The Office of Legacy Management's community meeting on the Fernald Preserve was held on October 10, 2012, at the Fernald Preserve Visitors Center. The 7 people who attended the meeting received an update on site activities.

Community meeting agenda.

Nature Nook

Coyote
(*Canis latrans*)

8908.03 10/12

A regular feature of the community meeting is the Nature Nook, which highlights flora and fauna at the Fernald Preserve.

Nature Nook

American burying beetle
(Nicrophorus americanus)

8908.04 10/12

A regular feature of the community meeting is the Nature Nook, which highlights flora and fauna at the Fernald Preserve.

Fernald Preserve

Legacy Management Mission

Manage DOE's post-closure responsibilities and ensure the protection of human health and the environment.

8908.05 10/12

The Office of Legacy Management's mission at the Fernald Preserve.

Worker Health and Safety

Legacy Management Mission

OSHA Recordables (yearly)

DOE Complex	LM	Industry
1.1	0.0	3.5

Fernald Preserve (quarterly)

Lost Time	First Aid	Recordables
0	1	0

Department of Energy VPP

8908.06 10/12

Safety at the Fernald Preserve and across the Office of Legacy Management complex continues to surpass industry standards.

Natural Resource Trusteeship

Activities

- **Conservation easements**
- **Ecological restoration projects**

8908.07 10/12

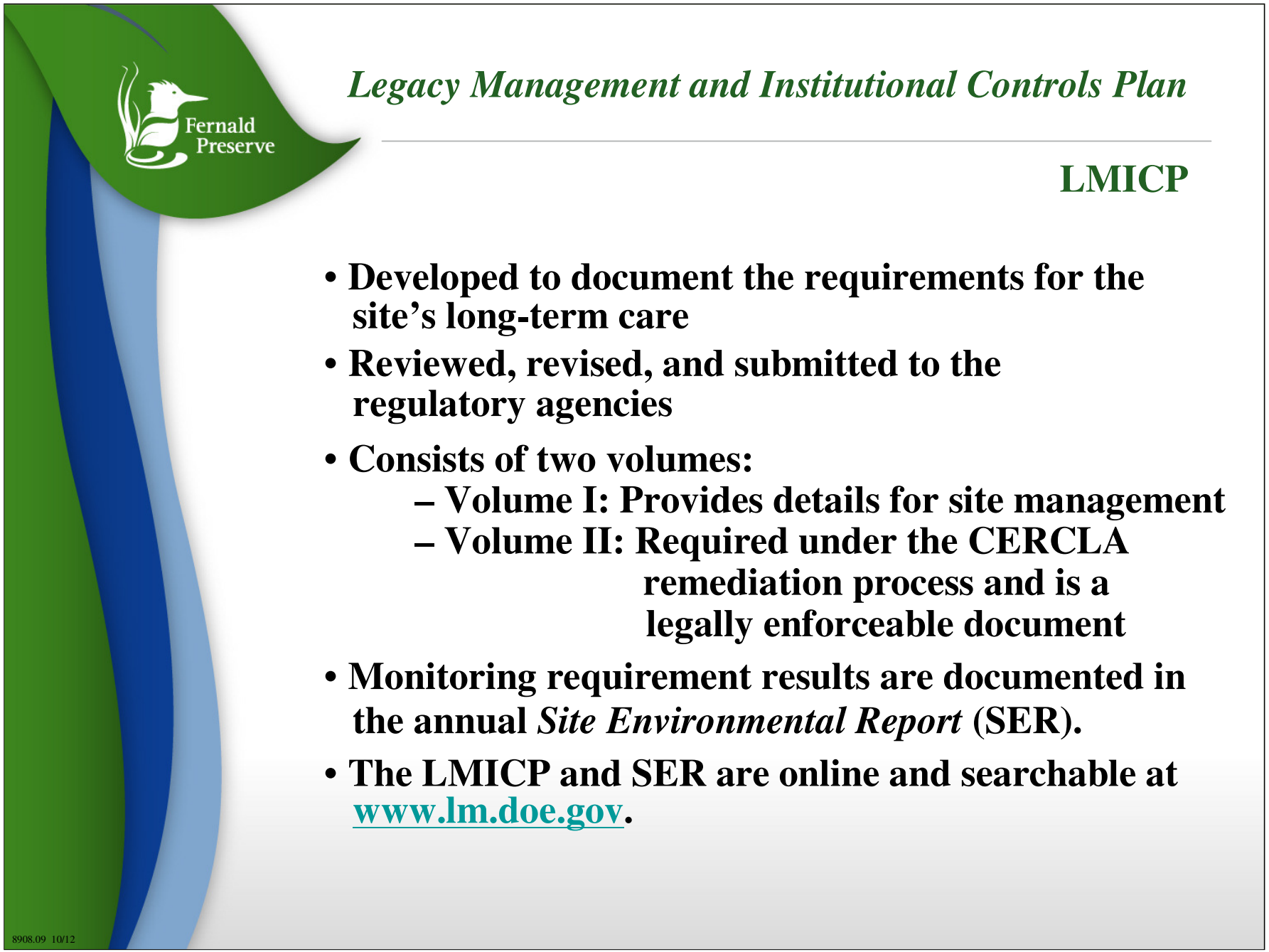
Natural Resource Trusteeship activities at and around the Fernald Preserve continue.

Fernald Preserve

Project Leads

- **Greg Lupton, S.M. Stoller**
  - **Data Management and Reporting**
- **John Homer, S.M. Stoller**
  - **Ecological Restoration**
- **Karen Voisard, S.M. Stoller**
  - **Environmental Monitoring**
- **Ken Broberg, S.M. Stoller**
  - **Aquifer Restoration**
- **Karen Cody, S.M. Stoller**
  - **Public Affairs**

S.M. Stoller subject matter experts.



The *Legacy Management and Institutional Controls Plan* was developed to document the requirements for the Fernald Preserve's long-term care. It is reviewed and updated every year, and the latest version is available on the Office of Legacy Management website: www.lm.doe.gov.

Ecological Restoration

- **Restored area maintenance**
- **Ecological monitoring**
- **Site and On-Site Disposal Facility inspections**

8908.10 10/12

Ecological restoration work includes maintenance, monitoring, and inspections.

Monitoring

Ecological

- **Wetland mitigation monitoring**
- **Functional monitoring**
- **Implementation monitoring**
- **On-Site Disposal Facility Cells 4 to 6 herbaceous cover**

8908.11 10/12

Monitoring programs help to evaluate the status of ecologically restored areas at the Fernald Preserve.

Inspections

Site and On-Site Disposal Facility

- **Site inspections**
- **On-Site Disposal Facility inspections**

8908.12 10/12

The inspection process continues according to the *Legacy Management and Institutional Controls Plan*.

