

DATE: February 4`, 1997

RE: Peerless Photo Products Site (I.D. No. 1-52-031)
Sampling Results, Domestic Well at 8 Highland Down
Shoreham, New York

This memo provides followup to the November 15, 1996 letter (Attachment 1) from Mr. Joe Basile to Mr. Sy Robbins of the Suffolk County Department of Health Services (SCHDS) requesting further information about the domestic well at 8 Highland Down in Shoreham, New York. As you may recall, this well is the one domestic well located downgradient of the Peerless Photo Products site. It was identified by ERM-Northeast during a well search in May/June 1995 and is referenced in Appendix C of the site Risk Assessment. The information provided in this memo was transmitted to me in telephone conversations with Mr. Robbins on January 24th, 28th, and 31st, 1997.

In early December 1996, a SCDHS representative had a telephone conversation with Winifred Pardo, an owner of the residence at 8 Highland Down to gather further information about the well at that location. While speaking with Mrs. Pardo, the SCDHS representative confirmed that the well on the property is used solely for irrigation and that it is not hooked up to any household plumbing. The property is connected to the public water supply. The SCDHS representative requested permission to take a water sample from the well; permission was given and a SCDHS representative collected a water sample from the outdoor tap on December 12, 1996.

SCDHS sent the sample to its internal laboratory, which is New York State certified, for analysis. The results of the analysis are presented in Attachment 2 (six pages). Please note that the sampling and analysis, including all protocol and laboratory methods, were determined and approved by SCDHS.

According to Mr. Robbins, the only substances identified above laboratory method detection limits were several metals and one pesticide. Specifically, silver and cadmium were not detected above their laboratory method detection limit of 1 ppb. SCDHS determined that, with the exception of the pesticide, the sample met New York State drinking water standards. He stated to me that, according to SCDHS, the findings indicated that none of the substances identified were near levels of concern given the use of the water for irrigation. According to Mr. Robbins, the pesticide

17 Poplar Street
Belmont, MA 02178

Phone/Fax
617-484-4027

tetrachloroterephthalic acid found at 309 ppb in the sample is a derivative of the pesticide Dacthal found in water at the currently -closed Briarcliff Road Well Field. Mr. Robbins reported to me that the concentration detected in this sample exceeds the New York State drinking water standard of 50 ppb for this compound.

Sampling at the well was conducted to determine the presence and levels (if detected) of those substances indicated on the laboratory data sheets in Attachment 2. The conventions of the laboratory, as explained to me by Mr. Robbins, are provided below in an effort to assist with your understanding of the laboratory findings.

A Blank Space = The substance was not detected at any concentration in the sample.

A Checkmark, Dash, or Less-Than Sign (<) = The substance was not detected at a concentration above the laboratory method detection limit.

A Number Without a < Sign = The substance was detected at a concentration above the laboratory method detection limit; e.g. according to Mr. Robbins, the laboratory method detection limit for Mercury was 0.3 ppb and, as reported, it was detected in the sample at a concentration of 0.49 ppb.

Mr. Robbins told me that the homeowner had no issues, questions or concerns regarding her well or the Peerless site. According to Mr. Robbins, SCDHS will be sending a letter reporting the results of the sampling to the homeowner in the next few weeks. I will forward a copy of that letter once I receive it.

Please feel free to contact me should you desire that I followup with SCDHS on this or any other information.

ATTACHMENT 1: November 15, 1996 Letter from Mr. Joe Basile, Fluor Daniel GTI to Mr. Sy Robbins, SCDHS
ATTACHMENT 2: Laboratory Findings of Sample Taken on 12/12/96 from Residence at 8 Highland Down, Shoreham, New York (six pages)

ATTACHMENT 1

NOVEMBER 15, 1996 LETTER
FROM
MR. JOE BASILE, FLUOR DANIEL GTI
TO
MR. SY ROBBINS, SCDHS

FLUOR DANIEL GTI

November 15, 1996

Mr. Sy Robbins
Suffolk County Department of Health Services
225 Rabrow Drive East
Hauppauge, New York 11788

Re: **Request for Further Information about the Domestic Well at 8 Highland Down**
Peerless Photo Products Site (I.D. No. 1-52-031)
Shoreham, New York

Dear Sy:

I am writing to request further information regarding a private well identified during the well search conducted as part of the Phase 1 Remedial Investigation and Risk Assessment for the Peerless Photo Products site in Shoreham, New York. According to the Well Search Report found in Appendix C of the Risk Assessment, there is one domestic well (S-36764) located downgradient of the site. The well is on property owned by Dr. G. Pardo at 8 Highland Down.

