THIRD FIVE-YEAR REVIEW REPORT FOR OPERABLE UNIT 2 – LINCOLN PARK SOILS OF THE LINCOLN PARK SUPERFUND SITE FREMONT COUNTY, COLORADO

Prepared by

U.S. Environmental Protection Agency Region 8 Denver, Colorado

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Date 1/26/17
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AOC</td>
<td>Administrative Order on Consent</td>
</tr>
<tr>
<td>ATSDR</td>
<td>Agency for Toxic Substances &amp; Disease Registry</td>
</tr>
<tr>
<td>ARAR</td>
<td>Applicable or Relevant and Appropriate Requirement</td>
</tr>
<tr>
<td>CAG</td>
<td>Community Advisory Group</td>
</tr>
<tr>
<td>CDPHE</td>
<td>Colorado Department of Public Health and Environment</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CIC</td>
<td>Community Involvement Coordinator</td>
</tr>
<tr>
<td>COC</td>
<td>Contaminant of Concern</td>
</tr>
<tr>
<td>COPC</td>
<td>Contaminant of Potential Concern</td>
</tr>
<tr>
<td>EPA</td>
<td>United States Environmental Protection Agency</td>
</tr>
<tr>
<td>EPC</td>
<td>Exposure Point Concentration</td>
</tr>
<tr>
<td>FYR</td>
<td>Five-Year Review</td>
</tr>
<tr>
<td>HHRA</td>
<td>Human Health Risk Assessment</td>
</tr>
<tr>
<td>HI</td>
<td>Hazard Index</td>
</tr>
<tr>
<td>HQ</td>
<td>Hazard Quotient</td>
</tr>
<tr>
<td>IC</td>
<td>Institutional Control</td>
</tr>
<tr>
<td>IRIS</td>
<td>Integrated Risk Information System</td>
</tr>
<tr>
<td>mg/kg</td>
<td>Milligrams per Kilogram</td>
</tr>
<tr>
<td>NCP</td>
<td>National Contingency Plan</td>
</tr>
<tr>
<td>NPL</td>
<td>National Priorities List</td>
</tr>
<tr>
<td>NRD</td>
<td>Natural Resource Damage</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>Operation and Maintenance</td>
</tr>
<tr>
<td>OU</td>
<td>Operable Unit</td>
</tr>
<tr>
<td>pCi/g</td>
<td>PicoCuries per Gram</td>
</tr>
<tr>
<td>PRG</td>
<td>Preliminary Remediation Goal</td>
</tr>
<tr>
<td>PRP</td>
<td>Potentially Responsible Party</td>
</tr>
<tr>
<td>RAO</td>
<td>Remedial Action Objective</td>
</tr>
<tr>
<td>RAP</td>
<td>Remedial Action Plan</td>
</tr>
<tr>
<td>RDO</td>
<td>Reference Dose</td>
</tr>
<tr>
<td>RI/FS</td>
<td>Remedial Investigation/Feasibility Study</td>
</tr>
<tr>
<td>ROD</td>
<td>Record of Decision</td>
</tr>
<tr>
<td>RPM</td>
<td>Remedial Project Manager</td>
</tr>
<tr>
<td>RSL</td>
<td>Regional Screening Level</td>
</tr>
<tr>
<td>SCS</td>
<td>Soil Conservation Service</td>
</tr>
<tr>
<td>T1/2</td>
<td>Half-Life in Years</td>
</tr>
<tr>
<td>UU/UE</td>
<td>Unlimited Use/Unrestricted Exposure</td>
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I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP) (40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the third FYR for the Lincoln Park Superfund Site (the Site). EPA is conducting this discretionary review due to community involvement and interest in the Site. The previous FYR was completed five years ago.

The Site consists of three operable units (OUs). Only OU2 soil will be addressed in this FYR. OU1 includes Cotter Corporation’s (Cotter’s) uranium mill facility and a portion of the surrounding area including the Shadow Hills Golf Course. OU2 includes the unincorporated area of the Lincoln Park residential neighborhood and is subdivided by principal environmental media soil and groundwater. OU3 was established to address any other remaining Site-related contamination outside of OU1 and OU2, but investigations are currently underway and the OU3 boundary is being determined. OU1, OU2 groundwater, and OU3 are not addressed in this FYR because they do not yet have remedies documented in Records of Decision (RODs), and neither a policy nor statutory review has been triggered for these parts of the Site.

The FYR was led by Mark Aguilar, EPA Remedial Project Manager (RPM). Participants included Jasmin Guerra (EPA Community Involvement Coordinator [CIC]), Vera Moritz (RPM), Jennifer Opila (Colorado Department of Public Health and Environment [CDPHE] Radiation Control Program Manager), Monica Sheets (CDPHE Remediation Program Manager), Alissa Schultz (CDPHE Superfund Project Officer), Warren Smith (CDPHE Community Involvement Manager), Shiya Wang (CDPHE Uranium Project Officer), and Treat Suomi and Kelly MacDonald (Skeo, EPA contractor). Cotter is the Site’s potentially responsible party (PRP). The review began on January 26, 2017. Appendix A includes a list of documents reviewed for this FYR.

Site Background

The Site is located near Cañon City in Fremont County, Colorado, and includes Cotter’s 2,600-acre uranium mill property and areas of mill-associated contamination, including the Lincoln Park community (OU2) (Figure 1). Lincoln Park is two miles south of Cañon City and approximately 1.5 miles north of the mill. The 1.5-square-mile Lincoln Park community consists of primarily residential and agricultural land use, including grazing parcels and orchards.

The primary hydrologic feature of the Site is Sand Creek, a seasonal stream that becomes perennial just above its confluence with the Arkansas River. Historically, Sand Creek flowed from the mill through Lincoln Park to the Arkansas River, but in 1971, the Soil Conservation Service (SCS) constructed an earthen flood control dam (the SCS dam) on the Cotter property, which also prevents downstream movement of surface water and sediment from the mill. Upstream of the dam, there are groundwater containment systems (a hydrologic clay barrier and pumpback system) that intercept shallow groundwater from the mill. Shallow groundwater flow is predominantly through alluvial materials associated with Sand Creek. Another major hydrologic feature in the southern portion of Lincoln Park is the DeWeese Dye Ditch. Lincoln Park residents use municipal or irrigation ditch water for drinking and irrigation purposes. Some residents also own private wells, which are used for irrigation.

