



Superfund Proposed Plan

METALTEC/AEROSYSTEMS SITE

Franklin Borough, New Jersey

EPA

Region 2

July 1990

**PROPOSED PLAN
METALTEC/AEROSYSTEMS SITE**

PURPOSE OF PROPOSED PLAN

This document describes the Proposed Plan developed by the U.S. Environmental Protection Agency (EPA), in conjunction with the New Jersey Department of Environmental Protection (NJDEP), for the remediation of groundwater contamination at the Metaltec/Aerosystems Superfund site. It also outlines the remedial alternatives evaluated for the site and presents the rationale used to make a preliminary selection.

The preferred alternative is based on two key documents: the supplemental remedial investigation (RI) report, which characterizes the site and describes the nature and extent of the contamination present, and the draft feasibility study (FS) report, which describes how the various remedial alternatives were developed and evaluated. The remedy proposed in this document is a supplemental remedy, and includes the extraction and treatment of contaminated groundwater.

This Proposed Plan is being distributed as required by Section 117 of the Superfund Amendments and Reauthorization Act of 1986, (SARA) along with the RI and draft FS reports, to solicit public comment regarding the most acceptable way to clean up the Metaltec/Aerosystems site. Detailed information on any of the material included in the Proposed Plan may be found in the RI and FS reports. These

reports have been placed, as have earlier reports, at information repositories located at the Franklin Borough Hall, 40 Main Street, Franklin, New Jersey, and at the Sussex County Library, RD 3 Box 76, Newton, New Jersey.

Additional documentation regarding the proposed remedy is available in the administrative record for the site. A copy of the administrative record as assembled to date is located at the Franklin Borough Hall.

**COMMUNITY ROLE IN THE
SELECTION PROCESS**

EPA and NJDEP rely on public input to ensure that the remedy selected for each Superfund site is fully understood and that the agencies have considered the concerns of the local community, as well as ensuring that the selected remedy provides an effective solution.

This Proposed Plan and the RI and FS reports are being made available to the public during the public comment period. Written comments on the Proposed Plan or the RI/FS reports will be welcomed through August 27, 1990, and, if received by that date, will be considered in the Record of Decision (ROD) which will formally document the selected remedy. All written comments should be addressed to:

