Department of Environmental Conservation

Division of Hazardous Waste Remediation

Napanoch Paper Mill
Inactive Hazardous Waste Site

Site Number 3-56-014
Ulster County, New York

New York State Superfund

Record of Decision

March 1994

New York State Department of Environmental Conservation
MARIO M. CUOMO, *Governor*   LANGDON MARSH, *Acting Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

NAPANOCH PAPER MILL INACTIVE HAZARDOUS WASTE SITE
HAMLET OF NAPANOCH, TOWN OF WAWARSING
ULSTER COUNTY, NEW YORK

SITE NO. 3-56-014

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Napanoch Paper Mill inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Napanoch Paper Mill Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential threat to public health and environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Napanoch Paper Mill Site and the criteria identified for evaluation of alternatives the NYSDEC has selected the remedy. The components of the remedy are as follows:

- Removal of paper rolls contaminated with Polychlorinated Biphenyls (PCBs) with off-site disposal in a regulated hazardous waste landfill.
    - Removal of four scattered piles of PCB-contaminated paper rolls (an estimated 50 tons) located throughout the site. All paper rolls will be treated as a hazardous waste (PCB concentration $\geq$ 50ppm).

- Excavation of soils contaminated with PCBs $\geq$1ppm with off-site disposal in both regulated hazardous waste and non-hazardous waste landfills.
    - ▸ Various areas located throughout the site contain an estimated 12,250 cubic yards of soil with PCB contamination in excess of 1 ppm and/or metal and/or polyaromatic hydrocarbon (PAH) contamination exceeding State Standards Criteria and Guidance (SCG). Approximately 1,600 cubic yards of this soil is classified as a hazardous waste (PCB concentration $\geq$ 50 ppm).
- Excavation/dewatering of all pond sediment contaminated with PCBs $\geq$1ppm with off-site disposal in a non-hazardous waste landfill.
    - ▸ A ponded area downgradient from the former paper mill contains an estimated 3,700 cubic yards of sediment with PCB contamination in excess of 1 ppm. None of the sediment is classified as a hazardous waste.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the selected remedy for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

March 24, 1994
Date

Ann Hill DeBarbieri
Deputy Commissioner

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SECTION 1: SITE LOCATION AND DESCRIPTION

The Napanoch Paper Mill Site is located on NY Route 55 in the Hamlet of Napanoch, Town of Wawarsing, Ulster County, New York (see **Figure 1**). The site occupies an area approximately 19 acres (see **Figure 2**). It is bounded on the south by Rondout Creek and on the north by NY Route 55. The site lies on very uneven and wooded land on the northern flank of the Rondout Creek Valley. It is situated in a mixed industrial and residential area; however, there are presently no industries located on or near the site. The nearest business is a furniture repair/stripping company located 400 feet south of the site on the opposite side of Rondout Creek.

Rondout Creek drains from the Rondout Reservoir approximately four miles to the northwest of the site through the Hamlet of Napanoch. Topography in and adjacent to the site consists of alternating hills and steep-sided stream-filled ravines. These ravines empty into generally broad, flat-bottomed river valleys. Elevations in this region range from approximately 300 feet in the valleys to more than 2,200 feet at High Point, located in Shawangunk Mountains approximately two miles southeast of the site.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

The Napanoch Paper Mill (originally the Rondout Paper Mill) was built in 1883-84. The mill had multiple owners and company names over the years; Napanoch Mills, Frost and Sons, Ulster Tissue Mills and Rondout Paper Mill. The mill primarily made wrapping paper through approximately 1914. It is uncertain what activities took place on-site between 1914 to 1949. However, at various times the mill produced several other forms of paper products. Multiple fires occurred at the plant during its operating history. In 1959, the company was reorganized as the Rondout Corporation and was again involved in the production of packing and wrapping paper.

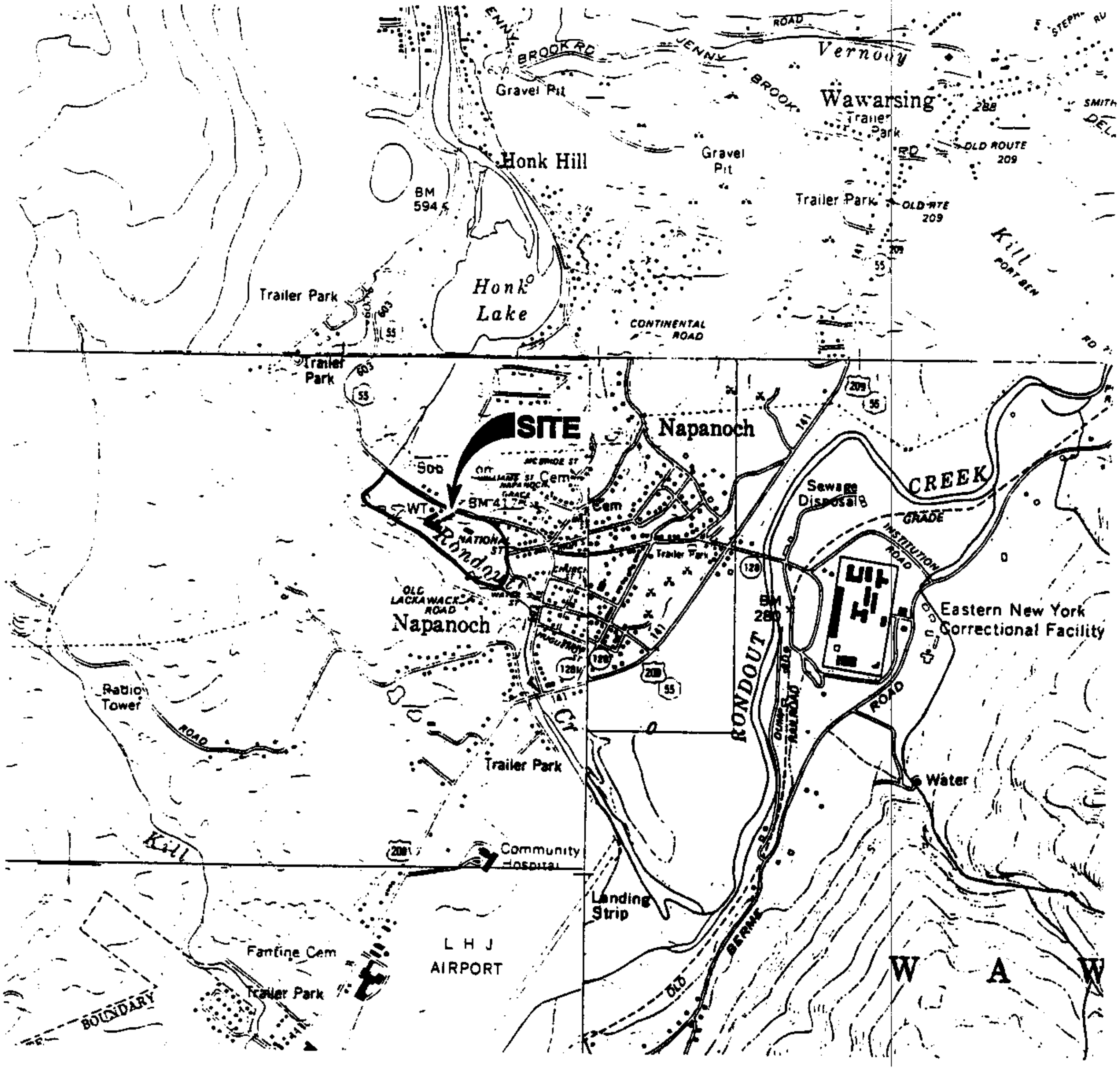
In September of 1972 a portion of the mill closed after two small buildings were destroyed by fire. Approximately 7,000 gallons of #6 fuel oil from an above ground storage tank were spilled on-site and into Rondout Creek as a result of the fire and tank explosion. Afterwards, approximately 400 gallons remained in the creek and were later contained and removed by NYSDEC, the Ulster County Department of Health (UCDOH) and the Town of Wawarsing. Following another series of owner transfers and foreclosures, the plant was totally destroyed by fire in May of 1977.

Hazardous waste, containing Polychlorinated Biphenyls (PCBs), was generated at the site from 1949 until the plant fire in 1977. Part of the paper mill processes included discharge of wastewater into lagoons located on the site. It is generally known that hazardous wastes were discharged with the process water into the lagoons. The likely sources of these hazardous wastes were waste oils from equipment maintenance and/or from the actual pulp/paper production process. The overflow from the process wastewater lagoons ultimately discharged into Rondout Creek.

2.2: Remedial History

A Phase I investigation was completed in August 1986. In January 1990, the NYSDEC initiated a preliminary investigation to characterize the extent of PCB contamination on-site. In October 1991, the NYSDEC set up a 100' x 100' grid over the entire 19 acres of the site to determine which areas required cleanup. Approximately 6,750 tons of PCB-contaminated paper sludge

FIGURE 1



SOURCE: NYSDOT 7.5 MINUTE SERIES PLANIMETRIC MAPS; NAPANOCH (1973), KERHONKSON (1973), RONDOUT RESERVOIR (1973), AND ELLENVILLE (1976) QUADRANGLES.

QUADRANGLE LOCATION

LATITUDE: 41°44'55"
LONGITUDE: 74°22'35"

SCALE
0 2000 4000 FT.
2000 FT.

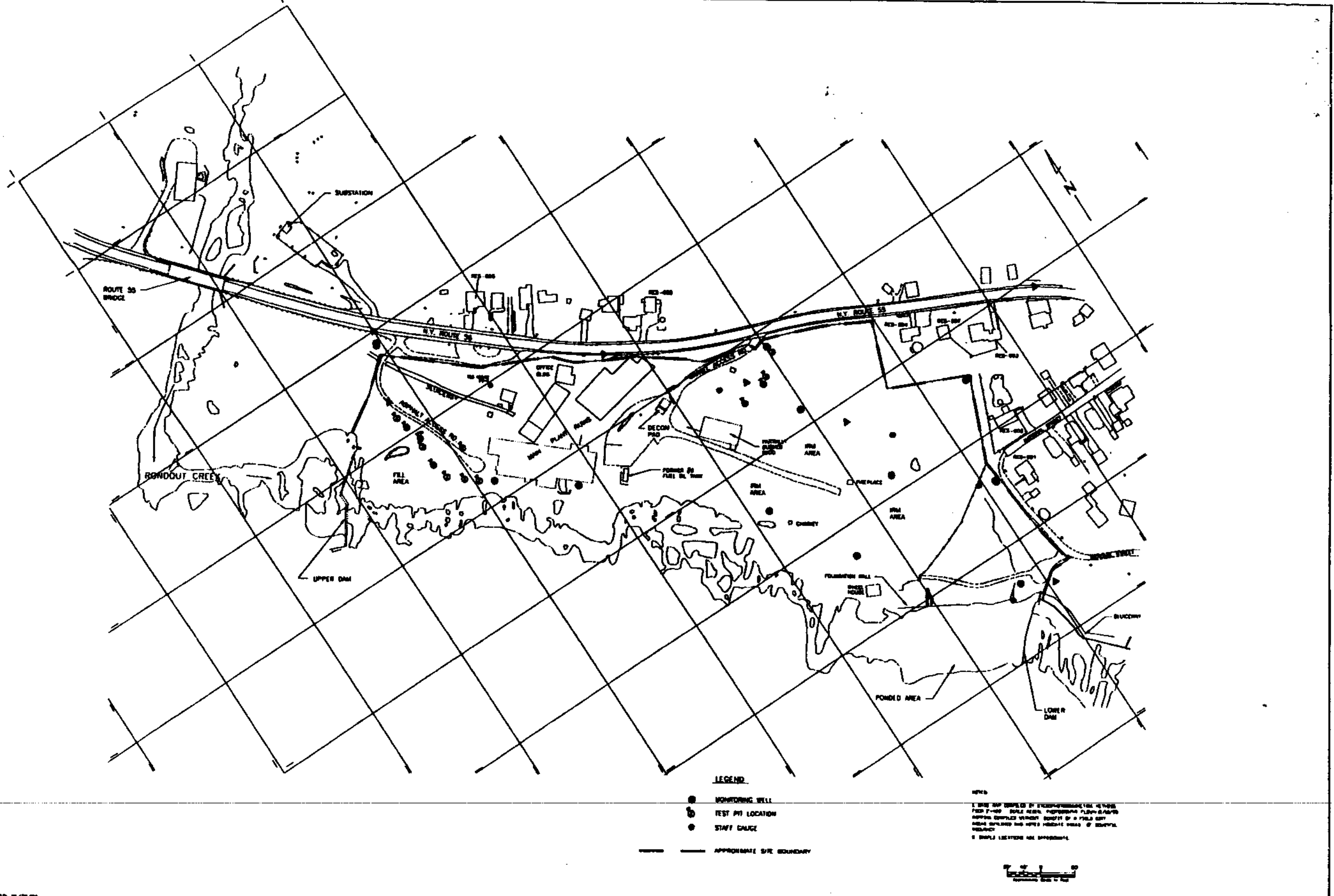
ENGINEERING-SCIENCE

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
RI/FS INVESTIGATION

SITE LOCATION MAP

NAPANOCH PAPER MILL SITE

FIGURE 2



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DRAWN BY		8/93
CHECKED BY		11/30/93
ENGINEER		
REGISTRATION NO		DATE

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REMEDIAL INVESTIGATION/
FEASIBILITY STUDY

NAPANOCH PAPER MILL SITE

SITE MAP

and soil were removed during the IRM in 1992. The contaminated sludge was transported to the Aptus Incineration facilities in Coffeyville, Kansas and Aragonite, Utah; the contaminated soil was sent to the Chemical Waste Management's Landfill in Model City, New York. The contaminated water was pre-treated on-site and subsequently trucked to Chemical Waste Management's industrial wastewater treatment facility in Newark, New Jersey for disposal.

