
Cleanup Plan Proposed For Soil and Underground Water

Former Scott Fetzer Facility, North Bronson Superfund Site
Bronson, Michigan July 2009

Share your opinions

EPA invites you to participate in the cleanup process at the Former Scott Fetzer Facility, North Bronson site. Your input helps EPA determine the best course of action. Please attend a public meeting at 6:30 p.m., Tuesday, July 21, at the Bronson City Offices, 141 S. Matteson St.

A comment period has been set up to provide you an opportunity to share your comments on the site cleanup. Comments should be submitted from July 9 to Aug. 10, 2009:

- Orally at the public meeting or in writing.
- Via the web at www.epa.gov/region5/publiccomment/bronson-pubcomment.htm.
- Fax to James Hahnenberg at 312-385-5476.

Contact EPA

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Call EPA Region 5 toll-free
800-621-8431
9:30 a.m. to 5:30 p.m., weekdays

Review site documents

EPA's proposed cleanup plan along with other documents about this site can be reviewed at the Bronson Branch Public Library, 207 N. Matteson St.

In order to clean up the former Scott Fetzer section of the North Bronson Former Facilities Superfund site, U.S. Environmental Protection Agency is proposing digging up some of the contaminated soil and subsurface structures along with constructing a treatment system to remove contaminants remaining in the soil and underground water supplies. Additionally, if the proposed cleanup plan is approved, an extraction system will pump and treat contaminated underground water (called ground water in environmental terms).

Complex cleanup sites such as North Bronson are divided into smaller parts called "operable units" or OUs. The Scott Fetzer properties are known as Operable Unit 3. The proposed cleanup plan is designed to reduce pollutant levels at two properties at the site: Former Plant #1, consisting of 2½ acres, where the proposal calls for cleanup of pollutant levels to industrial standards; and the second property, known as the former Annex/CDF, just south of Plant #1 covering .8 acres, where contamination levels would be cleaned up using residential standards. The two properties at the site are currently vacant and surrounded by fences.

The contaminants of chief concern on both properties are a class of chemicals known as volatile organic compounds or VOCs. VOCs dissolve in water and may release harmful vapors. The main VOCs at this site are hazardous substances called trichloroethylene or trichloroethene, also known as TCE; cis-1-2-DCE; and PCE. During more than seven decades of industrial activities VOCs and metals contaminated nearly 6,000 cubic yards of soil on the site at concentrations requiring cleanup. In addition, the pollutants soaked into the earth and contaminated the ground water. The TCE and VOC levels in ground water near the site make it unsafe for drinking.

Responsibility for cleanup

Even though the site is now owned by the state of Michigan, EPA considers the Scott Fetzer Co. legally responsible for the cleanup. The company paid for an environmental consultant to conduct a major pollution investigation on the property. The consultant issued two reports to summarize the work. The "remedial investigation" details the types, quantities and hazards of the pollutants on the site, while the "feasibility study" identifies and evaluates possible cleanup options for the property. Both reports are available for review at the Bronson Branch Public Library. ¹

The Scott Fetzer consultant came up with five options for reducing the amount of contaminated soil on the site and six alternatives for cleaning up

¹ Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, known as the Superfund law) and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan require the public be given an opportunity to participate in the process of approving a proposed cleanup plan. This fact sheet summarizes technical documents about the soil and ground water cleanup that are available for viewing at the official site repository located in the Bronson Branch Public Library.

contaminated ground water. The alternatives are described in more detail later in this fact sheet. EPA has examined the costs and effectiveness of the soil and ground water cleanup alternatives and in this proposed plan fact sheet is now announcing the Agency's recommended cleanup plan.

The plan is not yet final. The public will have until Aug. 10, 2009, to comment on the proposals and EPA's alternatives. The proposed plan could change based on input from the public. Read the front-page box to find out how you can participate in the process. EPA will hold a public meeting on July 21, 2009, to discuss the cleanup plan and hear questions and comments. Following the comment period and public meeting, EPA will release its final decision in a document called a "record of decision" or ROD, which will also include a response by EPA to all comments.

