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

REGION V
ID# 3973

## Ashland Chemical Company

Akron, Ohio
(Signature Date: August 8, 1988)

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| **Facility/Unit Type:** | **Chemical storage, blending, drumming, and distribution facility** |
| **Contaminants:** | **Acetone; Benzene; Chloroethane; Chloroform; Hexane; Methylene chloride; Tetrachloroethene; Toluene; Total 1,2-dichloroethene; Trichloroethene; Vinyl chloride; 1,1-dichloroethene; 1,2-dichloroethene; 1,1,1-trichloroethane; 1,1-dichloroethane; 1,1,2-trichloroethane** |
| **Media:** | **Soil; Groundwater; Surface water** |
| **Remedy:** | **Capping of soil; In situ soil vapor extraction (SVE); Installation of a groundwater barrier; Extraction and treatment of groundwater; Monitoring of surface water and groundwater; Providing and maintaining deed and land use restrictions; Maintaining public access controls** |

## FACILITY DESCRIPTION

The Ashland Chemical Company facility is located on 4.5 acres in Summit County, Akron, Ohio. The facility's address is: Ashland Chemical Company, Distribution Services Organization, 200 Darrow Road, Akron, Ohio 44312.

The Ashland Chemical Company (Ashland) began operations at this facility in 1978. The facility's operations have included the storage, blending, drumming, and distribution of bulk industrial chemicals and solvents. The site's previous owner operated the facility as a storage warehouse for fatty acids and chemical products since 1950.

Currently, land use in the immediate vicinity of the Ashland facility is industrial. The closest residential properties are located approximately one-quarter mile north of the facility. The facility is bounded on the north by the Central Oil Asphalt Corporation and to the south by the Little Cuyahoga River and a railroad yard.

The Frances Stone Company owns the properties to the east and west of the facility. The Frances Stone Company uses the property to the east of the facility for processing sand and gravel. The property to the west of the facility is vacant and heavily wooded.

The railroad yard on the southern boundary was originally a flood plain of the Little Cuyahoga River. The railroad yard is 15 feet lower in elevation than the facility and represents a discharge boundary for groundwater. Neither the river, nor shallow groundwater, are known to be sources of drinking water for humans.

On August 8, 1988, the U.S. EPA and Ashland entered into a consent decree. The decree required Ashland to conduct corrective action activities which included a RCRA facility Investigation (RFI), a Corrective Measures Study (CMS), and Corrective Measures Implementation (CMI). The interim corrective measures that Ashland has implemented include the following activities:

- Installation of a leachate collection system in 1983 to prevent the migration of contaminated groundwater. The collection system captured and treated the groundwater. However, the current effectiveness of the collection system is unknown.

- Installation of a groundwater recovery and treatment system in 1992 to aid the leachate collection system. The recovery and treatment system extracted groundwater through a series of recovery wells and treated the water on-site before discharging the groundwater, under permit, to Akron's sanitary sewer system.

- Conducting a soil vapor extraction (SVE) system pilot test in 1994 to evaluate the effectiveness of soil remediation.

- Installation of a light non-aqueous phase liquid (LNAPL) continuous operation recovery system in 1995. The system consisted of a lift pump and a skimmer to remove LNAPL and discharge the contents to a 55-gallon drum which is disposed of off-site.

## EXPOSURE PATHWAYS

Possible exposure pathways include dermal contact, inhalation, and ingestion. EPA expects future land use at the facility to remain industrial. The exposure pathways presented in the risk assessment and the ecological assessment rely on this expectation of future use.

During the RFI, sampling at the facility found contaminants in the soil, groundwater, and surface water. The level of contamination was high enough to pose an unacceptable risk to human health and the environment if no treatment occurred.

The RFI ecological assessment, finalized in July 1994, identified potential threats to ecological receptors. The threats were to aquatic, terrestrial and benthic organisms from contaminants in surface water.

## SELECTED REMEDY

The Final Corrective Measures Report evaluated four possible corrective measures alternatives to remediate the constituents of concern at the facility. EPA selected the second alternative because it offered the best balance of several evaluation criteria.

The evaluation criteria that EPA considered in selecting the remedy included: technical performance capabilities (reliability, implementability, and safety); overall protection of human health and the environment; institutional criteria (i.e., to what extent the alternative addressed applicable standards, regulations, and ordinances); and cost.

The three alternatives that EPA considered, but did not select, are as follows:

- Alternative 1 included capping, limited soil excavation with off-site disposal, SVE, and use of a hydraulic barrier with groundwater pumping and LNAPL removal with skimming and SVE.

