

N42237.AR.000243  
NSB KINGS BAY  
5090.3a

PUBLIC INFORMATION SESSION NO. 6 PUBLIC AVAILABILITY SESSION MEETING  
SUMMARY NSB KINGS BAY GA  
3/22/1994  
NSB KINGS BAY

**Public Information Session No. 6**

**Public Availability Session**

**Meeting Summary**

**NSB Kings Bay, Georgia**

**March 22, 1994**

**ATTACHMENT A**  
**PUBLIC INFORMATION SESSION NO. 6**  
**SUMMARY**

**PUBLIC INFORMATION SESSION NO. 6**  
**Navai Submarine Base**  
**Kings Bay, Georgia**

**SUMMARY**

On March 22, 1994, the Navy hosted the sixth public information session from 1600 to 2000 hours at the Crooked River Elementary School to discuss the current status of the environmental investigations at the Old County Landfill (Site 11). This "open house" session was specifically designed to provide interested community members with the opportunity for informal, one-on-one discussions with the Navy, environmental engineers, and state regulators on the environmental cleanup activities at the landfill.

Community interviews were conducted by the Navy in January 1994 to assess if the community had any concerns with the environmental program which should be addressed. Information collected during the interviews was assessed in order to structure the format and contents for the sixth public information session.

The session consisted of six tables or stations with graphical posters which presented information on the following topics:

- Historical Overview and Community Interviews
- Installation Restoration Program and Information Repository
- Regulatory Process
- Status of Investigations
- Interim Cleanup Activities
- Human Health Screening Risk Evaluation

A technical specialist was available at each table or station to discuss the information in more detail or to answer any questions the public had. Attendees were encouraged to collect and take home the handouts that were available at several stations. A summary of each station and pertinent questions or comments raised by the attendees is provided below.

**HISTORICAL OVERVIEW AND COMMUNITY INTERVIEWS**

**Technical Specialists:     Robert Steller, NSB**  
**Frank Cater, ABB-ES**

Mr. Robert Steller, NSB Public Affairs Officer and Mr. Frank Cater, ABB-ES greeted the attendees as they arrived. They informed the attendees of the informal nature of the session, answered any questions, and encouraged people to review the information on the posters at each station and pose any questions to the technical specialists. A handout, the Installation Restoration Program Newsletter, was available at this station.

The newsletter was specifically designed to address questions and issues that were raised by the public during the community interviews in January 1994.

This station included a poster with a summary of the topics to be discussed at this session, a historical overview of the environmental investigations at Old County Landfill, and a review of the community interviews.

## **INSTALLATION RESTORATION PROGRAM AND INFORMATION REPOSITORY**

Technical Specialist: Ann Johnson, ABB-ES

The community interviews indicated that most people were not familiar with the Installation Restoration (IR) Program. Therefore, the purpose of this station was to present general information on the IR Program to illustrate that the investigation and cleanup of the landfill is part of a larger program conducted by the Navy at bases all across the country. The regulatory background for the IR Program and the step-by-step process the Navy follows for environmental cleanup were presented in one poster. It was pointed out that the environmental cleanup at Kings Bay is following the step-by-step approach as required by the Resource Conservation and Recovery Act (RCRA). This process is known as the RCRA Corrective Action Process.

A second poster illustrated that the IR Program requires the establishment of an Information Repository. The information repository is a collection of documents about the environmental investigations and allows open and convenient public access to information about the site. It is usually located in a public building, such as a library or municipal office. At Kings Bay, the information repository will be established at the St. Marys Public Library, 100 Herb Bauer Drive. It was pointed out that the documents were presently being indexed and that the information repository is expected to be available for viewing at the library in late Spring 1994.

A fact sheet describing the Information Repository was available as a handout at this station.

## **REGULATORY PROCESS**

Technical Specialist: Robin Futch, ABB-ES

The purpose of this station was to describe the steps in the RCRA Corrective Action Process and to provide a timeline of activities for the process at Naval Submarine Base Kings Bay. Two posters presented the information and described the steps in a RCRA Facility Assessment, RCRA Facility Investigation, Corrective Measures Study, Corrective Measures Implementation, and Interim Measure. The steps in the overall RCRA Corrective Action Process, Corrective Measure Study and Corrective Measures Implementation were also illustrated by flow diagrams.

During the community interviews, many questions were raised by the community regarding the schedule for cleanup and what was going to happen next in the process. A timeline was presented to provide the community with a sense of the timeframe for cleanup of Site 11. The timeline illustrated the schedule for the overall RCRA Corrective Action Process at Kings Bay and the interim measure. The timeline illustrated that the Navy, through a proactive process, was addressing the contaminated groundwater early in the process by implementing the interim measure while additional investigations were conducted. Many of the attendees were interested in the timeline and gained a better understanding of the time required for the investigation, data interpretation, report preparation, and corrective action completion.

## STATUS OF INVESTIGATIONS

Technical Specialist: Laura Harris, ABB-ES

The purpose of this station was to describe the previous and ongoing investigations at the site. The objectives of the RCRA Facility Investigation (RFI), the approach, interim results, current investigations, and next steps were presented in two posters. Photographs of the field work illustrated the activities conducted to collect data. Field equipment (flame ionization detector, water level recorder, and conductivity meter) was available at the station for demonstration or discussion purposes.

The final interim RCRA Facility Investigation Report was completed in December 1993 and the results were presented. Current and upcoming investigations include collecting samples from Porcupine Lake, excavating test trenches in the landfill to determine source(s) of contamination, collecting surface soil samples in the landfill, conducting air monitoring in the landfill and subdivision, and continuing groundwater monitoring. The next steps are to interpret the data from the supplemental RFI and provide data on the configuration of the plume to the public through the newsletter or other appropriate means.

A resident from outside the area of contaminated groundwater inquired when the residential wells can be used. The technical specialist indicated that residents are still encouraged not to use their wells; measures are in place to control groundwater flow and treat groundwater but it will take years to remove all contamination.

A handout was available at this station which included the groundwater surface map and plan views of the interpreted plume of contaminated groundwater at 15-25 feet, 30-40 feet, and 45-55 feet below ground surface from the final interim RFI report (December 1993).

## INTERIM CLEANUP ACTIVITIES

Technical Specialist: Kurt Sicheistiel, ABB-ES

The purpose of this station was to describe the interim measure for containing and cleaning up contaminated groundwater from the Old County Landfill. The goals of the interim measure and the two technologies (air stripping and biological treatment) being tested were described in one poster. A second poster illustrated with photographs the components of the biological treatment and air stripping systems located at the treatment pad southwest of the landfill. A fact sheet describing the interim measure and technologies was available as a handout.

The general concerns or questions that were raised by the public at this station are grouped into the following areas:

- Would use of private irrigation wells remobilize the plume?
- Has there been any northern migration of the plume?
- What is the affect of the investigations and cleanup activities on buying and selling of homes in the area.

During discussions with the technical specialist, two women from the community were interested in the affect of using their private irrigation wells (PIWs) on the movement of the plume. The technical specialist indicated that the Navy encourages citizens not to use PIWs at this time. Measures are in place to control groundwater flow and treat groundwater but it will take years to remove all contamination. Without further investigation, it is difficult to estimate the affect of turning on specific PIWs.

A couple that lives north of the plume inquired if the data shows any movement in that direction. The technical specialist indicated that the data reviewed so far does not indicate any migration northward. Additional data is in the process of being validated and interpreted. If there is any change in the configuration of the plume, the Navy will notify residents in the newsletter or other appropriate methods.

There were two individuals that raised concerns about the investigation and cleanup because they were buying or selling a home in the area. The technical specialist described the Navy's proactive approach to cleaning up the affected groundwater while continuing to study possible contamination of soil, sediment, and surface water. He explained the interim measure and the two technologies being tested. The technical specialist did not address the sale or purchase of the homes but focused on the nature of the investigation and cleanup activities.

## HUMAN HEALTH SCREENING RISK EVALUATION

Technical Specialist: Marland Dulaney, ABB-ES

Two posters presented the information on the Human Health Risk Evaluation that was completed in July 1993 to quantify the risk to residents from exposure to the chemicals in the groundwater. The goals of and approach to the evaluation were described. Seventeen contaminants were identified in the plume; seven of which were carcinogens and 10 were non-carcinogens. Based on the results of the community interviews, information was provided which compared the risks of exposure to the groundwater to other familiar activities (i.e., smoking, drinking diet soda, chest X-ray). Through the information on the posters and the discussions with the technical specialist, the methodology to determine risk and the associated risks from exposure to the groundwater were better understood by the attendees. Most attendees spent a significant amount of time at this station discussing the topic with the technical specialist.