Sampling

2011

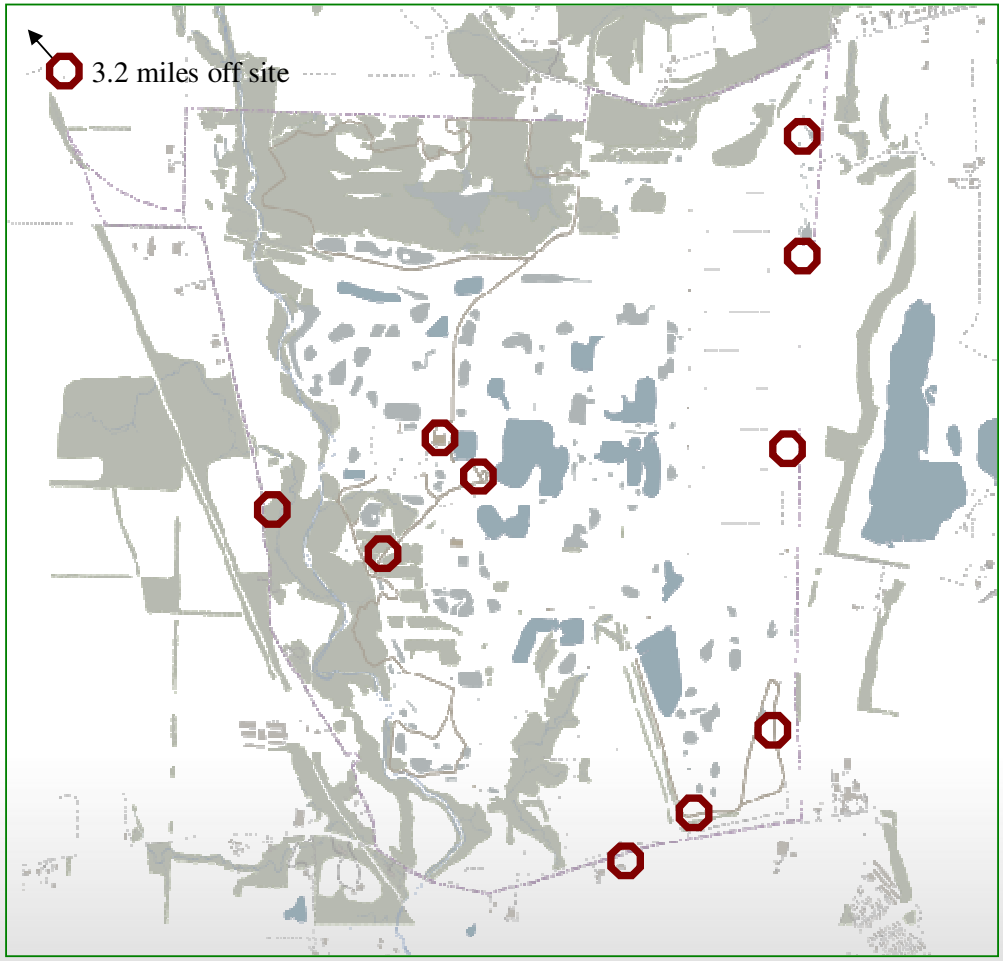
- Surface water sampling at 21 locations
- Treated effluent sample at one location
- Direct radiation monitoring at 11 locations
- On-Site Disposal Facility leak detection monitoring at 42 locations
- Groundwater sampling at 140 monitoring wells
- Continuing approved semiannual, quarterly, and daily sampling

8908.13 10/12

Routine environmental monitoring is conducted to ensure the continued effectiveness of the site's cleanup. The current monitoring regimen includes sampling groundwater, surface water, treated effluent, and direct radiation.

Monitoring

Dosimeter Locations

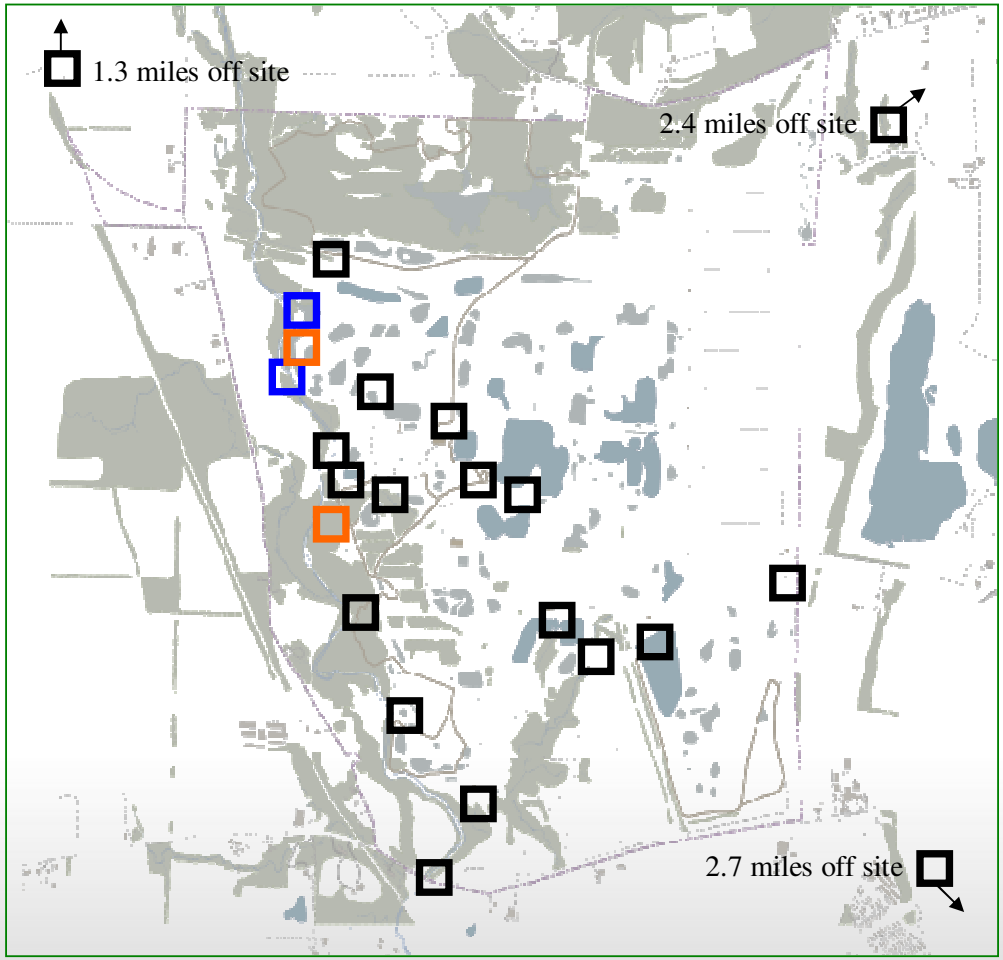


8908.14 10/12

Direct radiation monitoring locations.

Monitoring

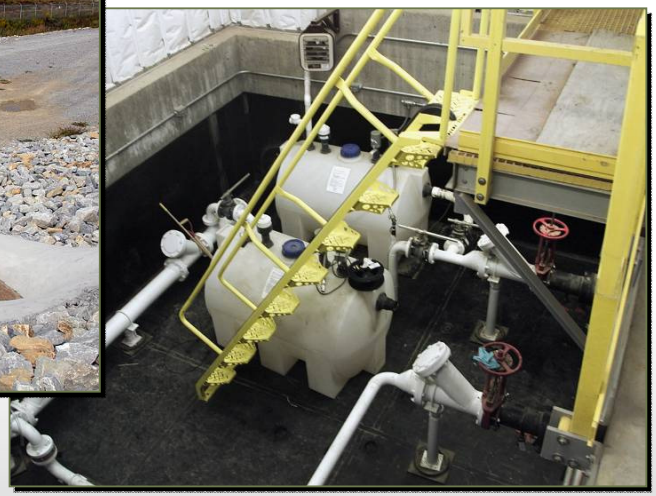
Surface Water and Treated Effluent Locations



8908.15 10/12

Surface water continues to be monitored at numerous locations onsite and offsite.

