

SHAW AVENUE DUMP SITE
Charles City, Iowa

GENERAL DESCRIPTION

The Shaw Avenue Dump is located in the NW 1/4 of the SW 1/4 of Section 7 of Township 35N, Range 15W, Floyd County, Iowa. The site is located approximately 600 feet east of the Cedar River, and is directly across the river from the LaBounty Landfill site. The site is owned by the city of Charles City, Iowa. The site was entered on the Registry in February 1990. The EPA placed the site on the National Priorities List (NPL) in July 1987.

SITE CLASSIFICATION

In 2001 the site was reclassified as “d” Site Properly Closed Requires Continued Management.

TYPE AND QUANTITY OF HAZARDOUS WASTE

- **Types of hazardous waste at this site include metals, primarily arsenic, and VOC’s**

The quantity of hazardous waste disposed of at the Shaw Avenue Dump is undetermined. It was the initial waste disposal site of Salsbury Laboratories, an animal pharmaceutical manufacturer. The disposal of solid waste produced by Salsbury began at the Shaw Avenue dump in 1949 and continued until 1953 when the company began disposal at the LaBounty landfill site.

The municipal wastewater treatment plant received liquid waste discharges from the Salsbury Laboratories. The sewage sludges accumulated contaminants from these discharges. Sludges from the Charles City Wastewater Treatment Plant were disposed of at the site from 1949 until 1964. Salsbury Laboratory waste contained high concentrations of arsenic and organic compounds including nitrophenol, 2-nitroaniline, nitrobenzene, and 1, 1, 2-TCA. The Site was identified as a potential hazardous waste site by the Iowa Department of Environmental Quality (IDEQ) in 1977 and was placed on the National Priorities List (NPL) in July 1987.

SUMMARY OF PUBLIC HEALTH AND ENVIRONMENTAL CONCERNS

- **The primary public health concern is the potential exposure to contaminated drinking water.**

The Shaw Avenue Dump is located on the southeastern edge of Charles City, a city of about 8,800 residents. The Charles City municipal wells are located two miles north of the site. Several private wells are located within 2000 feet of the site, the nearest well approximately 600 feet southeast of the site. The dump is located on the floodplain of the Cedar River. The river is located approximately 600 feet west of the site and flows generally to the southeast.

SUMMARY OF ASSESSMENT, MONITORING OR REMEDIAL ACTIONS

The U.S. Environmental Protection Agency, in consultation with the Iowa Department of Natural Resources (IDNR [formerly IDEQ]), issued an Operable Unit 1 (OU1) Record of Decision (ROD) in September 1991 that presented the remedy of in situ fixation/stabilization of soil and chemical fill containing greater than 50 parts per million (ppm) arsenic or 20 ppm cadmium, installation of a low permeability cap, groundwater monitoring, and institutional controls as the remedy. The EPA issued an Explanation of Significant Differences (ESD) in March 1992 which modified the remedy to excavation and off-site disposal of the chemical fill and contaminated soil. In 1992, the EPA entered into a Consent Decree with the city of Charles City, Iowa, and Solvay Animal Health, Inc. (the successor to Salsbury Laboratories, Inc.) which required the remedy be implemented. Remedial action field work was physically completed on May 15, 1992. An estimated total 2,220 cubic yards of chemical fill and contaminated soil was excavated and disposed off site.

The EPA issued an OU2 ROD in September 2000 which selected no further action for groundwater, but stipulated that groundwater monitoring and institutional controls required by the 1992 Consent Decree be continued. The intent of the groundwater monitoring was to allow for an evaluation of the effectiveness of the contaminated soil and chemical fill remedial action (RA) in preventing or reducing the leaching of contaminants to groundwater, as well as to assess the need for additional RAs at the Site. Groundwater monitoring and site maintenance are the remaining actions being conducted at the Site.

The OU1 RA has been completed and chemical fill areas have been excavated. These activities have either eliminated or reduced risks posed by exposure to contaminated soil and chemical fill in these areas. Newly available toxicity values for the polycyclic aromatic hydrocarbons (PAHs) since completion of the ROD call into question whether current concentrations of these contaminants in the on-site soil warrant additional remedial action(s).