The concerns or questions that were raised by the community to the technical specialist can be summarized as follows:

- Have the chemicals in the groundwater increased the incidence of cancer?
- What does one in a million cancer risk really mean?

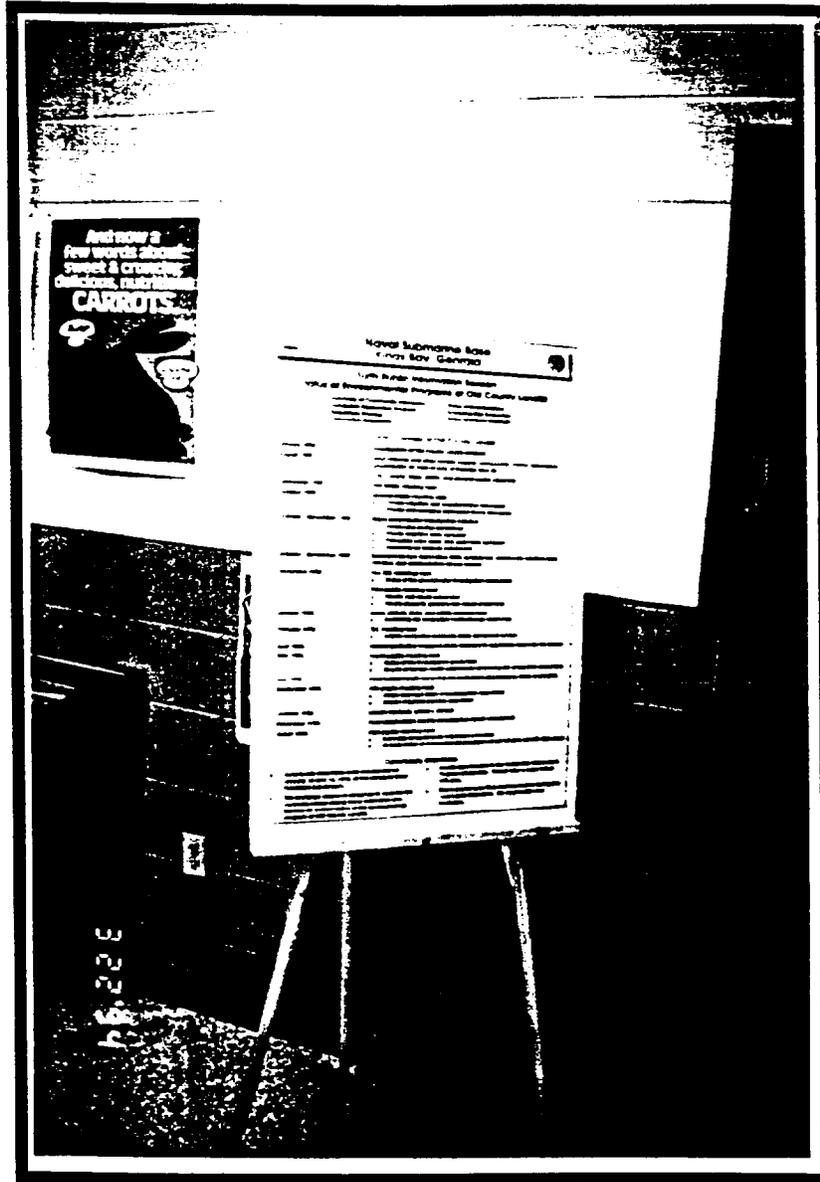
The technical specialist addressed the concerns of one individual about the increase of cancer in the area. The screening risk evaluation concluded that no adverse health effects would be expected from exposure to the affected groundwater. The State of Georgia and U.S. Environmental Protection Agency have reviewed the study and agree with the conclusions. The technical specialist pointed out that conservative assumptions and factors were used during the evaluation, resulting in the overestimation of risk.

A few individuals were interested in a further explanation of what one in a million cancer risk really means. The technical specialist indicated that in our society today, the rate of cancer incidence is one in four people. This is considered background. The increase risk of cancer by one chance in a million is in addition to that background level. EPA suggests that a range of 1 to 100 additional chances of cancer in a million people is an acceptable risk. He also illustrated several common activities that will increase the chance of cancer by one in a million.

One couple indicated that they are hesitant to buy a home in the subdivision because of potential health affects. The technical specialist summarized the conclusions of the screening risk evaluation and stressed the ways to minimize exposure to the affected groundwater without providing an opinion of whether to buy a house or not.

**ATTACHMENT B**  
**PUBLIC INFORMATION SESSION NO. 6**  
**PHOTOGRAPHS**

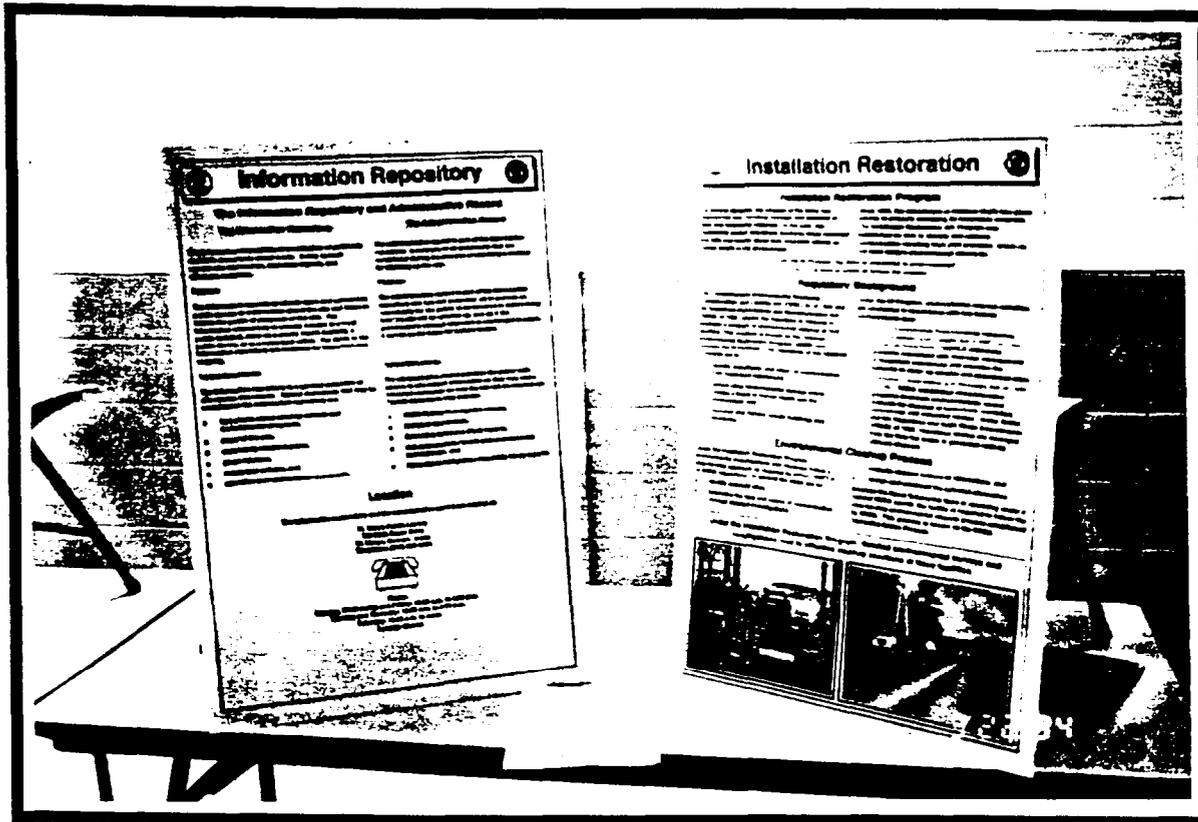
## Historical Overview and Community Interviews



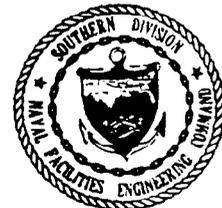
NSB Kings Bay, Georgia  
Public Information Session No. 6  
Availability Session  
March 22, 1994