On-Site Disposal Facility

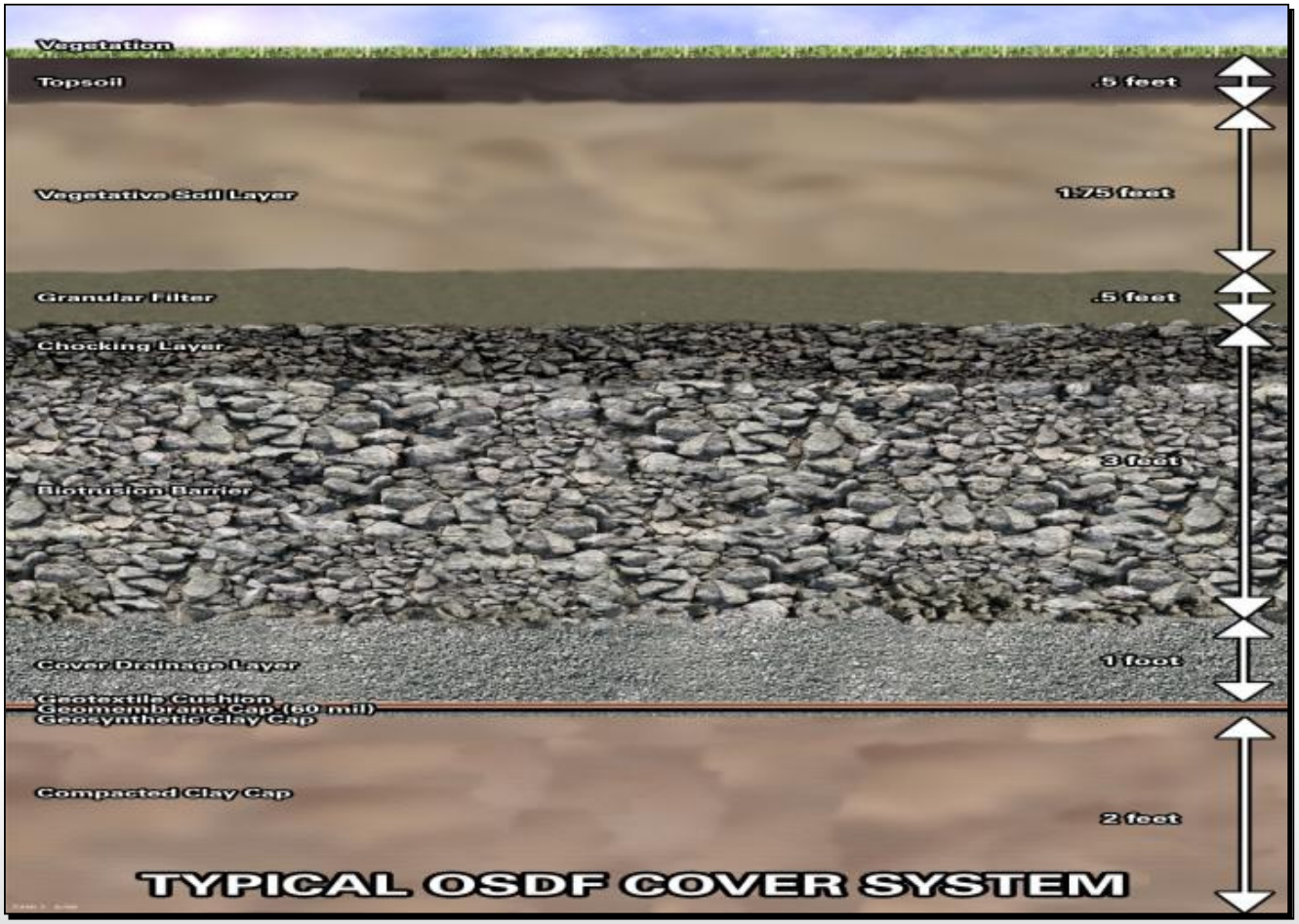


8908.16 10/12

The On-Site Disposal Facility is an engineered waste-storage area that holds 2.95 million cubic yards of waste.

On-Site Disposal Facility

Cover

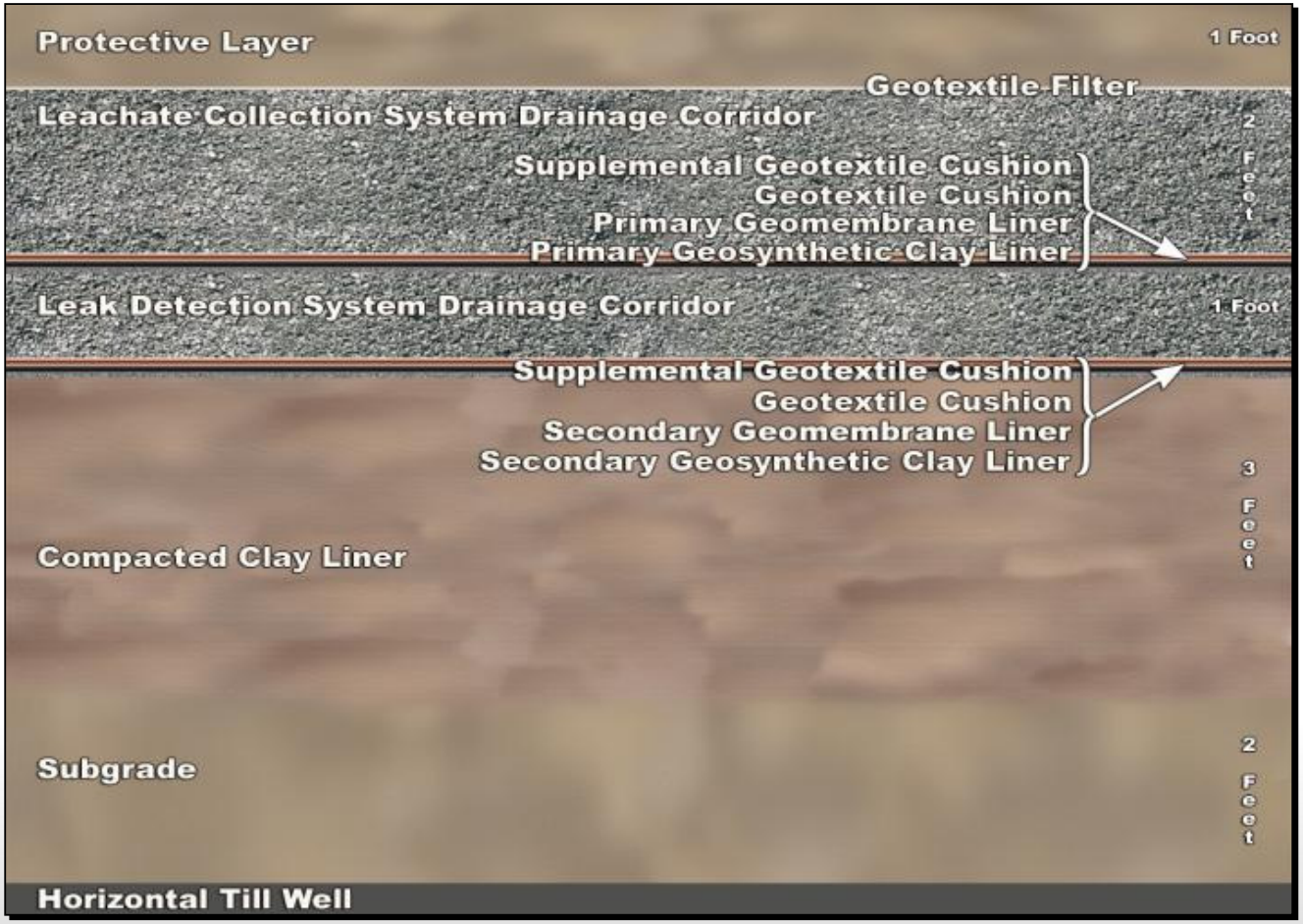


8908.17 10/12

The On-Site Disposal Facility's engineered cover system.