CURRENT ACTIVITIES

The Monitoring and Maintenance Plan was modified in 2015. EPA and IDNR approved the abandonment of wells 4B, 8A, 12A, 15A, 16, 18, and 18A, as sampling of the remaining wells will be adequate to monitor site conditions.

EPA also finished the third five review in August 2015. The five year review report summary stated the following:

Contaminants remain in groundwater at concentrations which exceed federal primary drinking water maximum contaminant levels (MCLs) and Iowa health-based standards. Although contaminants remain above drinking water standards, general decreasing arsenic concentrations in groundwater indicate that the OU1 RA has reduced contaminant migration into groundwater. However, MW-2 arsenic concentrations continue to increase, and certain

wells previously exhibiting decreasing arsenic concentration trends now exhibit either no discernible trend or one which is stable. In addition, the current groundwater monitoring plan includes limited chemical constituents. For example, the plan was revised in 2002 and no longer includes site-related contaminants of potential concern (COPCs) such as benzene, xylene, toluene, and 2-nitroaniline. Current levels are unknown and changes in toxicity warrant additional investigation. It is recommended that additional sampling be performed and the results evaluated to determine if additional remedial actions are warranted.

Ecological risks were not comprehensively evaluated as part of the OU1 and OU2 risk assessment and remedy selection process. Currently, the campground adjacent to the Site has a recreationally used pond, and environmental data has not been collected from the pond since a 2000/2001 risk assessment. Due to the increasing arsenic concentrations in MW-2, adjacent to the campground pond, it is recommended that environmental samples (i.e., surface water and sediment samples) be collected from the pond and the adjacent Cedar River to evaluate whether there are unacceptable risks to human health and the environment.

Site institutional controls are in place and no groundwater production wells have been completed on site. No private wells are located downgradient of any site monitoring well where arsenic and/or vinyl chloride exceeds its MCL.

A protectiveness determination of the OU1 remedy cannot be made at this time until further information is obtained. Further information will be obtained by collecting soil samples and evaluating them for PAHs in on-site soil. Once results are evaluated, these levels will be used to evaluate risk and determine if additional remedial action is warranted. It is anticipated that information will be collected and evaluated by September 2016, at which time a protectiveness determination will be made.

A protectiveness determination of the OU2 limited action remedy cannot be made at this time until further information is obtained. Further information will be obtained by completing the following activities:

- Collect environmental data from the recreational pond and Cedar River to determine if unacceptable risks to human health or the environment exist and could warrant additional remedial actions; and
- Based on changes in toxicity values for benzene, xylene, toluene, and 2-orthonitroaniline, collect groundwater samples and evaluate risks to human health to determine if additional remedial actions are warranted.

It is anticipated that information will be collected and evaluated by September 2016, at which time a protectiveness determination will be made.

2015: The 3rd Five Year Review was completed and EPA and IDNR conducted review of the proposed changes to the Maintenance and Monitoring Plan.

2016: The protective measures work plan was approved in July and field work initiated in October, 2016

2017: EPA issued an addendum to the third Five Year Review. The determination was that the remedy is protective of human health and the environment. A monitoring work plan was also submitted that requires annual groundwater sampling summary reporting of groundwater conditions every 5 years. The next report is due in 2019.

2018: Annual groundwater sampling was conducted

2019:

- Completion of the 5 year Summary Monitoring report. Consistent with the findings of EPA's September 2017 Five-Year Addendum Report (EPA, 2017a), the groundwater monitoring data demonstrates the site remedy remains protective of human health and the environment.
- During 2019, the EPA conducted a five-year review
- The Iowa DNR concurred with partial deletion of Operable Unit 0-1 (Chemical dump and contaminated soil) from NPL.

2020:

- The 4th Five-Year review report was completed: The conclusion is that the remedy is protective

2021: No actions taken

2022: No actions taken

2023: No action taken, new EPA PM (Brian Zarbuchen)

2024: Completed a site walkover with EPA, city, and RP as an intro to the upcoming 5 year review. Inspected all monitoring wells after recent flooding, and also inspected integrity of the cap and overall site condition. No significant issues noted. Received reports for surface water sampling (arsenic) and biological assessment of the river, both showing no significant impact related to the site.



