

January 2009 Update

Lincoln Park Superfund Site
Canon City, Colorado
(Five-Year Review Date: 9/27/2007)

***H*ighlights Since the 2007 Five-Year Review**

- **Water user survey complete, reporting in progress**
- **State groundwater standards for uranium and molybdenum adopted**
- **Institutional Control (IC) in place for notification of affected ground water in the event of new well applications**
- **Conceptual ground water model revised**
- **Shadow Hills Golf Course area groundwater investigation on-going**

Brief Site History: The Lincoln Park site was added to the Superfund National Priorities List (NPL) in 1984. In 1988, the State of Colorado settled a lawsuit for natural-resource damages with Cotter Corporation. As part of the settlement, the State and Cotter agreed on how the site would be cleaned up further at Cotter's expense. EPA and the State also signed a Memorandum of Understanding giving the State the lead role in overseeing the cleanup of the site.

Cotter has a license to operate their mill under Colorado's Radiation Control Program. License and Superfund work take place concurrently. The contaminants of concern are uranium, uranium breakdown products, and molybdenum.

Lincoln Park is a semi-rural community, two miles south of Canon City, about 1.5 miles from the Cotter uranium mill. The mill is in the Sand Creek drainage, which goes through Lincoln Park to the Arkansas River.

Before 1980, Cotter disposed of tailings and other wastes from uranium processing into unlined ponds. Contaminants leached into groundwater, then migrated to the Lincoln Park neighborhood, affecting local wells. Most residents have been connected to the Canon City water supply for many years, although some still use groundwater to irrigate lawns and gardens.

Wind blown contaminants were deposited on soils adjacent to the mill. Tailings, the waste from ore processing, were carried in surface water runoff from the mill, contaminating the stream sediments in Lincoln Park's Sand Creek

Cleanup Activities: Cleanup and monitoring under a Remedial Action Plan (RAP) continue with State oversight. In January 2002, EPA issued a Record of Decision (ROD) requiring No Further Action for surface soils within Lincoln Park. This decision was made because previous surface-soil cleanup activities in the Sand Creek drainage area eliminated or reduced risks to acceptable levels.

Current Status: Cotter Corporation has a license to operate their mill and may seek a license amendment to return to active operation as energy resources remain important in the marketplace. Replacement of old technology and equipment has been part of the discussion.

A number of activities under the court ordered RAP have been performed:

- all eligible residents of Lincoln Park have been given the option of connecting to city water,
- contaminated soils have been moved to lined impoundments,
- flushing and chemically fixing contaminants in the Old Pond Area took place,
- soil removal and regrading of the Old Ponds Area took place in 2008,

In addition

- a permeable reactive treatment wall to remove uranium and molybdenum from the groundwater was constructed
- a groundwater barrier exists at the Soil Conservation Service dam to minimize migration of contaminated groundwater,
- water collecting behind the barrier and the reactive treatment wall is pumped back into facility-managed, lined ponds,
- 9000 cubic yards of surface soil/sediment were removed in the Sand Creek clean-up
- the first Five-Year Review for the Lincoln Park Superfund Site was completed September 27, 2007

Summary of Protectiveness: Protectiveness was achieved at the time of the Five Year Review by preventing human exposure to contaminated groundwater through

- provision of municipal water,
- monitoring of private well water quality and
- semi-annual review of well permit applications.

Additional measures took place in 2008. A water use survey was performed in the summer and fall of 2008, with reporting due in early 2009. One additional water user was identified in the Lincoln Park neighborhood, and they have been

offered an alternate water supply. An institutional control notifying new water users of ground water concerns in the area was put in place at the Colorado State Engineer's Office in November 2008.

Groundwater monitoring continues under the mill license. The sampling points are monitored for water quality changes that would affect the protectiveness determination. Monitoring in the Shadow Hills area has not identified any change in protectiveness. Cotter has an ongoing responsibility to offer alternate water to eligible affected users. Recurrent review of the State Engineer's records and water use surveys assure periodic confirmation that affected users are identified. Data quality is under continual review.