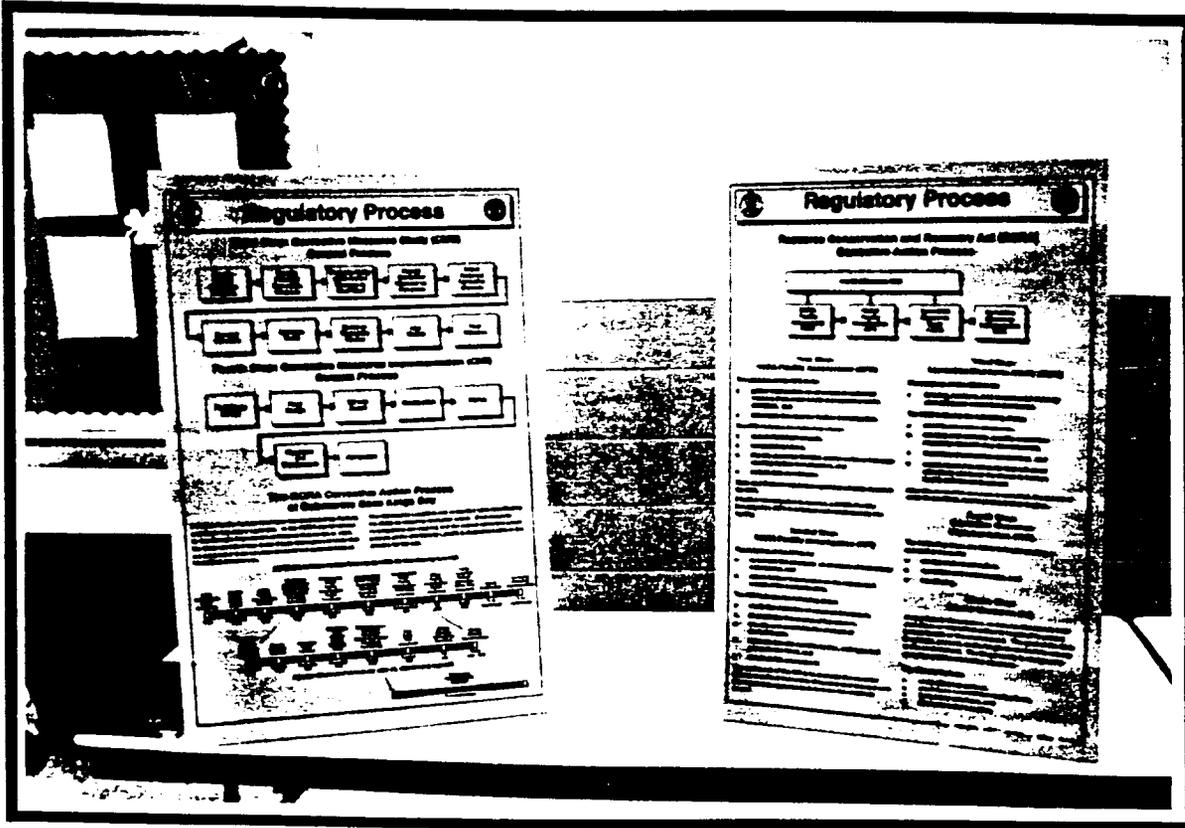
# Installation Restoration Program and Information Repository



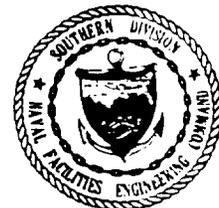
NSB Kings Bay, Georgia  
Public Information Session No. 6  
Availability Session  
March 22, 1994



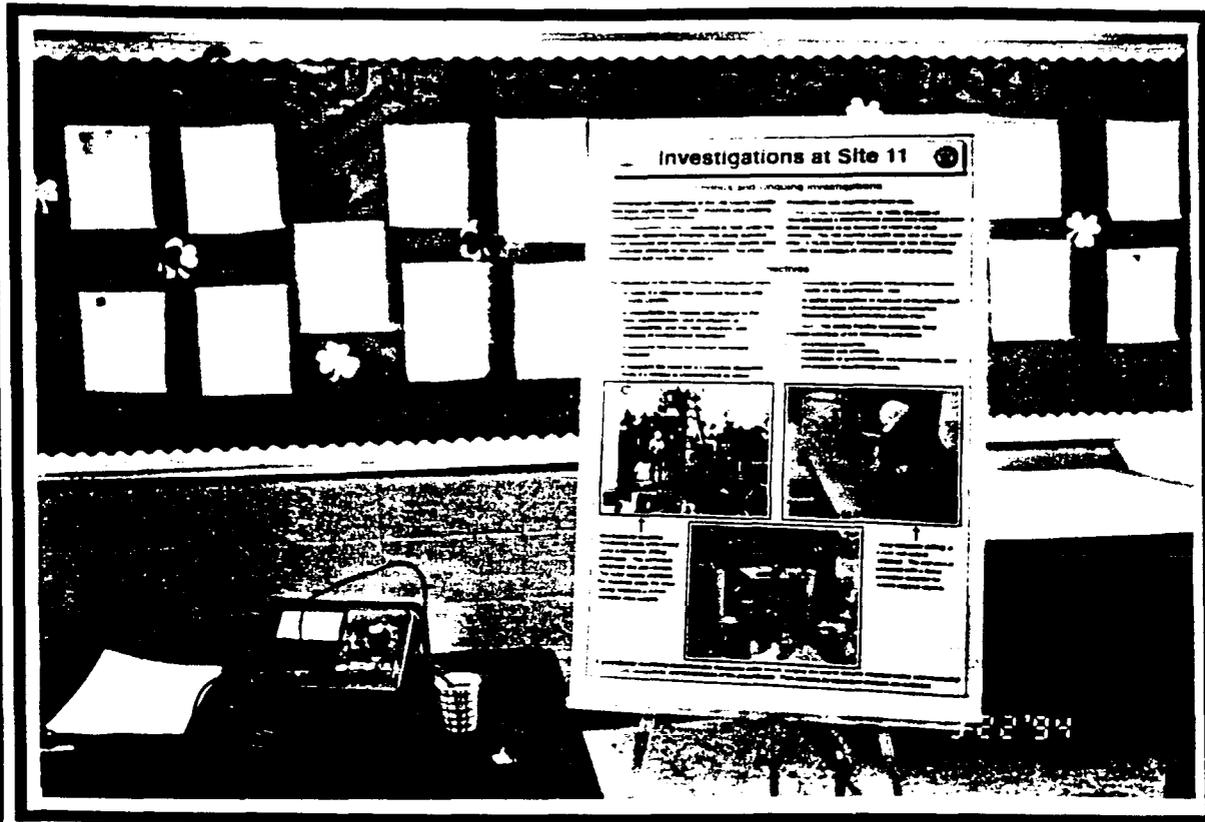
# Regulatory Process



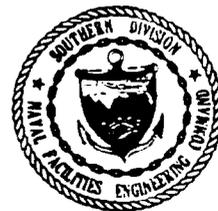
NSB Kings Bay, Georgia  
Public Information Session No. 6  
Availability Session  
March 22, 1994