Figure 1 Location Map Shaw Avenue Dump Site

DRAWN BY: ASG
DATE: March 2010



US Army Corps
of Engineers

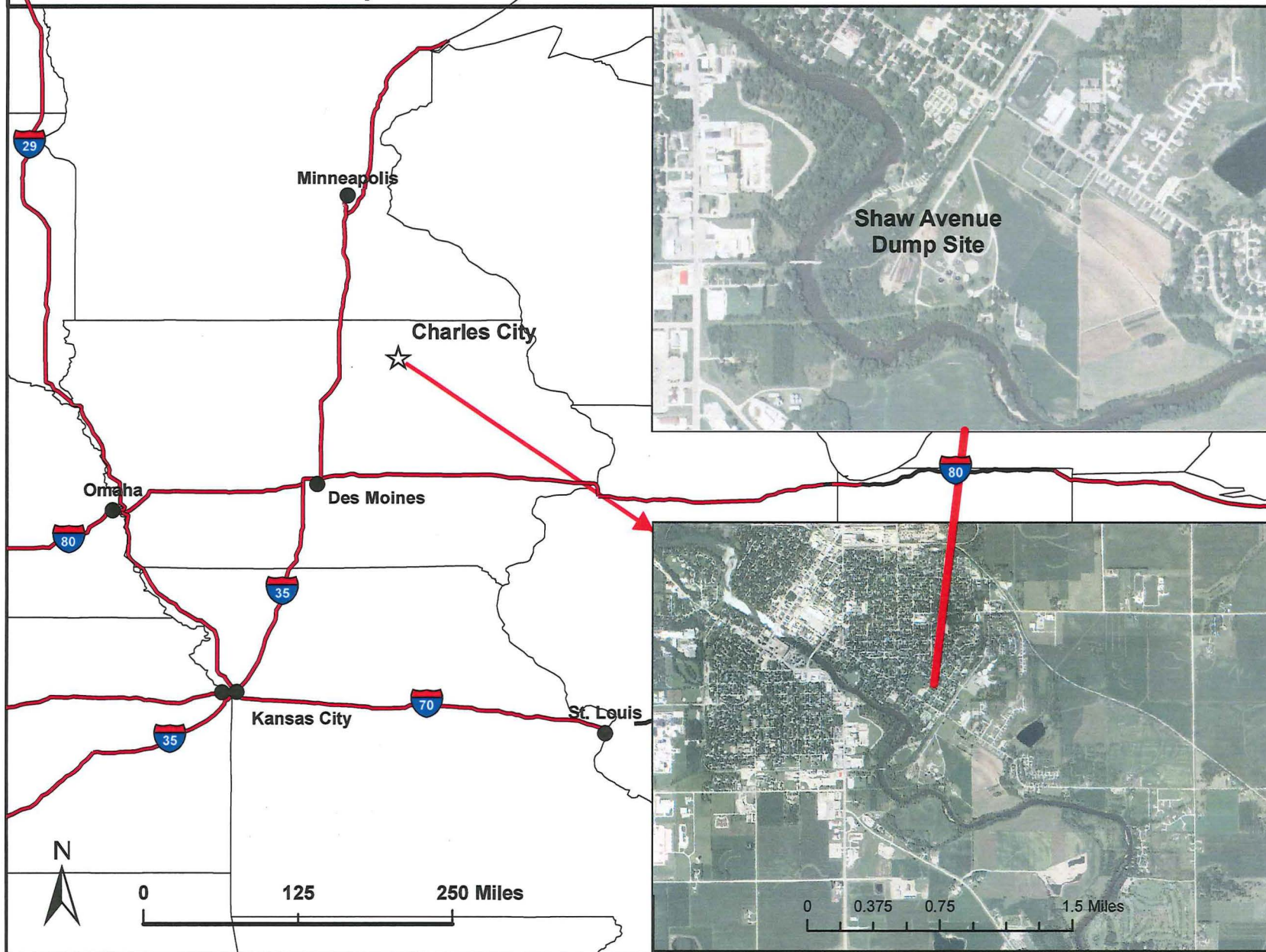




Figure 2 Site Map
Shaw Avenue Dump Site

DATE: March 2010