- Alternative 3 included capping and air sparge (AS) with SVE and LNAPL removal with skimming and SVE.

- Alternative 4 included excavation with off-site disposal and use of a hydraulic barrier with groundwater pumping and LNAPL removal with skimmers or absorbent pads.

EPA's selected remedy involves the following activities:

- Containment and treatment of the contaminated soils onsite to meet specific performance standards or clean up levels included in the CMI Workplan. Containment of the contaminated soils will be accomplished by capping with a low permeability cover to prevent migration and exposure. The contaminated soils will be treated in situ by SVE.

- Containment and treatment of contaminated groundwater to meet Maximum Contaminant Levels (MCLs). Containment consists of installing a physical barrier to restrict groundwater flow and continuing use of the existing extraction well system.

- Monitoring of surface water. The surface water from the facility's drainage ditch will be monitored to ensure the selected remedy is effective. The Little Cuyahoga River will be monitored ensure that no contamination develops.

- Monitoring of groundwater. The groundwater will be monitored to ensure the selected remedy is effective.

- Providing and maintaining deed and land use restrictions at the facility to ensure that future land use remains industrial.

- Maintaining public access controls at the facility to prevent human exposure to any contaminated soils at the facility.

EPA determined that the cost of implementing the selected remedy would be reasonable in light of the overall treatment goals.

## CONTAMINATION DETECTED AND CLEANUP GOALS

Levels of contaminants in shallow groundwater exceed action levels for acetone, benzene, chloroform, 1,1-dichloroethene, total 1,2-dichloroethene, 1,2-dichloroethene, hexane, methylene chloride, 1,1,1-trichloroethane, trichloroethene, tetrachloroethene, toluene and vinyl chloride.

Levels of contaminants in the soil exceed action levels for benzene, trichloroethane, and tetrachloroethene.

Levels of contaminants in surface water from the drainage ditch exceed action levels for acetone, chloroethane, methylene chloride, tetrachloroethene, toluene, total 1,2-dichloroethene, vinyl chloride; 1,1-dichloroethene, 1,1,1-trichloroethane, 1,1-dichloroethane, and 1,1,2-trichloroethane.

Individual preliminary remediation goals (PRGs) or action levels were calculated for each constituent of concern based on the most stringent promulgated standard and risk-based concentration. Risk-based concentrations were developed by calculating levels of constituents that would result in a cumulative lifetime cancer risk of 1.0E-4 or a cumulative non-cancer hazard index of 1.0. This calculation relies on the assumption that the

potential exposure routes are through future industrial land use, rather than residential use. U.S. EPA has determined that cleaning up the contamination at the facility will reduce the excess lifetime cancer risk posed by the facility to less than 1.0E-4, which is within U.S. EPA's target cancer risk range. A cancer risk of 1.0E-4 represents one new case of cancer in 10,000 exposed individuals. The cleanup will reduce the cumulative non-cancer hazard index to 1.0 or less, meaning long-term exposure to potentially toxic constituents should not result in an adverse health effect.

## INNOVATIVE TECHNOLOGIES CONSIDERED

Three of the proposed alternatives considered the use of SVE.

## PUBLIC PARTICIPATION

The public comment period was announced through newspaper and radio advertisements. The public comment period ran from October 28, 1997, through December 15, 1997. EPA placed the Statement of Basis and supporting Administrative Record at the public library and at U.S. EPA Region 5 for public comment review.

EPA received one public comment which came from the Greater Akron Audubon Society. The comment focused on the need to incorporate deed and land use restrictions and access controls to ensure that the Little Cuyahoga River remained a safe source of drinking water for animals. The comment supported the proposed corrective action remedy. There were no requests for public meetings.

## NEXT STEPS

The selected remedy will be implemented according to the schedule of the Consent Decree, U.S. District Court, Northern District of Ohio, Case No. C87-2662A. The workplan for implementing the final remedy is due on February 13, 1998. During the remedy implementation period, U.S. EPA will provide further information to the public as deemed appropriate and upon request.

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## KEY WORDS:

soil, groundwater, and surface water; dermal contact, inhalation, ingestion; acetone, benzene, chloroethane, chloroform, hexane, methylene chloride, tetrachloroethene, toluene, total 1,2-dichloroethene, trichloroethene, vinyl chloride; 1,1-dichloroethene, 1,2-dichloroethene, 1,1,1-trichloroethane, 1,1-dichloroethane, 1,1,2-trichloroethane; capping, soil excavation, soil vapor extraction (SVE), hydraulic barriers, pumping, air sparge (AS), extraction well system, deed and land use restrictions, public access controls.

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