On-Site Disposal Facility

Liner

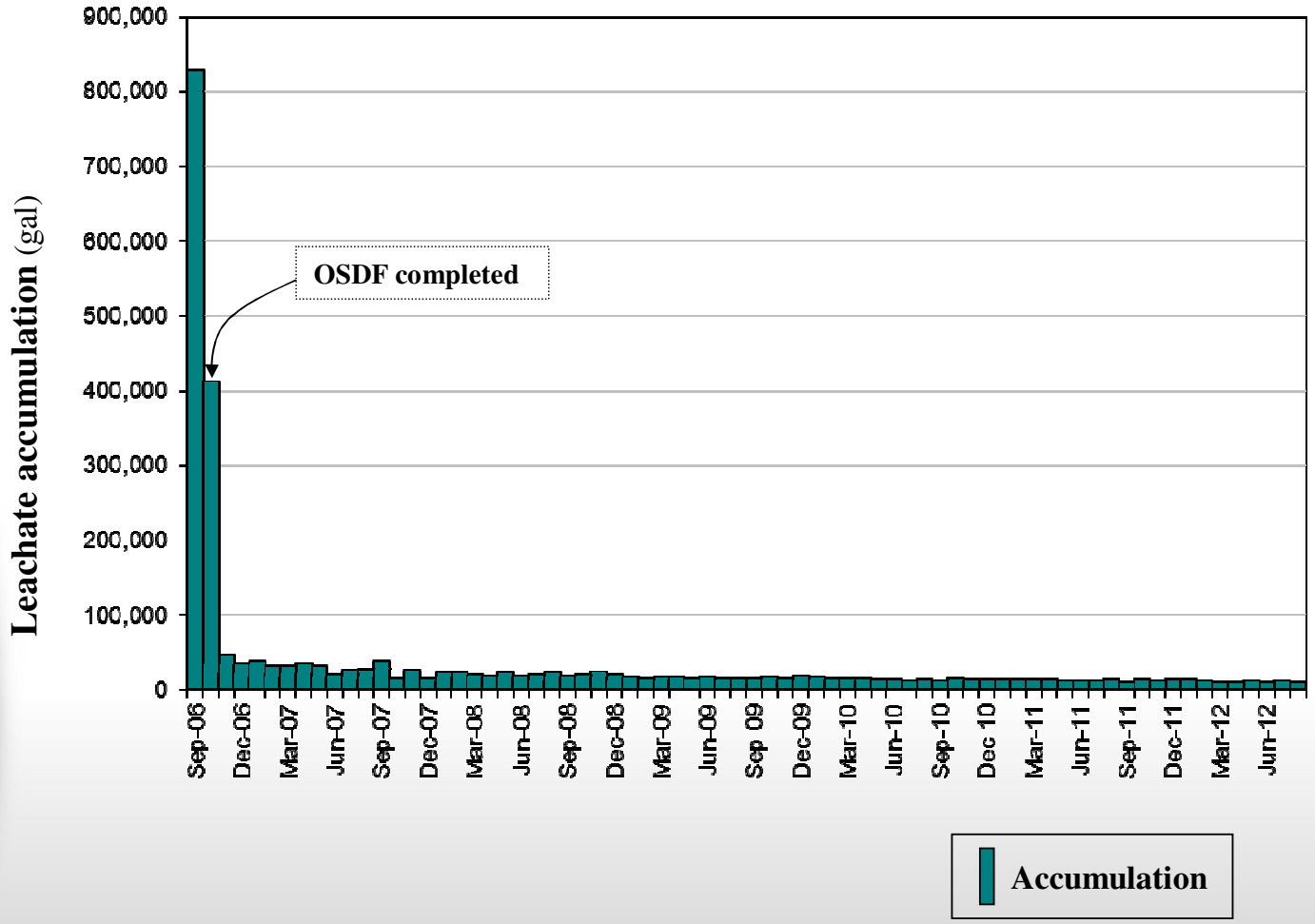


8908.18 10/12

The On-Site Disposal Facility's engineered liner system.

On-Site Disposal Facility

Leachate Collection System



8908.19 10/12

Leachate is the moisture in the waste within the On-Site Disposal Facility. The leachate is collected and transferred to a treatment facility. Before the cover system was completed in October 2006, hundreds of thousands of gallons of leachate flowed each month. Since then, monthly leachate flows have decreased to less than 12,300 gallons per month.

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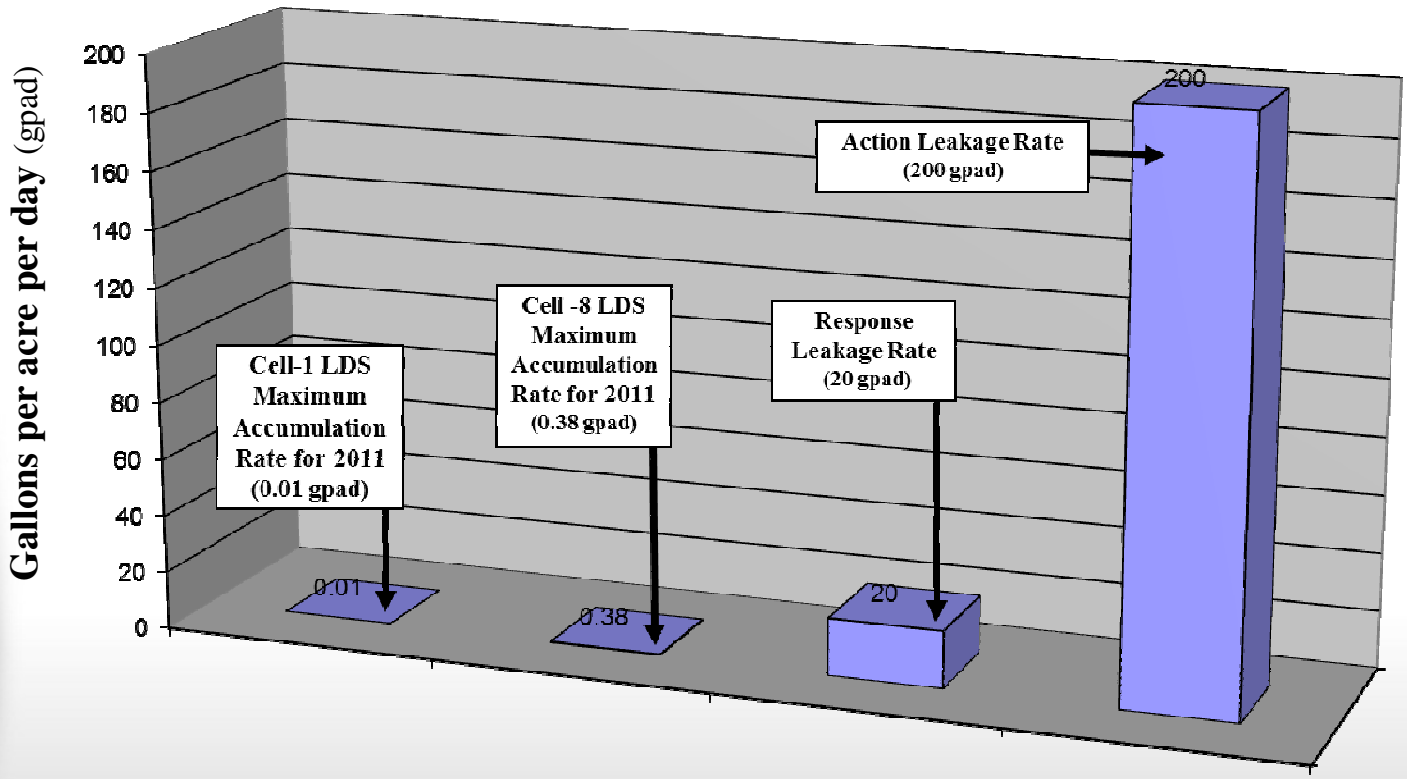
On-Site Disposal Facility