In September 1993, the NYSDEC Region 3 Emergency Spill Response Team, excavated and stockpiled 3,000 cubic yards of petroleum-contaminated soil for thermal treatment in Spring 1994. The soil became contaminated during the 1972 plant fire when approximately 7,000 gallons of fuel spilled into Rondout Creek. The removal action was concentrated around the former #6 fuel oil above-ground storage tank and associated piping located east and south of the main plant ruins. During excavation activities, a second underground storage tank was discovered and removed.

SECTION 3: CURRENT STATUS

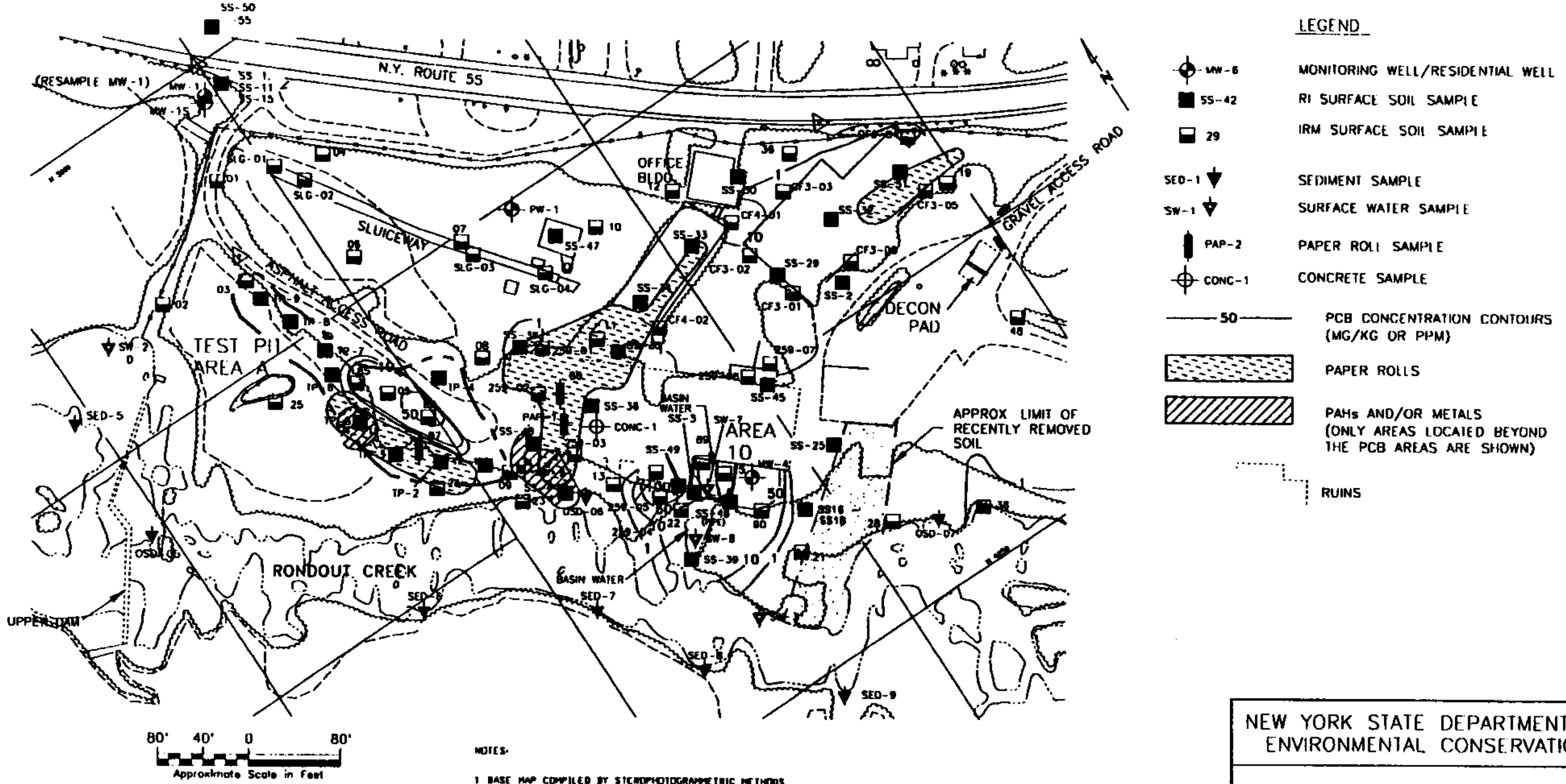
The NYSDEC, under the State Superfund Program, initiated a Remedial Investigation/ Feasibility Study (RI/FS) in July 6, 1992 to address the remaining contamination at the site. The RI/FS was performed by Engineering-Science of Liverpool, New York.

3.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The RI was conducted in one phase. The field work was conducted between December 1992 and October 1993. A report entitled Remedial Investigation/Feasibility Study (RI/FS) March 1994 has been prepared describing the field activities and findings of the RI in detail. A summary of the RI follows:

The RI activities consisted of the following:

- *A site-wide geologic investigation characterizing the nature and distribution of the surficial deposits, and determining surface and subsurface soil quality;*
- *A groundwater investigation consisting of on-site and off-site sampling of groundwater quality in unconsolidated deposits and bedrock, and characterization of the site hydrogeology;*
- *Excavation of test pits to determine the presence or absence of buried waste materials;*
- *Collection of additional surface soil samples throughout various areas of the site to define the extent of contamination from PCBs, metals and PAHs;*
- *Collection of a second round of groundwater samples to confirm first round results, and to include residential wells. Residential wells included those which might be impacted by the site and others for determining background water quality;*
- *Collection of samples from other matrices such as concrete foundations, paper rolls, and leachate outbreaks;*
- *Further characterization of the hydrogeology through additional monitoring of water levels in observation wells, and measuring water levels in some residential wells;*
- *Ecological and human health risk assessments.*



NOTES:

1 BASE MAP COMPILED BY STEREOPHOTOGRAMMETRIC METHODS FROM 1"=400' SCALE AERIAL PHOTOGRAPHY FLOWN 01/18/93. MAPPING COMPILED WITHOUT BENEFIT OF A FIELD EDIT AREAS OUTLINED AND NOTED INDICATE AREAS OF DOUBTFUL ACCURACY

2 SAMPLE LOCATIONS ARE APPROXIMATE

NEW YORK STATE DEPARTMENT OF
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NAPANOCH PAPER MILL SITE

CONTAMINATION AREAS OF
CONCERN - ZONE I

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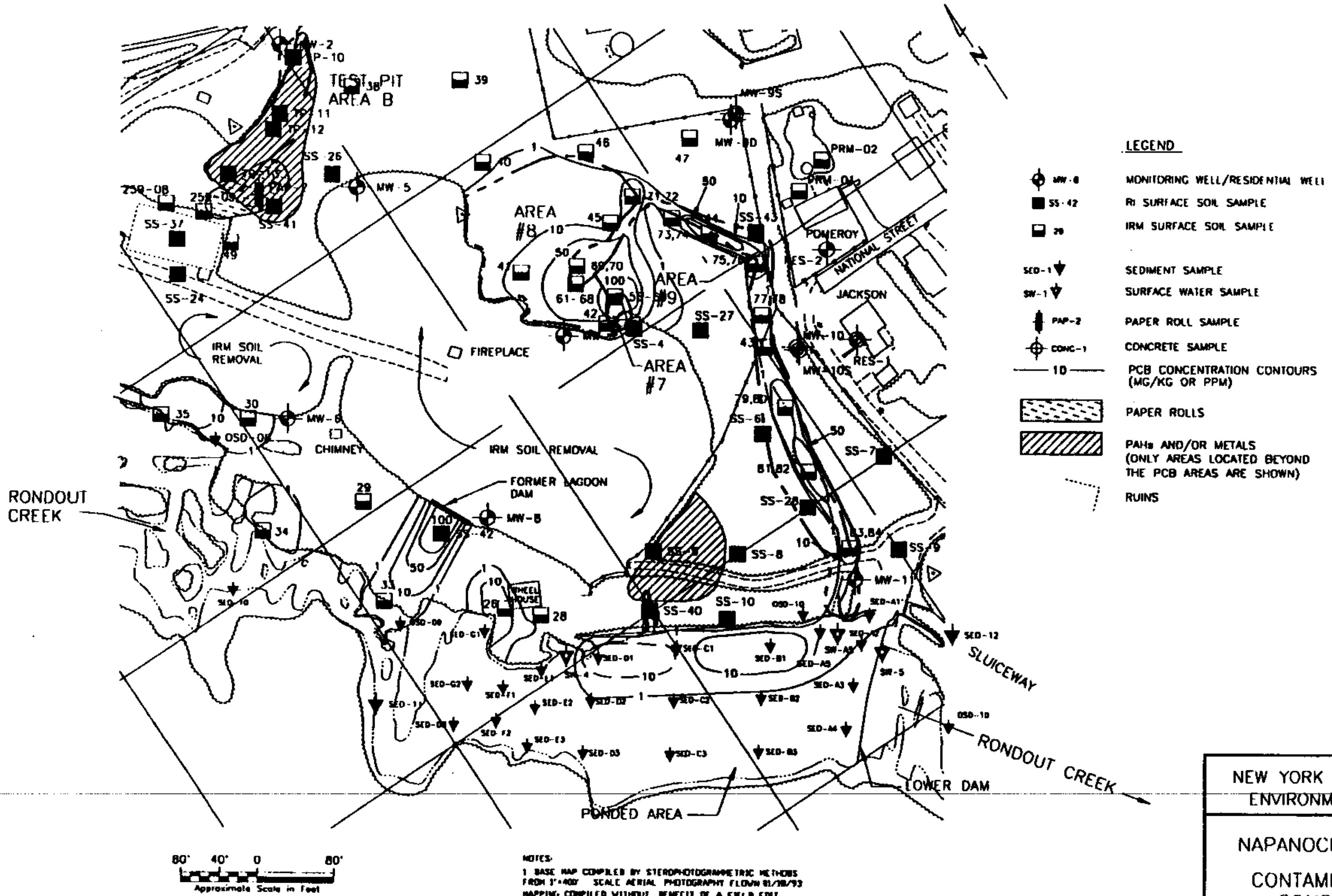
FIGURE 3

FIGURE 4



LEGEND

⊕ MW-8	MONITORING WELL/RESIDENTIAL WELL
■ SS-42	RI SURFACE SOIL SAMPLE
◧ 28	IRM SURFACE SOIL SAMPLE
SED-1 ▼	SEDIMENT SAMPLE
SW-1 ▽	SURFACE WATER SAMPLE
PAP-2	PAPER ROLL SAMPLE
⊕ CONC-1	CONCRETE SAMPLE
—— 10 ——	PCB CONCENTRATION CONTOURS (MG/KG OR PPM)
▨	PAPER ROLLS
▨	PAHs AND/OR METALS (ONLY AREAS LOCATED BEYOND THE PCB AREAS ARE SHOWN)
	RUINS

80' 40' 0 80'

Approximate Scale in Feet

NOTES:

1 BASE MAP COMPILED BY STEROPHOTOGRAMMETRIC METHODS FROM 1"=400' SCALE AERIAL PHOTOGRAPHY FLOWN 01/18/93 MAPPING COMPILED WITHOUT BENEFIT OF A FIELD EDIT. AREAS OUTLINED AND NOTED INDICATE AREAS OF DOUBTFUL ACCURACY

2 SAMPLE LOCATIONS ARE APPROXIMATE.

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

NAPANOCH PAPER MILL SITE

CONTAMINATION AREAS OF
CONCERN – ZONE II

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The analytical data obtained from the RI was compared to Applicable New York State Standards, Criteria, and Guidance (SCGs) in determining remedial objectives. Groundwater, drinking water and surface water SCGs identified for the Napanoch Paper Mill site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. For the evaluation and interpretation of soil and sediment analytical results, NYSDEC soil cleanup guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used to develop remediation goals for soil.

