



Site Information CMC Heartland Lite Yard Site Minneapolis, Minnesota October 2000

Site Description and History

This fact sheet will tell you about...

- The history of the site.
- The initial investigation results.
- The potential health and environmental risks posed by the site.
- site. • The next step in the investigation and cleanup

process.

• Where to get more information.

The CMC Heartland Lite Yard Site (Site) is located in Minneapolis. Minnesota at the northwest intersection of Hiawatha Avenue and East 28th Street. The Site is approximately six acres in size. During the grasshopper infestations of the 1930's and 1940's, the U.S. Department of Agriculture sponsored a program using arsenic as a grasshopper control. From approximately 1938 to 1944, records indicate Reade Manufacturing Company, grasshopper poison manufacturers, operated on the Site. Based on the contamination type and location at the Site, it appears that these manufacturing operations are the source of significant arsenic contamination at the Site.

The site was discovered in 1994, when

the Minnesota Department of Transportation (MnDOT) performed an investigation of the entire Hiawatha Avenue corridor for reconstruction, including the eastern most part of the Site. During MnDOT's investigations, organochlorine pesticides and elevated levels of arsenic were discovered in some borings along Hiawatha Avenue near the site. MnDOT joined Minnesota Department of Agriculture's (MDA) voluntary cleanup program, now called the Agricultural Voluntary Investigation and Cleanup (AgVIC) program, in July 1995 to further investigate this contamination in the highway corridor. Further investigation indicated the arsenic came from the Site.



Minnesota Department of Agriculture

-Results of Current Investigations

In December 1995, CMC Heartland Partners (CMC), the landowner of the Site, completed an investigation that showed the source for the arsenic in the Hiawatha Ave. corridor near the site was likely the former Reade Manufacturing Company. Another investigation followed which focused on the soil near the location of the former manufacturing building.

Since the initial investigations, CMC has conducted many soil and ground water investigations on and off site of the former pesticide manufacturer, to determine the amount of the contamination. About 100 soil samples have been collected and analyzed both on and off of the Site. Seven ground water monitoring wells have been installed on the site, and 12 wells have been installed off of the Site. Results of the sampling show:

- The area of contaminated groundwater (known as the "plume") extends approximately 1800 feet (4-5 city blocks) westsouthwest of the Site, and is about 600 to 800 feet wide. Further investigation may be needed to the south. Ground water is about 35 to 55 feet below the ground surface in this area, with increasing depth to ground water toward the west.
- The highest level of arsenic contamination is in the plume under the site, where levels are over 320,000 parts per billion* (ppb). 50 ppb is the Maximum Contaminant Level (MCL) concentration for arsenic. This is the federal drinking water standard set by the Safe Drinking Water Act. MCL's are set at the point of use (e.g., the tap) but are often used in developing ground water clean-up levels. Levels of 3,000 to 5,000 ppb are present under some areas where there are homes. However, these homes get their water from the city. City water is not contaminated with arsenic.
- On-site arsenic concentrations in the soil ranged from 18,000 mg/kg to less than 0.74 mg/kg. The current cleanup goal for arsenic in soil is 30 mg/kg. This cleanup goal may be adjusted based on the future use of the site. Before a final cleanup plan is approved, MDA will hold a public meeting for input from local neighbors and other interested parties.

Based on the levels of arsenic contamination in the ground water, MDA is in the process of investigating whether exposure to the contamination may occur through private water wells. The neighborhood that is over the plume is served by City of Minneapolis water; however, the presence of private wells is a possibility. Arsenic is not volatile (that is, it does not evaporate easily). Therefore the arsenic in the ground water cannot affect public health unless it is brought to the surface through a well.

MDA staff has requested that CMC correct or reduce the potential for arsenic exposure. These actions have provided additional safeguards for nearby residents and on-site workers from incidental and potentially harmful health effects from exposure to arsenic in surface soils on site. These completed actions are:

- All drive and foot traffic routes on the site were covered with one foot of clean fill.
- The bottom one foot of the debris (crushed asphalt) piles on-site were not to be removed during on-site operations.
- Site access has been restricted by installing a chain link fence and locking gate along the property boundary.

*Parts Per Billion (ppb): A very small unit of measurement. The term means one part in a billion parts. One part per billion can be compared to one second in 32 years. Because some chemicals are very toxic even at low concentrations, ppb has become a standard unit of measurement in the hazardous waste field. Micrograms per liter ($\mu g/l$) are the same as or equal to ppb.

- Potential Health Risks

A one time oral dose of 70,000 micrograms (μ g) may be lethal to an adult human. Daily consumption of water with much less arsenic, 200 micrograms per liter (same as parts per billion or ppb), over many years can lead to problems of the skin, the circulatory system, and the nervous system. This level of arsenic intake is also associated with an increase in skin and other cancers.

In general, there is growing concern about long-term exposure to the smaller amounts of arsenic that are commonly found in drinking water. There is a small increased risk of longterm health problems from exposure to arsenic at levels below 10 ppb. The risk of health effects increases as the level of arsenic in the water increases. Currently, the federal standard for arsenic in public water supplies is 50 ppb. However, the Environmental Protection Agency (EPA) is now reviewing its arsenic standard in response to recent research findings on health effects of arsenic. The new proposed arsenic standard is 5 ppb. Meanwhile, Minnesota Department of Health (MDH) is advising private well owners to use other water supplies if their well has arsenic concentrations of 20 ppb or higher. When EPA promulgates a new standard, MDH will revise its advice.