The Cotter mill began producing uranium oxide, or yellow cake, in August 1958; the mill also produced
vanadium and molybdenum as byproducts. Cotter used an alkaline-leach uranium milling process and stored process liquids in unlined ponds (located in what is known as the old ponds area). Between 1958 and 1979, contamination seeped into the groundwater from the ponds and subsequently migrated toward Lincoln Park. The milling process also contaminated soil at the Cotter property, and the contamination spread via the wind to soil adjacent to the mill and along the Sand Creek drainage on the mill property (contaminating sediment within the drainage). Surface water runoff from the mill carried waste into Sand Creek, contaminating stream sediments. In 1979, Cotter changed the alkaline-leach process to an acid-leach process. The mill suspended primary operations in 1987 with limited and intermittent processing until 1999. From 1999 to 2000, the mill resumed operations with a modified alkaline-leaching process, and a variety of other processing operations took place on the Site from 2000 to 2006. Cotter put the mill into a stand-down operational status in 2006 and closed it in 2011. The mill no longer operates, but Cotter still employs staff on Site involved in plant closure and maintenance operations. Almost all the old mill buildings and structures have been dismantled; mill waste products are stored in two lined ponds on the Site, which has controlled wind dispersal of particulates. Discussions regarding the future use of the mill property and surrounding areas (OU1 and OU3) have included open space, recreational, solar energy or light industrial uses. A Site chronology is included in Appendix B.
Figure 1: Site Vicinity Map

Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding EPA’s response actions at the Site.
II. RESPONSE ACTION SUMMARY

Basis for Taking Action

CDPHE assessed human health risk during phase I in a 1991 human health risk assessment (HHRA), which was a planning phase document. Supplemental risk was assessed during phase II in a 1996 supplemental HHRA (an investigation of baseline risks to Lincoln Park residents based on environmental conditions from 1987 to 1988) and phase III in a 1998 HHRA (an evaluation of environmental conditions from 1994 through 1996 to assess the effectiveness of cleanup actions taken since 1988). In the 1998 HHRA, CDPHE did not find unacceptable risks that warranted remedial action; the results of this evaluation are summarized below.

The 1998 HHRA evaluated the potential risks from incidental ingestion of and dermal radiation exposure to soil near the mill and in the Lincoln Park area for current and potential future residents. Findings indicated that the 1993-1999 Sand Creek Soil cleanup action eliminated unacceptable risks from soil in the Lincoln Park area. The 1998 HHRA found that cancer risks from soil exposure were almost entirely from external radiation (i.e. gamma rays) from radium-226. Comparisons of Site data with naturally-occurring levels present in Cañon City and elsewhere in Colorado concluded that soil concentrations of radium-226 were within normal background ranges. The 1998 HHRA identified arsenic and beryllium as potentially increasing the cancer risk when ingested, with...
most risk due to arsenic. However, the spatial distribution of arsenic indicated no pattern, leading to the conclusion that soil was not impacted by airborne contamination; the assessment attributed arsenic concentrations to background conditions. The 1998 HHRA determined that there was no significant risk of noncancer illnesses occurring from soil ingestion. The assessment also found that areas north of the mill, including Lincoln Park, were not impacted by airborne deposition of mill-contaminated soil.

The 1998 HHRA also evaluated the potential for soil to become contaminated by irrigation with contaminated well water. Results indicated that some chemicals, including uranium and molybdenum, were present at statistically higher values in areas where irrigation with contaminated well water occurred; these higher values were comparatively small and did not constitute risks that exceeded the risk range.

A Biological Technical Assistance Group (including representatives from EPA, CDPHE and Cotter) conducted a 1999 baseline ecological risk assessment to assess the potential for adverse ecological effects from the release of: windblown mill tailings, surface water runoff and subsurface water in Lincoln Park, the mill property, and agricultural and open space lands adjacent to Cotter’s property. The assessment determined that risks to vegetation and animals were minimal, and as such, no ecological risk based remedial actions were needed.

The unlimited use and unrestricted exposure (UU/UE) cleanup objectives for the Site are listed below in Table 1. The validity of these cleanup objectives is evaluated in Question B and Appendix F.

**Table 1: Soil/Sediment Contaminants of Concern (COC) Cleanup Objectives**

<table>
<thead>
<tr>
<th>Soil/Sediment COC</th>
<th>Cleanup Objectives (picoCuries/gram [pCi/g])</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radium-226</td>
<td>4</td>
</tr>
<tr>
<td>Thorium-230</td>
<td>4</td>
</tr>
</tbody>
</table>

*Source: 2002 OU2 soil ROD*

**Response Actions**

The mill was originally licensed by the Atomic Energy Commission, but licensing authority was transferred to the Colorado Department of Health (currently CDPHE) in 1968. In 1971, the SCS constructed the SCS dam across Sand Creek on Cotter’s property to control flooding and prevent downstream movement of surface water and sediment from the mill. Beginning in 1979, impounded water collected at the SCS dam was pumped back to the main impoundment.

In 1978, Cotter built a lined tailings impoundment for the new acid-leach operations, which included a primary and secondary impoundment. From 1981 to 1983, Cotter removed about 2.5 million cubic yards of tailings from the unlined old ponds area and placed the material into the lined secondary impoundment cell. In 1989, Cotter covered tailings in the secondary impoundment cell with liquid for dust control and to create evaporative capacity. Additional contaminated soil was removed from the ground surface level to bedrock at the old ponds area and placed in the lined primary impoundment cell. These actions prevented further seepage of contaminated pond water to groundwater and further airborne dispersal of contaminants.

In December 1983, the State of Colorado (the State) filed a complaint against Cotter for injury to, loss of and destruction of natural resources relating to the uranium mill. In September 1984, EPA placed the Site on the National Priorities List (NPL). In April 1986, EPA and the State executed a Memorandum of Agreement that established the State as the lead agency.

The remedial investigation/feasibility study (RI/FS) was completed in February 1986. Cleanup plans were evaluated in a Summary Remedial Alternatives Review and finalized in the 1988 Remedial Action Plan (RAP). The RAP required Cotter to perform cleanup actions, increase monitoring and conduct additional studies. The
RAP’s required remedial action work began in 1988 and included construction of a hydrologic clay barrier located upgradient of the SCS dam on Cotter’s property to contain contamination. Sections 25 (Lincoln Park Soils) and 27 (Ephemeral Streams) of the RAP apply to OU2 soil.

In 1999, EPA and CDPHE developed the following remedial action objective (RAO) for the soils portion of the Lincoln Park Study Area: limit the movement of contaminants from the Cotter mill site into the Lincoln Park Study Area. This RAO was solidified in the ROD.