Based upon the results of the remedial investigation in comparison to the SCGs and potential public health and environmental exposure rates, certain areas and media of the site require remediation (see **Figures 3-4**).

Surface Soils

Surface soils, defined as 0-1 foot below ground surface, were investigated through surface soil sampling, soil borings, and test pit excavations.

During the course of the investigation, PCBs in excess of 1.0 mg/kg (ppm) were detected in surficial soils in several distinct areas of the site;

- Main Plant Ruins - three areas;
- Test Pit Area A (adjacent to main plant);
- Areas 7 and 8 (former process water lagoons);
- Area 9 - drainage ditch
- Bank of Rondout Creek east of the Main Plant Ruins - three small areas.

Total PCB concentrations in these areas typically ranged from 1.0 to 10.0 mg/kg, with smaller subareas or pockets of contamination where levels exceeded 10 mg/kg (see **Table 1**). The highest concentrations were observed in Areas 7 and 8, the former process water lagoons. Concentrations in the vicinity of the former lagoons ranged as high as 160 mg/kg. One area measuring approximately 100 by 100 feet contained PCBs in excess of 50 mg/kg.

Polyaromatic Hydrocarbons (PAHs) cleanup objectives were exceeded most frequently in the Main Plant Ruins, Test Pit area B, and Area No. 9. The most commonly occurring PAHs were benzo(a) anthracene, benzo (a) pyrene, and dibenzo (a,h) anthracene. Concentrations ranged from 7.9 mg/kg to 18 mg/kg.

Pesticides and volatile organic compounds (VOCs) did not constitute a problem in surficial soils. Only a single pesticide, beta-BHC, was detected above a cleanup objective of 0.20 mg/kg in one sample (see **Table 1**).

Metals were detected at concentrations above cleanup criteria in several on-site sample locations (see **Table 2**). The most commonly occurring metals with maximum values (with cleanup objectives) were: arsenic 619 mg/kg (objective 7.5 mg/kg), chromium 64 mg/kg (objective 10 mg/kg), lead 2100 mg/kg (objective 100 mg/kg) and mercury 17 mg/kg (objective 0.10 mg/kg).

Subsurface Soils

Subsurface soils (greater than one foot) were determined not to be contaminated with respect to VOCs, PCBs/pesticides, and SVOCs. Three subsurface soil samples contained metals exceeding cleanup objectives - chromium 18.9 mg/kg, lead 534 mg/kg, mercury 0.15 mg/kg.

TABLE 1

SOIL CLEANUP OBJECTIVES AND EXCEEDANCE SUMMARY FOR ORGANICS

NAPANOCH PAPER MILL SITE

PARAMETER	NYSDEC (1) Rec. Soil Cleanup Objective	Maximum Concentration Location	Maximum Concentration	No. of Exceed. / No. of Samples
ASP91-1 – VOLATILES (ug/kg)				
Methylene chloride	100	SS-25	0.9	0/46
Acetone	200	SS,MW4 (0-2)	260	1/46
Carbon Disulfide	2700	SS-40	33	0/46
Chloroform	300	SS-40	33	0/46
1,2-Dichloroethane	100	SS-40	33	0/46
2-Butanone	300	SS-49	46	0/46
1,1,1-Trichloroethane	800	SS-45	120	0/46
Trichloroethene	700	SS-3	22	0/46
Tetrachloroethene	1400	SS-3	48	0/46
Toluene	1500	SS-3	11	0/46
Benzene	60	TP11	27	0/46
Ethyl benzene	5500	SS-25	2	0/46
Total Xylenes	1200	SS-25	59	0/46
ASP91-2 – SEMIVOLATILES (ug/kg)				
4-Methylphenol	900	SS-39	180	0/46
2,4-Dimethylphenol	NS	SS-3	45	0/46
Naphthalene	13000	SS-25	1000	0/50
2-Methylnaphthalene	36400	SS-25	7400	0/46
2,4,5-Trichlorophenol	100	SS-42	74	0/46
Acenaphthylene	41000	SS-3	1900	0/50
Acenaphthene	50000	SS-25	1400	0/50
Dibenzofuran	6200	SS-3	610	0/46
Fluorene	50000	SS-25	4200	0/50
N-nitrosodiphenylamine	NS	SS-47	110	0/46
Pentachlorophenol	1000 or MDL	SS-42	420	0/46
Phenanthrene	50000	SS-3	21000	0/50
Anthracene	50000	SS-25	11000	0/50
Carbazole	NS	SS-3	1200	0/46
Di-n-butyl phthalate	8100	SS-39	2100	0/46
Fluoranthene	50000	SS-3	42000	0/50
Pyrene	50000	SS-3	66000	1/50
Butyl benzyl phthalate	50000	SS-42	730	0/46
Benzo(a)anthracene	220 or MDL	SS-3	18000	14/50
Chrysene	400	SS-3	21000	9/50
Bis(2-ethylhexyl) phthalate	50000	TP10	17000	0/50
Benzo(b)fluoranthene	1100	SS-3	20000	7/50
Benzo(k)fluoranthene	1100	SS-3	12000	6/50
Benzo(a)pyrene	61 or MDL	SS-3	17000	22/50
Indeno(1,2,3-cd)pyrene	3200	SS-3	10000	2/50
Dibenzo(a,h)anthracene	14 or MDL	SS-44	7900	14/50
Benzo(ghi)perylene	50000	SS-3	7800	0/50
ASP91-3 – PESTICIDES/PCBs (ug/kg)				
beta-BHC	200	SS-41	360	1/47
delta-BHC	300	SS-2	.66	0/47
Heptachlor epoxide	20	SS-25	7.5	0/47
Endosulfan I	900	SS-5	14	0/47
Dieldrin	44	TP02	26	0/47
4,4'-DDE	2100	SS-2	120	0/47
Endrin	100	SS-25	22	0/47
Endosulfan II	900	SS-25	34	0/47
4,4'-DDD	2900	SS-45	26	0/47
Endosulfan Sulfate	1000	SS-45	9.2	0/47
4,4'-DDT	2100	SS-45	770	0/47
Methoxychlor	10000	SS-2	21	0/47
Endrin ketone	NS	SS-25	23	0/47
PCBs	1000 (2)	56	160,000	63/171 *

(1) NYSDEC TAGM Memorandum #HWR-92-4046, issued November 16, 1992.

(2) For surface soils For subsurface soils the cleanup objective is 10,000 ppb.

* – Includes IRM samples collected and analyzed by NYSDEC.

NS = No Standard

MDL = Method Detection Limit

▭ – concentration exceeds cleanup objective.

TABLE 2

SOIL CLEANUP OBJECTIVES AND EXCEEDANCE SUMMARY FOR METALS

NAPANOCH PAPER MILL SITE

TOTAL METALS (mg/kg)	Site Background (1) Concentration Range (Average)	NYSDEC (2) Rec. Soil Cleanup Objective	Human (3) Health Based Values	Proposed Site Soil Objective	Maximum Concentration Location	Maximum Concentration	No. of Exceed. / No. of Samples
Aluminum	4340–8510 (7200)	30 or SB	NS	NS	SS–42	21200	0/50
Antimony	<1.0 – <1.3 (<1.16)	30 or SB	31	31	SS–49	$\boxed{37.3}$	1/50
Arsenic*	3.0–6.8 (4.3)	7.5 or SB	0.97	7.5	SS–3	$\boxed{619}$	21/50
Barium*	16–56.9 (38)	300 or SB	5470	300	TP05	$\boxed{870}$	2/50
Beryllium	<0.63 – <0.80 (<0.71)	1.0 or SB	NS	1.0	SS–25	0.67	0/50
Cadmium*	0.08–0.19 (0.14)	1.0 or SB	40	1.0	SS–46	$\boxed{19.4}$	7/50
Calcium	210–1040 (680)	SB	NS	NS	TP10	19000	0/50
Chromium*	2.9–10.5 (7.8)	10 or SB	391	10	SS–42	$\boxed{64.3}$	25/50
Cobalt	6.0–6.5 (6.2)	30 or SB	NS	NS	SS–36	135	0/50
Copper	7.4–9.8 (8.3)	25 or SB	3125	3200	SS–46	$\boxed{84000}$	1/50
Iron	5910–15700 (11600)	2000 or SB	NS	NS	SS–46	119000	0/50
Lead*	22.9–126 (64)	30 or SB	NS	100 (4)	SS–3	$\boxed{2100}$	24/50
Magnesium	351–1710 (1300)	SB	NS	NS	SS–24	4040	0/50
Manganese	51.9–509 (200)	SB	391	400	SS–42	$\boxed{2850}$	25/50
Mercury*	0.15–0.20 (0.18)	0.10	23	0.10	SS–3	$\boxed{17}$	23/50
Nickel	11.6–19.8 (15)	13 or SB	1563	1600	SS/MW–9 (0–2)	308	0/50
Potassium	162–476 (334)	SB	NS	NS	SS–36	1010	0/50
Selenium*	<0.62 – <0.8 (<0.70)	2.0 or SB	391	2.0	SS–5	$\boxed{2.1}$	1/50
Silver*	0.10–0.13 (0.12)	SB	391	400	SS–42	11.6	0/50
Sodium	<168 – <213 (<188)	SB	NS	NS	SS–38	525	0/50
Vanadium	10.6–72.8 (37)	150 or SB	547	550	SS–45	504	0/50
Zinc	11.6–49.5 (36)	20 or SB	23438	24000	SS–46	10400	0/50
Cyanide	<1.0 – <1.3 (<1.1)	NS	1600	1600	SS–47	50.5	0/50

(1) Average value of SS–19, SS–20, SS–21, SS–22, and SS–23. Numbers preceded by " < " are method detection limits (MDLs).

(2) NYSDEC TAGM Memorandum #HWR–92–4046, issued November 16, 1992.

(3) Derived from values in IRIS (USEPA, 1993) or HEAST (USEPA, 1992) using the following conservative default intake values:

FOR CARCINOGENS – Oral intake = 0.1 g/day for a 70 kg person/30 year exposure period, which corresponds to a 1 X 10^{-6} risk level.

FOR NON–CARCINOGENS – Oral intake = 0.2 g/day for a 15 kg child over a 6 year exposure peroid.

(4) Based on USEPA Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites, Directive No. 1 OSWER 9355.4–02, September 7, 1989, and directive of NYSDEC Division of Hazardous Waste Remediation, Bureau of Eastern Remedial Action.

* RCRA metal. If its EP–Toxicity concentration is above a specific level the soil will be classified as a charateristic hazardous waste (6 NYCRR Part 371.3).

SB = Site Background
NS = No Standard

☐ – Concentration exceeds proposed cleanup objective.

Sediments

Three distinct areas of sediments were sampled during the RI and are discussed as follows: the ponded area, upstream of the ponded area, and downstream of the ponded area (**see Figures 3-4-5**).

PAHs, PCBs, pesticides, and metals were detected above sediment cleanup objectives, particularly in the ponded area of Rondout Creek (**see Table 3**). PCBs in excess of 1.0 mg/kg were found in an area along the southern bank of the creek in the ponded area. Only a single pesticide, 4,4'-DDD at a concentration of 0.19 mg/kg, was found throughout the ponded area above the cleanup objectives. PAHs were detected at six of the seven sampling locations in the ponded area, but were distinctly higher in concentration and frequency of occurrence near the northern shoreline. Various metals were also detected above the cleanup criteria at all seven sampling locations. This is consistent with the widespread distribution of metals throughout the site.

Upstream of the ponded area, PAHs were detected above cleanup objectives at SED-10 (200 feet upstream of the upper dam). This can be attributed to road surface runoff from NY Route 55, and pesticides were found above cleanup objectives at SED-6 (approximately 170 feet southwest of the Main Plant Ruins on the southern shoreline). No PCBs were detected above the sediment cleanup objective of 1.0 mg/kg (**see Table 4**).

Downstream of the ponded area, PCBs were not detected above the sediment cleanup objective of 1.0 mg/kg. Four pesticides were detected in four downstream sediment samples above cleanup objectives (SED-14, 16, 19, and 20). PAHs and metals were detected above criteria only at SED-12, located immediately downstream of the lower dam, and SED-20, near the correctional facility. PAHs found at SED-20 can be attributed to road surface runoff. Creek sediments upstream and downstream of the ponded area will not require remediation.