According to Suffolk County Water Authority records, the property is hooked up to public water. Because of this, it has been assumed that the well is not used for potable water. No one, however, to my knowledge has actually had any correspondence or conversation with the well owner to confirm that this assumption is correct. This letter is to request that the Suffolk County Department of Health Services follow up on the status of the well at 8 Highland Down. Wendy Rundle of Environmental Communications informed me that, in a conversation about Fact Sheet No. 2 for the site, you indicated an interest in and willingness to obtain additional information from the well owner.

As the site nears the Feasibility Study stage, with a public meeting likely to occur sometime this winter, it seems prudent for all parties involved at this site to gain more definitive information about the use of this well. I am specifically interested in learning:

1) Is the property connected to the public water supply?

2) Is the public water supply always used for drinking, bathing, and cooking?

3) Is the well currently in use?

4) If in use, what is the well water used for?

5) Is the well water ever used for drinking, bathing, or cooking?

100 River Ridge Drive / Norwood, MA 02062 USA (617) 769-7602 FAX (617) 769-7785

Please call me at 518-370-5631 to confirm that you will be in contact with the owner of the above-referenced well. Also, I would appreciate it if you would provide me with copies of any correspondence and/or notes from telephone conversations pertaining to this. It would be great to have this information by the end of November 1996 so that it can be factored into the Feasibility Study already underway for the site. Please feel free to give me a call to discuss this. I thank you in advance for your attention to this matter.

Sincerely,
Fluor Daniel GTI, Inc.

Joseph L. Basile, Jr. (MC)

Joseph L. Basile, Jr.
Senior Project Manager

cc: S. A. Davis, Esq., Huber Lawrence & Abell
R. H. Rocha, Agfa Division of Bayer Corporation
W. L. Rundle, Environmental Communications

ATTACHMENT 2

LABORATORY FINDINGS
OF
SAMPLE TAKEN ON 12/12/96 FROM RESIDENCE
AT
8 HIGHLAND DOWN, SHOREHAM, NEW YORK
(SIX PAGES)

01 24 97 14:44 FAX

PR96-1206

Lab No. _____

12-96-00414
DL00414 Field #: 28-242-921212
Date Collected: 12/12/96
Loc Code: PRIVATED

D Fld.No. 28-242-9612 12

Col.By: Nanos

COPY

SUFFOLK COUNTY DEPARTMENT OF HE[illegible]LSE[illegible]VI[illegible]ES
PUBLIC HE[illegible]LTH LA[illegible]RATOR[illegible]
BACTERIOLOGICAL E[illegible]AMINATION [illegible]VATER

Station #_____ Routine_X_ Re-Sample____

Name Winifred Pardo

Location 8 Highland Down, Shoreham

Sample Tap: Raw X Treated__

Tap [illegible]ine: Yes X No___

Sample Location: Tank__ Kitchen__ Bathroom__ Outside Tap X Well#____ Other_____

Remarks:

LAB USE ONLY

Standard Plate Count/ml(48 Hrs. 35 C)

Date Planted DEC 12 1996

M.P.N per 100 ml

VOL.	Lactose Broth			Lactose Broth to Brilliant Green			E.C. MEDIUM FECAL COLIFORM	MUG MEDIA E.COLI
	24 Hrs	48 Hrs		24 Hrs.	48 Hrs	LAC.	24 HRS	
10 ml								