Health risks

VOCs such as TCE and some metal contaminants in the ground water and soil are a potential health threat because the chemicals make the water unsafe to drink. The pollution also presents potential risks from skin contact with or incidental swallowing of the soil. The most heavily contaminated ground water can also release VOC vapors that rise through the soil where they can seep into the foundations of homes and buildings causing hazardous indoor air pollution. This problem is called vapor intrusion. The health study concluded if people were to be regularly exposed to the soil and ground water contamination on the Fetzer site over a lifetime, health risk estimates would exceed EPA's and Michigan's allowable standards. That means the area must be cleaned up.

Based on environmental studies previously conducted for two other nearby North Bronson Former Facilities areas – L.A. Darling and Bronson Reel – contamination at the former Fetzer facility is not believed to present significant health risks to wildlife.

About the site

The two properties that comprise the Fetzer site, located in the North Bronson Industrial Area, are approximately 3.3 acres in total size. The surface of the property is vacant, except for some minor substructures. The Scott Fetzer Co. and its predecessors manufactured automobile electrical parts, military and consumer products, appliance timers and vacuum cleaners from 1910 to 1987. Pollutants came from manufacturing operations that included chromium, cadmium plating, silver, tin and zinc.

EPA, the state of Michigan and Scott Fetzer conducted initial environmental investigations and cleanups from 1992 to 1995 dealing with the most dangerous toxic waste at the site as well as physical hazards. The property reverted to the state due to a tax delinquency in 1995.

Michigan then conducted additional cleanup activities including demolishing buildings and removing some contaminated soil.

Scott Fetzer Co. entered into a legal agreement called an administrative order by consent with EPA in 2002 to conduct the remedial investigation and feasibility study. EPA has now approved these studies as the basis of this proposed cleanup plan. As a follow-up to this investigation, Scott Fetzer will conduct additional soil sampling around the Annex/CDF area. This will more fully survey the contamination in this area to allow a better, final cleanup plan.

If not cleaned up, the contamination in the ground water can travel off-site and cause vapor intrusion problems and continue to prevent the use of ground water for drinking.

Hazardous chemicals found at the site include trichloroethylene, tetrachloroethylene, cis-1-2-dichloroethylene, 1,1-dichloroethylene, trans-1-2-dichloroethylene, vinyl chloride and cyanide. Some metals were also detected and will be dealt with as part of the selected cleanup plan. EPA has been monitoring properties near the former Scott Fetzer property and the adjacent L.A. Darling site. EPA has also identified several homes affected by vapor intrusion. Vapor intrusion issues are not included in this cleanup plan and are being handled in a separate action. If EPA identifies any other homes with elevated levels of indoor vapors, the Agency will work with the homeowner to develop a customized cleanup plan for their property at no cost to them.

Cleanup options

The cleanup objectives for the site are to reduce chemical levels in the soil and vapors to concentrations acceptable for future industrial redevelopment of the former Plant #1 area, and residential use of the former Annex/CDF parcel. The goal for ground water is to stop contaminated water from moving beyond the property boundary and to clean it to a level that is safe for drinking and other uses. The ground water cleanup will be a temporary fix because a more comprehensive plan will be implemented later to deal with contamination from other sources.

The Scott Fetzer Co. evaluated five cleanup alternatives for contaminated soil and six options for ground water. EPA, in consultation with Michigan Department of Environmental Quality, evaluated each of the 11 cleanup alternatives against nine criteria required by law and then picked its recommended options (see explanation of nine criteria P. 6). The 11 alternatives are summarized below, but full details are available in the feasibility study on file in the Bronson Branch Public Library. All cost figures include operation and maintenance expenses and are given

in a financial calculation called “present worth” expressed in terms of today’s dollars.

Soil cleanup options

Soil Alternative SO-1 – No Action. A no-action alternative is always included in a cleanup analysis as a point of comparison. **Cost: \$0**

Soil Alternative SO-2 – Institutional controls. In this alternative potential for human exposures will be reduced by modifications to the property deed. Surveys will be done in areas where institutional controls will be applied. **Cost: \$385,000**

Soil Alternative SO-3 – Excavation and off-site disposal. Under this alternative:

- Some 5,850 cubic yards of contaminated soil and sediment (mud) in sewers would be removed and transported to an off-site licensed hazardous waste landfill.
- Clean fill will be brought in to bring the property elevation back to existing grade.
- Temporary fencing would be installed during the cleanup work to protect the public.