Surface Water

In Rondout Creek, lead was detected above the NYSDEC Class A surface water standard of 1 μg/l (ppb) both upstream of and within the ponded area. However, concentrations of lead in three of the four samples located adjacent to and downstream of the site were equal to or less than the concentration in the upstream sample - SW-02 7 μg/l, SW-03 17 μg/l, SW-05 7 μg/l. This suggests that the lead found in the downstream samples was not site-related. With the exception of lead, the surface water in Rondout Creek contained no organic or inorganic compounds above the surface water standards (**see Table 5**). There is presently no impact on surface water quality that can be attributed to the site.

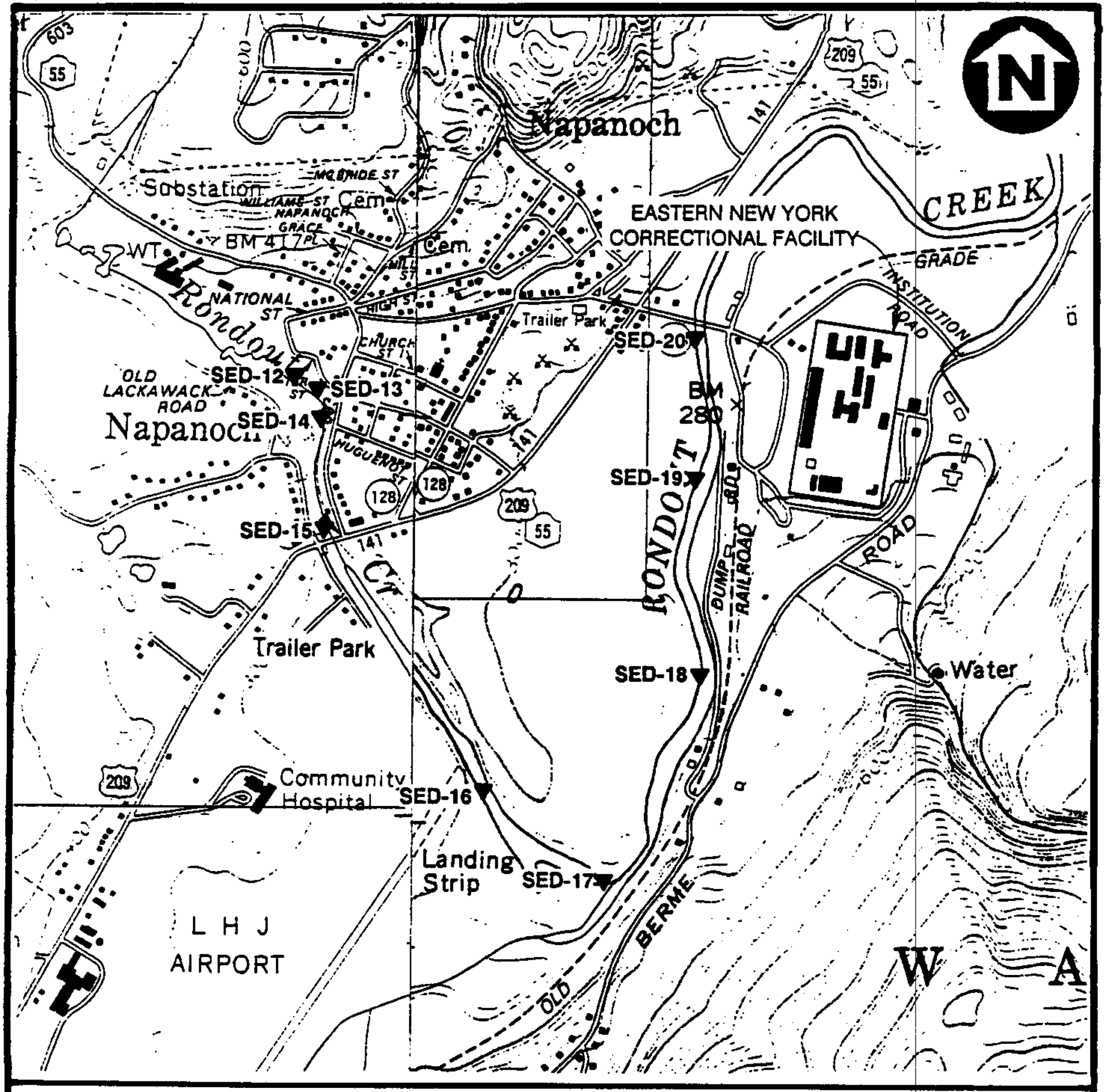
Groundwater

Organic compounds were detected in only five of the 14 on-site monitoring wells, and at concentrations within one order of magnitude in excess of water quality standards (**see Table 6**). No plumes or areas of organic compound contamination were identified. No organic compounds were detected in the off-site residential wells.

Iron, manganese, and sodium were in excess of groundwater standards in on-site and residential wells. The source of the metals in the on-site wells is assumed to be the metallic debris throughout the plant area and Areas 7 and 8.

It is not believed that metals detected above groundwater standards in the residential wells are site-related. Wells located near the eastern property boundary, including residential wells,

FIGURE 5



LEGEND

SED-12 ▼ **SEDIMENT SAMPLE LOCATION**

DOWN-STREAM SEDIMENT LOCATION MAP
NAPANOCH PAPER MILL SITE

SOURCE: NYSDOT 7.5 MINUTE SERIES PLANIMETRIC MAPS; NAPANOCH (1973), AND ELLENVILLE (1976) QUADRANGLES.

TABLE 3

SEDIMENT CLEANUP OBJECTIVES AND EXCEEDANCE SUMMARY FOR POND AREA

NAPANOCH PAPER MILL SITE

PARAMETER	Average (1) Site Background Concentration	NYSDEC (2) Aquatic Toxicity/ Human Health Based Sediment Criterion	Proposed Site Sediment Objective	Maximum Concentration Location	Maximum Concentration	No. of Exceed. / No. of Samples
ASP91-1 – VOLATILES (µg/kg)						
2-Butanone	ND	NS	NS	SED D1	72	0/4
Acetone	ND	NS	NS	SED D1	220	0/4
Chlorobenzene	ND	4.4	4.4	SED D1	170	1/4
Methylene chloride	0.90	NS	NS	SED-20	1	0/4
Toluene	ND	NS	NS	SED B1	2	0/4
Xylenes	ND	NS	NS	SED D1	5	0/4
ASP91-2 – SEMIVOLATILES (µg/kg)						
Acenaphthene	ND	920	920	SED D3	35	0/9
Acenaphthylene	ND	NS	NS	SED C1	110	0/9
Anthracene	ND	NS	NS	SED D1	85	0/9
Benzo(a)anthracene	130	1.6	130	SED C1	770	5/9
Benzo(b)fluoranthene	150	1.6	150	SED C1	1200	2/9
Benzo(ghi)perylene	11	NS	NS	SED C1	140	0/9
Benzo(k)fluoranthene	60	1.6	60	SED C1	580	1/9
Bis(2-ethylhexyl) phthalate	4100	151	4100	SED D1	4300	1/9
Butyl benzyl phthalate	ND	NS	NS	SED D1	1900	0/9
Carbazole	ND	NS	NS	SED D1	37	0/9
Chrysene	76	1.6	76	SED C1	610	7/9
Di-n-butyl phthalate	ND	NS	NS	SED B1	880	0/9
1,2-Dichlorobenzene	ND	15	15	SED D1	380	1/9
Diethyl phthalate	ND	NS	NS	SED D3	190	0/9
Fluoranthene	200	NS	NS	SED C1	870	0/9
Fluorene	ND	NS	NS	SED D1	98	0/9
Indeno(1,2,3-cd)pyrene	16	1.6	16	SED C1	230	1/9
2-Methylnaphthalene	ND	NS	NS	SED D3	58	0/9
Naphthalene	ND	NS	NS	SED D1	590	0/9
Phenanthrene	60	180	180	SED D1	420	4/9
Pyrene	120	NS	NS	SED C1	1800	0/9
ASP91-3 – PESTICIDES/AROCLORS (µg/kg)						
4,4'-DDD	3.1	1.0	3.1	SED D1	190	7/7
Methoxychlor	12	.76	12	SED D3	8.1	0/7
PCBs	ND	1.8	1000	SED B1	22000	5/8
TOTAL METALS (mg/kg)						
Aluminum – Total	3300	NS	NS	SED C1/SED D1	11900	0/9
Arsenic – Total *	2.6	5	5	SED D1	24.1	6/9
Barium – Total *	58	NS	NS	SED D1	152	0/9
Calcium – Total	2020	NS	NS	SED C1	3810	0/9
Chromium – Total *	4.8	26	26	SED D1	48.9	1/9
Cobalt – Total	ND	NS	NS	SED D1	16.7	0/9
Copper – Total	11	19	19	SED D1	201	9/9
Iron – Total	7500	24000	24000	SED D1	47800	2/9
Lead – Total *	30	27	30	SED D1	335	9/9
Magnesium – Total	1300	NS	NS	SED C1	2960	0/9
Manganese – Total	820	428	820	SED D1	884	1/9
Mercury – Total *	ND	0.11	0.11	SED D1	1	6/9
Nickel – Total	14	22	22	SED A1	41.1	5/9
Potassium – Total	320	NS	NS	SED A5	971	0/9
Vanadium – Total	5.1	NS	NS	SED D1	65.2	0/9
Zinc – Total	50	85	85	SED D1	427	8/9
Cyanide – Total	ND	NS	NS	SED C1	2.6	0/9
WET CHEMISTRY ANALYSIS (µg/g)						
Leachable Total Organic Carbon	1200	NA	NA	SED C1	2200	NA
Total Recoverable Petroleum Hydrocarbons	NA	NA	NA	SED D1	2680	NA

(1) Volatiles, Semivolatiles, and Metals reported as average of SED-1 and SED-2. Pesticides/Aroclors reported as an average of SED-1, SED-2, SED-3, SED-4.

(2) Fish and Wildlife guidance document for sediment criterion – December, 1989.

* RCRA metal. If its EP-Toxicity concentration is above a specific level, the sediment will be classified as a charateristic hazardous waste (6 NYCRR Part 371.3).

ND = Non Detect
NS = No Standard
NA = Not Applicable

▭ – concentration exceeds cleanup objective.

TABLE 4

SEDIMENT CLEANUP OBJECTIVES AND EXCEEDANCE SUMMARY FOR ROUNDOUT CREEK

NAPANOCH PAPER MILL SITE

PARAMETER	Average (1) Site Background Concentration	NYSDEC (2) Aquatic Toxicity/ Human Health Based Sediment Criterion	Proposed Site Sediment Objective	Maximum Concentration Location	Maximum Concentration	No. of Exceed. / No. of Samples
ASP91-1 – VOLATILES (µg/kg)						
Methylene chloride	0.90	NS	NS	SED-20	1	0/5
Toluene	ND	NS	NS	SED-20	1	0/5
ASP91-2 – SEMIVOLATILES (µg/kg)						
Benzo(a)anthracene	130	1.6	130	SED-20	130	0/5
Benzo(a)pyrene	41	1.6	41	SED-20	$\boxed{100}$	1/5
Benzo(b)fluoranthene	150	1.6	150	SED-12	$\boxed{400}$	1/5
Benzo(k)fluoranthene	60	1.6	60	SED-12	$\boxed{140}$	2/5
Bis(2-ethylhexyl) phthalate	4100	151	4100	SED-12	$\boxed{16000}$	3/5
Chrysene	76	1.6	76	SED-12	$\boxed{370}$	3/5
Fluoranthene	200	NS	NS	SED-12	530	0/5
Naphthalene	ND	NS	NS	SED-10	10	0/5
Phenanthrene	60	180	180	SED-20	120	0/5
Pyrene	120	NS	NS	SED-12	650	0/5
ASP91-3 – PESTICIDES/AROCLORS (µg/kg)						
4,4'-DDD	3.1	1.0	3.1	SED-20	$\boxed{16}$	4/15
4,4'-DDE	4.7	1.0	4.7	SED-06	$\boxed{9.4}$	2/15
4,4'-DDT	2.8	1.0	2.8	SED-06	$\boxed{7}$	3/15
alpha-BHC	ND	NS	NS	SED-12	57	0/15
delta-BHC	ND	NS	NS	SED-20	0.98	0/15
Endosulfan I	ND	0.04	0.04	SED-06	$\boxed{4.3}$	1/15
Endrin	1.7	1.0	1.7	SED-16	$\boxed{12}$	1/15
Methoxychlor	12	.76	12	SED-06	$\boxed{18}$	1/15
PCBs	ND	1.8	1,000	SED-15	660	0/26
TOTAL METALS (mg/kg)						
Aluminum – Total	3300	NS	NS	SED-12	10800	0/6
Arsenic – Total *	2.6	5	5	SED-12	$\boxed{10.5}$	2/6
Barium – Total *	58	NS	NS	SED-12	276	0/6
Calcium – Total	2020	NS	NS	SED-12	8560	0/6
Chromium – Total *	4.8	26	26	SED-20	15.1	0/6
Cobalt – Total	ND	NS	NS	SED-11	8.9	0/6
Copper – Total	11	19	19	SED-12	$\boxed{70.9}$	3/6
Iron – Total	7500	24000	24000	SED-12	$\boxed{27200}$	1/6
Lead – Total *	30	27	30	SED-12	$\boxed{175}$	3/6
Magnesium – Total	1300	NS	NS	SED-12	3300	0/6
Manganese – Total	820	428	820	SED-12	$\boxed{4960}$	1/6
Mercury – Total *	ND	0.11	0.11	SED-11	$\boxed{0.66}$	1/6
Nickel – Total	14	22	22	SED-12	$\boxed{83.3}$	2/6
Potassium – Total	320	NS	NS	SED-12	3780	0/6
Vanadium – Total	5.1	NS	NS	SED-10	14.4	0/6
Zinc – Total	50	85	85	SED-12	$\boxed{289}$	2/6
WET CHEMISTRY ANALYSIS (µg/g)						
Leachable Total Organic Carbon	1200	NA	NA	SED-12	1310	NA

(1) Volatiles, Semivolatiles, and Metals reported as average of SED-1 and SED-2. Pesticides/Aroclors reported as an average of SED-1, SED-2, SED-3, SED-4.