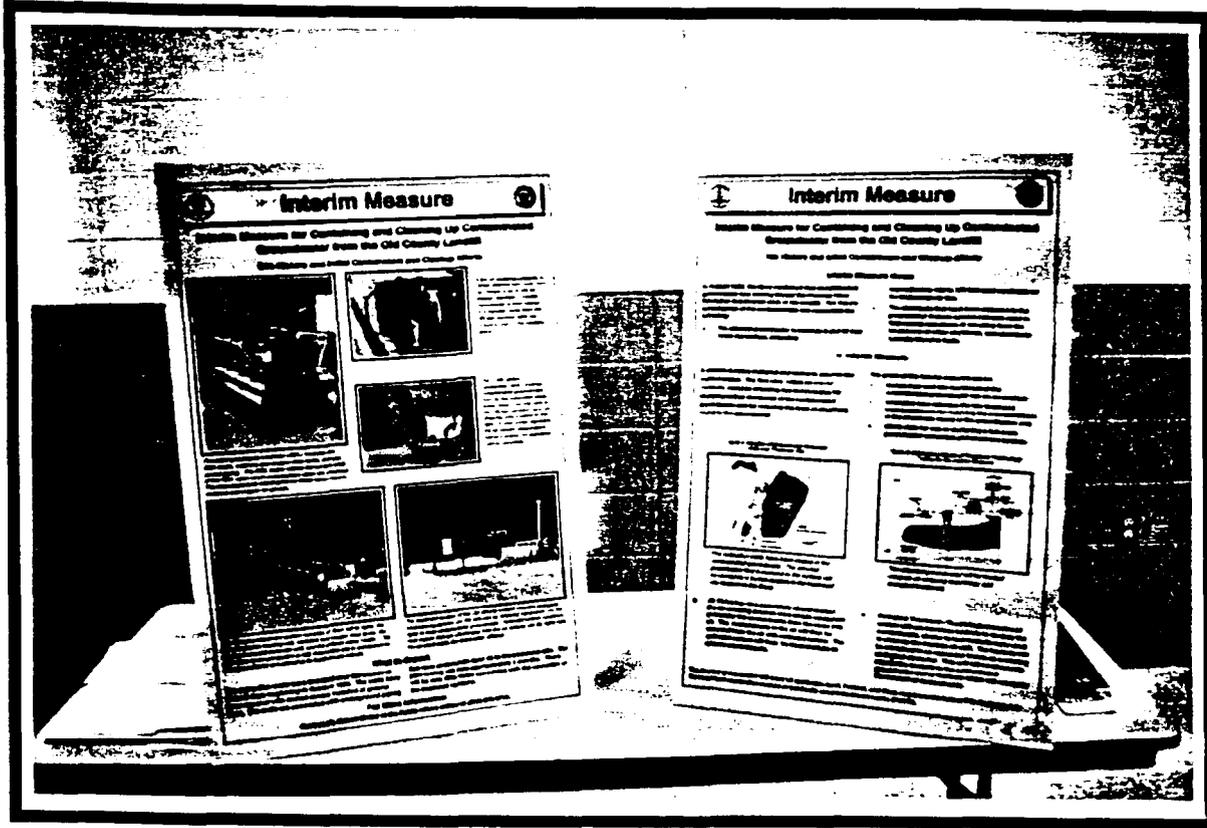
# Status of Investigations



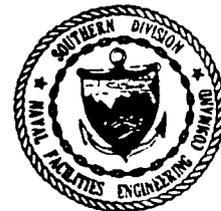
NSB Kings Bay, Georgia  
Public Information Session No. 6  
Availability Session  
March 22, 1994



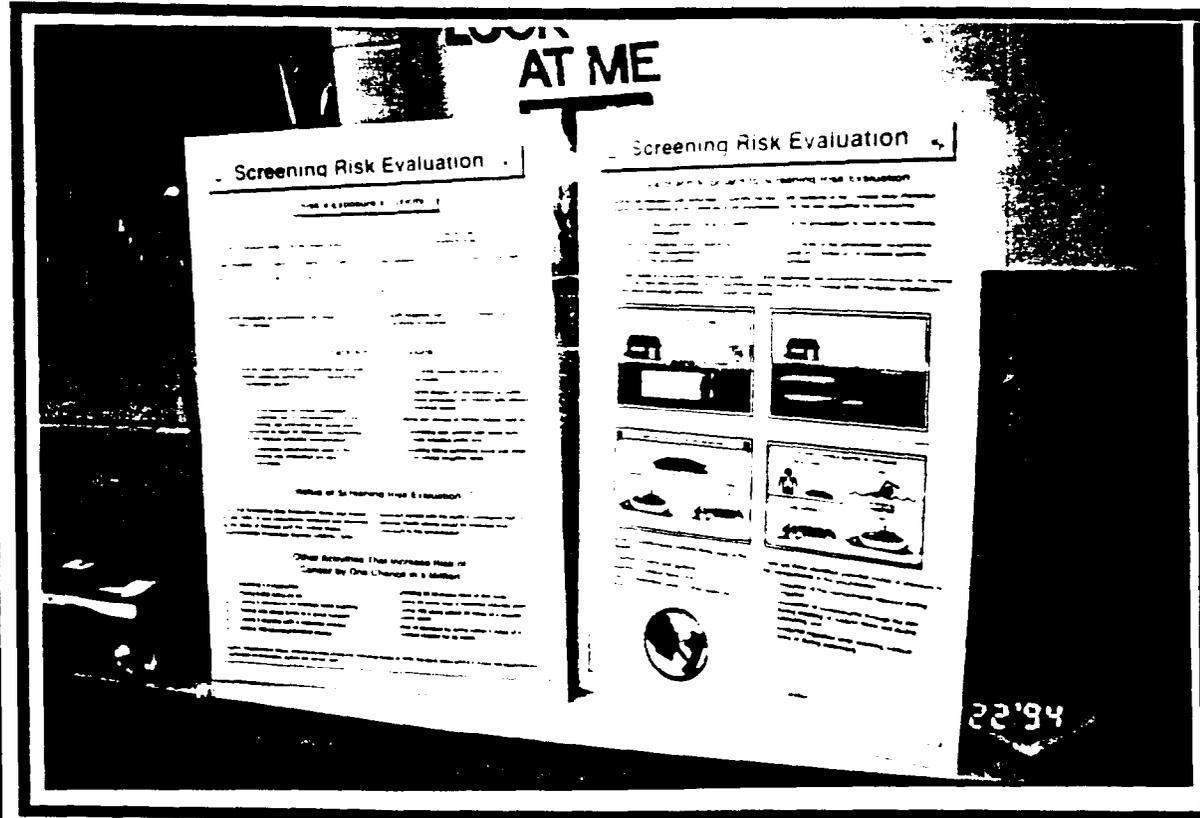
## Interim Measure Activities



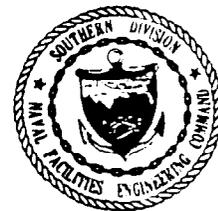
NSB Kings Bay, Georgia  
Public Information Session No. 6  
Availability Session  
March 22, 1994



# Human Health Screening Risk Evaluation



NSB Kings Bay, Georgia  
Public Information Session No. 6  
Availability Session  
March 22, 1994



**ATTACHMENT C**  
**PUBLIC INFORMATION SESSION NO. 6**  
**HANDOUTS**

---

# Installation Restoration Program Newsletter

---

*This newsletter is the first in a series of newsletters which will be provided to the community on a quarterly basis or whenever significant developments in the program occur. Suggestions received during the community interviews indicated that sending information on the environmental programs at Naval Submarine Base, Kings Bay, through mailouts was very effective. We encourage your feedback on this approach to distributing information to you. For more information, contact Robert Steller, Public Affairs Office, (912) 673-4714.*

## TABLE OF CONTENTS

Upcoming Events .....	1
Status of Investigations .....	1
Questions and Answers .....	3
The Installation Restoration Program .....	5
Where to Go for Additional Information .....	6

### UPCOMING EVENTS

The Navy is hosting a public information session tonight on Tuesday, March 22, 1994 to provide the status of the environmental investigations and cleanup activities at the Old County Landfill site. Interested citizens are encouraged to attend, at their convenience, from 4:00 to 8:00 p.m. at the Crooked River Elementary School.

The Commanding Officer, Captain O'Neil and his staff, along with environmental engineers, regulators and other specialists are available during this "open house" to discuss, on a one-to-one basis, the status of the Old County Landfill site and answer questions on the Naval Submarine Base's Installation Restoration Program. Informal discussion sessions with graphical displays include the following topics:

- Community Interviews Results
- Installation Restoration Program
- Regulatory Process
- Status of Investigations
- Human Health Screening Risk Evaluation
- Interim Cleanup Activities

If you are unable to attend the public information session, this newsletter provides information from the session. To find out more information

regarding the results of the public information session or the status of the environmental program at the installation, please contact Mr. Robert Steller, Public Affairs Officer, at (912) 673-4714.

### STATUS OF INVESTIGATIONS

#### *RCRA Facility Investigation*

The Final Interim RCRA Facility Investigation Report for the Old County Landfill was completed in December 1993. This report presented the results of three phases of the RCRA Facility Investigation (RFI). The three phases have been ongoing since January 1992 and include:

- RFI field program and bimonthly groundwater sampling,
- Phase I Interim Investigation, and
- Interim Corrective Measure Screening Investigation

The community is encouraged to review this report for a complete status of the investigations to date. A copy is located at the Information Repository (see page 6) or contact the Public Affairs Office.

Additional environmental investigations will be conducted during the summer and fall of 1994. The Supplemental RCRA Facility Investigation Workplan for this work is scheduled to be approved during the spring of 1994. This supplemental investigation will include the following activities:

- collect surface water and sediment samples from Porcupine Lake;
- excavate test trenches in the landfill to determine the source of contamination, if possible;
- collect surface soil samples in the landfill;
- conduct air monitoring in the landfill and subdivision; and
- two groundwater sampling events.

The next steps in the investigation will be:

- to interpret data from the supplemental RFI field work to identify possible contamination in media other than groundwater (e.g., soils, sediment, surface water, and air); and
- to support the development of the Health and Environmental Assessment and Corrective Measures Study/ Corrective Action Plan.