2011 Cells 1 and 8 Leak Detection System Accumulation, Response, and Action Level Rates

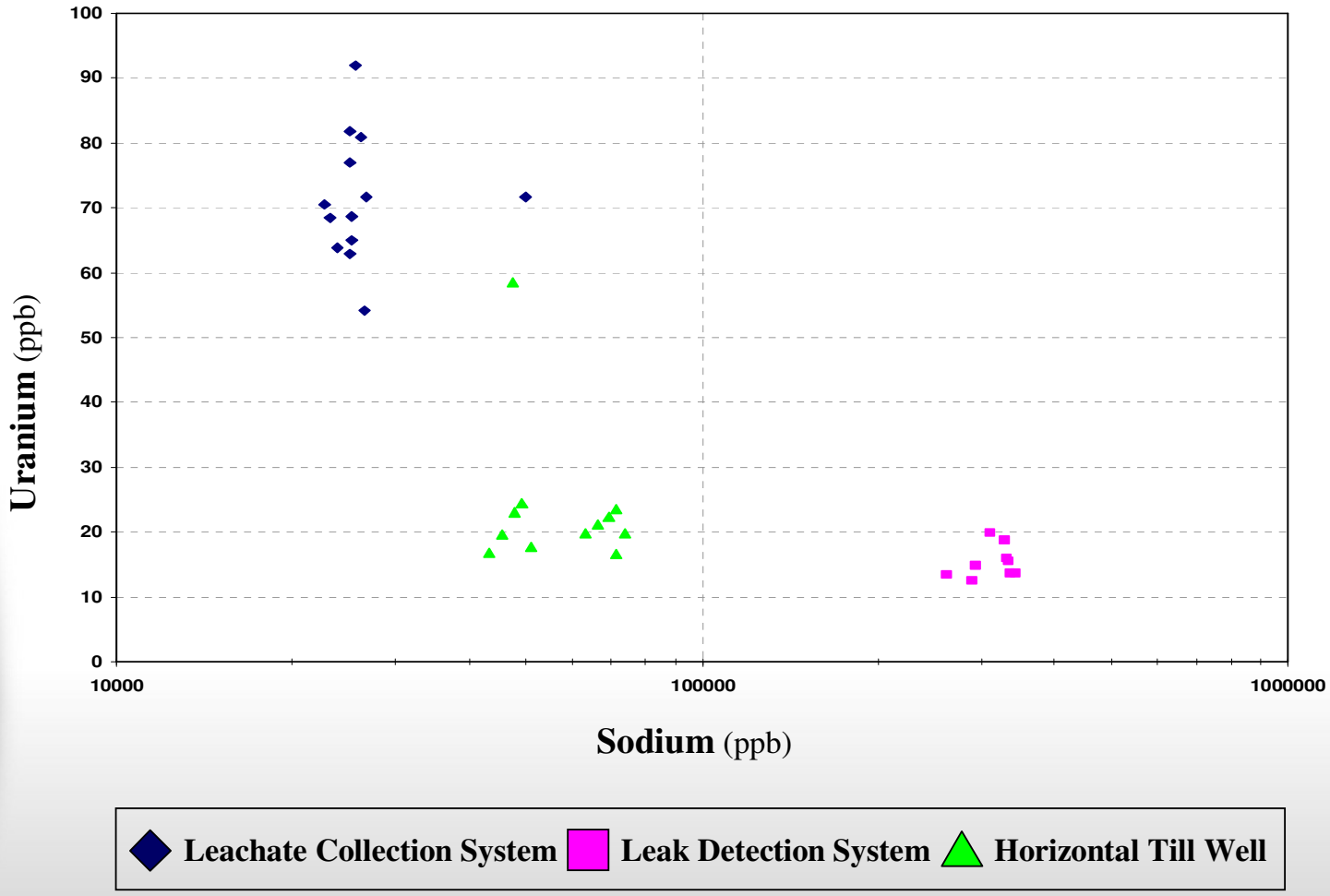


8908.20 10/12

Leak Detection System accumulation rates in Cells 1 and 8 were very small compared to the Response Leakage Rate (20 gpad) and the Action Leakage Rate (200 gpad).

On-Site Disposal Facility

Uranium vs. Sodium Concentrations: Cell 3 (bivariate plot)



8908.21 10/12

A comparison of uranium concentrations and sodium concentrations in and below Cell 3 of the On-Site Disposal Facility demonstrates that the liner system is working as designed.

On-Site Disposal Facility

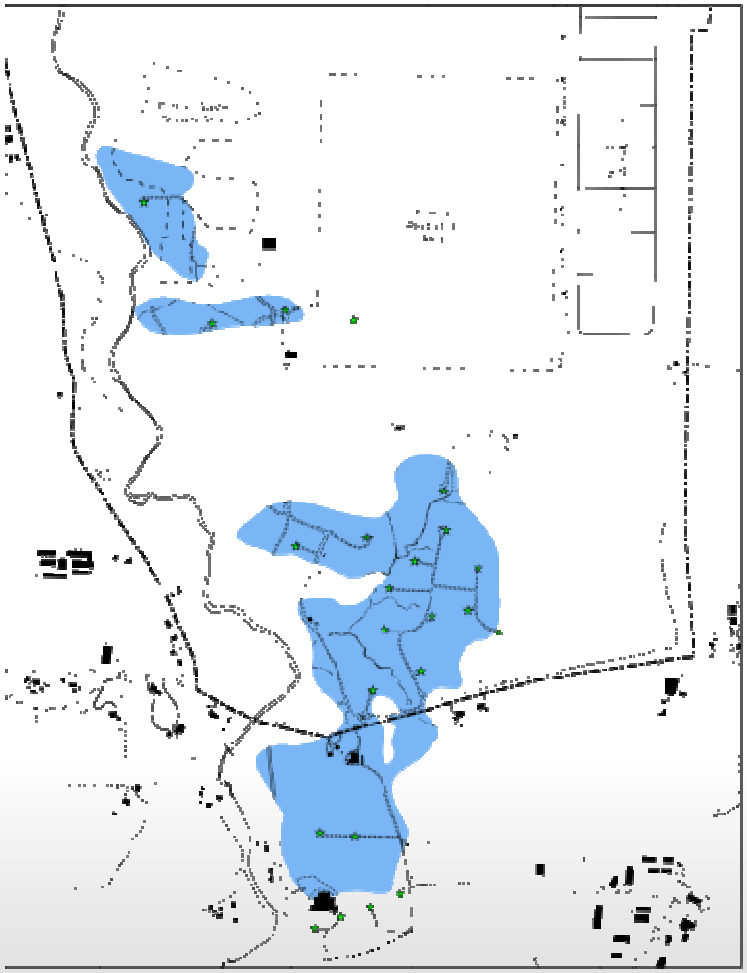
2011 Performance

- No indication of leaks
- Highest leak detection system maximum accumulation
  - Cell 8: 0.38 gallon per acre per day (gpad)
  - 20 gpad initial response leakage rate
  - 200 gpad action leakage rate
- Leachate collection system volumes have stabilized and continue to diminish
- Leak detection system accumulation rates indicate liner systems are performing within cell design
- Water quality trends in the horizontal till wells and Great Miami Aquifer wells are concentration fluctuations beneath the facility
- No visual signs of compromised cap integrity

8908.22 10/12

The On-Site Disposal Facility cap and liner systems are performing as designed.