(2) Fish and Wildlife guidance document for sediment criterion – December, 1989.

* RCRA metal. If its EP-Toxicity concentration is above a specific level, the sediment will be classified as a charateristic hazardous waste (6 NYCRR Part 371.3).

ND = Non Detect
NS = No Standard
NA = Not Applicable

☐ – concentration exceeds cleanup objective.

TABLE 5

SURFACE WATER STANDARDS AND EXCEEDANCE SUMMARY

NAPANOCH PAPER MILL SITE

PARAMETER	NYS CLASS A (1) SURFACE WATER STANDARD	Maximum Concentration Location	Maximum Concentration	No. of Exceed. / No. of Samples
VOLATILES (μg/L)				
Acetone	NS	SW-5	4	0/7
Carbon Disulfide	NS	SW-7	4	0/7
Chloroform	NS	SW-3	0.5	0/7
SEMIVOLATILES (μg/L)				
None detected	--	--	--	--
PESTICIDES/PCBs (μg/L)				
PCBs	.001	SW-7	2.25	1/7
TOTAL METALS (μg/L)				
Aluminum	100	SW-7	84.7	0/7
Barium	NS	SW-6	111	0/7
Calcium	NS	SW-7	48900	0/7
Copper	6.8 *	SW-6	7.5	1/7
Iron	300	SW-6	3000	2/7
Lead	1.0 *	SW-3	17	4/7
Magnesium	NS	SW-7	4670	0/7
Manganese	NS	SW-6	345	0/7
Potassium	NS	SW-7	4010	0/7
Sodium	NS	SW-7	28400	0/7
Zinc	30	SW-6	83.5	2/7
WET CHEMISTRY ANALYSIS				
Total Hardness (mg/l)	NS	SW-1 / SW-3	43.8	0/7

(1) NYSDEC, 1991. Division of Water Technical and Operational Guidance Series (1.1.1): Ambient Water Quality Standards and Guidance Values, revised November, 1991.

* - Based on average hardness of 41 ppm.

NS = No Standard

TABLE 6

GROUNDWATER STANDARDS AND EXCEEDANCE SUMMARY
NAPANOCH PAPER MILL SITE

PARAMETER	NYSDEC (1) CLASS GA GROUNDWATER STANDARD	Maximum Concentration Location	Maximum Concentration	No. of Exceed./No. of Samples **
VOLATILES (μg/L)				
Vinyl chloride	2	MW–04	9	3/21
1,1–Dichloroethane	5	MW–04	1	0/21
1,2–Dichloroethene (Total)	5	MW–04	6	1/21
Chloroform	7	MW–02	0.2	0/21
Trichloroethene	5	MW–04	4	0/21
Tetrachloroethene	5	MW–04	12	1/21
Chlorobenzene	5	MW–08	36	1/21
SEMIVOLATILES (μg/L)				
Diethyl phthalate	50	MW–05	2	0/21
Di–n–butyl phthalate	50	MW–10 / MW–11	1	0/21
Butyl benzyl phthalate	50	MW–08	1	0/21
Chrysene	0.002	MW–10	1	1/21
PCBs (μg/L)				
Aroclor 1248	0.1	MW–03	0.79	1/22
TOTAL METALS (μg/L)				
Aluminum – Total	NS	MW–10S	11100	0/22
Arsenic – Total •	25	MW–01	10	0/22
Barium – Total •	1000	MW–10	289	0/22
Cadmium – Total •	10	MW–04	0.9	0/22
Calcium – Total	NS	MW–09	120000	0/22
Cobalt – Total	NS	MW–07	53.9	0/22
Copper – Total	200	RES005	201	1/22
Iron – Total	300	MW–01	95800	19/22
Lead – Total •	25	MW–09S	14.5	0/22
Magnesium – Total	35000	MW–01	34700	0/22
Manganese – Total	300	MW–07	13100	15/22
Mercury – Total •	2	MW–01	0.49	0/22
Nickel – Total	NS	MW–07	160	0/22
Potassium – Total	NS	MW–05	7400	0/22
Sodium – Total	20000	RES001	35700	8/22
Zinc – Total	300	MW–09S	118	0/22
Cyanide – Total	100	MW–02	44.8	0/22

(1) NYSDEC, 1991. Division of Water Technical and Operational Guidance Series (1.1.1): Ambient Water Quality Standards and Guidance Values, revised November, 1991.

• RCRA Metal. If its concentration in groundwater is above a specific level, the soil will be classified as a hazardous waste (6 NYCRR Part 371.3).

** includes site wells and residential wells.

NS = No Standard

are not hydraulically downgradient from on-site sources. Thus, metals above standards in these wells are suspected of originating from fill over a former axe-head manufacturing facility located in the vicinity of wells MW-7 and MW-9.

Variations in bedrock mineralogy across the site could be responsible for much of the spatial variation in water quality. Due to steeply dipping bedrock units, wells across the site do not penetrate the same stratigraphic units.

Although groundwater quality standards have been exceeded for selected organics and metals, the threat of off-site migration is low since groundwater flows towards the creek. Groundwater contour maps and water level data suggest that groundwater does not flow from the site towards the residential wells.

Groundwater contour maps show that shallow groundwater from the site ultimately discharges to Rondout Creek.

Paper Rolls and Concrete Samples

Two paper roll samples were collected concurrently with the July 1993 round of soil sampling and analyzed for the full TCL parameter list. Two paper roll samples were also collected during the IRM and were analyzed for PCBs only. Results for detected compounds (IRM and RI/FS samples) are presented and compared to soil cleanup objectives (see **Table 7**). Results were compared to soil standards because the paper is in direct contact with surface soils and partially decomposed.

Two VOCs, acetone and 2-butanone, exceeded soil cleanup objectives. Concentrations of acetone and 2-butanone were 8.70 and 1.10 mg/kg, respectively.

PCBs were detected in all four samples, and exceeded the cleanup objective of 1.00 mg/kg in three of the four samples. Concentrations of total PCBs were 100, 38 and 3.30 mg/kg in IRM samples 87 and 88, and RI/FS sample PAP-1, respectively.

A single sample of concrete (CONC-1) was collected from the floor of the main plant building ruins and analyzed for PCB aroclors. Aroclor 1242 was detected at a concentration of 1.8 mg/kg.

3.2 Summary of Human Exposure Pathways:

A baseline human health evaluation (HHE) was conducted to assess the potential risks to human health which might be related to chemicals originating from the site. In the HHE, the likelihood of non-carcinogenic effects is indicated by the hazard index, while the risk of carcinogenic effects is presented as a probability. A hazard index greater than the 1 indicates that adverse non-carcinogenic effects may occur. A risk greater than the USEPA target risk range of 1 in 1,000,000 to 1 in 10,000 indicates that there is a significant risk of carcinogenic effects.

The hazard index for non-carcinogenic effects in current residents is 44, while that for hypothetical future residents is 68. The elevated hazard indices are due primarily to the presence of PCBs in soil and sediment; and metals in soil and sediment.

The risk for carcinogenic effects in both current and hypothetical future residents is 6 in 10,000. These risks are due primarily to the presence of vinyl chloride in groundwater; PCBs in a seep; PCBs, PAHs, and arsenic in soil and sediment; and pesticides in soil.

The calculated risks assume a repeated long-term exposure to the medium, such as dermal contact

TABLE 7

SOIL CLEANUP OBJECTIVES AND EXCEEDANCE SUMMARY FOR PAPER ROLLS

NAPANOCH PAPER MILL SITE

	Proposed (1) Site Soil Cleanup Objective	IRM Samples		RI Samples	
PARAMETER		87	88	PAP–1	PAP–2
VOLATILES (μg/kg)					
Acetone	200	NA	NA	96	8700
Carbon Disulfide	2700	NA	NA	14	ND
1,1–Dichloroethene	400	NA	NA	10	ND
2–Butanone	300	NA	NA	ND	1100
2–Hexanone	NS	NA	NA	6	77
SEMIVOLATILES (μg/kg)					
Pentachlorophenol	1000	NA	NA	770	63
Phenanthrene	50000	NA	NA	52	87
Di–n–butyl phthalate	8100	NA	NA	320	290
Fluoranthene	50000	NA	NA	320	62
Butyl benzyl phthalate	50000	NA	NA	320	2400
Bis(2–ethylhexyl) phthalate	50000	NA	NA	280	2400
PESTICIDES/PCBs (μg/kg)					
PCBs	1000	100000	38000	3300	420
TOTAL METALS (mg/kg)					
Aluminum – Total	NS	NA	NA	413	307
Barium – Total •	300	NA	NA	29	11.1
Cadmium – Total	1	NA	NA	0.16	0.08
Calcium – Total	NS	NA	NA	710	1690
Chromium – Total •	10	NA	NA	8.6	4.3
Copper – Total	3200	NA	NA	7.3	12.7
Iron – Total	NS	NA	NA	146	162
Lead – Total *	100	NA	NA	41.9	23.9
Magnesium – Total	NS	NA	NA	76.7	151
Manganese – Total	400	NA	NA	8.1	9.0
Mercury – Total •	0.10	NA	NA	0.11	ND
Potassium – Total	NS	NA	NA	ND	173
Silver – Total	400	NA	NA	3.1	0.080
Sodium – Total	NS	NA	NA	ND	177
Zinc – Total	24000	NA	NA	289	23.8

(1) SCGs from Tables 1 and 2.

• RCRA metal. If its EP–Toxicity concentration is above a specific level, the "paper roll" will be classified as a charateristic hazardous waste (6 NYCRR Part 371.3).

NS = No Standard

NA = Not Analyzed

ND = Not Detected

☐ – Concentration exceeds proposed cleanup objectives.

or ingestion of soil or groundwater. Risks are associated with on-site contact of soil and groundwater, and contact with sediments in Rondout Creek.

3.3 Summary of Environmental Exposure Pathways:

To assess the potential effects of site-related contaminants detected in physical media at the Napanoch Paper Mill site, a Phase I habitat-based assessment (HBA) was conducted. The completed assessment fulfilled the requirements of the NYSDEC (1991) Fish and Wildlife Impact Assessment for Inactive Hazardous Waste Sites.

During Step I (Site Description), fish and wildlife resources potentially affected by site-related contaminants were identified. A characterization of the resources and their habitats was done to allow assessment of site-related impacts.

During Step II, the Contaminant-Specific Impact Analysis, impacts of site-related contaminants on fish and wildlife resources (NYSDEC, 1991) were determined. Step II included a pathways analysis; criteria-specific analyses for contaminants detected in media for which pathways to ecological receptors are complete; and an analysis of toxicological effects for contaminants that are retained following the criteria-specific analysis.

PCB concentrations are elevated in the site soils and sediments and at stream segments downstream of the site. These contaminants pose a potential risk to terrestrial aquatic animal species associated with the soils. Also, dibenzo(a,h)anthracene in shallow soil may pose risks to small mammal species on the site.