MEMBRANE FILTER
TOTAL COLIFORM

VOL.	COUNT		TOTAL COLIFORM/100ml	E. COLI MUG

MOST PROBABLE NUMBER/100 ml

Total Coliform:_____

E. Coli:_____

MMO-MUG (COLILERT)

Total Coliform/100ml ABSENT

E. Coli/100ml ABSENT

MEMBRANE FILTER

Total Coliform/100 ml_____

E. Coli:_____

DIRECTOR_____

PK90-1200

12-96-00414
DL00414 Field #: 28-242-921212
Date Collected: 12/12/96
Loc Code: PRIVATED

Fld.No.: 28-242-9612 12

Col.By: Nanos

Exam. By UNGD

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
PUBLIC HEALTH LABORATORY
CHEMICAL EXAMINATION OF WATER

Station # _____ Sample Tap: Raw X Treated__

Name **Winifred Pardo**

Location **8 Highland Down, Shoreham**

Sample Location: Tank__ Kitchen__ Bathroom__ Outside Tap X Well#____ Other_____

Remarks:

PARTIAL X COMPLETE __ METALS ONLY __

5	Specific Cond. umhos/cm			173	84	T. Alkalinity (mg/l CaCo3)			81	MBAS (mg/l)	
3	pH			6.3	82	T. Hardness (mg/l CaCo3)			68	Total Hyd (mg/l)	
8	Nitrites + Nitrates(mg/l N)			4.4	83	Ca. Hardness (mg/l CaCo3)			90	Floride (mg/l F)	
6	Free Ammonia (mg/l N)			0.10		Mg Hardness (mg/l CaCo3)			77	Nitrite (mg/l N)	< 0.02
0	Chlorides (mg/l Cl)			12		Aluminum (ug/l)		8.66		Antimony (ug/l)	
7	Sulfates (mg/l SO4)			4	120	Arsenic (ug/l As)		< 2		Beryllium (ug/l)	
00	Iron (mg/l Fe)			3.46	125	Selennium (ug/l Se)		< 2		Cobalt (ug/l)	
01	Manganese (ug/l Mg)		52	8	122	Cadmium (ug/l Cd)		*		Molydenum (ug/l)	
02	Copper (ug/l Cu)		249	*	123	Lead (ug/l Pb)		1.61		Nickel (ug/l)	
06	Sodium (mg/l Na)			59	126	Silver (ug/l Ag)				Thallium (ug/l)	
03	Zinc (ug/l Zn)	<	400	*	104	Chromium (ug/l Cr)		1.18		Thorium (ug/l)	
					124	Mercury (ug/l Hg)		0.49		Titanium (ug/l)	
					121	Barium (ug/l Ba)		358		Vanadium (ug/l)	

DIRECTOR_____

1/20/96 dpv

PR96-1206

Fld.No.: 28-242-9612 12

Col.By: Nanos

12-96-00414
DL00414 Field #: 28-242-921212
Date Collected: 12/12/96
Loc Code: PRIVATED
LH 12.23.96

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
PUBLIC HEALTH LABORATORY
DIVISION OF MEDICAL LEGAL INVESTIGATIONS & FORENSIC SCIENCES
TRACE ORGANIC ANALYSIS OF WATER