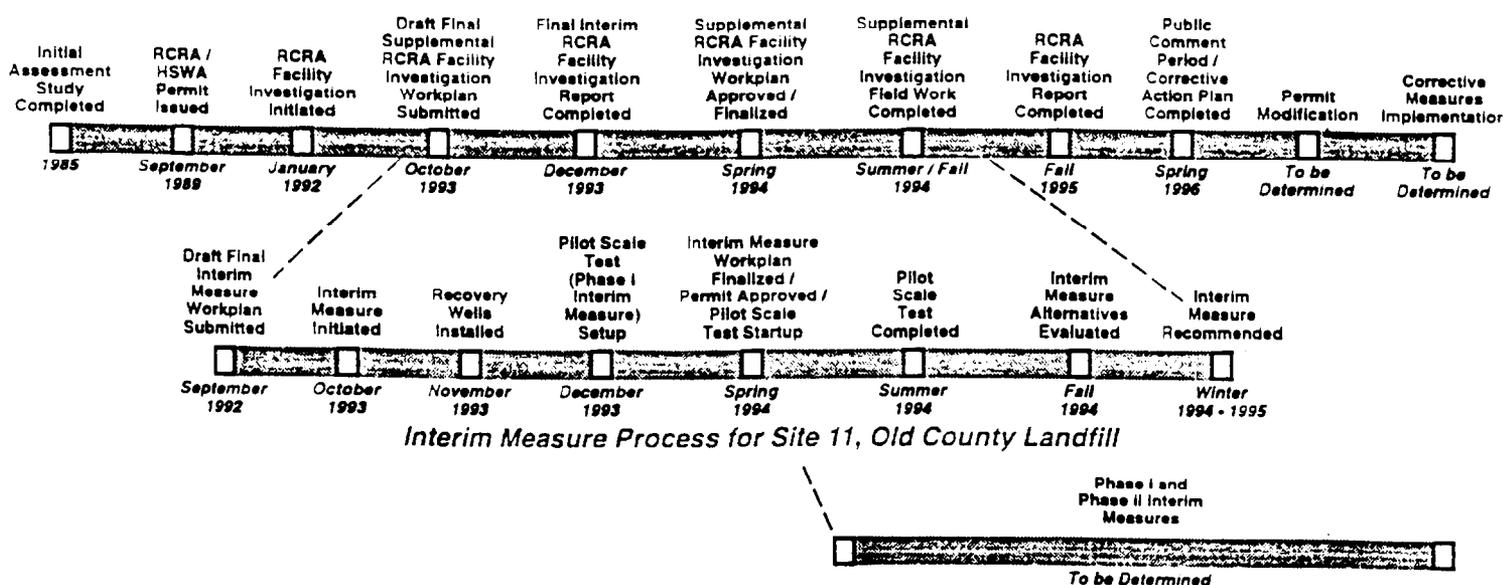
### Interim Measure

A system is being designed and tested to cleanup the affected groundwater. The first step, called an interim measure, consists of testing two technologies for stopping further movement of the contaminated groundwater and for reducing the level of chemicals found in the groundwater. The two technologies being tested are air stripping and biological treatment. For more information on these technologies and the interim measure, refer to the fact sheet entitled, *Containing and Cleaning Up Contaminated Groundwater from the Old County Landfill*, available from the Public Affairs Office.

The interim measure was initiated in October 1993 and recovery wells installed in November. Setup of the pilot scale test systems (Phase I Interim Measure) was completed in December 1993. The permit is expected to be approved and the pilot scale test initiated during the spring of 1994 (March 1994). The pilot scale test will be conducted over a two month period and is expected to be completed in the summer 1994. A timeline of the environmental cleanup activities, including the RFI and interim measure, is illustrated below.

## The RCRA Corrective Action Process at Submarine Base Kings Bay

RCRA Corrective Action Process for Site 11, Old County Landfill



---

## Question and Answer Column

---

*The Question and Answer column will be a regular feature in the Installation Restoration Program Newsletter. In this issue the results of the community interviews are highlighted. Typical questions asked during the community interviews are presented below. We request the community to direct any questions regarding the environmental investigations and the Installation Restoration Program to Robert Steller at the Public Affairs Office, (912) 673-4714. Questions will be addressed in regular meetings of this Newsletter.*

---

### ***What is the Installation Restoration Program?***

For several decades, the mission of the Navy has required the use, handling, storage, and disposal of toxic and hazardous materials. In the past, few regulations guided operations involving these materials and little was known about their long-term effects on human health and the environment.

Since 1975 the Department of Defense has given priority to properly managing its hazardous materials. The Installation Restoration Program was established to identify and address contamination resulting from past practices, which do not meet today's environmental standards.

Under the Installation Restoration Program, environmental investigation and cleanups follow a step-by-step approach as required by law. In general, the steps are to:

- identify potential sites or contaminated areas,
- determine the type and extent of contamination through detailed investigations,
- evaluate cleanup actions or alternatives, and
- design and construct the selected cleanup action.

These steps are conducted in accordance with two Federal environmental laws, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA). At Submarine Naval Base the environmental cleanup is following the RCRA regulations (the RCRA Corrective Action Process is shown on page 5).

### ***Why is the surface water in the neighborhood ditches rust colored and is the Navy investigating this?***

Yes, the Navy is investigating the rust colored water in the neighborhood ditches. Investigations indicate that rust color results from algae and iron in the water. This situation is quite common and not harmful. The investigation of the rust colored water is not related to the investigations in the landfill.

### ***After the groundwater is cleaned up, will there be residual contamination in the soils?***

Presently, the Navy knows that the groundwater is affected in the area of the landfill and in a west-northwest direction under the Crooked River Plantation Subdivision. The supplemental investigations described on page 2, are designed to determine the level of contamination, if any, in surface soils, subsurface soils, sediments, surface water, and air. The results of these investigations will be included in the RFI Report expected to be completed in late 1995. Corrective measures for any contamination found in the soils, sediments, surface water and air will be evaluated, along with the measures for cleaning up the groundwater, in the overall Corrective Action Plan for the site.

### ***What is the location of the plume?***

The location of the plume has not changed since the last public information session in September 1993. Results of the groundwater data collected to date are included in the Interim RCRA Facility Investigation Report (December 1993) which is available for review at the Information Repository or contact the Public Affairs Office. Presently, data from groundwater monitoring events are being evaluated and interpreted. As new information is available, results will be

---

## Question and Answer Column (continued)

---

communicated through this newsletter or other appropriate methods.

### *What is the current schedule of anticipated activities?*

The current schedule of anticipated activities in the RCRA Corrective Action process is illustrated in the timeline on page 2. The top timeline shows the activities for the overall cleanup process and the middle one shows the activities for the interim measure process. The bottom timeline illustrates that the interim measure or Phase I pilot scale test will start in the Spring of 1994 and will continue through the Phase II Interim Measure until cleanup is complete.

### *How do the risks associated with exposure to groundwater compare to other familiar life situations?*

The Screening Risk evaluation was performed to quantify the risk to the residents of the Crooked River Plantation Subdivision from exposure to the chemicals in the groundwater. Using a methodology approved by the US Environmental Protection Agency (EPA), the cancer and non-cancer risks were evaluated for children and adults.

EPA suggests an acceptable risk range of 1 to 100 in a million people. Other activities that increase risk of cancer by one chance in a million include the following:

- smoking 1.4 cigarettes
- flying 6,000 miles by jet
- taking one chest X-ray in a good hospital
- living 2 months with a cigarette smoker
- eating 100 charcoal-broiled steaks
- drinking 30 12-ounce cans of diet soda
- living 20 years near a polyvinyl chloride plant
- living 150 years within 20 miles of a nuclear power plant
- risk of accident by living within 5 miles of a nuclear reactor for 50 years

The source of this information is adapted from R. Wilson, *Analyzing the Risks of Daily Life, Technology Review*, 81 (1979). See also R. Wilson and E.A.C. Crouch, *Risk Assessment and Comparison: An Introduction, Science*, 236, 267-270 (1987).

### *What technologies are being tested to clean up the groundwater?*

The following groundwater treatment technologies are being tested during the interim measure:

- Air Stripping - in a completely closed system, the air stripping process uses simple equipment to transfer chemicals from the water into air. The contaminants in the air will then be removed from the air with activated carbon. The activated carbon will then be treated offsite to remove the contaminants.
- Biological Treatment - the system will use harmless bacteria to destroy the contaminants, similar to how bacteria were used to clean up the Alaskan oil spill. The bacteria will be contained in an apparatus known as a rotating biological contactor. This unit will continuously expose the bacteria to the contaminated groundwater and to nutrients which will maximize the removal of contaminants.

The treated groundwater will meet all applicable local, Federal, and State requirements before it is discharged to the local land application system or publically-owned treatment works (POTW). For more information on the interim measure, see the fact sheet entitled *Containing and Cleaning Up Contaminated Groundwater from the Old County Landfill*, available from the Public Affairs Office.