From 1993 to 1999, Cotter implemented the Sand Creek cleanup action as part of Section 27 of the RAP (Ephemeral Streams) to address 1.25 miles of soil and sediment contaminated by surface water runoff from the mill prior to the construction of the SCS dam. The cleanup process required the identification of the primary constituents of concern, determination of the areal extent of the mill-derived materials, excavation of the area indicated and final confirmation sampling and analysis. Cotter removed 9,000 cubic yards of contaminated tailings, soil and sediments from the area depicted in Figure 2 that were above the UU/UE cleanup objectives listed in Table 1. Cotter backfilled the area with clean material. This UU/UE cleanup serves as the basis for EPA’s and CDPHE’s decision for a no further action soil remedy in Lincoln Park in the 2002 OU2 soil ROD.

To satisfy 1988 RAP requirements for Section 25 (Lincoln Park Soils), Cotter conducted a survey in Lincoln Park in December 1988 to measure gamma radiation levels. All gamma readings were representative of radiation levels along Colorado’s Front Range.

Although shallow subsurface flow from the mill was designed to be contained by the SCS dam and the hydrologic clay barrier, a small amount of contaminated groundwater flow was detected leaving the Site. To address this problem, Cotter installed a permeable reactive treatment wall system across the Sand Creek channel near and downgradient of the SCS dam in the spring of 2000 to remove uranium and molybdenum prior to the groundwater flowing into Lincoln Park. These actions helped prevent further downstream contamination in Lincoln Park.

EPA selected the OU2 surface soil remedy in a 2002 ROD, which stated that the cleanup strategies for the Site were to isolate and/or reduce the mobility of contaminated materials within source areas at the mill property and to reduce exposure to contaminated soil and groundwater to protect human health and the environment. The 2002 OU2 soil ROD then stated that the action necessary to achieve this strategy was already completed by Cotter, as required by CDPHE and EPA. In addition, EPA determined that there were no longer any unacceptable risks posed by the OU2 surface soil and required no further cleanup actions for the surface soil in Lincoln Park. The ROD identified partial deletion of the OU2 soil portion of the Site from the NPL as an appropriate next step, but EPA has not yet implemented this. OU2-related Site features are included in Figure 2. The 2002 OU2 soil ROD did not include remedy selection for OU2 groundwater.
Figure 2: Detailed Site Map

Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only regarding EPA’s response actions at the Site.
**Status of Implementation**

The 2002 OU2 soil ROD required no further remedial action for soil.

**Institutional Control (IC) Summary**

The 2002 OU2 soil ROD did not require any institutional controls due to the UU/UE soil and sediment cleanup.

**Systems Operations/Operation & Maintenance (O&M)**

The 2002 OU2 soil ROD required no further remedial action for OU2 soil, and no long-term OU2 soil maintenance is needed.

**III. PROGRESS SINCE THE LAST REVIEW**

This section includes the protectiveness determinations and statements from the last FYR as well as the recommendations from the last FYR and the status of those recommendations.

**Table 2: Protectiveness Determinations/Statements from the 2012 FYR**

<table>
<thead>
<tr>
<th>OU #</th>
<th>Protectiveness Determination</th>
<th>Protectiveness Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>OU2</td>
<td>Short-term Protective</td>
<td>The No Further Action remedy for OU2 soils protects human health and the environment in the short term because remedial action goals were achieved through prior cleanup actions and no waste was left in place, allowing for unrestricted use as defined by the NRC’s License Termination Rule as well as unlimited use and unrestricted exposure as defined by CERCLA. A remedy selection for the groundwater at OU2 is necessary to determine whether the soil remedy will be protective in the long term, even though studies indicate that there is no statistical increase of contaminants from the groundwater into soil as a result of long-term irrigation.</td>
</tr>
</tbody>
</table>

**Table 3: Status of Recommendations from the 2012 FYR**

<table>
<thead>
<tr>
<th>OU #</th>
<th>Issue</th>
<th>Recommendations</th>
<th>Current Status</th>
<th>Current Implementation Status Description</th>
<th>Completion Date (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>Residents in the Lincoln Park area continue to apply contaminated groundwater to soils for irrigation.</td>
<td>Complete a remedy selection for the groundwater at OU2 and document whether long-term irrigation with OU2 groundwater will result in new soil contamination.</td>
<td>Ongoing</td>
<td>Investigation and cleanup activities at the Site are ongoing under a 2014 agreement to conduct an RI/FS.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

Community involvement is an important and meaningful component of activities at the Site. EPA is aware that the size and location of the Site have a range of potential effects on community members. Community members are in a position to share information during the FYR process that may not otherwise come to light. In addition, EPA maintains a community involvement plan for the Site and works with the community advisory group (CAG). CDPHE also maintains a Lincoln Park webpage with an array of Site-related documents, meeting information, and an email notification list for a Site newsletter.

Public notices were made available on the EPA Region 8 website on 2/10/17 and in newspaper postings in the Daily Record on 2/11/17 and the Cañon City Shopper on 2/14/17. The notices stated that EPA was holding a FYR public interview session and invited the public to participate or to submit comments to EPA (Appendix D). The results of the review and the report will be made available at the Site’s information repository, located at The Royal Gorge Regional Museum and History Center, 612 Royal Gorge Boulevard, Cañon City, CO 81215.

As part of the FYR process, EPA conducted interviews to document any perceived problems or successes with the implemented remedy to date, and the results are summarized below. While the focus of the interviews was the OU2 soil remedy, EPA and CDPHE took this opportunity to listen to and engage with residents on their Site concerns more broadly. EPA and CDPHE considered all issues raised in interviews and incorporated them as appropriate into the FYR. On March 15, 2017, EPA and CDPHE held an all-day public interview session, which included both day and evening options for community members. EPA and CDPHE interviewed three local government officials and 18 community members for this FYR. EPA and CDPHE also met with the CAG on 3/16/2017 to further discuss the FYR. Interview forms are included in Appendix G.

The 18 community members interviewed had mixed opinions and perceptions related to the cleanup at the Site. Overall, many of the comments reflected an opinion that the biggest effects of the Site-related contamination have been historical in nature and related to parts of the Site beyond OU2 soil. A common theme among the interviews was frustration at the slow pace of cleanup. Another major concern was the negative impact of the Site in Lincoln Park due to various reasons, including: impacts on property values and area realty, community avoidance of the area, the loss of jobs at Cotter, and the loss of agricultural land and well water in this former primarily agricultural area.