SECTION 4: ENFORCEMENT STATUS

The Potential Responsible Parties (PRPs) for the site is James Barry, Esquire, individual owner and through the Longboat Corporation which is owned by James Barry. The site was purchased by Longboat Corporation in 1985 from Ulster County.

The PRP has refused to conduct the RI/FS at the site when requested by the NYSDEC. After issuance of the Record of Decision, the PRP will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRP, the NYSDEC will evaluate the site for further action under the State Superfund program. The PRP is subject to legal actions by the State for recovery of all response costs the State has incurred.

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR 375-1.10. These goals are established under the guideline of meeting all Standards, Criteria, and Guidance (SCGs) and protecting human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- *Reduce, control, or eliminate the contamination present within the soils on site.*
- *Eliminate the potential for direct human contact with the contaminated soils on site.*

- *Eliminate the threat to surface waters by eliminating any future contaminated surface run-off from the contaminated soils on site.*
- *Eliminate the impact to fish and wildlife and surface waters by eliminating any future releases from contaminated sediments.*

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

Potential remedial alternatives for the Napanoch Paper Mill site were identified, screened and evaluated in a Feasibility Study. This evaluation is presented in the report entitled Remedial Investigation/Feasibility Study Report (RI/FS), March 1994. A summary of the detailed analysis follows.

6.1: Description of Remedial Alternatives

The potential remedies are intended to address the contaminated paper rolls, soils and sediments. Remedies for groundwater and surface water were not considered because although water quality standards have been exceeded for selected organics and metals, the threat of off-site migration is low due to groundwater flow patterns toward the Rondout Creek. Groundwater contour maps and water level data suggest that groundwater does not flow from the site toward the residential wells, but ultimately discharges to Rondout Creek.

However, there is presently no impact on surface water quality that can be attributed to the site. With the exception of lead, the surface water in Rondout Creek contained no organic or inorganic compounds above surface water standards. As mentioned previously, the lead in the creek does not seem to be site-related.

Contaminated Paper Rolls

Alternative 1 - No action with long term monitoring

Present Worth	$177,000
Capital Cost	0
Annual O & M	9,000
Time to Implement	30 years

Under the No Action Alternative, the existing conditions of the site would remain unchanged. Long term monitoring would consist of periodic site inspection and groundwater and paper monitoring.

Alternative 2 - Paper Roll Removal/Off-site Incinerator

Present Worth	$261,000
Capital Cost	261,000
Annual O & M	0
Time to Implement	9-12 months

Alternative 2 consists of removal of all paper rolls and treatment in an off-site incinerator.

Alternative 3 - Paper Roll Removal/Off-Site Landfill

Present Worth	$185,000
Capital Cost	185,000
Annual O & M	0
Time to Implement	9-12 Months

Alternative 3 consists of removal of all paper rolls and disposal in a permitted off-site hazardous waste landfill. There is an estimated 50 tons of contaminated paper rolls.

Contaminated Soils

Alternative 1 - No Action with Long Term Monitoring

Present Worth	$226,000
Capital Cost	0
Annual O & M	11,500
Time to Implement	30 Years

Under the No Action Alternative, the existing conditions at the site would remain unchanged. Long term monitoring would consists of quarterly site inspection and groundwater and soil monitoring.

Alternative 3A - Excavate Contaminated Soils/On-Site Incinerate PCBs≥50 ppm/Off-Site Landfill 50 ppm>PCBs≥10 ppm/Consolidate and Cap Remaining Contaminated Soils < 10ppm PCBs On-Site.

Present Worth	$5,874,000
Capital Costs	5,874,000
Annual O & M	0
Time to Implement	10 - 16 Months

Alternative 3A consists of shallow (2' to 3') excavation to remove all soils contaminated with PCBs, PAHs and metals above the chemical-specific SCGs, segregation of the excavated soils according to PCB concentrations ≥ 50 ppm (1600 cubic yards), 50 ppm > PCBs ≥ 10 ppm, (2200 cubic yards) and 10 ppm > PCBs ≥ 1 ppm and other soils with metal and PAH SCG exceedances (8500 cubic yards); on-site incineration of the soil above 50 ppm; off-site landfill of the residue incinerated soil and soil between 10 and 50 ppm; consolidate and capping of soil < 10 ppm on-site, and backfilling the excavation with clean fill.

Alternative 3B - Excavate Contaminated Soils/Off-Site Incinerate PCBs ≥ 50 ppm/Off-Site Landfill 50 ppm > PCBs ≥ 10 ppm/Consolidate and Cap Remaining Contaminated Soils < 10ppm PCBs On-Site.

Present Worth	$7,122,000
Capital Cost	7,122,000
Annual O&M	0
Time to Implement	10 - 16 Months

Alternative 3B is very similar to Alternative 3A except incineration of soil with PCBs ≥ 50ppm in an off-site incinerator.

Alternative 5 - Excavate Contaminated Soils/Off-site Landfill PCBs ≥ 1 ppm.

Present Worth	$3,434,700
Capital Cost	3,434,700
Annual O&M	0
Time to Implement	10 - 16 Months

Alternative 5 consists of shallow (2' to 3') excavation to remove all soils contaminated with PCBs, PAHs and metals above the chemical specific SCGs, segregation of the excavated soils according to PCB concentration ≥ 50 ppm (1600 cubic yards); 50 ppm > PCBs ≥ 10 ppm (2200 cubic yards); and 10 ppm ≥ PCBs > 1 ppm and other soils with metal and PAHs that exceed SCGs (8500 cubic yards); off-site landfill of soil with PCBs over 1 ppm, backfilling the excavation with clean fill. The areal limit of one ppm PCBs would be further confirmed using PCB field test kits prior to or during the excavation.

Contaminated Sediments

Alternative 1 - No action with Long-Term Monitoring

Present Worth	$138,000
Capital Cost	0
Annual O & M	7,000
Time to Implement	30 Years

Under the No Action Alternative, the existing conditions at the site would remain unchanged. Long-term monitoring would consist of periodic site inspection and surface water and sediment monitoring.

Alternative 2 - Excavate All Pond Sediments/Off-site Landfill PCBs ≥ 1 ppm.

Present Worth	$1,467,180
Capital Cost	1,467,180
Annual O & M	0
Time to Implement	13 -18 Months

Alternative 2 includes excavation, dewatering, segregation of excavated sediments (3700 cubic yards), solidification if necessary, disposal in an off-site landfill of the pond sediments with PCBs over 1 ppm. The sediment remediation would be restricted to the pond area and several "hot spots" where sediment contamination exists. The areal limit of 1 ppm PCBs would be further confirmed or adjusted using PCB field test kits prior to or during the excavation.

6.2 Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6 NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

Paper Rolls

Alternatives 2 and 3 would meet chemical-specific SCGs for "soil" and air exposures by treating the paper rolls via incineration and/or disposing the paper rolls off-site. The No Action alternative would not meet the chemical-specific SCGs for "soil" exposure. There is little risk concern with chemical-specific SCGs for groundwater due to the fact that groundwater was generally not impacted by the contaminants found on-site.

Soils

The only action-specific SCGs that would be triggered are the permitting requirements for on-site incineration as part of Alternative 3A. Alternatives 3A, 3B, and 5 would meet chemical-specific SCGs for soil and air exposures by treating the waste soil via incineration and/or disposing the waste soil off-site. The No Action alternative would not meet the chemical-specific SCGs for soil exposure. There is little risk concern with chemical-specific SCGs for groundwater due to the fact that groundwater was generally not impacted by the contaminants found on-site.

Sediments

Alternative 2 would meet chemical-specific SCGs for sediment exposures by landfilling the sediment with PCBs ≥ 1 ppm off-site. The No Action alternative would not meet the chemical-specific SCGs for soil exposure. Both alternatives comply with action and location-specific SCGs as long as excavation activities conducted under Alternative 2 are coordinated through the United States Army Corps of Engineers.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

Paper Rolls

Alternatives 2 and 3 offer protection to both human health and the environment as they offer means of treating (Alternative 2) or containing (Alternative 3) the contamination in an off-site permitted facility. Therefore, potential exposure to the contaminants would be minimized. The No Action alternative may impact the environment over time.

Soils

Alternatives 3A, 3B and 5 offer protection to human health as they offer means of treating (Alternatives 3A and 3B) or removing (Alternative 5) the contamination. Remaining soils with PCBs less than 1 ppm may present a risk to terrestrial wildlife species on-site. One to two feet of clean fill placed over the excavated soil would further mitigate the exposure and risk to these wildlife species. Therefore, potential exposure to the contaminants would be minimized. The No Action alternative may impact the environment or public health over time.

Sediments

Alternative 2 offers protection to both human health and the environment as it offers a means of removing the contamination. Therefore, potential exposure to the contaminants is minimized. The No Action alternative may impact the environment over time.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared with the other alternatives.

Paper Rolls

There are no significant short-term risks to the community or environment associated with any of the alternatives evaluated for the contaminated paper rolls, as long as possible dust emissions during excavation, transportation, and disposal of the paper rolls is properly controlled.

Soils

There is a short-term risk to the community and environment through on-site incineration. There are no significant short-term risks to the community or environment associated with any of the other alternatives evaluated for the contaminated soils, as long as possible dust emissions during excavation, transportation, and disposal of the soil are properly controlled.

Sediments

There are no significant short-term risks to the community or environment associated with either of the alternatives evaluated for the contaminated sediments, as long as possible ambient particulate emissions are properly controlled and flow diversion is applied during excavation, dewatering, and disposal of the sediment for Alternative 2.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of alternatives after implementation of the response actions. If wastes or treated residuals remain on site after the selected

remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

Paper Rolls

Alternative 1 would not provide long-term effectiveness and permanence. Untreated hazardous wastes would be left at the site, and extensive long-term monitoring would be required. Alternatives 2 and 3 would be effective means of ensuring long-term protection to both human health and the environment because all of the contaminated paper rolls would be excavated and properly treated or disposed off-site. Alternative 3 offers a significant increase in long-term effectiveness over the No Action Alternative. This is due to the fact that the paper rolls would be disposed in an engineered, off-site facility designed to isolate the waste from the surrounding environment. Disposal in this manner would provide for a greater expected lifetime, would require no operation and maintenance, and would require no long-term monitoring when compared to the No Action Alternative.

Soils

Alternative 1 (no-action) would not be very effective at providing long-term effectiveness and permanence. Untreated hazardous wastes would be left at the site, and extensive long-term monitoring would be required. Alternatives 3A, 3B and 5 would be effective means of ensuring long-term protection to both human health and the environment because all of the contaminated soils would be excavated and properly treated, disposed off-site, or capped on-site. Alternative 5 (off-site disposal) would offer a significant increase in long-term effectiveness over the No Action Alternative. This is due to the fact that the hazardous soil would be disposed in an engineered, off-site facility designed to isolate the waste from the surrounding environment.

Sediments

Alternative 1 would not be effective at providing long-term effectiveness and permanence. Untreated contaminated sediments would be left in the pond area, and extensive long-term monitoring would be required. Alternative 2 would be an effective means of ensuring long-term protection to both human health and the environment because all of the contaminated pond sediments would be excavated and landfilled off-site. Alternative 2 would offer a significant increase in long-term effectiveness over the No Action Alternative. This is due to the fact that the pond sediment with PCBs $\geq$ 1 ppm would be disposed in an engineered, off-site facility designed to isolate the waste from the surrounding environment. Disposal in this manner would provide for a greater expected lifetime, would require no operation and maintenance, and would require no long-term monitoring when compared to the No Action Alternative.

5. Reduction of Toxicity, Mobility or Volume.

Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Paper Rolls

Alternative 3 would reduce mobility by providing isolation and preventing direct exposure to contamination (i.e., PCBs > 1 ppm in paper rolls) by humans or the environment through excavation and off-site disposal. However, toxicity and volume of the contaminants in the paper rolls would not be reduced. Alternative 2 offers a means of reducing toxicity, mobility, and volume of contamination because hazardous paper rolls would be treated via incineration.

The No Action Alternative would not reduce the toxicity, mobility, or volume of the contaminated paper rolls at the site.

Soils

Alternative 5 would reduce mobility by providing isolation and preventing direct exposure to contamination (i.e., PCBs > 1 ppm contaminated soil) by humans or the environment through excavation and off-site disposal. However, toxicity and volume of the contaminants in the soil would not be reduced. Alternatives 3A and 3B offer a means of reducing toxicity, mobility, and volume of contamination because hazardous soils would be treated via incineration.

The No Action Alternative would not reduce the toxicity, mobility, or volume of the contaminated soil at the site.

Sediments

Alternative 2 would reduce mobility by providing isolation and preventing direct exposure to contamination (i.e., PCBs > 1 ppm in sediment) by humans or the environment through excavation and off-site disposal. However, toxicity and volume of the contaminants in the sediments would not be reduced.