Aquifer Restoration

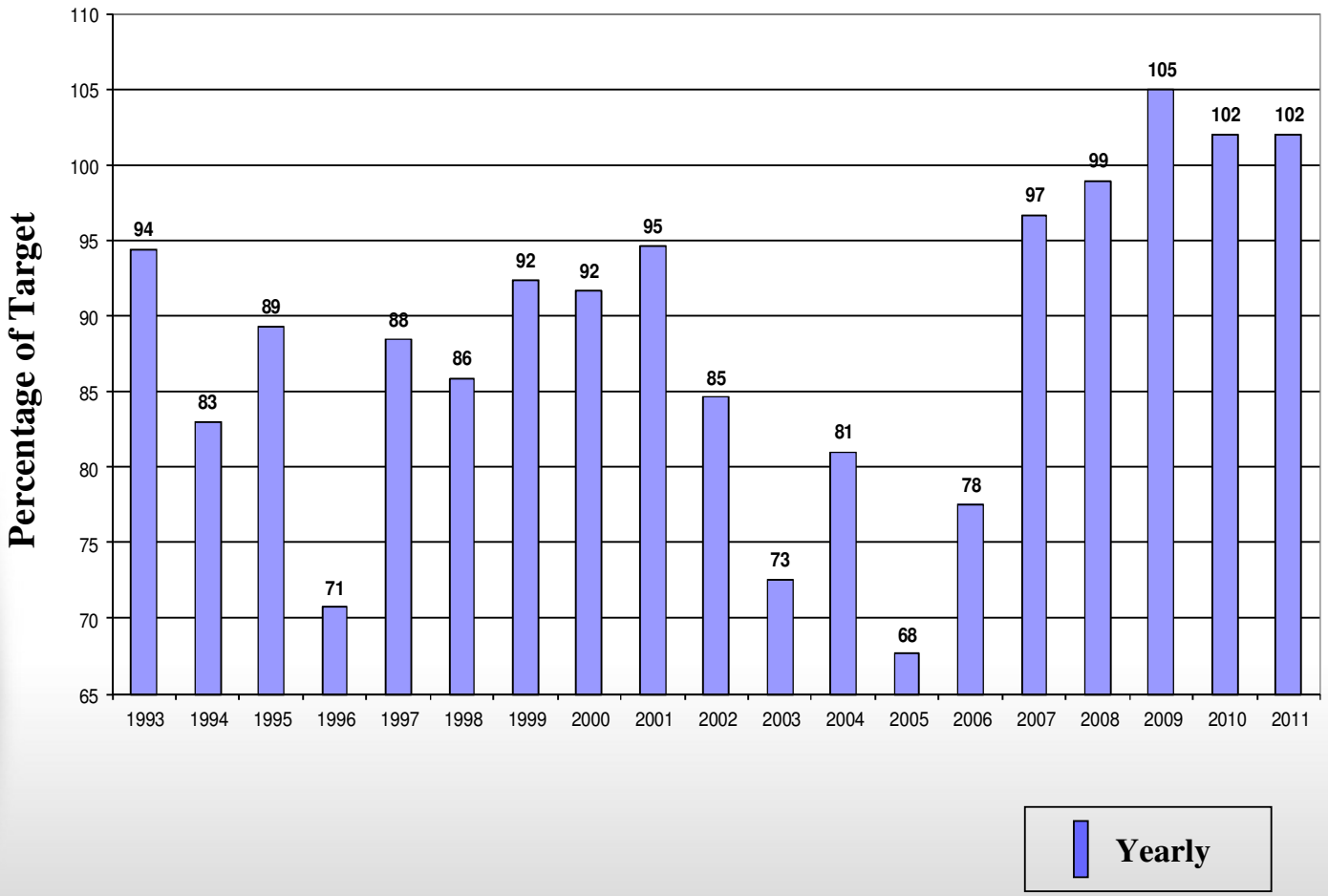


8908.23 10/12

Groundwater cleanup continues at the Fernald Preserve.

Aquifer Restoration

Pumping – Percentage of Target Achieved

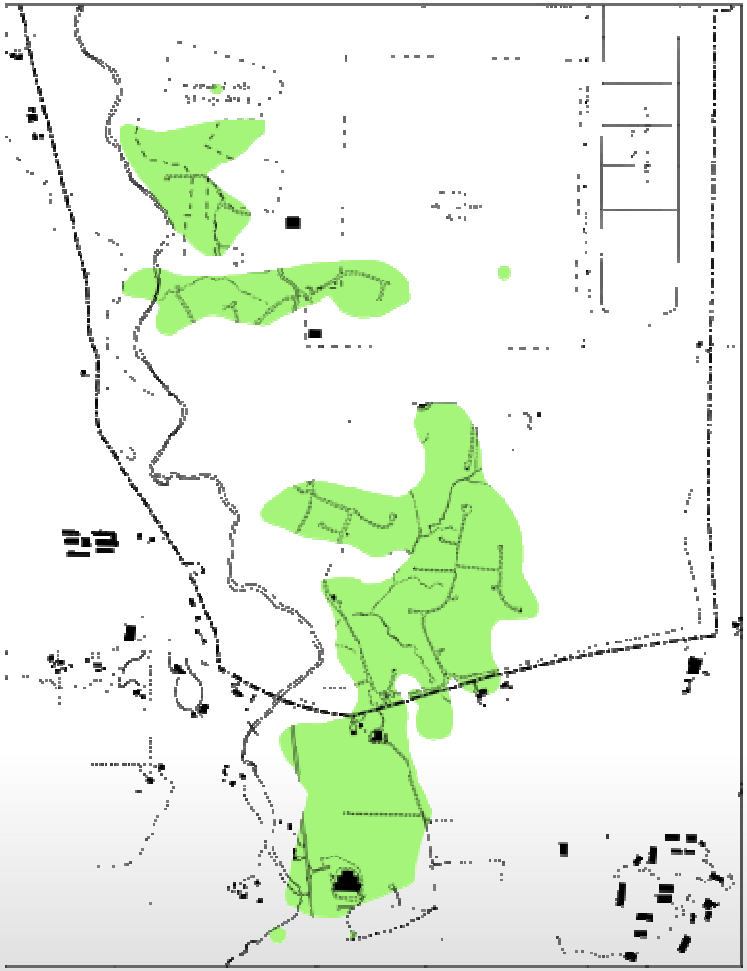


8908.24 10/10

Since site closure in 2006, operations have achieved at least 97 percent of planned operation targets, and this year is on course for achieving close to 100 percent.

Aquifer Restoration

Maximum Plume: 2010

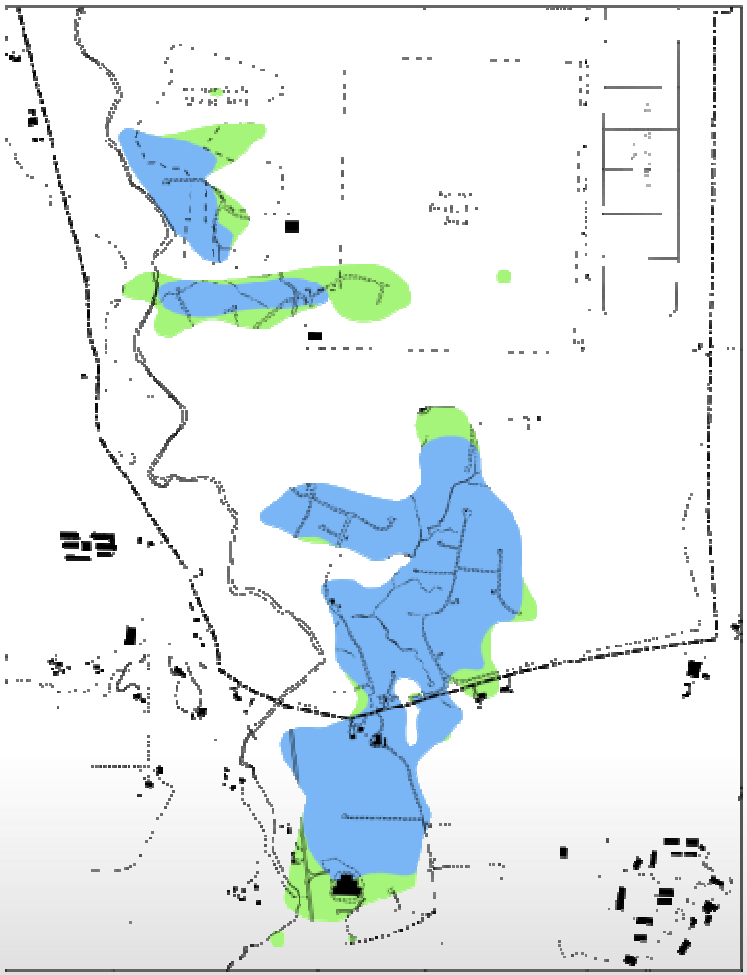


8908.25 10/12

Maximum size of uranium plume footprint was 184 acres in 2010.

