This fact sheet provides a general update of the cleanup work of the Monsanto Chemical Company Superfund Site that is being overseen by the United States Environmental Protection Agency.

What is the Monsanto Chemical Company Superfund Site?

In 1952, Monsanto purchased an 800-acre property located outside the city limits of Soda Springs, Idaho. Monsanto processed locally mined phosphate-rich ore to extract elemental phosphorus. Production of elemental phosphorous is ongoing at the site under P4 Production, a subsidiary of Bayer AG, which purchased Monsanto in 2018.

Processing activities and waste disposal practices at the site contaminated soil and groundwater with hazardous chemicals and radioactive materials. Contamination extended beyond Monsanto's property and into nearby agricultural and residential properties. In 1990, Monsanto Chemical Company (Soda Springs Plant) was added to the National Priorities List, making it a Superfund site.

Various cleanup activities occurred before and after listing to significantly reduce sources of contamination and prevent further exposure. EPA signed the Record of Decision in 1997 that describes the final cleanup plan for the site.

Despite cleanup work completed to-date, the levels of contaminants of concern are not going to meet cleanup goals set in the Record of Decision through monitored natural attenuation, which relies on natural processes to decrease or "attenuate" levels of contaminants in soil or groundwater. EPA determined that more cleanup work would be needed to effectively reduce risks and protect people's health and the environment.

You're invited: Contribute to the Community Involvement Plan

EPA would like to interview community members to create a Community Involvement Plan. This plan describes how EPA will inform and engage community members while working on the cleanup of the Monsanto Chemical Company (Soda Springs Plant) Superfund Site. Input from residents, businesses, local governments, and community organizations can help shape the cleanup plan.

If you're interested in participating in the first round of short interviews to develop the Community Involvement Plan, please contact the Community Involvement Coordinator:

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What is the current cleanup status?

In April 2021, EPA, the Idaho Department of Environmental Quality, and P4 Production entered into a new Administrative Settlement Agreement and Order on Consent to conduct a supplemental remedial investigation and focused feasibility study.

Environmental data collection will continue through 2025. EPA will use this data to determine what additional cleanup activities are needed.

Is my drinking water safe?

Yes. The drinking water provided by the City of Soda Springs is not currently impacted by site- related contaminants and is safe to drink.

Is groundwater impacted by the Superfund site?

Yes. Groundwater at the site is impacted by site-related contaminants of concern, including selenium, cadmium, fluoride, manganese, and nitrate. Groundwater contamination currently does not extend past P4's property and the institutional control boundaries (see map at the end of this fact sheet).

What's being done to reduce the contamination?

The EPA is assessing existing and potential new sources of contamination as part of the supplemental remedial investigation. An existing groundwater pump and treat system is being evaluated and optimized as part of the focused feasibility study. Pump back wells capture contaminated groundwater and prevent migration of the groundwater plume south of the plant boundary. Efforts to improve the pump and treat system are ongoing *(see map on Page 4)*.

Contaminants of Concern in Groundwater

Selenium: a naturally occurring element that is nutritionally essential but is toxic in high concentrations. Short- term oral exposure to high concentrations may cause nausea, vomiting and diarrhea. Long-term oral exposure to high concentrations may result in selenosis, which may cause hair loss, nail loss or neurological symptoms such as numbness in the hands or feet.

Fluoride: can be found in drinking water naturally but excessive consumption over a lifetime can cause health concerns. Small amounts of fluoride help prevent tooth cavities, but high levels can harm your health. In adults, exposure to high levels of fluoride can result in denser bones but if exposure is high enough, bones may be more fragile and brittle.

Nitrate: naturally occurring element that is used for fertilizers and as a food additive. Excessive levels of nitrates in drinking water cause serious illness and sometimes death.

Manganese: naturally occurring element that is nutritionally essential but is toxic in high concentrations. These health effects include behavioral changes and other nervous system effects, which include movements that may become slow and clumsy.

Cadmium: a naturally occurring metal that is toxic in high concentrations. Long-term exposure to lower levels of cadmium in air, food, or water leads to a buildup of cadmium in the kidneys and possible kidney disease.