---

## INSTALLATION RESTORATION (IR) PROGRAM

Before federal environmental cleanup laws were passed by Congress, the Department of Defense developed a proactive program to address the environmental conditions created by releases of hazardous substances, or contaminants, from past spills and disposal practices. The Installation Restoration (IR) Program is an environmental program of investigation and cleanup being conducted at military installations nationwide.

## RESOURCE CONSERVATION AND RECOVERY ACT

The Resource Conservation and Recovery Act of 1976 (RCRA) and the Hazardous and Solid Waste Amendments of 1984 (HSWA) provide a regulatory framework for the proper management of solid and hazardous wastes. This federal law established a tracking system for hazardous wastes from its generation through its ultimate disposal. It also provides for a permitting system for

facilities that treat, store, and dispose of hazardous waste to ensure proper operation.

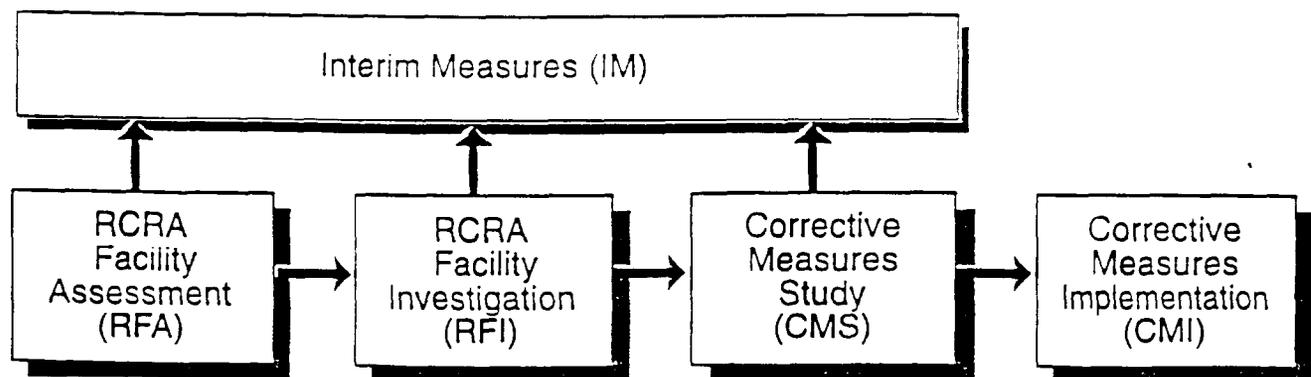
The 1984 amendments greatly expanded the scope of RCRA to require cleanups, or corrective actions, at facilities that are seeking or subject to a RCRA permit, whenever hazardous substances are released into the environment. The RCRA corrective action process identifies solid waste management units, determines the type and extent of contamination, and identifies and evaluated appropriate solutions, or corrective measures to clean up the site.

## STRUCTURE OF THE IR PROGRAM AT NAVAL SUBMARINE BASE, KINGS BAY

Under the IR Program, the Navy facilities conduct environmental cleanup activities through a proactive, step-by-step approach, from initial site identification through selection of cleanup actions. In accordance with RCRA regulations, the cleanup process follows the steps outlined below.

---

# Resource Conservation and Recovery Act (RCRA) Corrective Action Process



---

## INFORMATION REPOSITORY AND ADMINISTRATIVE RECORD FILE

The Information Repository and the Administrative Record are files of documents which invite public access to the IR Program reports and supporting materials. The Information Repository contains site information, program activities and findings. The Administrative Record includes documents which support site cleanup decisions, including input from the public comment periods.

At Submarine Naval Base, the Information Repository and Administrative Record are being established. Presently, the documents are being indexed and it is expected to be available in April 1994. The Information Repository will be available for viewing at:

St. Marys Public Library  
100 Herb Bauer Drive  
St. Marys, Georgia 31558  
Telephone: (912) 882-4800

Monday, Wednesday, Friday: 10:00 to 5:00  
Tuesday and Thursday: 10:00 to 8:00  
Saturday: 10:00 to 12:00 noon  
Sunday: CLOSED

For more information on the Information Repository, refer to the fact sheet entitled, *The Availability of Public Information About Installation Restoration Program Activities*, available from the Public Affairs Office.

## TECHNICAL REVIEW COMMITTEE (TRC)

The TRC consists of federal, state, and local regulatory agency representative, community representatives, and military representatives. The function of the TRC is to maintain a dialogue with technically-knowledgeable individuals to help ensure that the studies and ultimate cleanup measures address all environmental and community concerns during the corrective action process.

## WHERE TO GO FOR ADDITIONAL INFORMATION

For additional information or to be added to the mailing list for future mailouts, contact:

Robert Steller, Public Affairs Officer  
Naval Submarine Base  
Kings Bay, Georgia  
(912) 673-4714

# The Availability of Public Information About Installation Restoration Program Activities

## Fact Sheet

### *The Navy's Installation Restoration (IR) Program*

The purpose of the Installation Restoration Program is to identify, assess, characterize, and cleanup or control contamination from past hazardous waste disposal operations and hazardous material spills at Navy and Marine Corps installations. The Navy has been actively engaged in environmental cleanup activities since 1980 and has taken an aggressive, proactive approach to solving the problems associated with its hazardous waste sites. Solving these problems requires a carefully coordinated, interdisciplinary approach and the Navy encourages citizens' participation in this effort, particularly when selecting the approach to cleaning up a hazardous waste site. This fact sheet discusses two features of the Navy's Community Relations Program: the information repository and the administrative record.

#### *Information Repository*

The information repository is a collection of documents about a site, including current site information, technical reports, specific site activities, and reference materials. The Navy establishes and maintains the information repository in the community during the site study phase of the Installation Restoration program through the end of the cleanup phase to provide the public with easily accessible information. Its purpose is to allow open and convenient public access to information about the site and to better inform the public of the IR Program process. The information repository is usually located in a local public building, such as a public health building, a public library, or in a municipal office. The items in the information repository are available for inspection and copying.

The information repository contains general information about the IR Program and other information of interest to the public, such as fact sheets, maps, technical reports,



newspaper articles, press releases, TAG forms, and other materials pertaining to the site. It also contains a special subsection of information called the administrative record.

#### *Administrative Record (AR)*

The Administrative Record is a specialized file of information that is normally placed in the information repository and is used to determine how the site will be cleaned up. The AR has two purposes: (1) to provide an opportunity for the public to be involved in determining how the site will be cleaned up, and (2) if the cleanup approach is ever challenged in court, the AR serves as the basis for judicial review.

Compilation of the AR file starts as soon as the site is investigated, and normally remains open through the signing of the Record of Decision (ROD) which is a document that finalizes the way the site will be cleaned up. Once the information repository and the AR are established, the Navy will publish a notice of availability of the AR in a major local newspaper. To avoid creating the perception that the AR is complete before the ROD is filed, all documents that are compiled prior to the ROD are referred to as the "administrative record file" (AR file), rather than the AR. After the ROD is finalized, referencing the "file" is no longer necessary.

#### *Information Repository*

At Submarine Naval Base, the Information Repository is being established and is expected to be available for public viewing in April 1994. The Information Repository will be available at:

St. Marys Public Library  
100 Herb Bauer Drive  
St. Marys, Georgia 31558  
Telephone: (912) 882-4800

Over ---->

The Administrative Record contains technical reports and key technical and administrative guidance about site cleanup approaches and decisions. The Navy decides what information should be incorporated in the AR. Each AR file is indexed. This index identifies all documents that are included by reference and their locations. Documents in the AR may include:

- Preliminary Assessment report;
- Site Investigation report;
- The Remedial Investigation (RI)/Feasibility Study (FS) work plan, the RI report, and the FS report;
- RCRA Facility Assessment report;
- RCRA Facility Investigation report;
- Corrective Measures Study report;
- Validated sampling data, including chain of custody forms;
- Inspection reports and data summary sheets;
- Risk assessments, health and environmental assessments, health studies, and public health advisories;
- Technical studies performed for the site (e.g., a groundwater study);
- Data submitted by the public, including public comments;
- Transcripts of formal public meetings during the cleanup process;
- Responses to public comments on the selection of a response action;
- Responses to comments from the State or other Federal agencies;
- A signed copy of the Record of Decision;
- Administrative orders, consent decrees, notice letters, information request letters, subpoenas, responses, and all other enforcement documents;
- Documentation of State involvement, a statement of the State's position on the proposed plan, and a statement of opportunities to concur on the selected response action;
- The public notice placed in a local newspaper of general circulation of a formal comment period; and
- Index of documents in the record.