Aquifer Restoration

Maximum Plume: 2010 and 2011

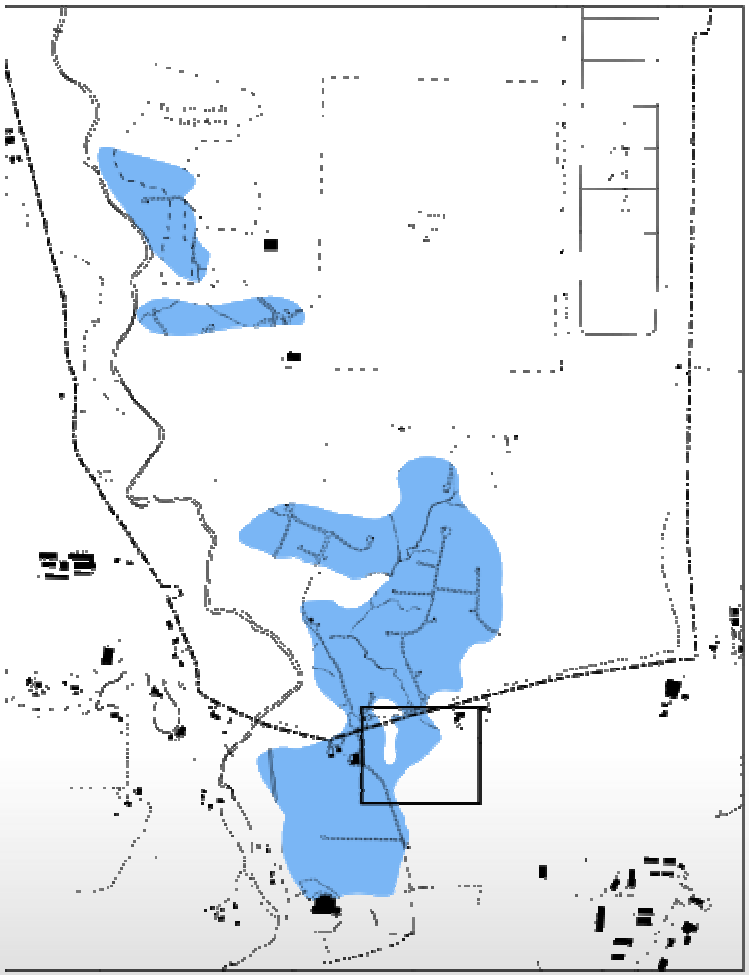


8908.26 10/12

Footprint of maximum uranium plume decreased significantly based on data collected in 2011.

Aquifer Restoration

Maximum Plume: 2011

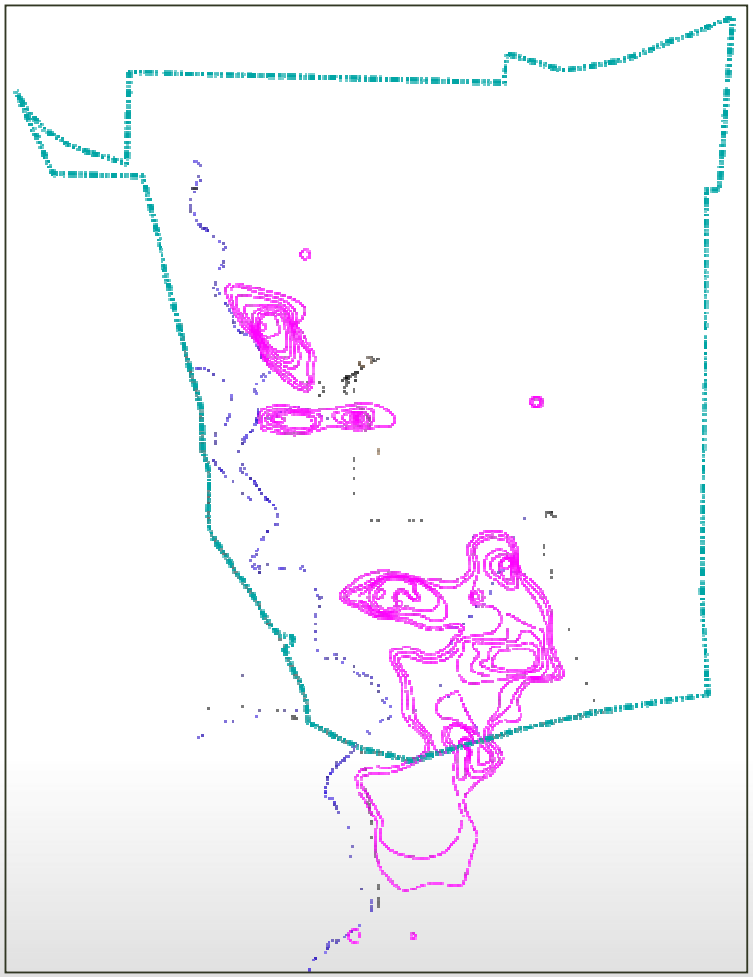


8908.27 10/12

Groundwater samples collected in 2011 indicated that an area of the uranium plume just south of Willey Road is larger than previously characterized.

Aquifer Restoration

Groundwater Model

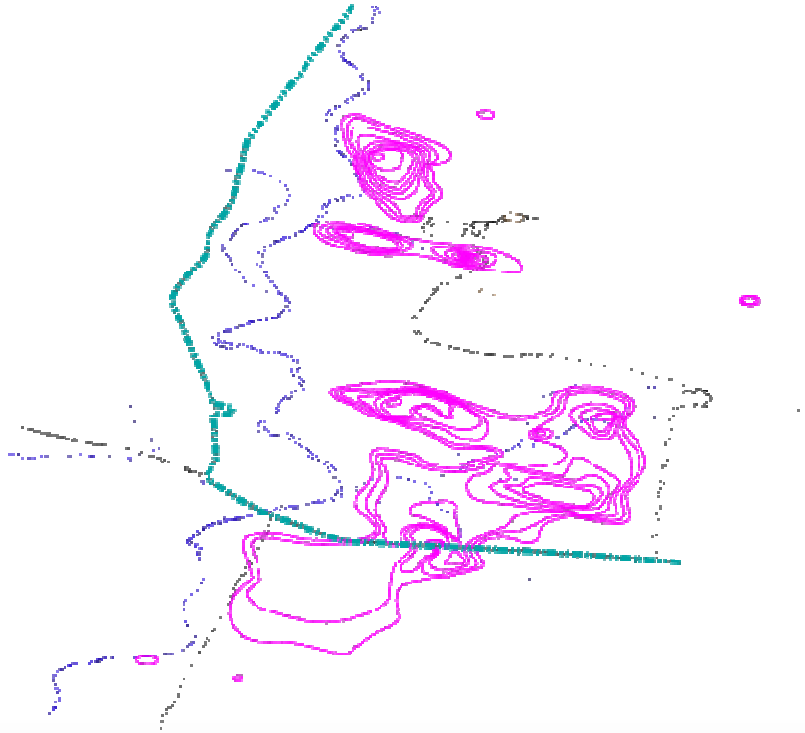


8908.28 10/12

In this block model diagram, each point in the aquifer fits into a unique cell of the groundwater model.