Station # _____ Sample Tap: Raw X Treated__

Name Winifred Pardo

Location 8 Highland Down, Shoreham

Number of sample vials submitted 4

Sample Location: Tank__ Kitchen__ Bathroom__ Outside Tap X Well#____ Other_____

Meter Reading:_____ gallons

DB#	Compound	ppb	DB#	Compound	ppb
615	chlorodifluoromethane		250	benzene	
436	dichl'odifluoromethane		251	toluene	
306	vinyl chloride		258	chlorobenzene	
305	methylene chloride		259	ethylbenzene	
323	1,1 dichloroethane		254	o-xylene	
309	trans 1,2 dichl'ethene		252	m-xylene	
300	chloroform		253	p-xylene	
324	1,2 dichloroethane		255	total xylene	
321	1,1,1 trichloroethane		266	2-chlorotoluene (o)	
304	carbon tetrachloride		267	m-chlorotoluene	
294	1 bromo 2 chloroethane		268	4-chlorotoluene (p)	
405	1,2 dichloropropane		265	total chlorotoluene	
310	trichloroethene		419	1,3,5 trimethylbenzene	
303	chlorodibromomethane		418	1,2,4 trimethylbenzene	
293	1,2 dibromoethane		415	m,p-dichlorobenzene	
420	2 bromo 1 chloropropan		412	1,2 dichlorobenzene (o)	
301	bromoform		432	p-diethylbenzene	
311	tetrachloroethene		435	1,2,4,5 tetramethylbenzene	
308	cis 1,2 dichloroethene		437	1,2,4 trichlorobenzene	
320	freon 113		438	1,2,3 trichlorobenzene	
292	dibromomethane		600	ethenylbenzene (styrene)	
307	1,1 dichloroethene		601	1 methylethylbenzene(cumene)	
302	bromodichloromethane		602	n-propylbenzene	
406	2,3 dichloropropene		603	tert-butylbenzene	
407	cis dichloropropene		604	sec-butylbenzene	
408	trans dichloropropene		605	isopropyltoluene (p-cymene)	
322	1,1,2 trichloroethane		606	n-butylbenzene	
409	1112 tetrachlo'ethane		607	hexachlorobutadiene	
295	s-tetrachloroethane				
433	1,2,3 trichloropropane		614	methyl-tertiary-butyl-ether	
450	2,2 dichloropropane		619	2-butanone (MEK)	<20
451	1,3 dichloropropane		621	tetrahydrofuran	<20

9/93

PR96-1206

Fld.No.: 28-242-9612 12

Col.By: Nanos

12-96-00414
DL00414 Field #: 28-242-921212
Date Collected: 12/12/96
Loc Code: PRIVATED
Exam By GM, KM 12-16-96

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
DIVISION OF MEDICAL LEGAL INVESTIGATIONS & FORSENIC SCIENCES
PUBLIC HEALTH LABORATORY
ORGANOHALIDE PESTICIDE ANALYSIS OF WATER

Station # _____
Name **Winifred Pardo**
Location **8 Highland Down, Shoreham**

Sample Tap: Raw X Treated__

Kitchen __ Bathroom__ Outside Tap X

Tank__ Well #_____ Other_____

_Comm __Ncom X_Priv __Surf __Test Well

Mailing Address:
Winifred Pardo
8 Highland Down
Shoreham NY 11786

COMPOUND	PPB	COMPOUND	PPB
Alpha - BHC	_____	4,4 DDE	_____
Beta - BHC	_____	4,4 DDD	_____
Gamma - BHC	_____	4,4 DDT	_____
Delta - BHC	_____	Endrin	_____
Heptachlor	_____	Endrin aldehyde	_____
Heptachlor epoxide	_____	Chlordane	<1
Aldrin	_____	Alachlor	<0.5
Dieldrin	_____	Methoxychlor	<0.5
Endosulfan I	_____	Endosulfan II	_____
1,2 dibromoethane	<0.02	1,2 dibromo 3-chloropropane	<0.02
Dacthal	_____		

RESULTS FOR EACH COMPOUND LISTED ABOVE IS <0.2 ppb EXCEPT WHERE NOTED

PR96-1206

Fld.No.: 28-242-9612 12

Col.By: Nanos

12-96-00414
DL00414 Field #: 28-242-921212
Date Collected: 12/12/96
Loc Code: PRIVATED

RECEIVED 12/24/96

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
DIVISION OF MEDICAL LEGAL INVESTIGATIONS & FORSENIC SCIENCES
PUBLIC HEALTH LABORATORY