Historical timeline of cleanup work

- **1952**: Monsanto purchases land to begin processing elemental phosphorous.
- **1984**: After a neighboring landowner south of the plant experienced issues with livestock due to excessive fluoride exposure, an investigation by Monsanto finds that groundwater under the site is contaminated with fluoride, cadmium, selenium, vanadium, chloride, and sulfate.
- **1987-1989**: EPA conducted further sampling and found contaminated groundwater at the site.
- **1990**: EPA added the site to the National Priorities List.
- **1991**: EPA and Monsanto entered into an Administrative Order on Consent requiring Monsanto to perform a remedial investigation/feasibility study.
- **1983 - 1995**: Monsanto performed site improvements and initial response actions to reduce the known and suspected sources of contamination, including:
    - Installed recovery wells around the former hydro clarifier and used them to intercept contaminated groundwater until spring of 1989.
    - Replaced four underground fuel storage tanks with aboveground tanks with concrete sumps.
    - Replaced an old coke and quartzite dryer and wet scrubber with a more efficient system to reduce air emissions.
    - Abandoned wells that connected the upper and lower aquifers and installed another scrubbing system for kiln exhaust to reduce emissions.
    - Closed and excavated the Northwest Pond and sealed the bottom with bentonite.
    - Began pilot-scale projects and engineering controls to reduce dust coming from on-site source piles.
- **1997:** EPA issued the Record of Decision. Monsanto formed a new subsidiary, P4 Production, L.L.C., and transferred the plant to that entity.
- **1998:** EPA and P4 entered into a Consent Decree requiring P4 to implement the Record of Decision which identified the contaminants of concern and cleanup levels for off-plant soil, sediment, and groundwater at the site. It also outlined the selected cleanup plan that included monitored natural attenuation for groundwater and institutional controls for groundwater and off-plant soils.
- **2003:** First Five-Year Review is completed. EPA determined that the remedy was protective but required additional work to ensure long-term effectiveness.
- **2008:** Second Five-Year Review is completed. EPA was unable to determine the protectiveness of the remedy and required P4 to collect additional information.
- **2013:** Third Five-Year Review is completed. EPA determined that the remedy was not protective. P4 began a supplemental remedial investigation and focused feasibility study to evaluate the remedy and the need to add additional actions.

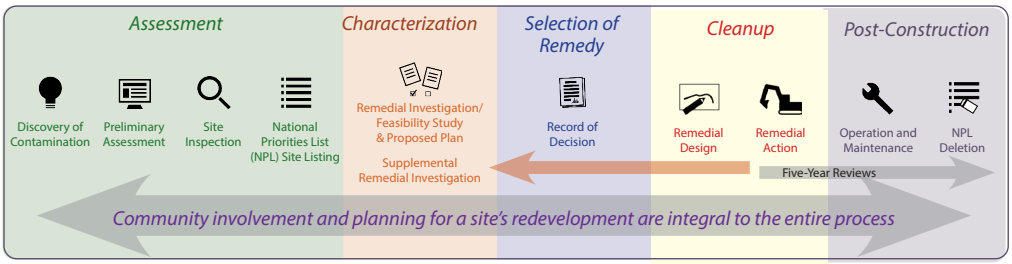
- **2018:** Fourth Five-Year Review is completed. Review concluded the remedy was not protective. P4 continued to collect data for the supplemental remedial investigation and focused feasibility study to evaluate the remedy and worked on an Institutional Control Plan for contaminated areas beyond the property boundary.
- **2011-2018**: In response to the recommendations and follow-up actions required of P4 and in cooperation with EPA and IDEQ P4 completed numerous activities, including:
  - Expanded the groundwater monitoring well network and conducted extensive monitoring.
  - Conducted Phase I and Phase II of a Source Area Characterization.
  - Conducted pumping tests and treatability pilot studies to evaluate capture of the selenium groundwater plume and selenium removal from pumped groundwater.
  - Designed and constructed a selenium demonstration water treatment plant to prevent or minimize migration of the contaminant plume to the south of the plant.
- **2021:** EPA, IDEQ, and P4 entered into an Administrative Settlement Agreement and Order on Consent requiring P4 to complete the supplemental remedial investigation and focused feasibility study necessary to further determine the nature and extent of groundwater contamination and identify and evaluate groundwater cleanup actions to address contaminants at or from the site.
- **2023:** Fifth five-year review is completed. Review concluded the remedy was not protective. P4 continues environmental data collection activities for the supplemental remedial investigation and focused feasibility study, with oversight by EPA and IDEQ, to evaluate the current remedy and identify additional cleanup actions**.**

Superfund terms

- **Administrative Settlement Agreement and Order on Consent**: A voluntary and enforceable agreement pursuant to CERCLA, signed by EPA and Potentially Responsible Parties, whereby the PRPs agrees to perform and/or pay for response costs involved in site cleanup.
- **Supplemental Remedial Investigation and Focused Feasibility Study**: An investigation intended to gather additional data necessary to (1) determine the nature and extent of contamination at the site; (2) establish cleanup criteria for the site; (3) identify remedial action alternatives; and (4) support the technical and cost analyses of the alternatives.
- **Institutional Control**: Administrative and legal tools that do not involve construction or physically changing the site.