Opinions on community involvement varied drastically, with some community members stating that EPA and CDPHE have done an excellent job, while others noted that communication is not to the degree that the public would like and that there are concerns of under-reporting of Site contamination. Several residents noted that the same set of residents tend to be involved in site-related community involvement activities and wondered how to get more people involved than those already engaged.

No interviewees owned private wells in the affected area; interviewees stated that people usually use city water and some use irrigation ditch water. Some community members expressed concern about people using irrigation wells and bringing contaminated water up to the surface. Residents also mentioned a significant rain event that occurred about 3 or 4 years ago, during which Sand Creek flooded.

Some additional community concerns included:
1. The safety of growing vegetables in the Lincoln Park area.
2. The need to revisit original OU2 soil studies and to conduct regular soil sampling or monitoring.
3. Disappointment with the County’s lack of government controls over how the land is used in Lincoln Park.
4. The potential for poor dust control at Cotter that could lead to soil re-contamination.
5. A lack of health-based testing and a desire to see reports that indicate community health issues are not Site-related.
6. A request for increased availability of public Site photos over time.

EPA and CDPHE will continue to work with the community to address and/or educate them regarding their concerns.

EPA and CDPHE also completed interview forms. Mark Aguilar (EPA RPM) and Shiya Wang (CDPHE uranium project officer) both stated that past surface soil cleanups removed OU2 surface contamination above regulatory standards and that the remedy is adequate and operating as designed. Mr. Aguilar was comfortable with no institutional controls being required for OU2 soil due to the UU/UE level cleanup. He also noted that EPA and CDPHE are currently in the process of characterizing the nature and extent of contamination at the Site and the surrounding areas, outside of OU2 soil. Mr. Aguilar said that there are community concerns regarding Site-related environmental issues, and EPA is working closely with the public and the CAG to better understand their concerns. Mr. Aguilar also noted that OU2 soil does not require a FYR. EPA does conduct discretionary FYRs, however, and has conducted them for OU2 soil because there is community concern at the Site. Ms. Wang commented that CDPHE receives occasional inquiries regarding Cotter and the Site area and that these are addressed in the monthly CAG meetings. She also stated that the State currently regulates the Cotter mill under a Radioactive Materials License and that agency activities in the last five years have included routine licensing and inspection activities, the ongoing activities under the Administrative Order on Consent and community involvement. Mr. Aguilar also noted that agencies have been actively considering reuse possibilities for the Site and surrounding area.

Sid Darden (Fremont County Environmental Health and Sanitation) and Jim Hoar (Cañon City Recreation and Park District executive director) both stated that they were familiar with the Site; they also mentioned concerns about Site groundwater (not currently addressed in OU2). Kalem Lenard (Bureau of Land Management) said he was somewhat familiar with the former environmental issues at the Site; he also noted that his position at the Bureau of Land Management has mostly addressed the Site in the context of post-use recreational development planning. These government officials noted that there are community meetings and that people can get involved if interested. Mr. Hoar suggested using Facebook or posting information at the county administration building to aid in communication. No officials were aware of any trespassing or regulation changes. Mr. Hoar noted that the Recreation and Park District is discussing several recreational opportunities on properties surrounding the mill, including a possible off-highway vehicle park.

Data Review

Because the 2002 OU2 soil ROD selected no further action, there are no data to review during this FYR period.

Site Inspection

The Site inspection took place on 3/16/2017. In attendance were Mark Aguilar and Natasha Davis, EPA; Rachel Blomberg, CDPHE; Mark Currey and Steven Cohen, Cotter Corporation; Kristi Parker Celico, CAG facilitator; and Treat Suomi and Kelly MacDonald, Skeo. The purpose of the inspection was to assess the protectiveness of the remedy. The Site inspection checklist and Site photographs are included in Appendices C and E, respectively. Although this FYR focuses on the OU2 soil, the Site inspection covered the larger Site area. Site inspection participants met at Cotter’s on-Site trailer near the new property entrance. Participants toured the Site, noting former processing areas, the old ponds area, the primary and secondary impoundments, Site fencing, the SCS pump-back pond, and the SCS dam. During the tour, Cotter was replacing the pipeline that pumps water back from the SCS dam to the pump-back pond. Cotter welded the pipeline in place and was pressure testing it at the time of inspection. After the mill tour, participants toured the Lincoln Park Site area. The area consists of residential, agricultural and commercial land. Participants also noted the location of Sand Creek where remediation took place, which was dry at the time of the Site visit.
Skeo staff visited the Site repository at the Royal Gorge Regional Museum and History Center on 3/17/2017. The repository has extensive historical and current Site records.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:
Yes. The OU2 surface soil remedy continues to function as designed. The 2002 OU2 soil ROD specified no further action because prior cleanup actions addressed unacceptable OU2 soil risks. The Sand Creek cleanup action achieved the objective of remediating the creek to allow for UU/UE, and all tailings, soil and sediment above the cleanup objectives were removed. This is further corroborated by a 2014 Agency for Toxic Substances & Disease Registry (ATSDR) public health assessment, which stated that ingesting or touching soil or sediment in the community of Lincoln Park will not harm people’s health.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

Question B Summary:
Yes. The OU2 surface soil RAO of limiting the movement of contaminants from Cotter's Cañon City mill site into the Lincoln Park Study Area has been achieved through cleanup actions prior to the 2002 OU2 soil ROD. Contaminated soil and sediments were removed from Sand Creek. Cotter moved mill wastes from the unlined old ponds area into lined impoundments. Current water management of the impoundments has reduced additional airborne contamination from the mill. In addition, the installation of the SCS dam and hydrologic clay barrier and operation of the pump-back system have prevented additional surface soil contamination in the Lincoln Park neighborhood.

The 2012 FYR identified an issue about Lincoln Park residents irrigating crops, gardens and yards with contaminated groundwater and recommended that further research be conducted to determine the effect of long-term irrigation on the concentrations of contaminants in the surface soil. The effect of irrigation with contaminated well water on contaminant concentrations in the soil was initially examined during the 1998 HHRA, which showed that concentrations of arsenic, molybdenum and uranium were statistically higher in soil samples irrigated with contaminated well water. EPA and CDPHE are currently conducting an RI/FS in support of a remedy for the remainder of the Site that includes investigating OU2 groundwater; this RI/FS will determine if this issue is of concern.