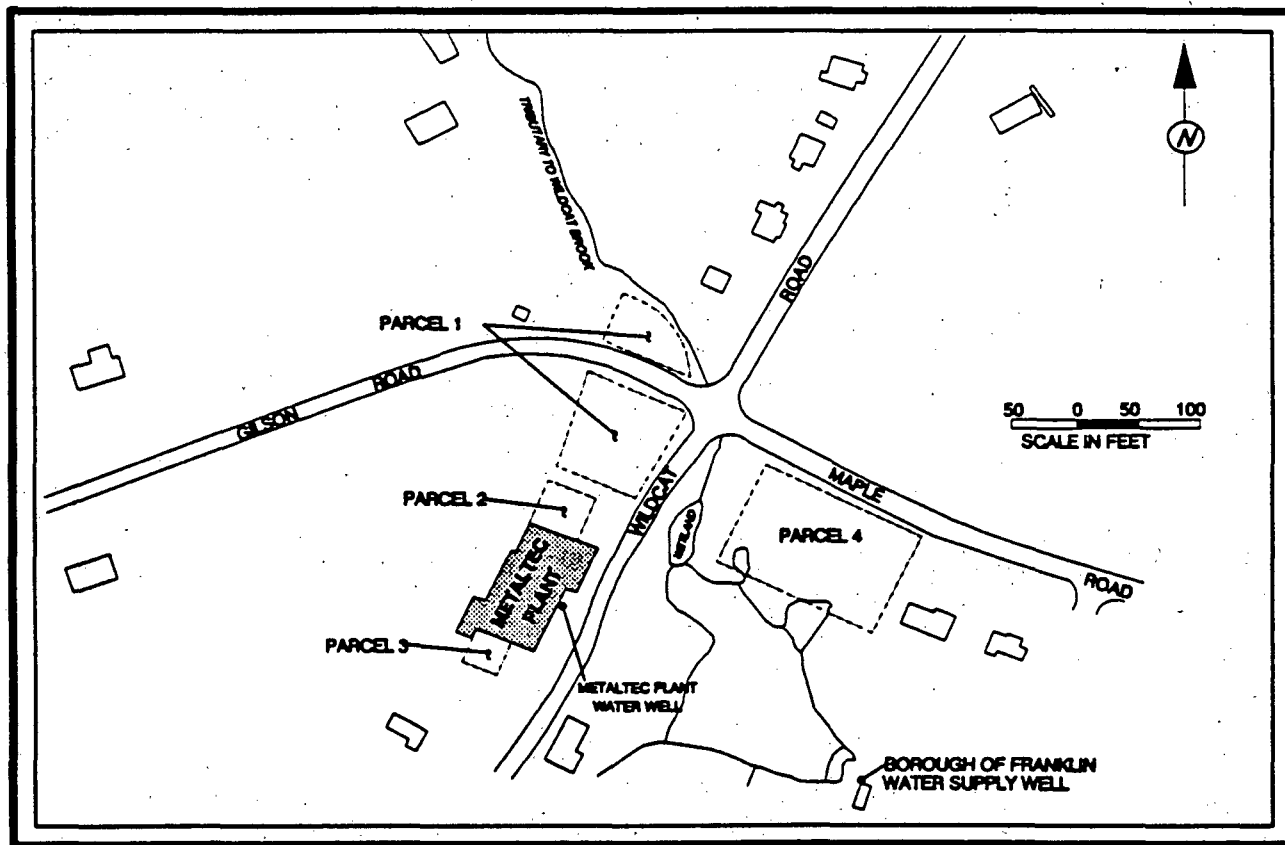
Mr. Ronald Rusin
Remedial Project Manager
U.S. Environmental Protection Agency -
Region II
26 Federal Plaza, Room 759
New York, New York 10278

SITE BACKGROUND

The Metaltec Corporation, a subsidiary of Aerosystems Technology Corporation, operated a manufacturing facility at the intersection of Maple and Wildcat Roads, in the Borough of Franklin, Sussex County, New Jersey. The site encompasses approximately 15.3 acres south of Maple Road and both east and west of Wildcat Road. The Metaltec Corporation manufactured metal ballpoint pen parts, paint spray guns, lipstick cases, and a variety of other metal products from 1965 until 1980. When active, the site included the Metaltec plant, a process well, a

The final remedy selection will be documented in the ROD only after consideration of all comments on the RI report and any of the remedial alternatives addressed in the Proposed Plan and FS report. A public meeting has been scheduled for August 16, 1990, at 7:00 p.m. at the Franklin Borough Hall to present both the findings of the RI and FS reports and the Proposed Plan.

METALTEC/AEROSYSTEMS SITE MAP



wastewater lagoon, a drum storage area, wastewater-soaked ground, and two piles of waste material. The site is bordered by a golf course, private residences, and an unnamed tributary to Wildcat Brook (a tributary to the Walkill River).

In 1980, NJDEP conducted a site inspection. Sampling results indicated various volatile organic compounds (VOCs), most significantly trichloroethene (TCE), were present in the facility's wastewater lagoon and surrounding soil. Due to the presence of volatile organic compounds in the area's groundwater, the Franklin Borough water supply well, several area residential wells, and the Metaltec process well were closed. The area residents and the Metaltec facility are now on a public surface water supply from a local pond.

In September 1983, the site was placed on the EPA's National Priorities List of Superfund sites. In June 1984, EPA began an RI/FS at the site to determine the nature and extent of contamination, characterize site risks, and develop and evaluate remedial alternatives. The RI determined the following:

- An estimated 10,000 cubic yards (cy) of soil were contaminated with various volatile organic compounds in an area referred to as Parcel 1.
- An estimated 4,000 cy of soil were contaminated with inorganic compounds and semivolatile organic compounds in areas referred to as Parcels 2, 3, and 4.
- Both the shallow and bedrock aquifers beneath the site were contaminated with elevated levels of the contaminants found in the soil on the site.