Cost: \$1.4 million

Soil Alternative SO-4 – Air sparging/soil vapor extraction and limited excavation (EPA’s recommended soil alternative). Under this alternative:

- Soil would be excavated from one area where cadmium exceeded cleanup standards and from several high-concentration VOC source areas. About 1,575 cubic yards of affected soil from Plant #1, the Annex/CDF, and the industrial sewer

pipe would be excavated and disposed of at an off-site commercial facility.

- Additional contaminants would be extracted from soil by installing an estimated 33 soil air sparging/vapor extraction wells at the Plate #1 and Annex/CDF areas. Air sparging wells would pump air through the ground water and soil to convert pollutants to vapor. The vapors are then captured and treated by vapor extraction wells. The exact number of wells needed would be determined during the design phase.
- Institutional controls would be implemented such as deed restrictions, covenants and city ordinances.
- Temporary fencing would be installed during the cleanup work to protect the public.

Cost: \$2.3 million

Soil Alternative SO-5 – In-situ chemical oxidation and limited excavation. Under this alternative:

- In-situ (in-place) chemical oxidation would be used to neutralize VOC-contaminated soil and meet the cleanup standards. The chemical oxidant would be delivered to underground soil by mechanical mixing using excavators.
- Limited excavation would be conducted in specific areas where the cadmium cleanup standards are exceeded.
- The industrial sewer pipe would be excavated and disposed of at an off-site facility.
- Institutional controls would be implemented such as deed restrictions, covenants and city ordinances.
- Temporary fencing would be installed during the cleanup work to protect the public.

Cost: \$1.5 million

Soil cleanup alternatives

Evaluation Criteria	SO-1	SO-2	SO-3	SO-4	SO-5
Overall Protection of Human Health and the Environment	○	○	●	●	●
Compliance with Applicable or Relevant and Appropriate Requirements	○	○	●	●	●
Long-Term Effectiveness and Permanence	○	○	●	●	●
Reduction of Toxicity, Mobility or Volume through Treatment	○	○	●	●	●
Short-Term Effectiveness	○	●	●	●	●
Implementability	○	●	●	●	●
Cost	\$ 0	\$385,000	\$1.4 million	\$2.3 million	\$1.5 million
State Acceptance	○	●	●	●	●
Community Acceptance	To be determined after comment period				
○ Does not meet criteria ● Partially meets criteria ● Fully meets criteria					

Ground water cleanup options

Ground Water Alternative GW-1 – No Action. A no action alternative is used as a comparison point.

Cost: \$0

Ground Water Alternative GW-2 – Institutional controls. In this alternative potential for human exposure to the pollution will be reduced by restricting ground water use at the North Bronson site through modifications to the property deed or a city ordinance. **Cost: \$385,000**

Ground Water Alternative GW-3 – In-situ chemical oxidation, funnel-and-gate and institutional controls.

Under this alternative:

- In-situ chemical oxidation would reduce VOC mass in ground water source areas at Plant #1, Annex/CDF, and the industrial sewer.
- A funnel-and-gate system would be installed to prevent off-site movement of contaminated ground water from the Fetzer property. The underground funnel-like barrier directs ground water to a zone that filters and cleans the water as it passes through.
- Institutional controls would restrict ground water use at the site, similar to GW-2.

It is anticipated the ground water system would need to run for many years. Fencing would be required during on-site activities followed by long-term monitoring of the ground water. Ground water usage would be restricted until water is safe to use. **Cost: \$3.5 million**

Ground Water Alternative GW-4 – Air sparging/vapor extraction, funnel-and-gate, and institutional controls.

Under this alternative:

- Air sparging/vapor extraction would remove source area VOC mass in ground water at Plant #1, Annex/CDF, and the industrial sewer.
- A funnel-and-gate system, identical to Alternative GW-3, would prevent off-site movement of contaminated ground water from the Fetzer property.
- Institutional controls, similar to GW-2, would restrict ground water use at the site.

