STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION III
ID# 1705

Atlantic Research Corporation

Gainesville, VA
(Signed September 30, 1991)

Facility/Unit Type:	**Rocket motor production and testing operations**
Contaminants:	**Tetrachloroethene (PCE), 1,1-Dichloroethene (1,1-DCE), 1,1,1-Trichloroethane (1,1,1-TCA), Methyl Chloride (MEC), Trichloroethylene (TCE), Chlorobenzene, Arsenic, Hexavalent Chromium (VI), Lead, Mercury**
Media:	**Ground water, soil, surface water**
Remedy:	**Continued pumping and treating ground water, shredding VOC-contaminated soil with in-situ placement, excavating inorganic-contaminated soil with off-site disposal**

FACILITY DESCRIPTION

On May 25, 1989, EPA and Atlantic Research Corporation (ARC) entered into a Consent Order pursuant to Section 3008(h) of RCRA. The agreement required ARC to complete an on-site and off-site investigation to determine the nature and extent of contamination from the facility and to conduct a study to evaluate cleanup alternatives.

The 420-acre ARC facility began operation in 1951. ARC tests and manufactures rocket motors and gas generators. The facility consists of solid rocket propellant and rocket motor production and testing operations, research laboratories, and design technology areas. ARC has identified itself as a generator of hazardous waste and an owner/operator of a hazardous waste treatment, storage, and disposal facility. In November 1988, the facility submitted a Part B permit application for open burning pits referred to as thermal treatment units, which is currently being processed.

ARC has undertaken several remedial measures to address past disposal and releases of chemical constituents. Two preliminary investigations for volatile organic compounds (VOCs) at the Facility were conducted. The conclusion of the second investigation led to the development of the "Plan of Action for Environmental Investigation and Interim Remedial Action" (POA). The POA was approved by EPA as a equivalent of an RFI report. ARC submitted a CMS report to EPA on April 15, 1991 and also completed a risk assessment. The findings in the reports indicated the presence of VOC contamination in ground water and soils, and metals contamination in soils within a localized area. The majority of the contamination appears confined to shallow soils and ground water, with some surface water contamination.

In October 1991 after the SB was signed, an ARC contractor encountered an odor in the soil. ARC sampled the area in November 1991 and tests results revealed the presence of chlorobenzene in the soil. The newly discovered contamination will be addressed through the selected remedy. EPA has addressed this development and other issues with two Explanations of Significant Differences, which are amendments to the signed Statement of Basis and Response to Comments.

EXPOSURE PATHWAYS

The contaminated groundwater is a potential threat at the site because of the

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration (ppm)	Action Level	Cleanup Goal	Point of Compliance
ground water	not given	PCE	.46	5ppb	5 ppb*	72A and 72B; deep wells 13 and 14
		1,1,1-TCA	. 36	2ppb	200 ppb*	
		1,1-DCE	.16	7ppb	7 ppb*	
soil	2,000 cubic yards	PCE[1]	5500	not given	2 ppm**	
		PCE[2]			4 ppm**	
		MEC	.56	not given	0.04 ppm**	
		1,1-DCE	.76	"	0.5 ppm**	
		TCE	1.5	"	0.9 ppm**	
		Chlorobenzene			70 ppm**	
		Arsenic	1240	not given	15 ppm**	
		Chromium VI	2500	"	10 ppm**	
		Lead	10400	"	100 ppm**	
		Mercury	263	"	30 ppm**	

* Cleanup goal is a Maximum Contaminant Level that is federally enforceable under the Safe Drinking Water Act.
** Cleanup goal is based on health based standards.
1 Represents PCE cleanup goal at Building 28.
2 Represents PCE cleanup goal at Building 40.

potential for direct ingestion of contaminants through the facility drinking water wells. The contaminated soil is a potential threat to the on-site workers because of potential contact and ingestion of soil and inhalation of volatilized contaminants. Wetland areas and small streams are the ecosystems most sensitive to continued constituent release.

SELECTED REMEDY

The selected remedy for the remediation of contaminated soil and ground water includes the following actions:

- Excavating about 2,000 cubic yards of VOC-contaminated soil, and a shredding treatment in a closed tank system with in-situ redepositing
- Excavating approximately 20 cubic yards of metals-contaminated soil, disposal at a RCRA hazardous waste landfill, and backfilling excavated area.
- Continue pumping and treating ground water with air strippers and carbon adsorption units to meet discharge permit limitations.

The selected remedy utilizes a combination of proposed measures that were considered for corrective action.

The remedy will achieve substantial and timely risk reduction through treatment of contaminated soil, total excavation of inorganic metals in soil, and pumping and treatment of contaminated ground water. EPA believes that the selected remedy will protect human health and the environment, attain media cleanup standards, control the sources of release, reduce or eliminate further releases, and comply with applicable standards for waste management.

The combined present worth cost of the proposed remedy is $1,282,000.

INNOVATIVE TECHNOLOGIES CONSIDERED

None.

PUBLIC PARTICIPATION

EPA held a public comment period from August 26, 1991 through September 25, 1991. A public meeting was held on September 12, 1991 to address oral comments. The majority of the comments received at the public meeting and in writing were raised by the Vulcan Land Company, owner of the land south of the facility, and by Gainesville Associates, owner of the property on which the facility is located. The Vulcan Land Company made several comments claiming violation of due process by alleged insufficient public participation opportunities and notice. The comments by Gainesville Associates addressed the remediation technologies and long term monitoring plans for the site.

NEXT STEPS

The facility will be thoroughly reviewed as part of EPA's five year monitoring program and, if any new discoveries are made, EPA will address them and re-propose additional work to be performed. Any future remediation will be addressed through separate corrective action.

KEY WORDS

ground water, soil; ingestion, inhalation; VOCs, heavy metals; air stripping, carbon absorption, excavation, filling, off-site disposal

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