

**VOGEL PAINT & WAX
COMPANY**

IOWA

EPA ID# IAD980630487

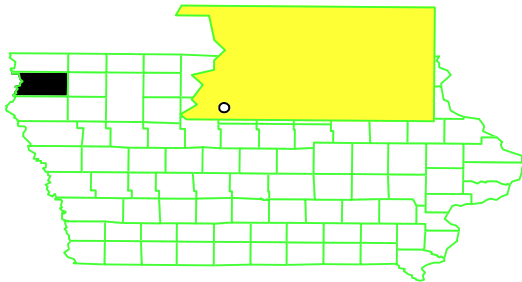
EPA Region 7

City: Orange City

County: Sioux County

Other Names: Vogel Disposal Site

06/10/2011



SITE DESCRIPTION

The Vogel Paint and Wax Company Site (Site) is located in Sioux County in northwest Iowa, about 2 miles southwest of Maurice and three miles north of Struble. From 1971 to 1979, an approximate two acre area of an 80-acre tract of rural land owned by the Vogel Paint and Wax Company (Vogel) was used for the disposal of liquid and solid wastes from the Vogel manufacturing facility located in nearby Orange City, Iowa. Paint manufacturing wastes included paint sludge, resins, solvents, drums, paint cans, pallets, and packing materials. Waste disposal trenches were excavated to a depth of 8 to 12 feet in the area just south of an abandoned two acre gravel pit that was located in the west-central portion of the 80-acre property. Manufacturing wastes were disposed of by placing liquid waste into the trenches, leaving the trenches open for an extended period of time to allow for volatilization, dumping filled or partially filled drums and other debris on top of the liquid wastes, and finally covering each trench with one to two feet of soil. Another system of trenches was developed in the former gravel pit area and these trenches were used primarily for disposal of pallets, packing material and other debris. As a result of the disposal activities, ground water and soils were contaminated. The remedial activities to address the contaminated ground water and soil have been concentrated on about 25 acres in the south-central portion of the 80-acre property.

Site Responsibility:

The Site is being addressed by the potentially responsible party (i.e., Vogel Paint and Wax Company) with oversight by the Iowa Department of Natural Resources (IDNR). The IDNR is the lead agency for the Site.

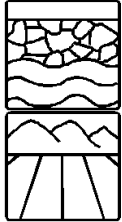
NPL LISTING HISTORY

Proposed Date: 10/15/84

Final Date: 06/10/86

Deleted Date:

THREATS AND CONTAMINANTS

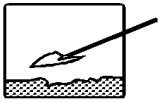


Soils in the disposal area were contaminated with volatile organic compounds (VOCs) and also with metals, including chromium and lead. Ground water is contaminated with VOCs, including benzene, ethylbenzene, methyl ethyl ketone, toluene, and xylenes. Metals associated with the waste material have also been detected in ground water. Remedial activities have been implemented to address contaminated ground water and soil. Potential for future exposure to contaminated ground water is the principal threat associated with the Site.

The Site is in a rural, agricultural area and is relatively isolated. Two private residences are located about a quarter of a mile west of the Site. Private wells are located on these farmsteads but the wells are no longer used to supply water for household purposes. The residences are now served by the rural water district. Historical and ongoing monitoring indicates that these wells are not contaminated. The rural water district obtains water from wells located about 1.5 to 2 miles southeast of the Site.

CLEANUP APPROACH

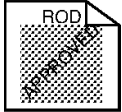
Response Action Status



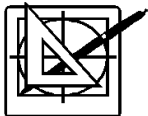
Initial Actions: In the spring of 1979, the State of Iowa conducted initial investigations at the Site in response to concerns about paint waste disposal. Vogel also conducted numerous investigations and installed a ground water monitoring system. A shallow ground water contamination plume was found to extend approximately 1,000 feet south and east of the disposal area. In accordance with a 1984 Consent Order with IDNR, Vogel began removing VOCs that were floating on the ground water table. Vogel also placed a 2 foot thick clay cap over the entire disposal area.



Site Studies: In June 1987, IDNR and Vogel entered into a Consent Order. As required by the 1987 IDNR Consent Order, Vogel completed an investigation of the Site and evaluated alternatives for appropriate remedial action.