PESTICIDE ANALYSIS OF WATER

Station # _____ Sample Tap: Raw X Treated__

Name Winifred Pardo

Location 8 Highland Down, Shoreham

Kitchen ___ Bathroom___ Outside Tap X

Mailing Address:
Winifred Pardo
8 Highland Down
Shoreham NY 11786

Tank___ Well # _____ Other_____

__Comm __Ncom X Priv ___Surf __Test Well

District ____
Section ___
Block ___
Lot ___

Well Depth _____

COMPOUND	PPB	COMPOUND	PPB
(223) Aldicarb	<1	(550) Propoxur	<1
(425) Aldicarb Sulfoxide .	<1	(551) Methiocarb	<1
(426) Aldicarb Sulfone ...	<1		
(224) Carbofuran	<1		
(427) 3-Hydroxycarbofuran	<1		
(428) Oxamyl	<1		
(429) Carbaryl	<1		
(554) 1-Naphthol	<1		
(430) Methomyl	<1		

Lab No. _____

Fld.No.: 28-242-9612 12

Col.By: Nanos

12-96-00414
DL00414 Field #: 28-242-921212
Date Collected: 12/12/96
Loc Code: PRIVATED

Drawn By _____
Rcvd 12/20/96

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
DIVISION OF MEDICAL LEGAL INVESTIGATIONS & FORSENIC SCIENCES
PUBLIC HEALTH LABORATORY

PESTICIDE ANALYSIS OF WATER

Station # _____
Name Winifred Pardo
Location 8 Highland Down, Shoreham

Sample Tap: Raw X Treated__

Kitchen __ Bathroom__ Outside Tap X

Tank__ Well # _____ Other_____

__Comm __Ncom _X_Priv __Surf _Test Well

Mailing Address:
Winifred Pardo
8 Highland Down
Shoreham NY 11786

District ____
Section ____
Block ____
Lot ____

Well Depth _____

COMPOUND	PPB
DIMETHYLTETRACHLOROTEREPHTHALATE	—
MONOMETHYLTETRACHLOROTEREPHTHALATE	<10
TETRACHLOROTEREPHTHALIC ACID	309

APPENDIX G

NYSDOH Site-Specific Cleanup Goals for Cadmium and Silver in Soils

DOH STATE OF NEW YORK
DEPARTMENT OF HEALTH

II University Place Albany, New York 12203-3399

Barbara A. DeBuono, M.D., M.P.H.
Commissioner

Dennis P. Whalen
Executive Deputy Commissioner

June 19, 1997

JUN 23

Mr. Girish Desai
Division of Environmental Remediation
NYS Department of Environmental Conservation
Region 1
SUNY Campus
Loop Road, NY 11790

RE: Peerless/AGFA
Shoreham, Suffolk County
Site # 152031

Dear Mr. Desai:

It is our understanding that the Bayer Corporation has proposed the following site specific cleanup goals for the referenced site:

- 10 mg/kg for cadmium in surface soils (0 to 2 feet below grade).
- 10 mg/kg for cadmium in subsurface soils (greater than 2 feet below grade).
- 137 mg/kg for silver in surface soils (0-2 feet below grade).
- 300 mg/kg for silver in subsurface soils (greater than 2 feet below grade).
- For areas off-site, in the Lilco right away, the surface and subsurface soils cleanup goal for silver will be 137 mg/kg.

We have reviewed the data from the site with staff from our Bureau of Toxic Substance Assessment and have concluded that if these cleanup goals are included in the feasibility study that this department will not object to their use, with the understanding that all areas where soil is removed, they will be backfilled with clean soils. The feasibility study should include consideration of deed restrictions in areas where subsurface soils will contain levels of silver greater than 137 mg/kg. These restrictions should prevent subsurface soil from becoming surface soils where excavation occurs.

Regarding the risk assessment for this site, the agreement regarding cleanup goals precludes the need for the risk assessment to be revised.

If you have any questions regarding this matter, please call me or Mr. Steven Bates at 518-458-6305.

Sincerely,

Geoffrey J. Laccetti
Environmental Health Specialist III
Bureau of Environmental Exposure
Investigation

cc: Dr. A. Carlson
Mr. S. Bates
Mr. J. Pim/Mr. S. Robbins - SCHDS
Mr. R. Becherer - DEC, Reg. 1

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