GILA RIVER INDIAN COMMUNITY TOXAPHENE SITE

U.S. ENVIRONMENTAL PROTECTION AGENCY ● REGION 9 ● SAN FRANCISCO, CA ● OCTOBER 2000

The U.S. Environmental Protection Agency (EPA) has produced this fact sheet to update the Gila River Indian Community (GRIC) on the actions that are planned for cleaning up pesticide contamination from an abandoned airstrip. EPA will biologically treat hazardous soils contaminated with the pesticide toxaphene so they do not pose a threat to human health or the environment.

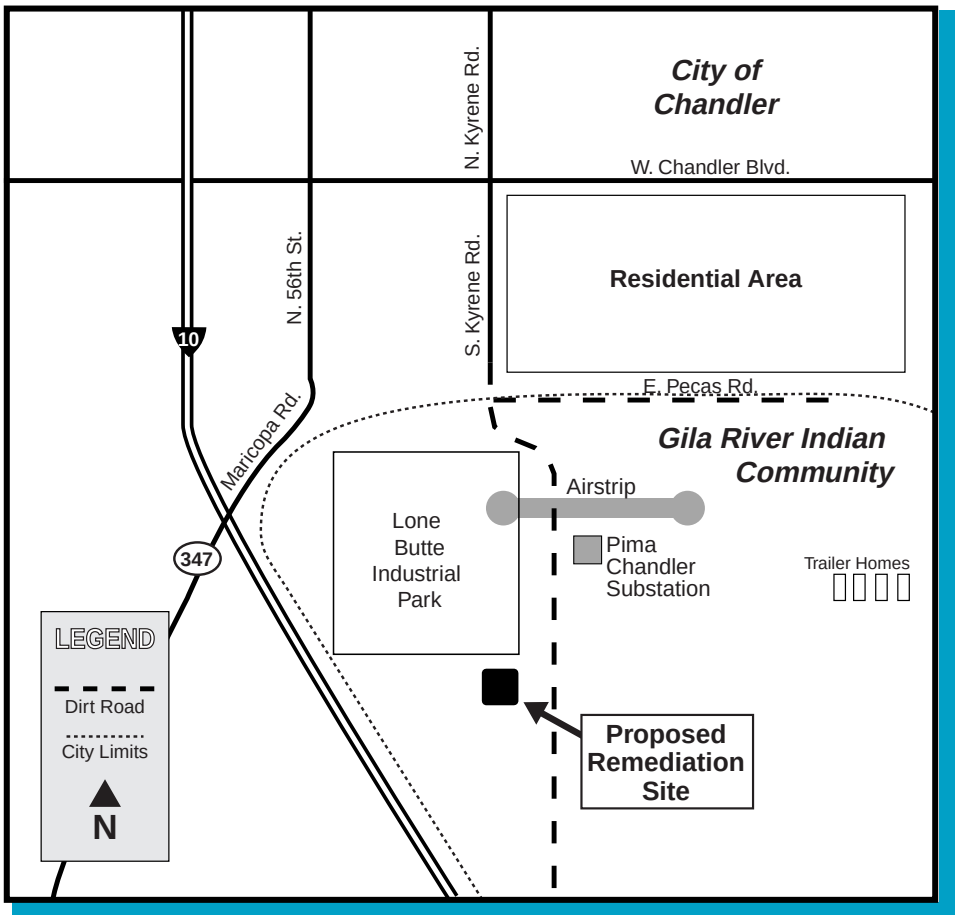
Background

The pesticide contamination was found on GRIC land in an area formerly used as a crop duster airstrip southeast of the intersection of W. Pecos and S. Kyrene roads. The land is adjacent to the Pima-Chandler Power Substation and partially on the Lone Butte Industrial Park (see map). The pesticide disposal area is believed to have been next to the west fence line of the substation. The unpaved airstrip has been used for several years by local residents to access Kyrene Road. Toxaphene was found in the aircraft turnaround areas located on the east and west ends of the runway. The contamination was discovered in December 1998 while workers digging a trench at the substation for the San Carlos Irrigation Project (SCIP) reported symptoms of pesticide poisoning. The results of soil sampling revealed extremely high levels of toxaphene, a substance banned and taken off the market in 1982 because it does not break down easily in the environment. Toxaphene causes cancer in laboratory animals and is a probable human carcinogen. The health threat from toxaphene comes either through skin contact, inhalation or ingestion.

What Has Been Done So Far?

The first action taken by EPA was to make the illegal disposal area off-limits by surrounding it with a fence. In March 1999 a dust sealant was applied to the airstrip to minimize human exposure. Further sampling then took place to understand the amount and extent of the contamination.

Following these initial precautions and at the request of the manager of the Lone Butte Industrial Park, EPA contractors removed the approximately 3,400 cubic yards of contaminated soils and hauled it away to a temporary storage site at the southernmost end of the Lone Butte Industrial Park. A dust sealant was applied to the stockpile so dust would not be released.



What Happens Next?

After going through an approval process involving the Community Council, Committees, Districts and stakeholders, a temporary treatment site has been approved for the breakdown of the pesticide in the stockpiled soils. The selected area is on tribal land adjacent to the portion of the Lone Butte Industrial Park where the soil is currently stockpiled. There is water available at this location. A security fence and gate will enclose this area, which measures approximately 400 feet by 400 feet.

The treatment to clean up this type of pesticide contamination is bioremediation. Through a safe biological process, these soils can be rid of the toxaphene. This is how it will work: EPA will construct four trenches that are approximately 174 feet long by 43 feet wide and 7 feet deep, lined with thick plastic to prevent leakage. Microbial activity (naturally-occurring bacteria that will eat the toxaphene) occurs after the contaminated soil is mixed with blood meal (the type used in home gardens) that serves as a nutrient for the bacteria. This mixture of soil and blood meal is put into the trenches which are then flooded with water to promote the breakdown of the toxaphene. The trenches are then covered with a plastic liner, which is sealed to the trench liner and anchored with ropes to prevent wind damage. At this stage the treatment trenches, which are fully enclosed, will resemble a "burrito," and the microbes in the trenches will start breaking down the toxaphene. The microbial activity will produce minimal odor. These odors will be monitored by EPA through vents in the "burrito." Samples at the vents will be taken to determine how well the microbes are degrading the toxaphene. The odor will be very similar to odors found at wastewater treatment plants. The odors are expected to last a short time. In case the odors persist, EPA will provide odor filters on the vents.

This type of bioremediation cleanup of toxaphene in soils has been proven successful at other sites including sheep dip vats on the Navajo Nation and at what is now the Arizona Mills shopping center in Tempe. After the cleanup, the treatment trenches will be allowed to dry and cure for several months and then backfilled to allow for whatever future use may be desired. There will be no residual contamination left behind and no risk to human health or the environment.

Project Schedule

The treatment activities are scheduled to begin in December. It should take about five weeks for the EPA contractor, Southwest Hazard Control of Tucson, to get the trenches ready, mix the soils for treatment, load the trenches and cover. The bioremediation of the toxaphene can take from three months to one year to complete.

FOR MORE INFORMATION

If you have questions or concerns about the toxaphene cleanup, please contact any of the people listed below:

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You may also call EPA staff toll-free at (800) 231-3075.

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