After a public meeting and a 30-day public comment period, EPA signed a Record of Decision (ROD) on June 30, 1986, which selected remedial actions for the site, the municipal well, and affected or threatened private wells. The remedy selected in the 1986 ROD included:

- Excavation and treatment via heat addition (rotary dryer) of approximately 10,000 cubic yards of contaminated soils within Parcel 1, and off-site disposal at an approved landfill. [The design for this portion of the remedy is nearing completion.]
- Excavation and off-site disposal at an approved landfill of approximately 4,000 cubic yards of contaminated soils within Parcels 2, 3, and 4. [This portion of the remedy has been completed.]
- Provision of an alternate water supply for affected Borough of Franklin residents by constructing a pipeline connection from new potable water wells to the Borough of Franklin public water supply system. [This portion of the remedy is now being constructed.]
- Preparation of a supplemental RI/FS to identify the extent of groundwater contamination, and to develop and evaluate appropriate remedial alternatives. [This portion is the subject of this Proposed Plan.]

SCOPE AND ROLE OF ACTION

This document addresses the requirement of the 1986 ROD which called for the preparation of a supplemental RI/FS, and deals specifically with contamination in the groundwater below the site and hydraulically downgradient from the site. Specifically, the contaminated shallow and bedrock groundwater aquifers will be pumped and treated for restoration of the aquifers. This restoration will take an estimated 10 years to complete; however, actual aquifer conditions during remediation may affect this duration.

SUMMARY OF SUPPLEMENTAL RI FINDINGS

Although the 1986 ROD selected affirmative remedial actions to clean up the site and provide an alternate water supply to properties with contaminated or threatened drinking water, the data obtained during the first RI/FS were insufficient to fully characterize the groundwater contamination plume. Therefore, EPA conducted the supplemental study.

To characterize the groundwater contamination, eight groundwater monitoring wells were installed. In addition, groundwater sampling was performed on the eleven wells installed during the first RI/FS. Samples taken from the shallow and bedrock aquifers were analyzed and the results demonstrated that the groundwater is contaminated with volatile and semi-volatile organic compounds, and inorganic compounds, from the water table down into the bedrock as deep as 300 feet. The areal extent of contamination is approximately 300 feet long by 200 feet wide.

Surface water and sediment sampling investigations were also conducted to determine the presence and extent of contamination. Site-related contaminants were detected in a number of surface water and sediment samples obtained from the tributary to Wildcat Brook. However, the contamination found in the tributary was determined to be a result of contaminants being transported through the bedrock aquifer and the adjacent overburden, and finally discharged through a spring which leads to the tributary.

SUMMARY OF SITE RISKS

During the supplemental RI/FS, an analysis was performed to estimate the health and environmental problems associated with the Metaltec site. This analysis, referred to as a baseline risk assessment, was presented in the RI report as the Public Health Evaluation and Environmental Assessment (PHE). In conducting this assessment, the focus was on identifying contaminants of concern in each contaminated media, evaluating pathways of exposure (i.e., ways in which humans and environmental receptors [fish, birds, mammals, etc.] may come in contact with contaminants), and quantifying the degree to which that contact poses a risk. Because the remedy selected in the 1986 ROD included the removal of contaminated soil from the site, potential impacts associated with contaminants in the soil were not assessed during this study.

Contaminants of potential concern were identified in the ground water, surface water, and sediments. In all media, VOCs (in particular TCE and 1,2-Dichloroethene) were identified as contaminants of potential concern. In addition, chromium, copper, lead, manganese, and zinc were identified as chemicals of potential concern in groundwater. The highest concentrations of VOCs were detected in wells located near the former wastewater lagoon.

The exposure pathways evaluated in the PHE were those believed to be associated with the greatest potential exposures. The exposure pathways which were evaluated included inhalation of contaminants volatilized from surface water, direct contact (e.g., dermal contact) with contaminants in the surface water or sediments, and the ingestion of contaminated groundwater under a future land use scenario.