It is anticipated the ground water system would need to run initially for around five years. After this first phase of air sparging/vapor extraction, evaluation of the ground water contaminant concentrations would determine if additional air sparging is necessary or effective. Fencing would be required during on-site activities followed by long-term monitoring of the ground water. Ground water usage would be restricted until water is safe to use.

Cost: \$5.1 million

Ground Water Alternative GW-5 – Air sparging/vapor extraction, pump-and-treat, and institutional controls (this is EPA’s recommended ground water alternative).

Under this alternative:

- Air sparging/vapor extraction would remove the source area VOC mass in ground water at Plant #1, Annex/CD and the industrial sewer area.
- Ground water extraction wells and treatment by air stripping would prevent off-site movement of contaminated ground water from the Fetzer property.
- Institutional controls, similar to GW-2, would restrict ground water use at the site.

It is anticipated the ground water extraction/treatment system would need to run for many years. Fencing would be required during on-site activities followed by long-term monitoring of the ground water. Ground water usage would be restricted until water is safe to use.

Cost: \$4 million

Ground Water Alternative GW-6 – Pump-and-treat and institutional controls. Under this alternative

- Ground water extraction wells would pump and treat VOCs in an air stripping treatment system and contain the movement of on-site ground water.
- Institutional controls, similar to GW-2, would restrict ground water use at the site until cleanup standards were met.

Cost: \$2.8 million

Evaluation of alternatives

EPA evaluated the cleanup options by comparing them with the nine criteria required by federal law. A chart showing the results of the soil alternative evaluation is on P. 3. A chart showing the results of the ground water alternative evaluation is on P. 5. The Agency determined the no action alternatives for contaminated soil and ground water would not protect people or the environment so they were eliminated from consideration. Of the remaining cleanup options, EPA selected Soil Alternative SO-4 and Ground Water Alternative GW-5 as the best combination of cleanup actions. Under Soil Alternative SO-4, a limited area of soil would be removed, allowing for commercial, industrial or recreational redevelopment of the property. Ground Water Alternative GW-5 would provide for treatment of contaminated ground water and would restrict the movement of contaminated ground water beyond the Fetzer property.

EPA recommends Soil Alternative SO-4 because limited excavation of the remaining contaminated soil, followed by air sparging/soil vapor extraction to remove contaminants from soil above the water table, and in combination with the ground water alternative,

Ground water cleanup alternatives

Evaluation Criteria	GW-1	GW-2	GW-3	GW-4	GW-5	GW-6
Overall Protection of Human Health and the Environment	○	○	●	●	●	●
Compliance with Applicable or Relevant and Appropriate Requirements	○	○	●	●	●	●
Long-Term Effectiveness and Permanence	○	○	●	●	●	●
Reduction of Toxicity, Mobility, or Volume through Treatment	○	○	●	●	●	●
Short-Term Effectiveness	○	●	●	●	●	●
Implementability	○	●	●	●	●	●
Cost	\$0	\$385,000	\$3.5 million	\$5.1 million	\$4 million*	\$2.8 million
State Acceptance	○	●	●	●	●	●
Community Acceptance	To be determined after comment period					

○ Does not meet criteria ● Partially meets criteria ● Fully meets criteria

* The GW-5 alternative, in combination with SO-4 would result in combined costs of \$1.8 million less than each remedy as stand-alone alternatives. This is due to sharing of common operational elements.

would protect people, and be cost-effective and easily implemented. Soil alternative SO-2 would be protective for direct contact with contaminants but would limit use of the property as contaminants would continue to affect ground water. Soil Alternative SO-3 and SO-5 would deal with soil contamination but overall are not as cost-effective as the recommended alternative. Additionally, SO-5 would be more difficult to implement and would more likely experience cost increases.