DRAWN BY: ASG

CHECKED BY: FWM



US Army Corps
of Engineers

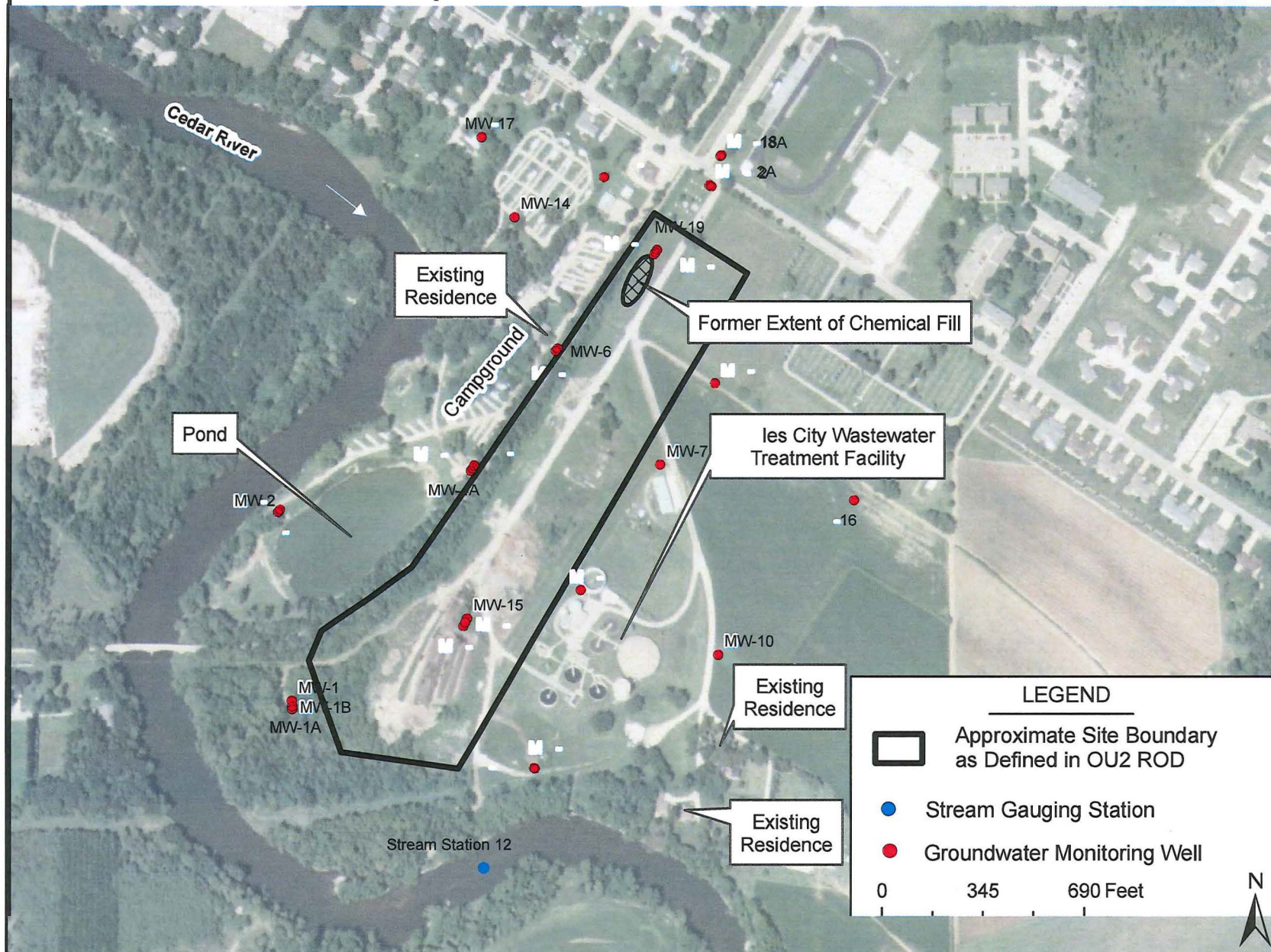




Figure 3 Groundwater Flow - October 2009 Shaw Avenue Dump Site

DATE: March 2010

DRAWN BY: ASG

CHECKED BY: FWM