The No Action Alternative would not reduce toxicity, mobility, or volume of the contaminated sediment in the pond area.

6. Implementability. The technical and administrative feasibility of implementing each alternative is evaluated. Technically, this includes the difficulties associated with the construction, the reliability of the technology, and the ability to monitor the effectiveness of the remedy. Administratively, the availability of the necessary equipment, personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc..

Paper Rolls

All three alternatives would meet minimum technical feasibility, administrative feasibility, and availability components of the implementability criterion. The services and materials required to implement these alternatives are readily available, although the availability of off-site hazardous waste incinerators (Alternative 2) is limited.

Soils

All four alternatives would meet minimum technical feasibility, administrative feasibility, and availability components of the implementability criterion. The services and materials required to implement these alternatives are readily available, although the availability of the off-site hazardous waste incinerators (alternative 3B) is limited. Alternative 3A would require extensive coordination to obtain the appropriate permits for on-site incineration.

Sediments

Both alternatives would meet minimum technical feasibility, administrative feasibility, and availability components of the implementability criterion. Alternative 2 would require close coordination with the United States Army Corps of Engineers, and the U.S. Fish and Wildlife Service. The services and materials required to implement these alternatives are readily available.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision.

Paper Rolls

The No Action alternative would be the least costly alternative. The most expensive alternative is Alternative 2, which includes paper roll removal and off-site incineration. Alternative 2 would be approximately $76,000 more expensive than Alternative 3.

Soils

The No Action Alternative would be the least costly alternative. The most expensive alternative is Alternative 3B, which includes excavation, off-site incineration, off-site disposal, and on-site capping of the contaminated soil. Alternative 5 would cost approximately 2.4 million dollars less than Alternative 3A and 3.7 million dollars less than Alternative 3B.

Sediments

The No Action Alternative would be the least costly alternative. Alternative 2 would be approximately 1.3 million dollars more expensive than the No Action Alternative.

8. Community Assessment - Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan were evaluated. A " Responsiveness Summary" (Appendix A) has been prepared that describes public comments received and how the Department has addressed the concerns raised.

SECTION 7: SUMMARY OF THE SELECTED REMEDIES

Based upon the results of the RI/FS, and the evaluation presented in Section 6, the NYSDEC has selected the following alternatives as the remedy for this site.

Paper Rolls

Alternative 3 - Removal of PCB contaminated Paper Rolls With Disposal in Off-Site Permitted Hazardous Waste Landfill.

This alternative will be protective of human health and the environment as the contaminated paper rolls will be removed from the site and adequately contained off-site (see Figures 6-7). Alternative 3 will meet all action, chemical, and location-specific SCGs. Removal and disposal is both a technically and administratively feasible option. The availability components of the implementability criterion would be met.

Although Alternative 2 would offer significantly better reduction in toxicity, mobility, and volume of the hazardous constituents, it presented only slightly more long-term effectiveness than Alternative 3. These benefits would be overshadowed by the $76,000 (41%) dollar increase in the cost to implement this action rather than Alternative 3. In addition, Alternative 2 will be less implementable, with availability and administrative difficulties arising because of the limited off-site incinerators available to receive the waste paper rolls. It would not be practical to transport the small volume of paper rolls to an off-site incinerator since off-site landfilling is also part of the recommended remedial alternative for soils and sediments.

With proper project Health and Safety Plan and specific dust control and spill prevention measures, Alternative 3 will be protective of human health and the environment.

Soils

Alternative 5 - Excavation of PCB Contaminated Soils ≥ 1 ppm With Disposal at Regulated Hazardous Waste and Non-Hazardous Waste Landfills.

This alternative would be protective of human health as the contaminated soil would be removed and adequately contained off-site (see **Figures 6-7**). Remaining soil with PCBs less than 1 ppm may present a residual risk to terrestrial animal species. Alternative 5 would meet all action, chemical and location-specific SCGs. Excavation and disposal is both a technically and administratively feasible option. The availability components of the implementability criterion would be met.

Although they would offer significantly better reduction in toxicity, mobility, and volume of the hazardous constituents, Alternatives 3A and 3B presented only slightly better long-term effectiveness than Alternative 5. However, these benefits would be overshadowed by the $2.4 (71%) and $3.7 (107%) million dollar increases in the cost to implement these actions rather than Alternative 5. Also, Alternatives 3A and 3B would be slightly less implementable, with availability and administrative difficulties arising because of the limited off-site incinerators available to receive the contaminated soil and permitting complications associated with on-site incineration.

With proper project Health and Safety Plan and specific dust control measures, Alternative 5 will be protective of human health and the environment.

Sediments

Alternative 2 - Excavate, Dewater All PCB-Contaminated Pond Sediments ≥1ppm With Disposal in an Off-Site Non-Hazardous Waste Landfill.

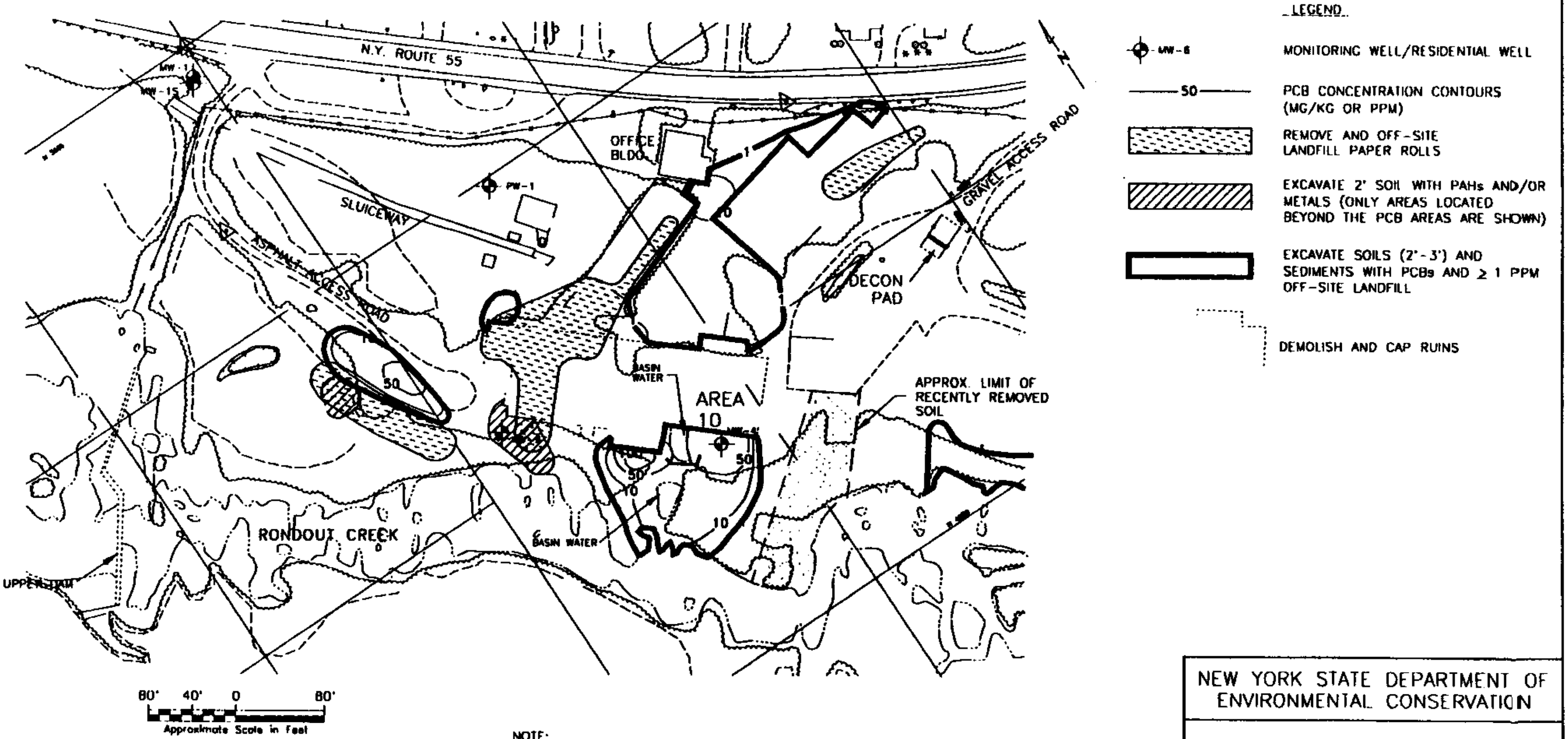
This alternative would be protective of human health and the environment. The contaminated pond sediment would be removed and adequately contained off-site depending on PCB levels (see **Figures 6-7**). Alternative 2 would meet all action, chemical, and location-specific SCGs as long as dredging activities were coordinated through the US Army Corps of Engineers (USACOE), and a permit was obtained for any effluent discharge into the creek. Excavation and disposal is both a technically and administratively feasible option. The availability components of the implementability criterion would be met.

Alternative 2 would offer significantly better protection of human health and the environment and would be much more effective in the long-term than the No Action Alternative. Although it would offer no reduction in the toxicity or volume of waste, Alternative 2 would reduce mobility by providing isolation and preventing direct exposure to contamination by humans or the environment. Alternative 2 would be approximately 1.3 million dollars more expensive than the No Action Alternative.

Proper flow diversion of Rondout Creek will be applied prior to sediment excavation, and a project Health and Safety Plan would be implemented during all remedial activities.

The remedial activities listed above may have a limited short-term impact to nearby residents and business. Before the advent of any remedial measures, local residents and businesses would be informed of any actions that would be taken at the Napanoch Paper Mill site.

FIGURE 6



NOTE:
REMOVE OR EXCAVATE PAPER ROLLS, SOILS AND SEDIMENTS FROM DESIGNATED AREAS/ OFF-SITE LANDFILL MATREIALS WITH PCBs ≥ 1 ppm.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

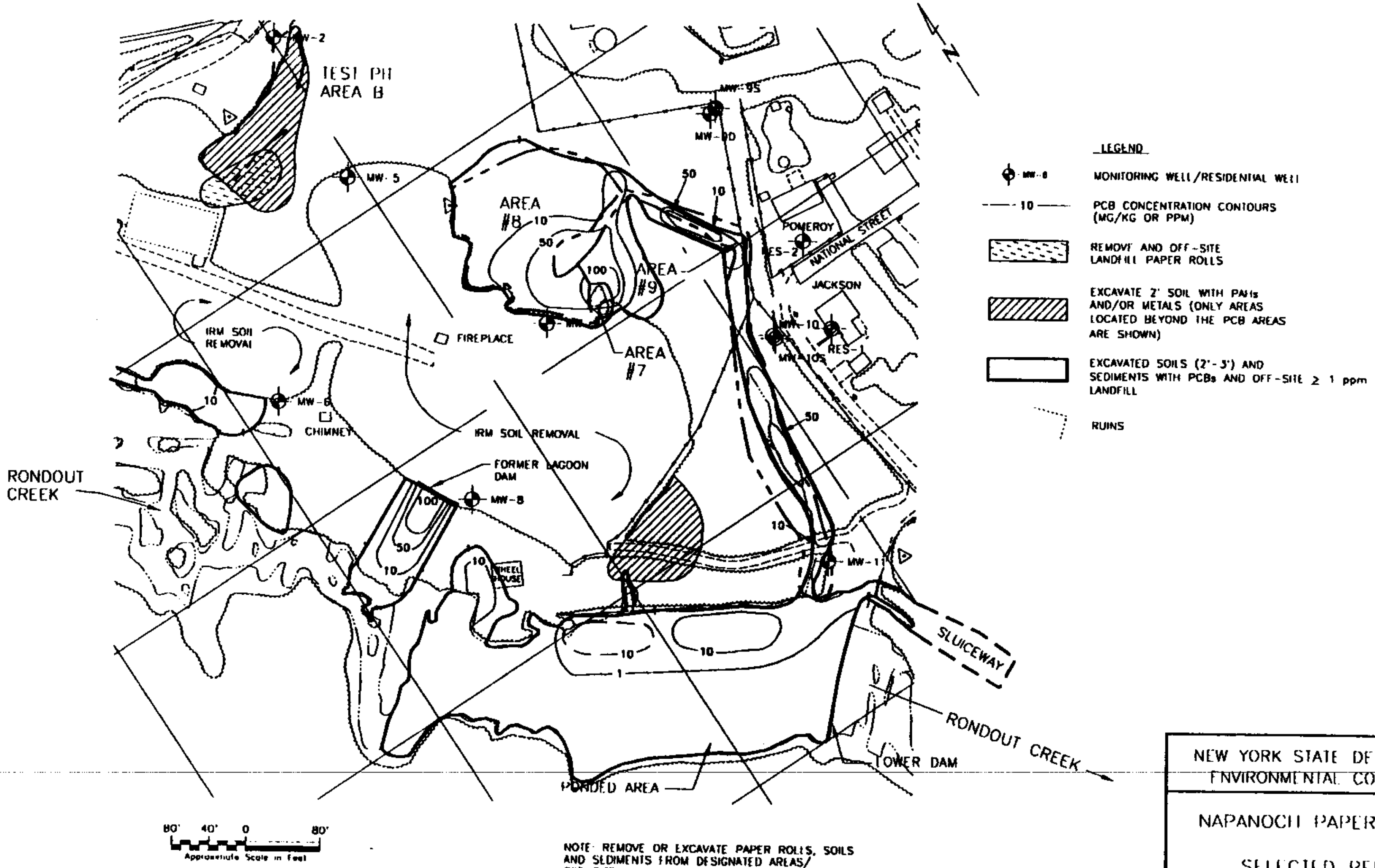
NAPANOCH PAPER MILL SITE

SELECTED REMEDIAL
ACTION PLAN – ZONE

ENGINEERING-SCIENCE
DESIGN • RESEARCH • PLANNING

ES

FIGURE 7



NOTE: REMOVE OR EXCAVATE PAPER ROLLS, SOILS AND SEDIMENTS FROM DESIGNATED AREAS/ OFF SITE LANDFILL MATERIALS WITH PCBs ≥1 ppm

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

NAPANOCH PAPER MILL SITE

SELECTED REMEDIAL
ACTION PLAN ZONE II

ENGINEERING-SCIENCE
DESIGN • RESEARCH • PLANNING

ES

The cost to construct the remedies is estimated to be $5,086,880.