Remedy Selected: The Remedial Investigation (RI) and Feasibility Study (FS) Reports required by the 1987 IDNR Consent Order provided the basis for the alternatives presented in the Proposed Plan. The RI and FS Reports, and the Proposed Plan, were made available for public comment on August 10, 1989. The IDNR and EPA signed a Record of Decision (ROD) in September 1989. The ROD documented the remedial alternative that was selected to address the soil and ground water contamination. The soil component of the remedy included excavation, on-site bioremediation (stabilization), and on-site disposal. The ground water component of the remedy included pumping, air stripping, and discharge to surface water. An Explanation of Significant Differences (ESD) for the soil and ground water cleanup actions was issued July 20, 1994. The July 1994 ESD clarified air standards and described the increased scope and cost of the project. A second ESD was issued in October 2000, for the ground water component to describe additional actions to enhance free product recovery, clarify criteria for evaluating future ground water actions, and describe the infiltration of treated ground water into the aquifer to facilitate free product removal in lieu of discharge to the unnamed stream. These ESDs were issued to document the changes to the selected remedy.



Remedy Design: A 1990 Amended Consent Order was entered into by IDNR and Vogel to conduct the selected remedial measures for ground water and soil as prescribed in the ROD. A 2003 Consent Order was entered into by IDNR and Vogel to replace the 1990 Consent Order. The 2003 IDNR Consent Order formalized Vogel's commitment to complete remedial measures as prescribed in the ROD, as modified by the two ESDs, and to clarify remaining actions.



Cleanup Ongoing: The soil remediation has been completed and is summarized in the September 2000 Remedial Action Report.

The ground water remediation continues. The ground water component of the remedy as prescribed in the ROD included pumping, air stripping, and discharge to surface water. The ground water remedial facilities were put into operation in April 1991. Based on air modeling, it was determined that treatment of air discharges from the air stripper was not required. This modeling indicated that air contamination would not pose a significant threat and has since been verified by air monitoring. Health-based standards were established for the discharge of treated ground water from the air stripper. Treated ground water was originally discharged to a nearby stream and subsequently allowed to infiltrate back into the ground to enhance removal of floating VOCs. The ground water pump and treat system was not operated during the winter months due to freezing problems.

The October 2000 ESD described additional actions for the ground water component of the remedy, including excavation activities to enhance free product recovery in an area immediately south of the original disposal area. Excavation activities included placement of non-contaminated shallow soils at the bottom of the excavation and contaminated soils from depth were repositioned and placed

above the ground water table. A system of ventilation pipes was placed through the repositioned contaminated soils to facilitate aerobic breakdown of contaminants (i.e., bioventing). The activities to enhance free product recovery were completed in December 2000, including installation of the SVE/bioventing ventilation piping.

A 2003 Consent Order was entered into by IDNR and Vogel to replace the 1990 Consent Order. The 2003 IDNR Consent Order allowed Vogel to place the ground water remediation system (i.e., the pump and air stripper treatment system) in standby mode pending ground water monitoring results. The Groundwater Monitoring Plan was revised to focus on the southern site boundary to monitor the effect of discontinuing the pump and treat system. Ground water monitoring in July 2003, revealed probable off-site migration of contaminants and, in accordance with the 2003 Consent Order, the pump and treat ground water remediation system was put back in operation until December 2004. The pump and treat ground water remediation system has been off line since December 2004.

In a February 12, 2004 letter, the IDNR requested that Vogel define the extent of off-site contamination and identify any potentially impacted downgradient wells. In response to this request Vogel conducted additional ground water investigations as summarized in the 2004 Groundwater Assessment Activities Report, dated March 2005. This report was prepared for Vogel by Geotek Engineering & Testing Services, Inc. During 2006, additional monitoring was conducted to better determine the stability of the ground water plume with respect to off-site migration of ground water at the southern property boundary. In 2007, a phytoremediation pilot study was initiated by Vogel. This involved pumping water from recovery wells to control ground water migration along the southern property boundary and using this water to irrigate one acre of trees that were planted in 2007. In 2008, the pilot study was expanded by planting and irrigating an additional two acres of trees. The ground water from the recovery wells is pumped to a dosing tank and then through a sprinkler irrigation system. Pumping and irrigation activities under the pilot study have not been conducted during the winter months. As recommended in the September 2009 Third Five-Year Review report, monitoring of on-site and off-site groundwater will continue. As required by the 2003 IDNR Consent Order, annual groundwater monitoring reports are submitted by Vogel to IDNR for review and approval. The groundwater monitoring data will be used to determine the effectiveness of irrigation, phytoremediation, and/or monitored natural attenuation as components of a modified groundwater remedy.

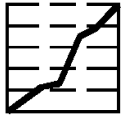


The soil remediation was initiated in 1991, and the excavation and bioremediation/landfarming of the soils was completed in 1999. Remedial activities were conducted primarily from April through October of each year. These source control operations involved excavating the previously disposed wastes and surrounding contaminated soils. Solid and liquid wastes were then sorted from the excavated soils for off-site incineration, recycling, or disposal. Contaminated soils were being treated on site by bioremediation and volatilization.