Issues Impacting Protectiveness: Groundwater contamination under the Shadow Hills Golf Course is not fully defined, but the water use survey confirmed it does not affect additional water users at this time. As previously discussed, a remedy for groundwater has not been selected under Superfund, however monitoring and a series of measures improving ground water conditions have taken place under the Radioactive Materials License and the Remedial Action Plan.

**Lincoln Park
Five-Year Review 2008 Update Table
(Review Date 09/27/2007)**

Issues	Recommendations/ Follow-Up Actions	Follow-Up Actions (Status/ Due Date)	Status of Follow-Up Actions 1/09	Responsible Party
1) Formal remedy selection for groundwater has not been documented.	Select a remedy for OU2 groundwater.	12/31/10	In Progress: The groundwater model is being amended, investigation of the Shadow Hills area is in progress, and a water use survey has been performed. Further progress on these is required prior to ROD development.	EPA

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2) Areas of groundwater contamination above water quality standards exist in locations hydraulically down-gradient from compliance monitoring points. Therefore, the Lincoln Park Monitoring Well (MW-19 and MW-20) is not a reliable indicator of Applicable or Relevant and Appropriate Requirements (ARAR) compliance within Lincoln Park.	Specify the need for an OU2 groundwater monitoring plan in the decision document described under issue No. 1, above. Prepare and implement the plan under Superfund or through Cotter's State permit	12/31/10	A monitoring program exists under the State license. State groundwater standards for uranium and molybdenum will require monitoring in the area that is consistent with protectiveness objectives until a ROD exists under Superfund.	EPA/Cotter or State Permit
3) A portion of the OU2 groundwater plume is suspected to extend onto the Shadow Hills Golf Course. This portion of the plume is not well defined or reflected on plume maps presented in annual reports. Modifications to the existing groundwater monitoring program to address this issue are in progress.	The 5YR recommended conducting a one-time sampling of piezometers 805, 338 and 337, and defining monitoring and reporting requirements in the monitoring plan described under issue No. 2, above. The issue was addressed under the State Radiation Control License	12/31/08	Complete. A work plan has been approved by the State. Investigation of the Shadow Hills area is under way which includes groundwater sampling. The ground water map has been revised.	Cotter
4) Colorado intends to adopt the Federal Drinking Water Standards for uranium of 0.030 milligrams per liter (mg/L). This is lower than the current cleanup goal of 0.035 mg/L.	The 5YR recommended specifying new ARARs for groundwater in the decision document described under issue No. 1, above. New standards were adopted and are available for ARAR development.	5/31/08	Complete. Colorado adopted a uranium standard of 0.030 mg/L and a molybdenum standard of 0.035 mg/L, effective May 2008.	EPA

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5) Institutional controls to minimize the likelihood of new water wells or the use of existing water wells for drinking water have not been implemented.	The 5YR recommended including the need for such controls in the decision document described under issue No. 1, above and implementing the controls. IC's are now in place and available for inclusion in the ROD.	12/31/08	New IC in place: a notification program through the State engineer's office was put in place in November 2008.	EPA/Cotter
6) Restoration of groundwater quality is occurring more slowly than anticipated in the RAP.	Perform contaminant fate and transport modeling to estimate remaining time to achieve water quality standards across OU2. Provide an estimate of groundwater restoration time frame in the decision document described under issue No. 1, above.	12/31/09	The conceptual model has been revisited. Planning is under way to identify and test data gaps.	Cotter/EPA
7) The ROD suggested that deletion of soil/sediment from the NPL may be appropriate. The deletion was not implemented.	Implement deletion	6/30/09	Review of all available data, how they compare to preliminary remediation goals, and how they may affect this action are in progress.	EPA

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8) A water use survey has not been conducted in Lincoln Park since the late 1980's.	Perform a water use survey	3/30/09	A water use survey was performed in 2008. The report will be issued in 2009. It's scope was broader than the 5YR anticipated, including sampling. Alternate water has been offered to one additional water user.	Cotter