Ground Water Alternative GW-5 in combination with Soil Alternative SO-4 is cost-effective and uses a combination of proven technologies to address various types of contamination present in the ground water at the site. Air sparging and soil vapor extraction would remove a significant amount of VOCs from the ground water and the soil below the water table. The air sparge/vapor extraction system would operate for about five years, with remaining contaminated ground water removed and treated. Alternative GW-2 would protect people for immediate exposures, but would not prevent off-site movement of contaminants. Alternative GW-5 is also more cost-effective than Alternatives GW-3 and GW-6. This is due to cost efficiencies for the SO-4 and GW-5 combination that would result in a total soil and ground water plan costing \$4.5 million. The combined SO-4 and GW-5 alternative

saves \$1.8 million versus each option as a stand-alone plan. Additionally, GW-5 is more reliably implementable than GW-3 and GW-6, with less risk of cost increases.

Next steps

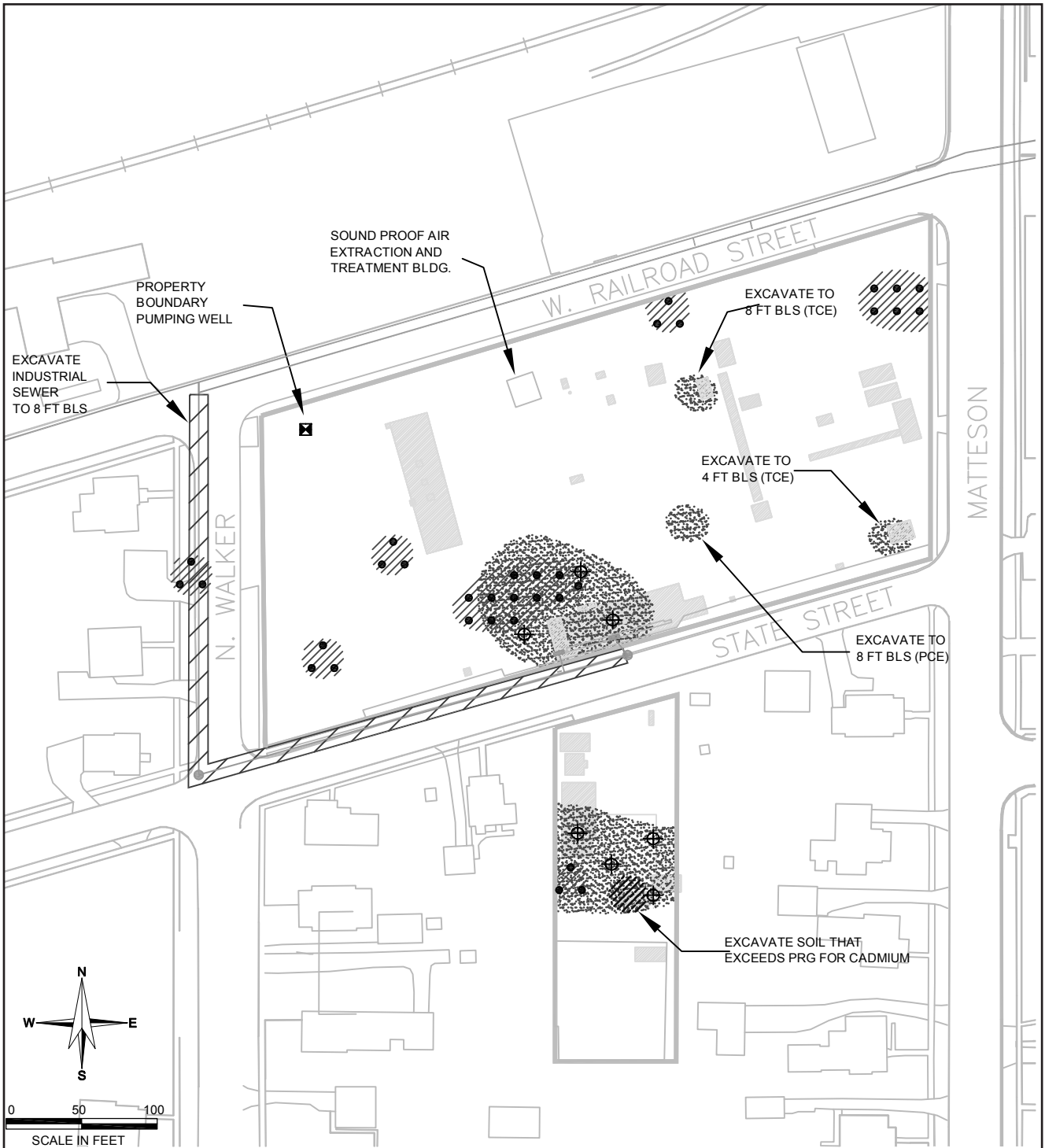
EPA, in consultation with MDEQ, will evaluate public reaction to the preferred cleanup plans during the comment period and at the public meeting before deciding on a final choice. Based on new information or public comments, EPA may modify its proposed option or select another of the cleanup alternatives outlined in this fact sheet. EPA encourages you to review and comment on the cleanup alternatives. More detail on the cleanup alternatives is available in the official documents on file at the Bronson Branch Library.