EPA has updated the toxicity values for radionuclides since the 1998 HHRA was published. A screening-level risk evaluation was conducted to determine if the cleanup objectives for the two radionuclide COCs, radium-226 and thorium-230, are still protective. Based on the screening-level risk evaluation, the cleanup objectives correspond to carcinogenic risk below or within EPA’s acceptable risk range (1 x 10^4 to 1 x 10^5) for all pathways but one, indicating that the cleanup goals for those pathways remain protective (Appendix F, Table F-1). The radium-226 cleanup objective for external radiation exposure risk slightly exceeds the upper bound of EPA’s risk management range (with risk corresponding to 3 x 10^-4). However, confirmation sampling from the Sand Creek cleanup action indicates residual concentrations (1.6 pCi/g) below the cleanup objective (4 pCi/g) and within the radium-226 background range for Cañon City (0.9 to 2.5 pCi/g). In addition, the cleanup objective is currently below the standard of 5 pCi/g for radium-226, as listed in 40 CFR Part 192. A 2000 EPA guidance document recommends this value for residential Superfund soil cleanups. Thus, the cleanup goal for radium-226 remains valid.

An additional screening-level risk evaluation was conducted to determine if changes in the risk-based toxicity values for the radionuclides evaluated in the 1998 HHRA would include any new radionuclide COCs (Appendix F, Table F-4). The 1998 HHRA evaluated lead-210, uranium-234 and uranium-238 plus daughter products as contaminants of potential concern (COPCs). This evaluation also included an evaluation of the potential noncancer effects of uranium due to the availability of a revised noncancer toxicity value (Appendix F, Tables F-2 and F-3). Based on a screening-level risk evaluation, no new radionuclide COCs were identified.

The 1998 HHRA identified possible unacceptable carcinogenic risk from arsenic in soil, but the concentrations were consistent with national background values and arsenic was subsequently not included as a COC. Since the 2002 OU2 soil ROD, EPA issued guidance on the role of background concentrations in the Superfund cleanup program, discouraging the use of national background values.² A screening-level risk assessment was conducted as part of this FYR to evaluate risk from arsenic using current EPA Regional Screening Levels (RSLs), which indicated no unacceptable carcinogenic or noncarcinogenic risk from arsenic in Lincoln Park soil (Appendix F, Table F-5).

ATSDR’s 2014 public health assessment included an evaluation of arsenic exposure from the Site due to homegrown vegetable and fruit consumption from gardens in Lincoln Park. The assessment stated that eating an average amount of homegrown fruits and vegetables (about 1½ cups per day) would not harm people’s health.

Although the 2002 OU2 soil ROD did not identify lead as a COC, this FYR reevaluated Site lead data due to the availability of the 2014 ATSDR report and the 2016 EPA lead memo.³ Past soil, dust and blood lead sampling for Lincoln Park have indicated that lead concentrations did not present unacceptable risk for residential land use. A detailed review of these data is included in the 2012 FYR and the 2014 ATSDR public health assessment. EPA is in the process of evaluating its lead policy; in the interim, use of the current policy is recommended until the policy is formally updated.

The 2002 OU2 soil ROD did not identify soil applicable or relevant and appropriate requirements (ARARs); therefore, no ARAR changes have occurred.

**QUESTION C:** Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

---


VI. ISSUES/RECOMMENDATIONS

<table>
<thead>
<tr>
<th>OU(s) without Issues/Recommendations Identified in the FYR:</th>
</tr>
</thead>
<tbody>
<tr>
<td>None.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issues and Recommendations Identified in the FYR:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>OU(s): 2</th>
<th>Issue Category: Changed Site Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Issue: Lincoln Park residents irrigate crops, gardens and yards with contaminated groundwater.</td>
</tr>
<tr>
<td></td>
<td>Recommendation: Determine whether long-term irrigation with OU2 groundwater will result in new soil contamination.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Affect Current Protectiveness</th>
<th>Affect Future Protectiveness</th>
<th>Party Responsible</th>
<th>Oversight Party</th>
<th>Milestone Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
<td>EPA/State</td>
<td>EPA/State</td>
<td>9/27/2021</td>
</tr>
</tbody>
</table>

VII. PROTECTIVENESS STATEMENT

<table>
<thead>
<tr>
<th>Protectiveness Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operable Unit: 2 Soil</td>
</tr>
<tr>
<td>Protectiveness Determination:</td>
</tr>
<tr>
<td>Short-term Protective</td>
</tr>
</tbody>
</table>

Protectiveness Statement:
The remedy for OU2 soil currently protects human health and the environment because cleanup actions prior to the 2002 OU2 soil ROD addressed unacceptable risks. However, in order for the remedy to be protective in the long term, the following action needs to be taken to ensure protectiveness: determine whether long-term irrigation with OU2 groundwater will result in new soil contamination.

VIII. NEXT REVIEW

This FYR for OU2 soil is a discretionary FYR and does not require ongoing FYRs. The remedy for OU2 soil did not leave any waste in place that does not allow for UU/UE. Until statutory FYRs are triggered for this Site, EPA may conduct further FYRs at its discretion.
APPENDIX A – REFERENCE LIST