Other documents, as appropriate, may be included in the AR, such as:

- The Community Relations Plan;
- Newspaper articles showing general community awareness;
- Copies of documents sent to persons on the community relations mailing list;
- Availability of information and opportunities to comment; and

- Information generated during meetings and comments.

The Administrative Record is normally closed when the ROD is signed. On occasion, new information is received on site conditions or the technology selected, which requires the ROD to be amended or an explanation of significant differences to be written. These materials may be added to the AR file and kept in a post-decisional file.

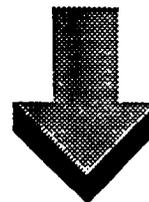
On rare occasions when the ROD is amended, a public comment period and public meetings will be held. An explanation of the amended ROD and response to comments will be placed in the AR and information repository before the response action begins.

Additional documents pertaining to the site will be generated after the close of the AR. In that case, the following documents will be part of the information repository:

- Remedial Design/Remedial Action documents;
- Corrective Measures Implementation documents;
- Consent Decrees and Unilateral Administrative Orders; and
- Operation & Maintenance documents.

---

*The information repository and the AR for this site is located at:*



**St. Marys Public Library**

100 Herb Bauer Drive  
St. Marys, Georgia 31558  
Telephone: (912) 882-4800

**Hours:**

Monday, Wednesday, Friday: 10:00 - 5:00  
Tuesday and Thursday: 10:00 - 8:00  
Saturday: 10:00 - 12:00 noon  
Sunday: CLOSED

---

# Containing and Cleaning Up Contaminated Groundwater from the Old County Landfill

## Fact Sheet

<b>History</b>	<p>In August 1992, the Navy confirmed that contaminated groundwater, apparently from the Old County Landfill located on the Naval Submarine Base, Kings Bay, was moving toward the Crooked River Plantation Subdivision west of the landfill. The contaminated groundwater is between 9 and 57 feet below ground level. It extends approximately 460 to 780 feet west-northwest of the base property line. The chemicals which have been detected in the groundwater include several solvents used in degreasing operations or resulting from the breakdown of other chemicals (e.g., vinyl chloride, dichloroethene, trichloroethene, tetrachloroethene), and chemicals found in common fuels (e.g., benzene, toluene, and xylene). The Navy is in the process of designing and testing a system to clean up the contamination. The first step, called an <b>interim measure</b>, is being implemented and consists of testing two technologies for stopping further movement of the contaminated groundwater and for reducing the levels of contamination in the groundwater.</p>
<b>Goals of the Interim Measure</b>	<p>The first phase of the interim measure will assess how well the movement of the contaminated groundwater can be controlled and how effective the two treatment technologies are for reducing the concentrations of the chemicals in the groundwater. The information collected during this first phase will be used to design a full-scale groundwater extraction and treatment system.</p>
<b>The Interim Measure</b>	<p>A conceptual model of the interim measure is depicted in Figure 1. It consists of five extraction wells. Combined, these wells are designed to pump approximately 40 gallons of groundwater each minute to the surface. At the surface, a buried pipeline will carry the groundwater away from the wells to a treatment site located on the Base. The contaminated groundwater will be treated using an air stripping technology and biological treatment.</p> <p><b>Air Stripping.</b> The air stripping process will use very simple equipment to transfer the contaminants from the water into air in a completely closed system. Because the contaminants tend to easily evaporate to become gases (known as volatility), they are expected to be almost completely removed from the water. The chemicals that move from the water into the air will then be removed from the air with activated carbon which will attract and hold onto the air-borne chemicals. The activated carbon will then be treated off site.</p> <p><b>Biological Treatment.</b> The biological treatment system will use bacteria to destroy the contaminants, similar to how bacteria were used to clean up the Alaskan oil spill. The bacteria are not harmful and the enzymes they produce are effective at breaking down contaminants in the groundwater. The bacteria will be contained in an apparatus known as a rotating biological contactor. This unit will continuously expose the bacteria to the groundwater and to nutrients which will maximize the removal of contaminants.</p> <p>The treated groundwater will meet all applicable local, federal, and state requirements before discharged to the local wastewater treatment plant.</p>
<b>Well and Treatment Site Locations</b>	<p>Figure 2 shows the location of the groundwater extraction wells and the treatment site. Two of the wells are located immediately west of Spur 40, and the other three are placed along the western edge of the landfill. The treatment site is located on the western boundary of the Base near the landfill.</p>
<b>What to Expect</b>	<p>The extraction wells were installed over the course of several days beginning in October, 1993. The wells are secured with locked covers installed at ground level. The wells are connected with underground piping running underneath Spur 40 to the treatment site. The duration of the initial testing is expected to take approximately two months with very little noise associated with the operation of the treatment equipment.</p>
<b>Additional Information</b>	<p>For additional information, please contact Mr. Robert Steller at the Public Affairs Office at 673-4714.</p>

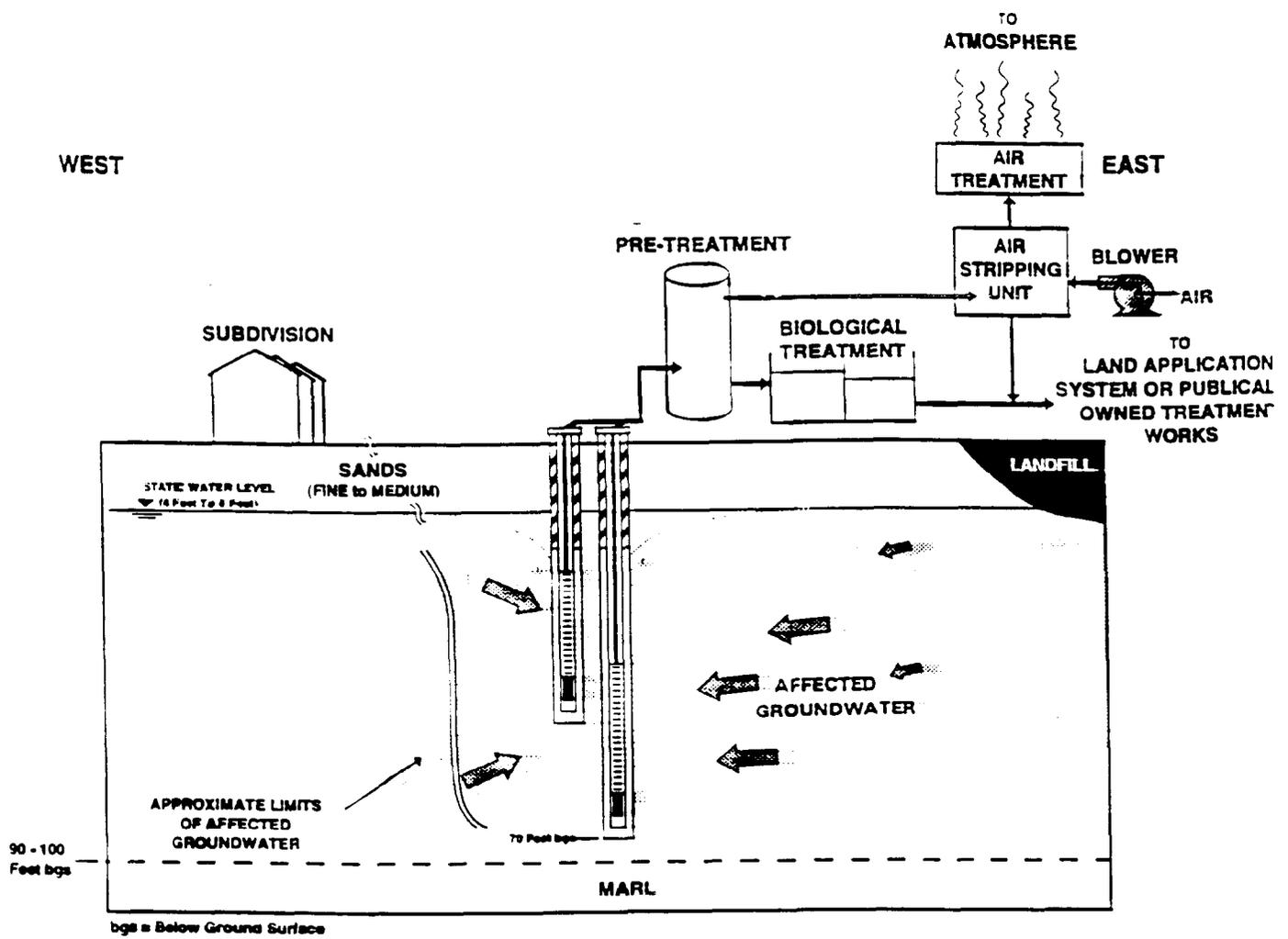


Figure 1. Conceptual Model of Treatment Technology Testing for the Interim Measure

