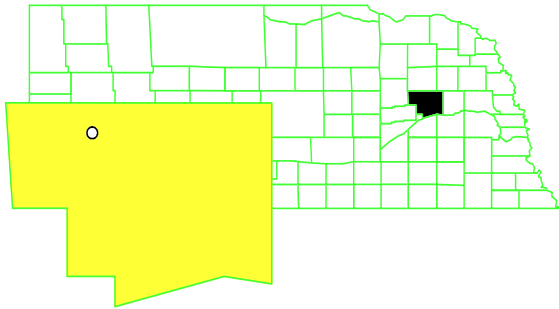


LINDSAY
MANUFACTURING CO.
NEBRASKA
EPA ID# NED068645696

EPA Region 7
City: Lindsay
County: Platte County
Other Names:

03/06/2009



SITE DESCRIPTION

The Lindsay Manufacturing Company generated sulfuric acid waste from a galvanizing process at its plant. The wastes were discharged into an unlined pond for 10 years. Use of the pond ceased in 1983, when three monitoring wells showed contamination. In addition, chlorinated solvents associated with metal parts cleaning and degreasing were discharged to the ground at the Lindsay property, releasing volatile organic compounds (VOCs) to the environment which subsequently migrated into the ground water beneath the facility. The site is surrounded by agricultural land. Ground water is used for agricultural purposes, and as a drinking water supply for nearby residents. Approximately 3,000 people live within a 3-mile radius of the site, with the nearest residence located 300 feet away.

Site Responsibility:

This site is being addressed through Federal, State, and potentially responsible parties' actions.

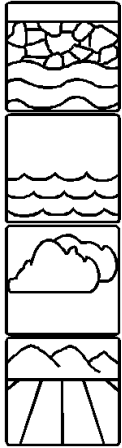
NPL LISTING HISTORY

Proposed Date: 10/15/84

Final Date: 10/04/89

Deleted Date:

THREATS AND CONTAMINANTS



On-site ground water contains heavy metals including zinc, iron, cadmium, chromium, lead and VOCs from former process wastes. Off-site ground water contains heavy metals including cadmium, zinc, and VOCs. VOCs also have been identified in the perched sand channel in the northern half of the site, in clay soils in the area around the northern quarter of the main plant, and between the main plant and the southern end of the galvanizing building. People could be exposed to contaminants by drinking water from contaminated private wells, by direct contact with contaminated water, by inhaling contaminants released during water use, by inhaling contaminated vapors which may intrude into buildings, or by eating food in which contaminants have bioaccumulated.

CLEANUP APPROACH

Response Action Status

Initial Actions: In 1984, Lindsay began operating a ground water extraction and treatment system, whereby the ground water is treated by neutralizing and removing contaminants. A second extraction system was installed in 1989, to control off-site migration of contaminants and increase the radius of influence. These on-site source control wells operate seasonally. Lindsay has been performing quarterly ground water monitoring for nearly 20 years, and this work continues at the site. The ground water plume has migrated off property and currently extends approximately 3 miles southeast of the Lindsay facility.

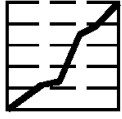
Entire Site: Lindsay began a study of the nature and extent of contamination remaining at the site, as well as the alternative technologies for cleanup. The study was completed in 1990. Based on the results of the study, EPA selected a remedy that included a pilot study to evaluate the feasibility of vacuum extraction of on-site soils, installation of such a system if it is deemed practical, enhancement and utilization of the existing ground water extraction and treatment systems, installation of additional ground water monitoring wells, installation of an additional extraction well, and continued monitoring of the ground water collection/treatment system during cleanup activities. Lindsay began the technical design for these activities in 1992. In early 1993, a third extraction well became operational to assist in extracting contaminated ground water. The soil vapor extraction (SVE) pilot study was concluded in early 1993. Design of the full-scale system was completed in mid-1994; construction began shortly thereafter and the SVE system became operational in early 1995. In 1996, EPA evaluated the SVE system and determined site specific remediation goals had been attained and verified. Once verified, the SVE system equipment was decommissioned and that portion of the site was restored. EPA also evaluated the use of irrigation as a means for disposal of the removed ground water. Lindsay modified the ground water pumping, and EPA and the state are allowing the pumped water to be disposed by irrigation. This reduced the operating costs by approximately \$100,000 annually. EPA completed its first Five-Year Review of the site activities in 1998 and documented modifications to the extraction and treatment system and determined that at that time the remedy