## APPENDIX B – SITE CHRONOLOGY

### Table B-1: Site Chronology

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotter begins operations at Cañon City Mill, under a license from the U.S. Atomic Energy Commission.</td>
<td>1958</td>
</tr>
<tr>
<td>A major flood event caused breaching of the unlined impoundments (old ponds area), causing contamination to flow into Sand Creek.</td>
<td>June 1965</td>
</tr>
<tr>
<td>The State of Colorado assumed regulatory licensing and oversight of the uranium mill under Agreement State status.</td>
<td>1968</td>
</tr>
<tr>
<td>The SCS constructed a dam across Sand Creek on the Cotter property.</td>
<td>1971</td>
</tr>
<tr>
<td>Lined impoundments were constructed and use of the unlined tailings ponds (old ponds area) ceased.</td>
<td>1979</td>
</tr>
<tr>
<td>Cotter pumps water impounded behind SCS dam to main mill impoundment.</td>
<td>1979-present</td>
</tr>
<tr>
<td>EPA proposed the Site for listing on the NPL.</td>
<td>September 8, 1983</td>
</tr>
<tr>
<td>State of Colorado filed complaint against Cotter under CERCLA for natural resource damage (NRD).</td>
<td>December 9, 1983</td>
</tr>
<tr>
<td>EPA finalized the Site on the NPL.</td>
<td>September 21, 1984</td>
</tr>
<tr>
<td>EPA and the State of Colorado entered into a Memorandum of Agreement that established Site roles and responsibilities.</td>
<td>April 2, 1986</td>
</tr>
<tr>
<td>RAP incorporated into Cotter’s Radioactive Materials License; RAP work started.</td>
<td>1987</td>
</tr>
<tr>
<td>RAP incorporated into Consent Decree.</td>
<td>1988</td>
</tr>
<tr>
<td>Consent Decree signed settling NRD claim; PRP started Sitewide RI/FS; CDPHE started Site wide risk/health assessment.</td>
<td>April 4, 1988</td>
</tr>
<tr>
<td>PRP began Sand Creek Soil Cleanup Action.</td>
<td>1993</td>
</tr>
<tr>
<td>EPA completed supplemental human health risk assessment.</td>
<td>1998</td>
</tr>
<tr>
<td>PRP completed Sand Creek Soil Cleanup Action.</td>
<td>1999</td>
</tr>
<tr>
<td>EPA completed ecological risk assessment.</td>
<td>February 4, 1999</td>
</tr>
<tr>
<td>PRP started an OU2 Focused Feasibility Study.</td>
<td>April 14, 1999</td>
</tr>
<tr>
<td>PRP completed the OU2 Focused Feasibility Study.</td>
<td>August 17, 1999</td>
</tr>
<tr>
<td>PRP began OU2 remedial design.</td>
<td>September 20, 1999</td>
</tr>
<tr>
<td>PRP completed OU2 remedial design and began remedial action.</td>
<td>April 12, 2000</td>
</tr>
<tr>
<td>PRP completed OU2 remedial action.</td>
<td>July 14, 2000</td>
</tr>
<tr>
<td>Consent Decree signed.</td>
<td>September 5, 2000</td>
</tr>
<tr>
<td>EPA signed 2002 OU2 soil ROD.</td>
<td>January 3, 2002</td>
</tr>
<tr>
<td>EPA signed first OU2 soil FYR.</td>
<td>September 27, 2007</td>
</tr>
<tr>
<td>EPA signed second OU2 soil FYR.</td>
<td>September 27, 2012</td>
</tr>
<tr>
<td>Cotter initiated an RI/FS for OU1.</td>
<td>July 15, 2014</td>
</tr>
<tr>
<td>ATSDR issued public health assessment.</td>
<td>September 22, 2014</td>
</tr>
</tbody>
</table>
# APPENDIX C – SITE INSPECTION CHECKLIST

## FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST

### I. SITE INFORMATION

<table>
<thead>
<tr>
<th>Site Name: Lincoln Park</th>
<th>Date of Inspection: 3/16/2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location and Region: Cañon City, Colorado 8</td>
<td>EPA ID: COD042167858</td>
</tr>
</tbody>
</table>

**Agency, Office or Company Leading the Five-Year Review:** EPA  
**Weather/Temperature:** sunny and mild

**Remedy Includes:** (Check all that apply)
- [ ] Landfill cover/containment  
- [ ] Access controls  
- [ ] Institutional controls  
- [ ] Groundwater pump and treatment  
- [ ] Surface water collection and treatment  
- [x] Other: no further action remedy

**Attachments:**  
- [x] Inspection team roster attached  
- [ ] Site map attached

### II. INTERVIEWS (check all that apply)

#### 3. Local Regulatory Authorities and Response Agencies (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Name</th>
<th>Title</th>
<th>RPM</th>
<th>Date</th>
<th>Phone No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA</td>
<td>Mark Aguilar</td>
<td>RPM</td>
<td>4/13/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDPHE</td>
<td>Shiya Wang</td>
<td>Uranium Project Officer</td>
<td>4/10/2017</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Problems/suggestions  
Report attached: See summary in body of FYR and full interview form in Appendix G.

### III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)

#### 1. O&M Documents

<table>
<thead>
<tr>
<th>O&amp;M Documents</th>
<th>Readily available</th>
<th>Up to date</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&amp;M manual</td>
<td></td>
<td></td>
<td>[x] N/A</td>
</tr>
<tr>
<td>As-built drawings</td>
<td></td>
<td></td>
<td>[x] N/A</td>
</tr>
<tr>
<td>Maintenance logs</td>
<td></td>
<td></td>
<td>[x] N/A</td>
</tr>
</tbody>
</table>

Remarks: ______

#### 2. Site-Specific Health and Safety Plan

<table>
<thead>
<tr>
<th>Site-Specific Health and Safety Plan</th>
<th>Readily available</th>
<th>Up to date</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingency plan/emergency response plan</td>
<td></td>
<td></td>
<td>[x] N/A</td>
</tr>
</tbody>
</table>

Remarks: ______

#### 3. O&M and OSHA Training Records

<table>
<thead>
<tr>
<th>O&amp;M and OSHA Training Records</th>
<th>Readily available</th>
<th>Up to date</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>[x] N/A</td>
</tr>
</tbody>
</table>
4. **Permits and Service Agreements**

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Availability</th>
<th>Up to Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air discharge permit</td>
<td>Readily available</td>
<td>Up to date</td>
<td>N/A</td>
</tr>
<tr>
<td>Effluent discharge</td>
<td>Readily available</td>
<td>Up to date</td>
<td>N/A</td>
</tr>
<tr>
<td>Waste disposal, POTW</td>
<td>Readily available</td>
<td>Up to date</td>
<td>N/A</td>
</tr>
<tr>
<td>Other permits: _____</td>
<td>Readily available</td>
<td>Up to date</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Remarks: _____

5. **Gas Generation Records**

<table>
<thead>
<tr>
<th>Availability</th>
<th>Up to Date</th>
<th>Notes</th>
</tr>
</thead>
</table>

Remarks: _____

6. **Settlement Monument Records**

<table>
<thead>
<tr>
<th>Availability</th>
<th>Up to Date</th>
<th>Notes</th>
</tr>
</thead>
</table>

Remarks: _____

7. **Groundwater Monitoring Records**

<table>
<thead>
<tr>
<th>Availability</th>
<th>Up to Date</th>
<th>Notes</th>
</tr>
</thead>
</table>

Remarks: _____

8. **Leachate Extraction Records**

<table>
<thead>
<tr>
<th>Availability</th>
<th>Up to Date</th>
<th>Notes</th>
</tr>
</thead>
</table>

Remarks: _____

9. **Discharge Compliance Records**

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Availability</th>
<th>Up to Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>Readily available</td>
<td>Up to date</td>
<td>N/A</td>
</tr>
<tr>
<td>Water (effluent)</td>
<td>Readily available</td>
<td>Up to date</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Remarks: _____

10. **Daily Access/Security Logs**

<table>
<thead>
<tr>
<th>Availability</th>
<th>Up to Date</th>
<th>Notes</th>
</tr>
</thead>
</table>

Remarks: _____

### IV. O&M COSTS

1. **O&M Organization**

<table>
<thead>
<tr>
<th>Organization Type</th>
<th>Availability</th>
<th>Notes</th>
</tr>
</thead>
</table>

- State in-house
- PRP in-house
- Federal facility in-house

- Contractor for state
- Contractor for PRP
- Contractor for Federal facility

- No O&M required for OU2 surface soil remedy.