EPA will respond to the comments in a responsiveness summary, which will be part of the record of decision. The ROD will describe the final cleanup plan selected for the site. EPA will announce the selected cleanup plan in a local newspaper and will place a copy of the ROD on file in the information repository at the Bronson Branch Library.

Evaluation criteria

EPA compares each cleanup option or alternative with these nine criteria established by federal law.

1. **Overall protection of human health and the environment** examines whether an option protects both human health and the environment. This standard can be met by reducing or removing pollution or by reducing exposure to it.
2. **Compliance with applicable or relevant and appropriate requirements (ARARs)** ensures options comply with federal, state and local laws.
3. **Long-term effectiveness and permanence** evaluates how well an option will work in the long term, including how safely remaining contaminants can be managed.
4. **Reduction of toxicity, mobility or volume through treatment** determines how well the option reduces the toxicity (the chemical makeup of a contaminant that makes it dangerous), movement and amount of contaminants.
5. **Short-term effectiveness** compares how quickly an option can help the situation and how much risk exists while the option is under construction.
6. **Implementability** evaluates how feasible the option is and whether materials and services are available in the area.
7. **Cost** includes estimated capital or startup costs, such as the cost of buildings, treatment systems and monitoring wells. The criterion also considers costs to implement the plan, and operate and maintain it over time. Examples include laboratory analysis and personnel to operate equipment.
8. **State acceptance** determines whether the state environmental agency (in this case MDEQ) accepts the option. EPA evaluates this criterion after receiving public comments.
9. **Community acceptance** considers the opinions of nearby residents and other stakeholders about the proposed cleanup plan. EPA evaluates this standard after a public hearing and comment period.



LEGEND

- INDUSTRIAL SEWER
- ▬ PROPERTY BOUNDARY
- HISTORICAL SITE FEATURE

- PROPOSED LOCATION OF DUAL AIR SPARGE / SVE WELL
- ⊕ PROPOSED LOCATION OF SVE WELL
- ⊠ GROUNDWATER EXTRACTION WELL

- ▨ AREAS THAT EXCEED THE PRELIMINARY REMEDIATION GOAL (PRG) FOR VOCs IN GROUNDWATER
- AREAS THAT EXCEED THE PRELIMINARY REMEDIATION GOAL (PRG) FOR VOCs IN SOIL
- ▨ AREAS THAT EXCEED THE PRELIMINARY REMEDIATION GOAL (PRG) FOR CADMIUM IN SOIL

SCALE: AS SHOWN

EPA Proposes Cleanup Plan for Soil and Underground Water

**Former Scott Fetzer Facility
North Bronson
Superfund Site**
(details inside)

Upcoming Public Meeting

Tuesday, July 21

7 p.m.

Bronson City Offices

141 S. Matteson St.

At the meeting, EPA will explain the proposed plan and provide opportunities to ask questions and make oral comments. You may also submit written comments. If you need special accommodations for the meeting contact Dave Novak by Tuesday, July 21. His contact information is on P. 1.

On the Web

Site information is also posted on the web at:

www.epa.gov/region5/sites/bronson

To comment electronically:

www.epa.gov/region5/publiccomment/bronson-pubcomment.htm

**FORMER SCOTT FETZER FACILITY NORTH BRONSON
SUPERFUND SITE: EPA Proposes Cleanup Plan**

RETURN ADDRESS REQUESTED

United States
Environmental Protection
Agency
Region 5
Superfund Division (SI-7J)
77 W. Jackson Blvd.
Chicago, IL 60604-3590