While depicted as a linear process here, the Superfund process can be cyclical when remedies are not functioning as intended and/or additional investigation is needed

THE SUPERFUND REMEDIAL PROCESS



What is Superfund?

Superfund is a federal law authorizing the EPA to clean up contaminated sites. Its official name is the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA.

Under Superfund, parties responsible for contamination either perform cleanups themselves or reimburse the government for EPA-led cleanup work.

When there is no viable responsible party, Superfund gives the EPA the funds and authority to clean up contamination. CERCLA, as implemented by the National Contingency Plan, requires specific community involvement activities to be undertaken at certain points throughout the Superfund process to ensure communities are engaged in the Superfund decision-making process.

For More Information

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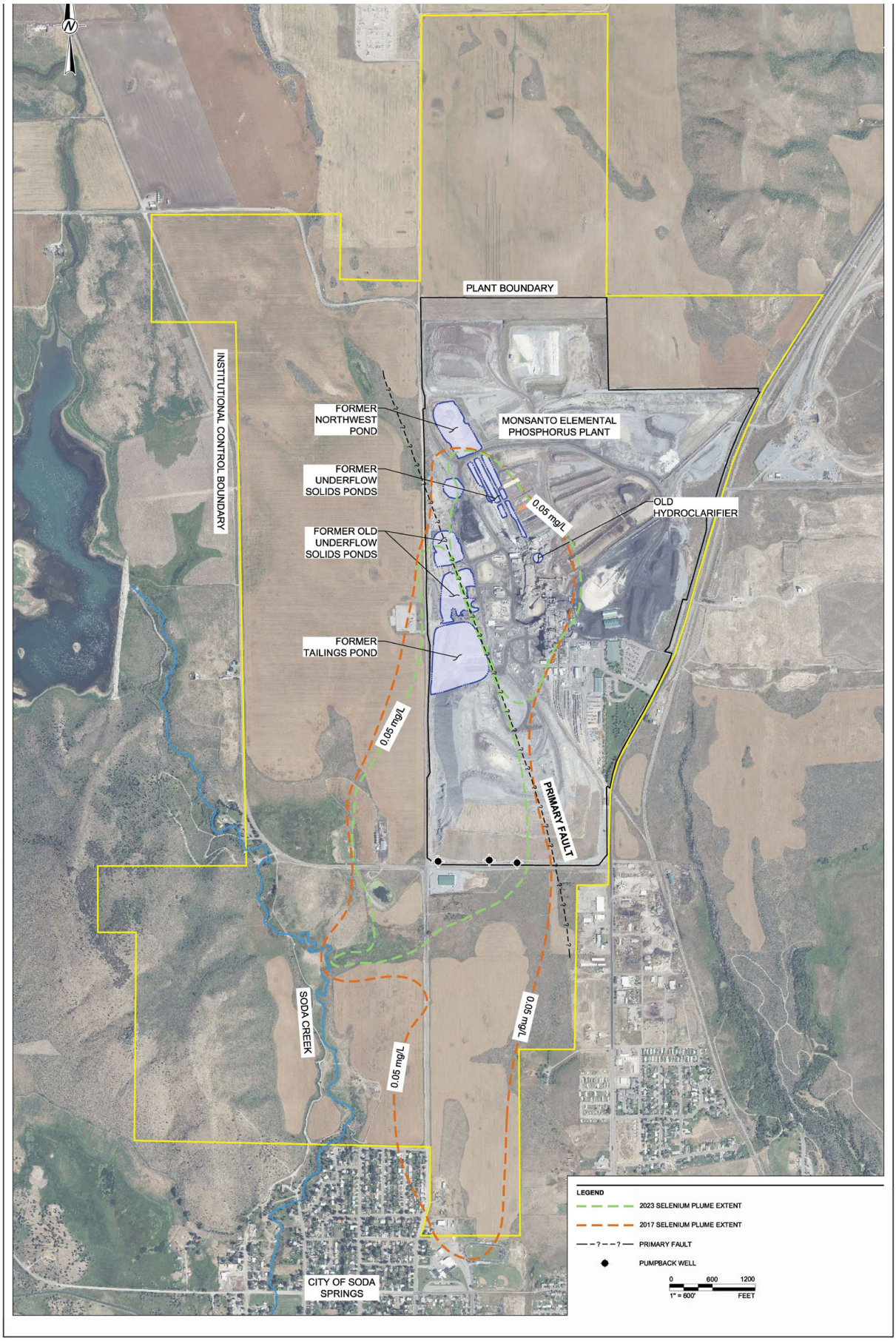
If you need materials in an alternative format, please contact **Meshach Padilla** *at 206-553-2762.*



Map of Monsanto Chemical Company Superfund site.

Map Source: WSP. Used by permission.

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