2. **O&M Cost Records**

<table>
<thead>
<tr>
<th>Cost Component</th>
<th>Availability</th>
<th>Up to Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readily available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding mechanism/agreement in place</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Funding mechanism/agreement in place: Unavailable
- Original O&M cost estimate: No O&M required.

3. **Unanticipated or Unusually High O&M Costs during Review Period**

Describe costs and reasons: _____

### V. ACCESS AND INSTITUTIONAL CONTROLS

- Applicable, N/A

### VI. GENERAL SITE CONDITIONS

A. **Roads**

- Applicable

- N/A
1. **Roads Damaged**
   - Location shown on site map □
   - Roads adequate ☑
   - N/A □

   **Remarks:**

   B. **Other Site Conditions**
   
   Remarks: The Lincoln Park Site area currently consists of residential, agricultural and commercial land uses. The Sand Creek area that runs through the Site was dry at the time of inspection.

   VII. **LANDFILL COVERS**
   - Applicable □
   - N/A ☑

   VIII. **VERTICAL BARRIER WALLS**
   - Applicable □
   - N/A ☑

   IX. **GROUNDWATER/SURFACE WATER REMEDIES**
   - Applicable □
   - N/A ☑

   X. **OTHER REMEDIES**
   - Not Applicable.

   XI. **OVERALL OBSERVATIONS**
   
   A. **Implementation of the Remedy**
   
   Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions).
   
   The OU2 no further action remedy for soils was based on previous cleanup actions; it has been adequately implemented and is functioning as designed.

   B. **Adequacy of O&M**
   
   Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.
   
   N/A

   C. **Early Indicators of Potential Remedy Problems**
   
   Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future.
   
   Irrigation of OU2 soil with contaminated groundwater continues.

   D. **Opportunities for Optimization**
   
   Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.
   
   N/A

---

**Site Inspection Roster:**
- Mark Aguilar, EPA
- Natasha Davis, EPA
- Rachel Blomberg, CDPHE
- Mark Currey, Cotter Corporation
- Steven Cohen, Cotter Corporation
- Kristi Parker Celico, CAG facilitator
- Treat Suomi, Skeo
- Kelly MacDonald, Skeo
APPENDIX D – PRESS NOTICE

The Colorado Department of Public Health and Environment and the U.S. Environmental Protection Agency, Region 8 Announce the Third Five-Year Review for the Lincoln Park Superfund Site, Cañon City, Colorado

The U.S. Environmental Protection Agency (EPA), in cooperation with the Colorado Department of Public Health and Environment (CDPHE), is conducting the third five-year review for operable unit 2 (OU2) of the Lincoln Park Superfund site in Cañon City, Colorado. The purpose of the five-year review is to make sure that the cleanup actions completed to date are adequately protecting human health and the environment. EPA and CDPHE signed a Record of Decision recommending no further action for residential soils in 2002. The five-year review will focus on the residential soils portion of OU2. It is scheduled to be completed by September 2017.

The Lincoln Park Superfund site is located south of Cañon City in Fremont County, Colorado. EPA placed the site on the Superfund program’s National Priorities List (NPL) in September 1984.

EPA and CDPHE entered an Administrative Order on Consent with Cotter Corporation on July 15, 2014, for the company to perform the remedial investigation and feasibility study (RI/FS) for remaining portions of the site. The RI/FS phase is currently in progress.

We want to hear from you! Community members are always encouraged to share information that may help EPA and CDPHE make determinations regarding the protectiveness and effectiveness of the remedies at the site. Please make an appointment during one of our drop-in sessions or by contacting V. Jasmin Guerra. Walk-ins will also be accommodated during these times.

Join us to participate in an interview session on Wednesday, March 15, 2017, at:
Cañon City Public Library (10 a.m. to 4 p.m.)
516 Macon Avenue
Cañon City, CO 81212
The Abbey Events Complex (6 p.m. to 8 p.m.)
2951 East U.S. Highway 50, Abbot’s Room
Cañon City, CO 81212

Alternatively, share input with us by mail or email:
V. Jasmin Guerra, EPA Community Involvement Coordinator
Phone: 303-312-6622 Email: guerra.valeria@epa.gov
Mailing Address: U.S. EPA Region 8 (8OC)
1595 Wynkoop Street, Denver, CO 80202-1129

Warren Smith, CDPHE Community Involvement Manager
Phone: 303-692-3373 Email: warren.smith@state.co.us

Additional site information is available at:
The Royal Gorge Regional Museum and History Center
612 Royal Gorge Boulevard, P.O. Box 1460
Cañon City, CO 81215
719-269-9036

Or online at: http://recycle4colorado.ipower.com/Cotter/index.htm
and https://www.epa.gov/superfund/lincoln-park

2012 Five-Year Review:
http://semspub.epa.gov/src/document/08/1242631

2002 Record of Decision:
http://semspub.epa.gov/src/document/08/490323
APPENDIX E – SITE INSPECTION PHOTOS

Site Photos, Cotter Mill (OU1), March 2017

Cotter Corporation sign near mill entrance.

Former ore dumping area and railroad tracks.
Location of former buildings.

SCS pump-back pond.
Site fence in good condition.

Secondary impoundment.
Old Ponds Area.

Primary impoundment.
Former SCS pump-back piping.

Stand pipe near primary impoundment to pump up water from tailings to discharge back to surface water.
SCS dam, looking north.

Old tailings area.
Excavation area for new pump-back pipeline from SCS dam.

Lincoln Park area, viewed from SCS dam.
Looking down Poplar Street, facing east.

SCS dam as seen from Lincoln Park on Cedar Avenue.
Field on Cedar Street.

Chestnut Street, looking south.

E-10
Locust Street, looking north.

Ash Street, looking north from Elm Street.
Sand Creek from Poplar Avenue, facing north.