Another possible exposure scenario is dermal (skin) exposure, ingestion and

inhalation of contaminated soil. On site exposure is not likely to occur because most of the site is covered with clean fill and the site has been fenced. The off site migration of arsenic contaminated soil is currently being investigated.

-What's Next At The Site?

MDA, MDH, and the City of Minneapolis will do a survey of residents to find private wells that may be using water from the arsenic plume. The survey will be done both door-to-door and by mail. In addition, MDH and MDA will visit some homes around the site and ask permission to take samples of the soil. This is to determine if the arsenic has blown from the site to people's yards by the wind. MDA and MDH do not think this is happening, but are doing this survey for added protection.

The owner of the property, CMC Heartland Partners, is taking part in the MDA voluntary cleanup program. If the owner does not continue to cooperate voluntarily in the program, the site would likely be listed on the state's Superfund list. In that case, the investigation and cleanup would continue under that program.

CMC will be requested to do the following work:

- Continued ground water investigation potentially including new monitoring wells to the south,
- Continued ground water sampling,
- Additional soil sampling south of the Site,

- Disposal of on-site stockpile of contaminated soil,
- Propose and conduct cleanup actions to address soil and ground water contamination from the Site.

Once a plan for cleanup is received, MDA will hold a neighborhood meeting to talk to the community about the history, progress, and actions planned for the site. At this meeting, MDA will get comments from the community about the planned cleanup, and use these comments in the final cleanup plan.

About Arsenic Contamination in Ground Water

Arsenic is a metal that occurs in nature. It was used in pesticides and is a by-product of copper and lead smelting. It is highly toxic when inhaled or eaten, and is known to cause cancer in humans. Arsenic is not volatile and therefore the arsenic in the ground water cannot affect public health unless it is brought to the surface through a well.

Ground water is the water between rock pieces and soil underground. Water trickles through the soil until it reaches the point where the soil is completely saturated, called the water table. When wells are dug, it is ground water that is brought to the surface and used. Ground water in the area of the CMC Heartland Lite Yard Site flows to the west-southwest. The residential area near the site is served by City of Minneapolis water, which is not contaminated with arsenic from this site.

The water near the Site became contaminated when it ran through the soil that was contaminated with arsenic. Some of the arsenic was carried into the ground water. Once arsenic beneath the water table clings to the soil, it is not easily washed away. This explains why the arsenic-contaminated ground water has not moved very far in the 60 years since it was used in manufacturing grasshopper poison at the Site.

In accordance with the Americans With Disabilities Act, an alternative form of communication is available upon request. TTY: 1-800-627-3529 The Minnesota Department of Agriculture is an Equal Opportunity Employer.

For More Information

For more information about the public involvement process or if you have questions about the site activities at the CMC Heartland Arsenic Site, please call or write:

MDA Officials

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What Will Be Done with the New Data from the Statistically Relevant Environmental Sampling?

If a pattern of elevated levels of arsenic can be established that indicates wind deposition from the Site, then the elevated arsenic in the residential neighborhood may be attributed to the Site. Administratively, MDA only has legal authority to address arsenic that has come from the Site, and therefore MDA can more effectively address the issue if such a pattern can be established. MDA may expect the responsible parties (CMC Heartland and possibly others) to take or pay for any additional actions required to address the elevated arsenic levels if this attribution can be shown.

Regarding human health risk, if the data appears elevated, then one of two scenarios is likely to occur:

1) Very high levels downwind of the Site may require additional sampling, and in addition, MDA will work with other state and federal agencies to evaluate the need to perform emergency corrective actions. or

2) Moderate levels may be addressed through risk management techniques, which are similar for both arsenic and lead. The Phillips Neighborhood, with the City of Minneapolis, has an active lead testing and risk management program, and one option may be to dovetail arsenic risk management into the lead program.

What's next at the Site for the On-Site Contamination?

MDA is continuing to ask CMC Heartland Partners and other possible involved parties to conduct additional investigation. The Site is now listed on the Minnesota State Superfund List. Additional work to be requested of CMC and other involved parties will include:

- Additional ground water investigation
- Continued ground water sampling
- Proposal and implementation of cleanup actions to address soil contamination at the Site.

Your Public Comments Are Appreciated

Please complete the enclosed form and mail it to us if you would like to comment on the Soil Sampling Plan Design for the Phillips Neighborhood in relation to the CMC Heartland Lite Yard Site. Public input on the design and the information that supports the design decisions is an important contribution to the process. Based on new information or public comment, MDA may modify the proposed design. The public is encouraged to review and comment on all aspects of the design.

Public Comment Period:MDA will accept comments on the Proposed Neighborhood Sampling Design Plan during a
public comment period:Dates: June 2, 2003 to July 2, 2003Public Meeting:
MDA will hold a public meeting to present the draft soil sampling design plan for
residential soils in the Phillips Neighborhood, in conjunction with EPIC's General
Membership Meeting. Oral and written comments will be accepted at the meeting.
Date: June 12, 2003Time: MDA presentation will be from 6:00 to 6:30 p.m.
Place: Holy Rosary Church, 24th Street East and 18th Avenue South, Minneapolis,
Minnesota

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