Risks for pathways of exposure were conservatively estimated in the PHE. For risk assessment purposes, individual pollutants are separated into two categories of health hazard depending on whether they exhibit carcinogenic or noncarcinogenic effects. For known or suspected carcinogens, acceptable exposure levels

are generally concentration levels that represent an excess upper bound lifetime cancer risk to an individual of between 10^{-4} to 10^{-6} , representing a probability of one in ten thousand to one in one million that an individual could contract cancer due to exposure. The noncarcinogenic effects (e.g., toxicity) posed by each pollutant are summarized as a "Hazard Index" for a particular exposure pathway. Only Hazard Indices greater than one are generally identified with health risks.

Ingestion of groundwater by residents, evaluated under a hypothetical future use scenario, was the only pathway of exposure considered potentially hazardous to humans in the PHE. The PHE identified the ingestion of contaminated groundwater as posing a potential risk to human health above EPA's risk range for carcinogenic effects, and as having a Hazard Index greater than one. If contaminated groundwater were ingested, under the scenario evaluated in the PHE, the maximum estimation for carcinogenic risk is 3×10^{-2} , and the Hazard Index is 30. It should be noted, however, that, to EPA's knowledge, no one is utilizing the contaminated aquifers as a source of potable water.

Potential impacts associated with the contaminants of potential concern were also assessed for nonhuman exposures for the Metaltec site. It was determined that aquatic life in Wildcat Brook and its tributary were unlikely to be affected by contaminants released to the surface water.

CLEANUP GOALS

The goal for the cleanup of the groundwater contamination at the Metaltec site is to restore the groundwater to the maximum contaminant levels (MCLs) which have been devised to protect drinking water. MCLs are enforceable standards based on health risks associated with an individual's consumption of two liters of water per day over a seventy-year period. Surface water and sediment contamination in the tributary to the Wildcat Brook will not require additional remediation since the tributary is fed by the groundwater, which will be cleaned up.

Actual or threatened releases of hazardous substances from this site, if not addressed by the preferred alternative or one of the other active measures considered, may present a current or potential threat to public health, welfare, or the environment.

FEASIBILITY STUDY

The information obtained from the RI was used to conduct the FS. The draft FS report provides a detailed evaluation of various options, referred to as remedial alternatives, to remediate the site. Remedial alternatives were evaluated based on the nine criteria identified in the FS report and described later in this document.

SUMMARY OF REMEDIAL ALTERNATIVES

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by SARA, requires that each site remedy be protective of human health and the environment, comply with applicable or relevant and appropriate requirements (ARARs), utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable, and be cost effective.

The RI identified the groundwater itself as the principal environmental media affected by contamination. The source of the groundwater contamination is addressed by the 1986 ROD. Surface water contamination of the tributary to the Wildcat Brook will not require additional remediation since the tributary is fed by the groundwater, which will be cleaned up.

In the FS, three basic alternatives for addressing the groundwater contamination were considered: (1) No Further Action, with Monitoring; (2) Pump and Treat the shallow and bedrock aquifers using air stripping and carbon adsorption; and (3) Pump and Treat the shallow and bedrock aquifers using hydrogen peroxide - ultraviolet photolysis (H_2O_2 -UV) oxidation and carbon adsorption. A brief description of each

of the alternatives, as well as an estimate of their cost and implementation timeframe, follows.

Alternative 1: NO FURTHER ACTION, WITH MONITORING

Implementation Period: 30 years
Capital Cost: \$ 0
Annual Operation and Maintenance (O&M) Costs: \$ 23,000
Present Worth: \$ 358,200

This alternative would not involve the implementation of specific remedial actions to address groundwater or surface water contamination. Under this alternative, a long-term monitoring program would be implemented to determine whether groundwater and surface water contaminant concentrations are changing with time, and to track the migration of contaminated groundwater. The monitoring program would include sampling the groundwater through the use of existing monitoring wells.