Remedial Components

Paper Rolls

The alternative selected for implementation to remediate the contaminated paper rolls at the Napanoch Paper Mill site is Alternative 3 - Paper Roll Removal/Off-Site Disposal. This alternative will involve removal of all paper rolls located in four scattered piles throughout the site (see **Figures 6-7**) and disposal of these paper rolls in a permitted off-site hazardous waste landfill. The paper rolls would be removed with a crane and grapple and other conventional loading equipment such as a front-end loader. A crane would be required where the paper rolls are sitting on unstable concrete foundations such as that within the Main Plant Ruins. The paper rolls would then be loaded onto haul trucks (20+ ton capacity) and transported to an off-site permitted landfill. Since there is only approximately 50 tons of paper rolls, three truck loads would be sufficient to handle all of the paper rolls. These paper rolls would be handled as a listed hazardous waste based on one PCB concentration detected over 50 ppm during the Interim Remedial Measures (IRM) and during the RI. Additional sampling to separate the non-hazardous paper rolls (PCBs < 50 ppm) from the hazardous paper rolls would be time consuming and unnecessary as the quantity of waste is small. Therefore, all of the waste would be disposed in a TSCA-permitted landfill. There are many TSCA-permitted landfills located nationwide that can accept hazardous level PCB wastes.

Soils

The alternative selected for implementation to remediate the contaminated soil at the Napanoch Paper Mill is Alternative 5 - Excavate Contaminated Soils/Off-Site Landfill PCBs ≥ 1ppm. This alternative will involve shallow excavation of all soil areas which contain PCBs in excess of one ppm and/or PAHs and metals above the chemical-specific SCGs (see **Figure 6-7**). Based on the soil sampling results of the Remedial Investigation (RI) the depth of soil contamination is generally limited to the top two feet. In some more severely contaminated areas, such as those with PCBs over 50 ppm, the contamination may extend to approximately three feet deep. For planning purposes, it is assumed that all soil to a depth of 3 feet will be excavated in the areas containing PCBs in excess of 50 ppm and excavated to a depth of 2 feet for PCBs in excess of 1 ppm. This soil would be segregated according to level of contamination. The excavated soils taken from areas with contamination will be disposed of in a permitted off-site landfill(s).

Based on results of the IRM and RI, it is estimated that the total amount of soil to be excavated would be 12,300 cubic yards (in-place volume). Of this volume, roughly 1,600 cubic yards would require disposal as a hazardous waste (PCBs ≥ 50 ppm), 10,700 cubic yards (50 ppm > PCBs ≥ 1ppm) would be disposed of in an off-site landfill as a non-hazardous waste. There are available landfills that are permitted for receiving PCB-contaminated soils.

Sediments

The alternative selected for implementation to remediate the contaminated sediments at the Napanoch Paper Mill site is Alternative 2 - Excavate and Off-Site Landfill All Pond Sediments With PCBs ≥ 1ppm. This alternative would involve the excavation or dredging, dewatering, solidification if necessary. Based on sediment sampling results of the RI, the volume of the pond sediments with PCBs over 1 ppm is 3,700 cubic yards. For purposes of the conceptual plan, an average sediment thickness of one foot was assumed across the entire pond area (see **Figures 6-7**). An average sediment thickness of three feet was assumed in these areas. The pond sediments with PCBs will be disposed in an off-site landfill. During remedial design, alternatives to deal with dewatered sediments will be further evaluated. This may result in modification or elimination of the solidification process.

8. Highlights of the Community Participation.

To inform the local community and to provide a mechanism for citizens to make the Department aware of their concerns, a citizen participation program has been implemented. In accordance with the 1988 New York State Citizen Participation Plan developed for remedial projects, the following goals have been accomplished:

- A draft site-specific citizen participation plan has been created;
- Information repositories have been established;
- Documents and reports associated with the project have been placed into the repositories;
- A "contact list" of interested parties (e.g., local citizens, media, public interest groups, government agencies, economic agencies, etc.) has been created and maintained;
- A public notice describing the design of the IRM was distributed to the contact list in November 1990. The notice also served as an announcement of a public meeting held on December 5, 1990 to discuss the IRM design;
- A Responsiveness Summary which addressed the questions and concerns raised by the public at the December 1990 meeting was distributed to the contact list in January 1991;
- A public notice describing the status of the IRM was distributed to the contact list in June 1991. The notice also served as an announcement of a public meeting held on July 30, 1991 to discuss the IRM status;
- A factsheet describing the status of the IRM was distributed to the contact list in July 1992;
- A public notice announcing the availability of the final draft RI/FS work plan was distributed to the contact list in September 1992. The notice also served as an announcement of a public meeting held on October 15, 1992 to discuss the work plan and the completion of the IRM;
- A public meeting to discuss the remediation of an on-site oil spill was held by the Division of Spills Management, with assistance from the Division of Hazardous Waste Remediation on December 16, 1993;
- A Responsiveness Summary which addressed the questions and concerns raised by the public at the December 1993 meeting was distributed to the contact list in January 1994;
- A public notice announcing the availability of the RI/FS report and the PRAP was distributed to the contact list in February 1994. The notice also served as an announcement of a public meeting on the PRAP. A public comment period was established from February 18, 1994 to March 18, 1994 and a public meeting was held on

March 1, 1994 to discuss the preferred remedial action.

A summary of the comments/questions received during the March 1, 1994 public meeting and the comment period, as well as the responses to those comments, are included in Exhibit A. Copies of the ROD, the Responsiveness Summary and the public meeting transcript will be placed in the local document repositories when complete. A notice announcing the availability of these documents and briefly summarizing the remedial program will be issued to the contact list.

APPENDIX A

NAPANOCH PAPER MILL SITE
I.D. 3-56-014

RESPONSIVENESS SUMMARY

A public meeting was held on March 1, 1994 at the Napanoch Fire Department, Napanoch, New York. The purpose of this meeting was to present: the findings of the Remedial Investigation (RI), the evaluation of alternatives in the Feasibility Study (FS) and the Proposed Remedial Action Plan (PRAP) for the Napanoch Paper Mill Site. The meeting was attended by representatives of the New York State Department of Environmental Conservation, the New York State Department of Health, the Ulster County Department of Health, and Engineering - Science. A list of attendees to this meeting is enclosed.

The PRAP was well accepted by the public. One written comment on the PRAP was received from the concerned citizens of Napanoch, several comments were also presented at the meeting and a written response to all comments is listed below.

1. C. When the project is completed, will the site be a PCB non-hazardous site?

   R. After the site is remediated, remaining soil will contain less than one ppm of PCBs, which is non-hazardous.

2. C. Is this property still privately owned?

   R. At the time of this investigation, the site is still listed as being owned by a private individual. The Department will approach the property owner to ask if he wishes to take over the Remedial Design and Construction work for the site. If he declines, the Department will proceed with the cleanup. The Department will then try to recover the money it has spent on this project from the property owner.

3. C. Is it an option of the State to take title of this property if the State cannot recuperate money spent on the project?

   R. It could be an option of the State to take title of the property if the owner cannot or will not pay for the remedial work.

4. C. Were any samples taken inside the abandoned structure downstream of the site?

   R. No samples were taken from inside this building. The subject of the investigation was the Napanoch Paper Mill Site, we had no basis to suspect that this downstream structure was contaminated. Sediment samples were taken from the creek adjacent to the structure, results showed PCBs were detected but well below the sediment cleanup objective of one ppm.

5. C. What is the cost breakdown of selected remedies?

R.

Off-site Disposal of Contaminated Paper Rolls:	$ 185,000
Off-site Disposal of Contaminated Soil:	$3,500,000
Off-site Disposal of Contaminated Sediment:	$1,500,000

6. C. What was the total cost of the Interim Remedial Measure completed in 1992?

R. The Department of Environmental Conservation has been billed for $18 million.

7. C. Could the soils contaminated with PCBs between one and ten ppm be used at the Wawarsing Town Landfill?

R. The contaminated soils could be used only for fill material for grading purposes. The DEC did not assume that final placement of this soil will be at the Wawarsing Town Landfill. Any request from the Town of Wawarsing for use of this material will be considered by the Department. Accommodations will be made to send this material to a landfill that will willingly accept this low level non-hazardous PCB soil.

8. C. What is the time frame for completion of the remedial work?

R. The DEC has estimated a 18-24 month time frame from the Notice to Proceed to complete the remedial work selected for the site.

9. C. Can any of the remedial funds allocated for the remedial work be used to hire local residents?

R. The work will be "bid" out. DEC will contract with the lowest responsible responsive bidder to construct the selected remedy. The Department will informally encourage the selected contractor to recruit local help.

10. C. Will there be any long term monitoring program on-site?

R. The remedies selected for this site will remove all known contaminants to protect public health objectives. With this approach a long term monitoring program will not be necessary.

11. C. Will any more sampling be performed on homeowner wells adjacent to the site?

R. There will be one more round of homeowner wells sampling after the construction of the remedies is completed.

12. C. Several residents expressed concern regarding the thermal treatment of oil soaked soil on-site.

R. The soil in question was an area contaminated by a leaking fuel storage tank on-site. The soil and area surrounding the tank was tested for PCBs, no PCBs were present in samples taken of this soil. The Region 3 Oil Spills Program, which is handling the thermal treatment, is aware of residents concerns, a copy of the written comments were forwarded to Region 3.

13. C. Will post construction sampling be performed?

R. Post excavation and construction sampling will be performed in areas on-site that are the target of remedial activities. Results of this sampling will be available for public review.

ATTENDANCE LIST - PROPOSED REMEDIAL ACTION PLAN MEETING
MARCH 1, 1994
NAPANOCH FIRE DEPARTMENT

NAME	REPRESENTATIVE
Gerald DePew	Town of Wawarsing
Philip Wortas	Resident
Robert Conklin	Resident
Ken Morgan	Resident
Amy Plummer Hoffman	Resident
Mr. and Mrs. Franklin Brown	Resident
Barbara Hart	Resident
Mychajlo Luczkiw	Resident
Vincent Dunn	Resident
Edward Jennings	Resident
C. Thorne	Press
Jim Gordon	Press
Debbie Kwiatoski	Press

APPENDIX B

NAPANOCH PAPER MILL SITE
ID: 3-56-014

ADMINISTRATIVE RECORD

1. Remedial Investigation/Feasibility Study Work Plan, Napanoch Paper Mill Site, Engineering Science, December 1992.

2. Remedial Investigation - Work Plan Addendum No. 1, Napanoch Paper Mill Site, Engineering Science, March 1993.

3. Remedial Investigation - Work Plan Addendum No. 2, Napanoch Paper Mill Site, Engineering Science, May 1993.

4. Remedial Investigation Data Report, Napanoch Paper Mill Site, Engineering Science, September 1993.

5. Remedial Investigation/Feasibility Study, Napanoch Paper Mill Site, Engineering Science, March 1994.

6. Proposed Remedial Action Plan, Napanoch Paper Mill Site, New York State Department of Environmental Conservation, February 1994.