Aquifer Restoration

Groundwater Model

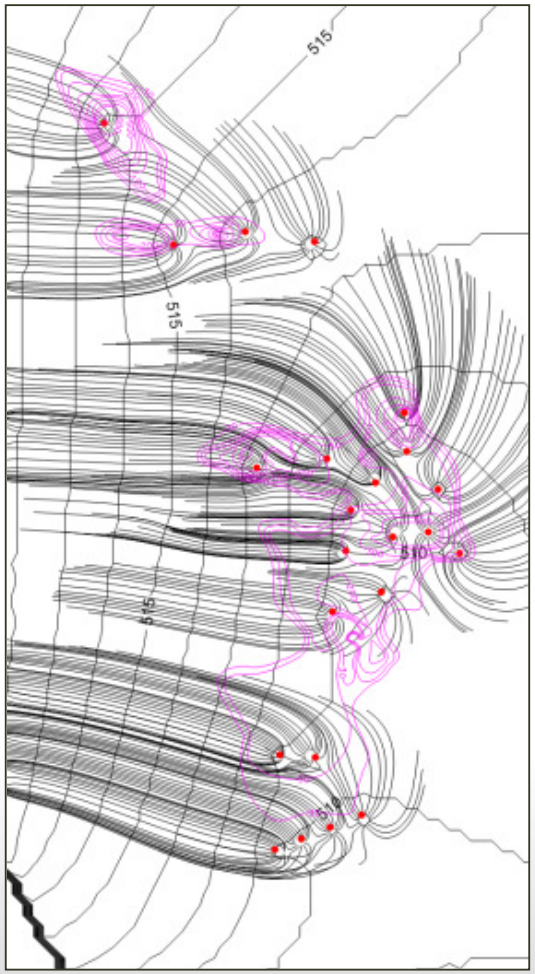


8908.29 10/12

In this block model diagram, each point in the aquifer fits into a unique cell of the groundwater model.

Aquifer Restoration

Capture Zone Map for Current Remediation Design

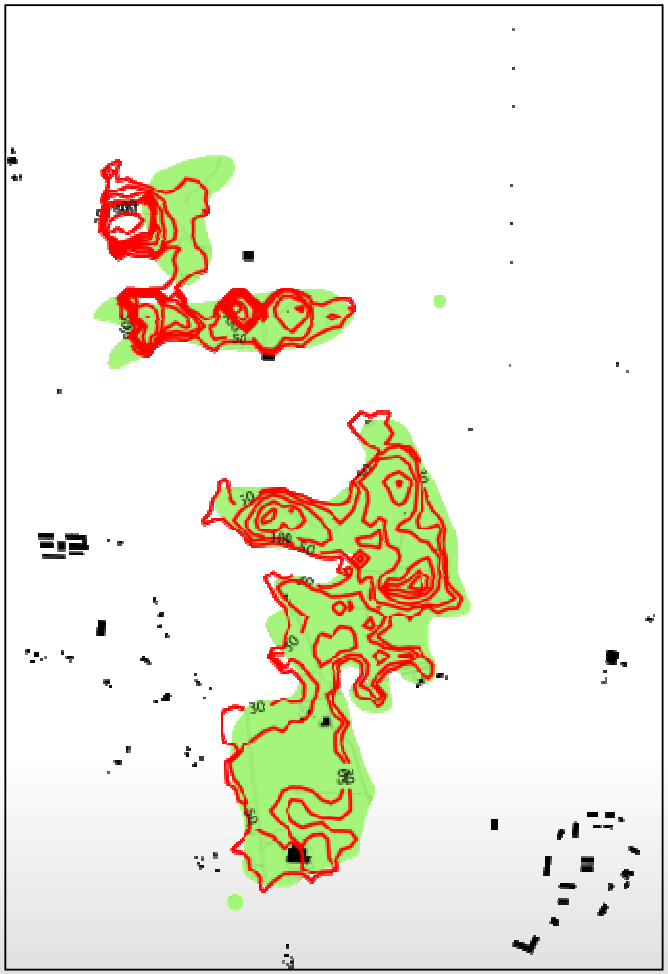


8908.30 10/12

Capture zone map for current aquifer remediation design.

Aquifer Restoration

Modeled Initial Conditions

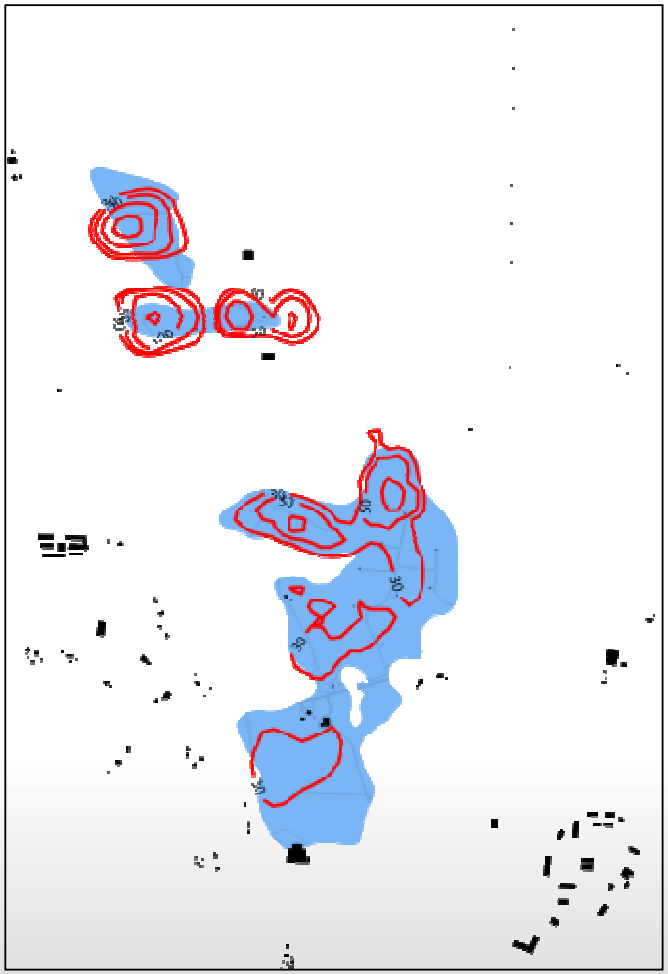


8908.31 10/12

Initial plume map for current groundwater remediation design.

Aquifer Restoration

Model-Predicted Concentrations for April 2012



8908.32 10/12

Model-predicted concentrations for April 2012.

Aquifer Restoration

Path Forward

- **Will determine how additional uranium concentrations will impact the groundwater restoration.**
- **Will look at different alternatives (e.g., no new infrastructure vs. new infrastructure) and how they impact cost, cleanup time, and stakeholder concerns.**
- **Discuss alternatives with EPA/Ohio EPA in late summer or fall 2013.**

Alternatives analysis will be available for discussion in late 2013.

Fernald Preserve

- **Site use**
- **Events**

8908.34 10/12

During the Fernald Preserve Visitors Center's fourth year of operation, a wide variety of groups—including students, birders, Scouts, and senior centers—have stopped by. Since the Fernald Preserve opened to the public in 2008, schools, conservation organizations, hikers, and cyclists have used the site, the Visitors Center, and the Community Meeting Room.

Look-Ahead

6 Months

- **Continue aquifer restoration**
- **Continue sampling**
- **Continue site and On-Site Disposal Facility monitoring**
- **Conduct prescribed burns**
- **Continue to offer unique educational programs**

8908.35 10/12

The 6-month look-ahead explains the work forecasted through the fall and winter.

Annual Community Meeting

Join us:

October 9, 2013

6:30 p.m.

Fernald Preserve Visitors Center

Jane Powell
LM Fernald Preserve Manager
(513) 648-3148
Jane.Powell@lm.doe.gov

Sue Walpole
S.M. Stoller Public Affairs
(513) 648-4026
Sue.Walpole@lm.doe.gov

General
(513) 648-6000
fernald@lm.doe.gov
www.lm.doe.gov

8908.36 10/12

The next annual Fernald Preserve community meeting is at 6:30 p.m. on October 9, 2013 and is subject to change.