

# Impact Area Groundwater Study Program

JUNE 2004

J-3 RANGE GROUNDWATER RAPID RESPONSE ACTION FACT SHEET 2004 - 03

This fact sheet provides information on the Impact Area Groundwater Study Program's Rapid Response Action Plan for a cleanup at the former training and defense contractor testing site known as the J-3 Range. This action is scheduled to begin in summer of 2004. The draft plan can be found at the Impact Area Groundwater Study Program's Web site at [www.groundwaterprogram.org](http://www.groundwaterprogram.org) and at the libraries listed on page 2.

The Impact Area Groundwater Study Program, which is managed by the U.S. Army Environmental Center, is conducting an investigation into groundwater contamination at Camp Edwards on the Massachusetts Military Reservation. Working under U.S. Environmental Protection Agency administrative orders and in cooperation with the Massachusetts Department of Environmental Protection, the Impact Area Groundwater Study Program is committed to investigating and cleaning up contamination in soil and groundwater on, or emanating from, the base.

## SITE DESCRIPTION

The J-3 Range is one of four former defense-contractor testing and training ranges located on the southeast corner of Camp Edwards between the Impact Area and the base boundary with the town of Sandwich. It is approximately 600 feet wide by 3,200 feet long.

The range was used in the 1940s and 1950s as a mortar and rocket range. In 1968, the area was developed as a test range. Beginning in 1970 Textron Systems Corporation (previously AVCO) used the range to develop and test tactical weapon systems.

In 1997, initial soil sampling on the J-3 Range indicated the presence of explosive contamination in several areas of the range. Since that time, ongoing investigations indicate the presence of explosives, chemicals, and perchlorate in both soil and groundwater.

The J-3 Range plume is located at the eastern border of the Massachusetts Military Reservation. The plume consists primarily of perchlorate and RDX, but also contains HMX and TNT. It originates near a former demolition area located in the central portion of the J-3 Range. The plume migrates south towards Snake Pond in the town of Sandwich. The maximum concentrations detected in the plume, to date, are 311 parts per billion (ppb) of perchlorate 19 ppb of RDX, 88 ppb HMX and 14 ppb TNT. No known private or public water supply wells have been impacted by the J-3 Range plume.

This fact sheet describes the draft J-3 Range Rapid Response Action plan.

## DRAFT GROUNDWATER RAPID RESPONSE ACTION WORK PLAN

The draft J-3 Range Groundwater Rapid Response Action (RRA) plan presents the assessment activities, modeling and conceptual design for using components of the Fuel Spill-12 (FS-12) treatment system to capture the J-3 plume. The FS-12 system is an extraction, treatment and reinjection (ETR) system designed to remediate the contaminants ethylene dibromide (EDB) and benzene that originate at the site of a pipeline release of aviation gas. It is operated by the Air Force Center for Environmental Excellence.

### J-3 PLUME CAPTURE SCENARIO

The draft RRA plan presents the results of the evaluation conducted to determine if the components of the FS-12 ETR system can be used to capture the J-3 plume. It also proposes viable treatment components to remove the J-3 plume contaminants and presents a proposed conceptual design to address further J-3 plume migration.

The draft plan also presents testing results indicating that three existing FS-12 extraction wells that currently are not operating can capture the J-3 plume by operating at a cumulative pumping rate of 100 gallons per minute. Variations of the three well configuration were tested, including the possible installation of additional extraction wells located either along the north shore of Snake Pond or north of Greenway Road.

Three treatment alternatives were conceptually developed and are presented in the draft RRA plan. The viable treatment alternatives for the J-3 plume include Fluidized Bed Reactor (FBR), Granular Activated Carbon (GAC) and Ion Exchange.

In addition to achieving the remedial action objectives and treatment standards, the selected treatment technology will be designed to minimize total installed cost, physical impacts, impacts on FS-12 operations, impacts on property owners and training requirements for operations and maintenance personnel.

There should be no adverse impacts on the existing FS-12 system performance as a result of bringing the three extraction wells on line. The existing FS-12 treatment plant building can house the required equipment to treat the J-3 plume. The goal of using the FS-12 system infrastructure is to expedite the J-3 system installation and start up.

## RECOMMENDED TREATMENT PROCESS

In the draft RRA plan the Groundwater Study Program 's recommended treatment alternative calls for Granular Activated Carbon (GAC) to be used to treat the contamination from the J-3 plume. The proposed system will use tailored carbon specifically designed for perchlorate removal and non-tailored carbon for RDX removal. The system is anticipated to reduce contaminant concentrations to the required treatment levels.

If the treatment method proposed in the plan is approved, the process will be as follows: Groundwater from the J-3 plume will be pumped from the three extraction wells, north of Snake Pond to the treatment system inside the FS-12 facility. After pre-treatment, the groundwater will be piped to the first of two GAC vessels. The vessels will be filled with carbon manufactured specifically to attract and capture perchlorate. The perchlorate treatment will consist of two GAC vessels arranged in a series based on a flow rate of 100 gallons per minute. After removal of perchlorate from the groundwater by the first set of GAC vessels, a second set containing non-tailored carbon will remove the trace amounts of RDX present in the J-3 groundwater to complete the treatment process. The treated groundwater will be discharged into the aquifer using the existing FS-12 reinjection system.

The other treatment alternatives that were considered for this action, Fluidized Bed Reactor and Ion Exchange, are described in the draft plan.

## NEXT STEPS/UPCOMING ACTIVITIES

Next steps toward conducting the Rapid Response Action for groundwater at the J-3 Range include:

- Conduct a public comment period on the ***Draft J-3 Range Groundwater Rapid Response Action Plan*** (6/22/04-7/7/04)
- Incorporate regulatory and public comments into the Rapid Response Action Plan (June/July 2004)
- Finalize the Rapid Response Action Plan (late July 2004)

## INFORMATION REPOSITORIES

Information Repositories have been established in four local libraries. The repositories are updated regularly to ensure that all necessary documents associated with the cleanup program (including copies of workplans, sampling results, site reports, fact sheets, meeting minutes, and other materials) are available to the public.

### Information repositories locations:

Falmouth Public Library  
123 Katharine Lee Bates Road  
Falmouth, MA 02540

Jonathan Bourne Library  
19 Sandwich Road  
Bourne, MA 02532

Mashpee Public Library  
Steeple Street, Mashpee Commons  
Mashpee, MA 02649

Sandwich Public Library  
142 Main Street  
Sandwich, MA 02563

The ***Draft J-3 Range Rapid Response Action Plan*** as well as fact sheets on contaminants of concern, including RDX and HMX is available at these locations and on our Web site.

## FOR MORE INFORMATION

Contact the following individuals for more information:

Pam Richardson –Groundwater Study Program  
Community Involvement Specialist  
508-968-5630

Ellie Grillo – MADEP Community Involvement  
508-946-2866

Jim Murphy – EPA Community Involvement  
617-918-1028

Or visit the Impact Area Groundwater Study Program  
Web site at: [www.groundwaterprogram.org](http://www.groundwaterprogram.org)

## OPPORTUNITIES FOR PUBLIC COMMENT

A 15-day public comment period will be held on the *Draft J-3 Range Groundwater Rapid Response Action Plan* from June 22 to July 7, 2004. Visit [www.groundwaterprogram.org](http://www.groundwaterprogram.org) to submit comments.

Details of the plan will be presented at the Impact Area Review Team Meeting on Tuesday, June 22, 2004, from 6:00 to 8:30 p.m. at the Forestdale School, 151 Route 130, in Sandwich.