Alternative 2: GROUNDWATER PUMPING/PRECIPITATION/AIR STRIPPING/CARBON ADSORPTION/DISCHARGE

Implementation Period: 10 years
Capital Cost: \$ 748,100
Annual O&M Costs: \$ 466,300
Present Worth: \$4,348,900

The major features of this alternative include groundwater pumping, collection, treatment, and discharge of treated groundwater, and a performance monitoring program. The alternative involves the use of an existing well on the Metaltec property for groundwater extraction at a total pumping rate of approximately 10 gallons per minute (gpm), an extraction rate shown to be sustainable over an extended period of time. During remedial design, the possibility of using multiple extraction wells to accelerate cleanup will be explored. The extracted groundwater would first be treated to remove metals, with the resultant sludge being disposed of off-site. The VOCs present in the extracted groundwater would be removed by air stripping,

and any remaining organic contaminants would be removed by carbon adsorption. The spent carbon would be collected by the supplier and taken off-site for disposal or treatment and reuse. The treated groundwater would be discharged to the tributary to Wildcat Brook at levels meeting surface water discharge requirements. Because of the unfavorable characteristics of the site hydrogeology (i.e., a complex bedrock fracture system and its associated hydraulic characteristics), reinjection of treated groundwater was eliminated from consideration as a remedial technology.

Alternative 3: GROUNDWATER PUMPING/PRECIPITATION/H₂O₂-UV OXIDATION/CARBON ADSORPTION/DISCHARGE

Implementation Period: 10 years
Capital Cost: \$ 926,500
Annual O&M Costs: \$ 467,300
Present Worth: \$4,535,000

As in Alternative 2, this alternative involves the use of an existing well on the Metaltec property for groundwater extraction at a total pumping rate of approximately 10 gpm. In this alternative, however, the VOCs would be removed through H₂O₂-UV oxidation instead of through air stripping. The other treatment unit operations would remain the same as in Alternative 2. The treated groundwater would also be discharged to the tributary to Wildcat Brook at levels meeting surface water discharge requirements.

EVALUATION OF ALTERNATIVES

The preferred alternative for addressing the groundwater contamination plume at the Metaltec site is Alternative 2, Groundwater pumping/precipitation/air stripping/carbon adsorption and discharge to the tributary to Wildcat Brook. Based on current information, this alternative would appear to provide the best balance of trade-offs among alternatives with respect to the nine criteria that EPA uses to evaluate alternatives. This section profiles the

performance of the remedial alternatives against the nine criteria, noting how they compare to other options under consideration. A glossary of the nine evaluation criteria appears on the following page.

Based on new information or public comments, EPA, in consultation with the State of New Jersey, may modify the proposed alternative or select another response action presented in this Plan and the RI and FS reports.

The public, therefore, is encouraged to review and comment on all of the alternatives identified in this Proposed Plan. The RI and FS reports should be consulted for more detailed information on the alternatives.

COMPARATIVE ANALYSIS OF ALTERNATIVES

Overall Protection: Alternatives 2 and 3 would both provide protection of human health by eliminating risks through the extraction and treatment of contaminated groundwater. Alternatives 2 and 3 would reduce the risk from using the groundwater by reducing the level of contaminants within the affected aquifers. Either of these alternatives would augment the action being taken under the 1986 ROD which directed the provision of an alternate water supply.

The "No Action" alternative does not provide any additional protection to that provided by the 1986 ROD and, therefore, is not considered further in this analysis of options.

Compliance with ARARS: Alternatives 2 and 3 are intended to meet the groundwater cleanup ARARs after their estimated 10-year implementation periods are completed. The treated water to be discharged to the tributary to Wildcat Brook will meet New Jersey surface water discharge limitation requirements.

To ensure compliance with the National Historic Preservation Act, a cultural resources survey would be prepared. Waivers from ARARs are not anticipated for these alternatives.