Modeling of contaminants in air from the soil treatment was performed prior to implementing long-term cleanup actions. This modeling indicated that air contamination would not pose a significant threat and has since been verified by air monitoring. After treatment, the soils were placed back into the excavated area and covered. An estimated total of 55,000 to 60,000 cubic yards of contaminated soils were excavated and treated, including approximately 2,500 cubic yards of lead-contaminated soils that required stabilization/solidification through the addition of agricultural lime. The September 2000 Remedial Action Report summarizes the remedial activities that were undertaken to address contaminated soils.

Site Facts: The Iowa Department of Natural Resources (IDNR) is the lead agency for the oversight of this responsible party remedial action. The site is listed on the State Registry of Hazardous Waste or Hazardous Substance Disposal Sites which prohibits substantial changes or transfer of property without written approval of the Director of the IDNR.

ENVIRONMENTAL PROGRESS



The soil remediation has been completed and is summarized in the September 2000 Remedial Action Report. The Site no longer poses an immediate threat to the public or the environment while the ground water remediation continues. The September 1998 Five-Year Review that was conducted by IDNR on behalf of the USEPA concluded that the soil and ground water remedies selected for this site remained protective of human health and the environment. A second Five-Year Review was conducted by IDNR in 2004. The Second Five-Year Review report was prepared by IDNR in consultation with the U.S. Environmental Protection Agency (EPA) Region VII. The Second Five-Year Review report, dated September 13, 2004, concluded that the remedy at the Vogel site was protective of human health and the environment, because there is no exposure to site-related contaminants. However, in order for the remedy to be protective in the long-term, the off-site migration of contaminated ground water discovered in 2003 needs to be better understood and, if necessary, controlled. During 2004 and 2005, Vogel conducted additional ground water investigations as summarized in the 2004 Groundwater Assessment Activities Report, dated March 2005. This report was prepared for Vogel by Geotek Engineering & Testing Services, Inc. During 2006, additional monitoring was conducted to better determine the stability of the ground water plume with respect to off-site migration of ground water at the southern property boundary. In 2007, a phytoremediation pilot study was initiated by Vogel. This involved pumping water from recovery wells to control ground water migration along the southern property boundary and using this water to irrigate one acre of trees that were planted in 2007. In 2008, the pilot study was expanded by planting and irrigating an additional two acres of trees. A third Five-Year Review was conducted by IDNR in 2009. The September 2009 Third Five-Year Review report was prepared by IDNR in consultation with the U.S. EPA Region VII. The report concluded that the remedy at the Vogel site is protective of human health and the environment in the short-term because there is no evidence of current exposure. However, in order for the remedy to be protective in the long-term, certain actions were recommended, including an evaluation of the effectiveness of irrigation, phytoremediation, and/or natural attenuation processes to remediate groundwater and prevent off-site migration of contaminated groundwater. As required by the 2003 IDNR Consent Order, annual groundwater monitoring reports are submitted by Vogel to IDNR for review and approval. The groundwater monitoring data will be used to determine the effectiveness of irrigation, phytoremediation, and/or monitored natural attenuation as components of a modified groundwater remedy.

COMMUNITY INVOLVEMENT

Iowa DNR is the lead agency for the oversight of the remedial action at the Site and the primary contact for community concerns.

8/04 - Iowa DNR prepared and published a public notice regarding the Second Five-Year Review in local newspapers. Also, Iowa DNR prepared and sent letters regarding the start of the

Second Five-Year Review to neighboring property owners and the Southern Sioux County Rural Water System.

2/09 - Iowa DNR prepared and published a public notice regarding the start of the Third Five-Year Review in local newspapers. Also, Iowa DNR prepared and sent letters regarding the start of the Third Five-Year Review to neighboring property owners, City of Maurice, Southern Sioux County Rural Water System, and Sioux County Community Health Partners.

10/09 - Iowa DNR prepared and published a public notice regarding the completion of the Third Five-Year Review in local newspapers.

Congressional Districts:

Senator Charles Grassley

Senator Tom Harkin

Senator Feenstra District 2

Representative Steve King

Representative Soderberg District 3

SITE REPOSITORY



Orange City Public Library
112 Albany Avenue, S.E.
Orange City, IA 51041

Iowa Department of Natural
Resources
Records Center, 5th Floor
Wallace State Office Building
900 East Grand
Des Moines, IA 50319

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

REGIONAL CONTACTS

SITE MANAGER:

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COMMUNITY INVOLVEMENT

COORDINATOR:

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STATE CONTACT:

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Bob.Drustrup@dnr.iowa.gov
(515) 281-8900

MISCELLANEOUS INFORMATION

STATE:

IA
071M

CONGRESSIONAL DISTRICT:

05

EPA ORGANIZATION:

SFD-IANE/SUPR

MODIFICATIONS

Created by: Karla

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EPA/US

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