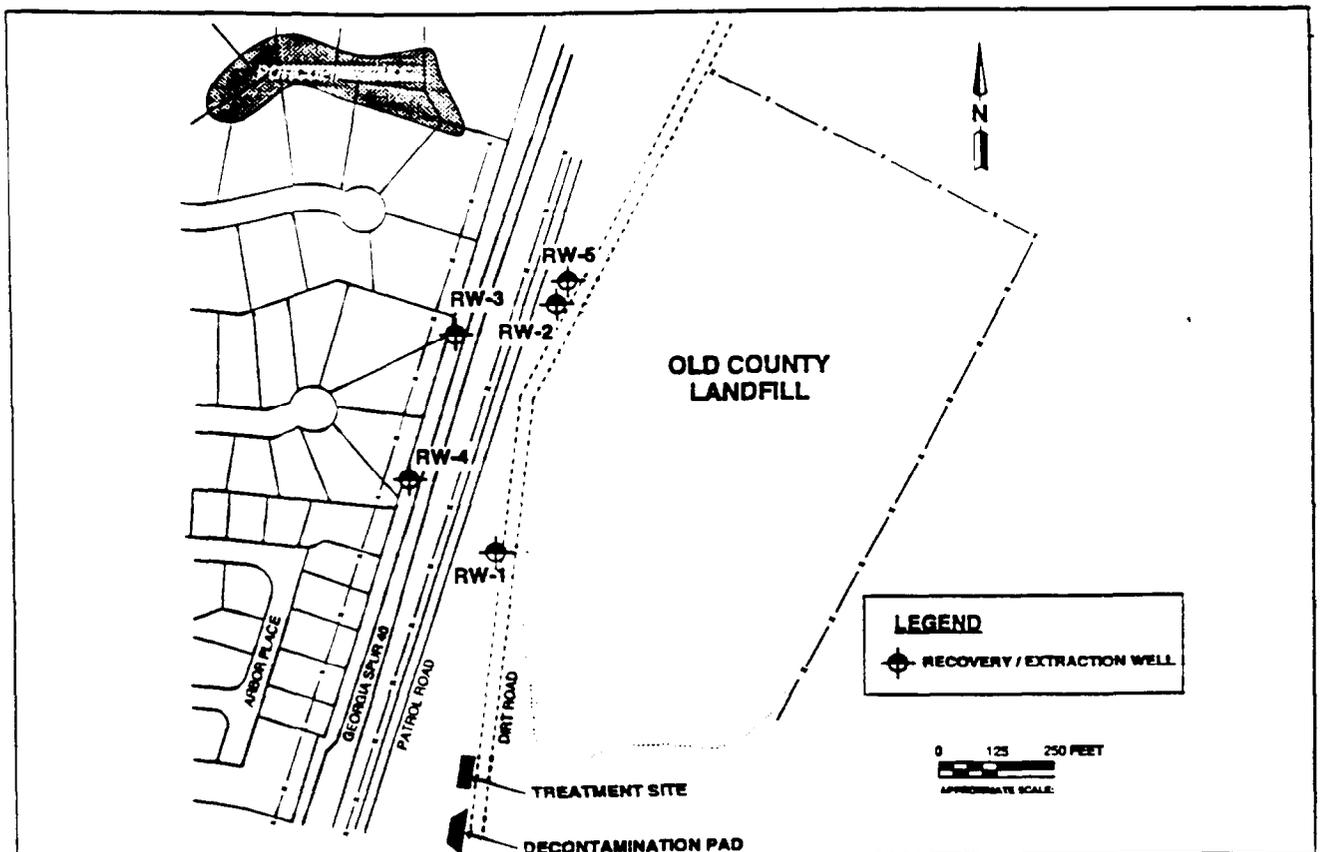
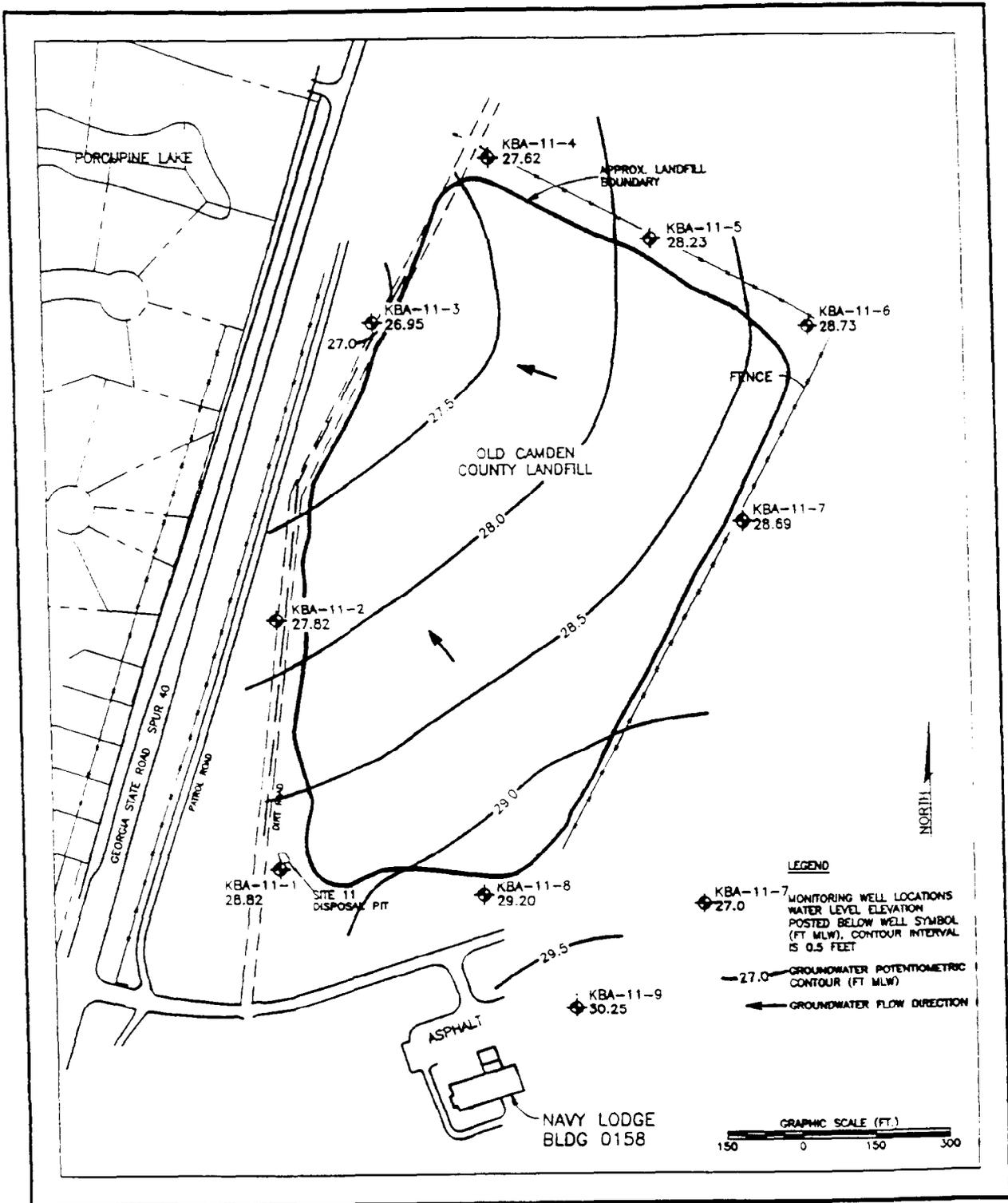


Figure 2. Location of Groundwater Extraction Wells and Treatment Site

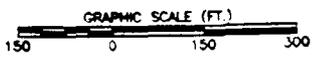
**Groundwater Surface Map**  
**and**  
**Configuration of Groundwater Plume**

# Groundwater Surface Map and Flow Direction, January 1993



**LEGEND**

- ◆ KBA-11-7  
27.0 MONITORING WELL LOCATIONS  
WATER LEVEL ELEVATION  
POSTED BELOW WELL SYMBOL  
(FT MLW). CONTOUR INTERVAL  
IS 0.5 FEET
- 27.0 — GROUNDWATER POTENTIOMETRIC  
CONTOUR (FT MLW)
- ← GROUNDWATER FLOW DIRECTION





**Interpreted Plume of Contaminated Groundwater, Plan View**  
 Concentrations of Total Target Volatile Organic Compounds at 30 to 40 Feet Below Ground Surface.