Long-term Effectiveness and Permanence:

Alternatives 2 and 3 would provide long-term protection by reducing the groundwater contaminant concentrations to cleanup goals. Once groundwater remediation is complete, no long-term monitoring would be necessary. Alternatives 2 and 3 both provide a permanent remedy.

Reduction of Toxicity, Mobility, or Volume:

Alternatives 2 and 3 would reduce the toxicity, mobility, and volume of the contaminated groundwater through the use of extraction and treatment methods.

Short-term Effectiveness: The major risk associated with the contaminated groundwater is the use of it for potable purposes. A temporary alternative water supply is currently in use in the affected area, and provision of a permanent alternative water supply is being implemented under the 1986 ROD. Therefore, that risk has already been significantly reduced.

An assessment would be made during the design of the remedy to ensure that any adverse impacts to any wetland areas would be mitigated.

Treated water would be monitored prior to its discharge to the tributary to Wildcat Brook to ensure the effectiveness of the treatment system. Neither alternative would create any short-term, health-related concerns for the public.

Implementability: While both Alternatives 2 and 3 will reduce groundwater contamination levels, Alternative 2 is preferred based on previously demonstrated success for contaminated groundwater treatment. The technology included in Alternative 3 has been previously used for industrial waste treatment, and could be effectively used for contaminated groundwater treatment. In addition, the equipment used for Alternative 2 may be more readily available than the equipment required for Alternative 3.

Cost: The present worth of Alternative 2 is \$4,348,900. The lowest cost alternative is Alternative 1, at \$358,200. The highest cost alternative is Alternative 3, at \$4,535,000.

State Acceptance: The State of New Jersey supports the preferred alternative presented in this Proposed Plan.

Community Acceptance: Community acceptance of the preferred alternative will be evaluated after the public comment period ends and will be documented in a Record of Decision.

GLOSSARY OF EVALUATION CRITERIA

- o Overall Protection of Human Health and the Environment: This criterion addresses whether or not a remedy provides adequate protection and describes how risks are eliminated, reduced or controlled through treatment, engineering controls or institutional controls.
- o Compliance with Applicable or Relevant and Appropriate Requirements of Federal or State of New Jersey Regulations: This criterion addresses whether or not a remedy will meet all of the applicable or relevant and appropriate requirements (ARARs) of other environmental statutes and/or provide grounds for invoking a waiver.
- o Long-term Effectiveness and Permanence: This criterion refers to the ability of the remedy to maintain reliable protection of human health and the environment over time once cleanup goals have been met.
- o Reduction of Toxicity, Mobility or Volume: This criterion addresses the anticipated performance of the treatment technologies that a remedy may employ.
- o Short-term Effectiveness: This criterion considers the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.
- o Implementability: This criterion examines the technical and administrative feasibility of a remedy, including availability of materials and services needed to implement the chosen solution.
- o Cost: This criterion includes capital and operation and maintenance costs.
- o State Acceptance: This criterion indicates whether, based on its review of the RI/FS and the Proposed Plan, the State concurs with, opposes, or has no comment on the proposed alternative.
- o Community Acceptance: This criterion will be addressed in the Record of Decision following a review of the public comments received on the RI/FS reports and the Proposed Plan.

SUMMARY OF THE PREFERRED ALTERNATIVE

In summary, the preferred alternative is believed to provide the best balance among alternatives with respect to the evaluation criteria. Therefore, based on the information available at this time, EPA and the State of New Jersey believe the preferred alternative would be protective, would attain ARARs, would be cost-effective, and would utilize permanent solutions and alternative treatment technologies to the maximum extent practicable.

MAILING LIST

If you did not receive this Proposed Plan in the mail and wish to be placed on the mailing list for future publications pertaining to the Metaltec/Aerosystems site, please fill out, detach, and mail this form to:

Evet Harris
Community Relations Specialist
U.S. Environmental Protection Agency
26 Federal Plaza
New York, New York 10278

PLEASE INCLUDE ME ON THE MAILING LIST FOR THE METALTEC/AEROSYSTEMS SITE

Name: _____

Address: _____

Affiliation: _____

Phone: (__) _____

400137