remained protective. In 2001, Lindsay proposed to do additional work using an innovative technology to address the residual aquifer contamination. This work was completed in September 2001. Quarterly ground water monitoring for selected wells continues. EPA and NDEQ continued to evaluate the remedial action yearly to determine the extraction rates for the next year. The second Five-Year Review was completed in 2003. EPA determined that additional work was needed to control the migration of the plume and requested that Lindsay install an additional irrigation well and an additional monitoring well. The new irrigation well was installed in spring 2004, and additional monitoring wells were installed Summer 2004. Lindsay conducted a survey of all wells within 3-miles of their site to determine if any of the ground water is being used for domestic supply. No new locations were found. In 2006, additional on-site and off-site monitoring wells were installed to further define the ground water contaminant plume. The southern terminus of the plume was identified. Lindsay installed an additional extraction well and monitoring wells near the terminus to further control the southern portion of the plume in 2007. Additionally, Lindsay is planning reuse in 2009, for areas onsite in the vicinity of the former wastewater cells and reaction pit.

The Third Five-Year Review for the site was completed in September 2008. This Review had several significant findings and recommendations for further work at the Site, including, further evaluation of on-site source areas, additional sampling to define the extent of the ground water contamination, and additional hydraulic monitoring to evaluate the capture zone of the ground water remediation/extraction wells.

Site Facts: In April 1992, a Consent Decree was signed that required the potentially responsible parties to design and implement the remedy and clean up the site under EPA supervision.

ENVIRONMENTAL PROGRESS



Construction at the site has been considered complete since 1995. EPA evaluated the status of the remedy as part of the third Five-Year Review in 2008, and determined that the remedy is protective. Additional investigatory work will be performed by Lindsay beginning in the spring of 2009, as a result of the third Five Year Review. Further response actions may be conducted as a result of the investigations. Soil gas extraction wells and several ground water monitoring wells have been closed. Several ground water monitoring wells have been closed according to NDOH's title 178 procedures. A treatability study using hydrogen release compound to treat VOC source areas was tested in September 2001. EPA and NDEQ evaluated the results of this study and found limited response. A second Five-Year review was completed in 2003, which found that an additional extraction/irrigation well was needed to control the migration of the plume. The Review also recommended that additional ground water monitoring wells be installed to determine the extent of the plume. These actions were completed in 2006. Lindsay continues to extract ground water and monitor the contaminant plume. An additional extraction well was installed in the downgradient plume area in 2007. Lindsay plans to reuse a portion of the facility in 2009, where the former wastewater cells and reaction pit were located.

COMMUNITY INVOLVEMENT

2/03 - Fact Sheet announcing start of second 5-year review and public availability session
2/12/03. Display Ads in the Humphrey Democrat and the Columbus Telegram.
2/12/08 - Public Availability session to explain findings of 5-year review.
7/03 - Fact Sheet announcing completion of second 5-year review complete. Display Ads in the Humphrey Democrat and the Columbus Telegram.
11/07 - Fact sheet announcing the start of the Third Five-Year Review. Display ad in the newspaper.
9/08 - Fact sheet announcing completion of third 5-year review.
9/25/08 - Public Availability session to explain findings of 3rd 5-year review.

SITE REPOSITORY



Columbus Public Library,
2504 14th Street
Columbus, NE 68801

Superfund Records Center
901 N. 5th St.
Kansas City, KS 66101
Mail Stop SUPR
(913)551-7166

REGIONAL CONTACTS

SITE MANAGER:

Scott Marquess

E-MAIL ADDRESS:

marquess.scott@epa.gov.

PHONE NUMBER:

(913) 551-7131

COMMUNITY INVOLVEMENT

Beckie Himes

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STATE CONTACT:

Deborah Myers

Nebraska Department of Environmental
Quality

PHONE NUMBER:

(402) 471-2988

MISCELLANEOUS INFORMATION

STATE:

NE

075J

CONGRESSIONAL DISTRICT:

03

EPA ORGANIZATION:

SFD-SUPR/IANE

MODIFICATIONS

Created by:

Karla
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