

US EPA ARCHIVE DOCUMENT

**STATEMENT OF BASIS/FINAL DECISION AND
RESPONSE TO COMMENTS SUMMARY**

REGION III
ID# 0976

Abex Friction Products
Winchester, Virginia
Signed September 23, 1994

Facility/Unit Type:	Manufacturing of brake linings
Contaminants:	Chromium, lead, mercury, 1,1,1-trichloroethane
Media:	Soil
Remedy:	Paving, institutional controls

FACILITY DESCRIPTION

On August 4, 1986, a RCRA facility permit was issued to Abex Friction Products (Abex) requiring soil sampling adjacent to the Drum Storage Area. In accordance with 40 CFR §127.7, a Statement of Basis has been prepared explaining the corrective measures that have been selected by the U.S. Environmental Protection Agency (EPA) as well as to provide information on the modification of the EPA portion of the full RCRA permit.

The Abex Friction Products site is a brake-lining manufacturing facility located in Winchester, Virginia. The site is zoned Intensive Industrial by the City of Winchester. Currently, the land immediately north and northeast of the facility is vacant. Southeast of Abex is a light industrial area, and to the west there is a residential and public use area. The future zoning plan for Winchester calls for the vacant area north and northeast of Abex to be used for light industry. The facility is located between two surface water drainages: Buffalo Lick Run and Abrams Creek.

The soils underlying the facility are predominantly silty clays containing weathered limestone fragments near the bedrock contact. Surface water occurs at the site as precipitation runoff only. This is handled by onsite drainage ditches and collection areas. All onsite drainage is directed into the surface impoundments and appears to be maintained in good condition. There are three separate areas of ground-water occurrence at the site. The site is underlain by a perched soil aquifer, a shallow bedrock aquifer, and a deep bedrock aquifer; the lowermost of which is significant regional

water supply source. There are seven wells located within 1.5 miles of the facility. Two of these are the Abex production well and a deep monitoring well while the other five are private or community supply wells. The most vulnerable well is a single-family domestic supply well located downgradient of the site. The local ground-water discharge area is Abrams Creek, located approximately 1500 feet northeast of the site.

Before the storage of hazardous material was discontinued in 1986, Abex temporarily stored drums at an asphalt-paved Drum Storage Area. Following the issuance of the full RCRA permit in August 1986, Abex submitted the Soil Sampling Plan in October to determine if hazardous wastes had occurred. EPA approved the plan in May 1991 and preliminary soil samples were taken in June, 1991.

Between October 1986 and June 1991, Abex removed all visually stained soil from the Drum Storage Area, and constructed a concrete containment pad and a collection sump.

In February 1992, EPA determined that additional soil sampling was necessary to confirm previous results. In November, a second round of samples was taken from the Drum Storage Area. Using data from this round of samples, EPA determined that further corrective measures were necessary. Preliminary soil investigation found chromium, lead, mercury, and 1,1,1-trichloroethane located zero to three feet below the two-to four-foot thick clean backfill layer.

The hydrogeologic data currently available suggests that the ground water is vulnerable to contamination by the plant SWMUs. Presently, Abex is conducting a ground-water Quality Assessment Plan to verify

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume (yd ³)	Contaminant	Maximum Concentration (mg/kg)	Action Level	Cleanup Goals	Point of Compliance
soil	185	chromium lead mercury 1,1,1-trichloroethane	766 5,800 1.10 1.07			

the presence of contamination and to locate its source.

The draft permit modification also formally defers the ground-water remedial investigations of the four surface impoundments and the landfill to the Virginia Department of Environmental Quality (VDEQ). The Corrective Action permit issued in 1986 required a ground-water assessment investigation for four of the facility's surface impoundments and a closed landfill (all interim status RCRA units). These units were included in the permit because the State could not require ground-water cleanup at the time of issuance. After the permit was issued, Abex submitted a post-closure permit application to the State. The VDEQ then assumed technical direction for the ground-water investigation and is planning to issue a post-closure permit for the surface impoundments and landfill.

EXPOSURE PATHWAYS

Both lead and chromium were detected at levels above EPA health-based concentrations. The primary exposure pathway of concern for these contaminants is ingestion of contaminated soil.

The most likely receptors would be workers involved in the maintenance or repair of a discharge pipe that runs between the drum storage pad and the fence line. However, because any exposure to dust and soil would be of limited duration, it was determined that the levels of lead and chromium in the soil pose no potential threat to human health. In addition, the potential to leach to ground water is limited because lead and chromium adsorb to soils strongly and are not very mobile.

SELECTED REMEDY

The selected remedy consists of constructing an asphaltic concrete cap to limit potential infiltration into the Drum Storage Area, promote stormwater runoff, and eliminate the potential for direct contact with the soil; quarterly inspections and periodic maintenance of the cap; posting and updating signs to prevent digging in the area around the cap; records of these corrective actions in the deed to inform any future purchaser that the contaminated soil remains in place; and submitting a survey plat to both the local zoning authority and EPA to indicate the location and dimensions of the Drum Storage Area and the contaminated soil. Abex will also demonstrate financial assurance to EPA for implementing the corrective measures before the final modified permit is issued. EPA is confident that these measures will reduce the potential for release of contaminants from the soil into ground water, soil adjacent to the contaminated soil, or surface water. The total cost of this selected remedy is \$5,000, with an annual O&M of \$500 per year.

INNOVATIVE TECHNOLOGIES CONSIDERED

None.

PUBLIC PARTICIPATION

The public comment period was held from August 3 until September 19, 1994. No comments were received regarding the draft permit modification.

NEXT STEPS

The final permit modification becomes effective immediately upon issuance on September 28, 1994 and will expire on July 15, 1996. The final decision will be incorporated into the Administrative Record.

KEYWORDS

Soil; ingestion (soil); VOCs, heavy metals (chromium, mercury, lead); capping, institutional controls (deed)

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