Sand Creek from Poplar Avenue, facing south.
This toxicity review includes an evaluation of COC cleanup goals and an evaluation of select COPCs. Select COPCs were evaluated for the following reasons: 1) recent toxicity changes for uranium and lead-210, 2) a recent update to the regional background concentration for arsenic, and 3) the availability of the 2014 ATSDR public health assessment and the 2016 EPA lead memo.

**COCs**

_Evaluation of Radionuclide COC Cleanup Goals_

EPA has updated the toxicity values for radionuclides since the 1998 HHRA was published. The 1998 HHRA used EPA’s toxicity values for radionuclides published in the 1995 Human Health Effects Assessment Summary Tables; EPA updated toxicity values for many of the radionuclides in 2014. Thus, a screening-level risk evaluation was conducted to determine if the cleanup objectives for the two radionuclide COCs, radium-226 and thorium-230, are still protective. The screening-level risk analysis compared the cleanup objectives from the 2002 OU2 soil ROD to EPA’s 2014 Preliminary Remediation Goals (PRGs) for residential exposure for the soil ingestion, inhalation and external exposure pathways (these were all evaluated in the 1998 HHRA). As seen in Table F-1, the remedial action goals currently correspond to carcinogenic risk below or within EPA’s acceptable risk range ($1 \times 10^{-6}$ to $1 \times 10^{-4}$) for all pathways except for external exposure to radium-226 plus daughter products, which slightly exceeds the upper bound of EPA’s risk management range. However, sediment samples from the Sand Creek cleanup action indicate that the average residual post-remediation concentrations were 1.6 pCi/g. This is both below the cleanup goal of 4 pCi/g and within the general 1998 background range for Cañon City of 0.9 to 2.5 pCi/g. In addition, the cleanup objective is currently below the unrestricted use, health-based standard for radium-226 of 5 pCi/g as listed in 40 CFR Part 192.\(^4\) Thus, the cleanup goal for radium-226 remains valid.

**Table F-1: Screening-Level Risk Assessment for Cleanup Objectives**

<table>
<thead>
<tr>
<th>COC</th>
<th>Cleanup Objectives (pCi/g)(^a)</th>
<th>Residential PRG(^b) (pCi/g)</th>
<th>Cancer Risk(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ingestion</td>
<td>Inhalation</td>
<td>External</td>
</tr>
<tr>
<td>Radium-226+D (plus daughter products)</td>
<td>4</td>
<td>1.3</td>
<td>300</td>
</tr>
<tr>
<td>Thorium-230</td>
<td>4</td>
<td>5.4</td>
<td>250</td>
</tr>
</tbody>
</table>

**Notes:**

a. Cleanup Objectives from 2002 OU2 soil ROD.


c. The cancer risks were calculated using the following equation, based on the fact that PRGs are derived based on 1 x $10^{-6}$ risk: Cancer risk = (cleanup objective ÷ cancer-based PRG) x $10^{-6}$.

**Bold** – indicates risk exceeds the upper bound of EPA’s risk management range of $1 \times 10^{-6}$ to $1 \times 10^{-4}$.

---

**COPCs**

**Non-carcinogenic Uranium Risk**

Since the previous FYR, the noncancer toxicity value (the oral reference dose or RfD) for uranium has become more stringent as outlined in an EPA December 2016 memorandum.\(^5\) This memorandum provides information and recommendations about an oral RfD for non-radiological, noncancer toxicity of soluble uranium that EPA regions should consider during various stages of response selection and implementation at CERCLA sites to include FYRs. Although the revised toxicity value has not yet been published in EPA’s Integrated Risk Information System (IRIS), EPA has updated the RSL calculator with the more stringent RfD to support screening-level risk evaluations.

Historically at the Site, uranium was not targeted for cleanup because radium-226 was the risk driver. To determine if the new RfD would result in the selection of uranium as a COC, this FYR compared the maximum residential soil exposure point concentrations (EPCs) for uranium to the time-weighted based residential RSL based on the most current RfD. An EPC is defined as the arithmetic mean concentration of a contaminant, averaged over the location where exposure is presumed to occur during the specified time interval.

The 1998 HHRA identified maximum EPCs for residential soil. The maximum uranium concentrations were represented by the sum of the two uranium isotopes uranium-234 and uranium-238 in residential Zone B. Because the concentrations were measured in pCi/g, the values were converted to milligrams per kilogram (mg/kg) to compare to the noncancer-based RSL (Table F-2).

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Maximum Concentration Residential Zone B (pCi/g)(^a)</th>
<th>Atomic Weight (grams/mole)(^b)</th>
<th>Radionuclide Half-life in years (T(^{1/2}))(^b)</th>
<th>Maximum Concentration (mg/kg)(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uranium-234</td>
<td>2.14</td>
<td>234</td>
<td>2.5 x 10(^5)</td>
<td>0.0004</td>
</tr>
<tr>
<td>Uranium-238</td>
<td>2.14</td>
<td>238</td>
<td>4.5 x 10(^9)</td>
<td>6.4</td>
</tr>
<tr>
<td>Total Uranium (as Uranium Salts)</td>
<td></td>
<td></td>
<td></td>
<td>6.4</td>
</tr>
</tbody>
</table>

*Notes:
\(^a\) Obtained from Table 3-4 of the 1998 HHRA.
\(^c\) Conversion of pCi/g to mg/kg as outlined in EPA’s Soil Screening Guidance for Radionuclides: Technical Background Document, Appendix B. EPA/540-R-00-006. October 2000:

\[
\text{Uranium in mg/kg} = 2.8 \times 10^{-12} \text{ conversion factor} \times \text{atomic weight (grams/mole)} \times T^{1/2} \times \text{uranium in pCi/g}
\]

The 1998 human health risk assessments calculated both cancer and non-cancer risk based on a life time exposure for both children and adults. Thus, to be consistent with the 1998 risk assessment, a noncancer health-based screening level was developed using a weighted exposure for children and adults (Table F-3). A time-weighted noncancer based residential RSL of 52 mg/kg was developed using the time-weighted ingestion factor equation as presented in EPA’s RSL guidance.\(^6\) As shown in Table F-3, the maximum concentration for total uranium is below the time-weighted residential RSL. Therefore, the 1998 risk assessment results remain valid, and uranium is not identified as a COC for remedial consideration in residential soil.

---


Table F-3: Screening-Level Noncancer Hazard Evaluation of Uranium in Residential Soil

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Maximum Concentration Residential Zone B (mg/kg)</th>
<th>Residential Weighted RSLs&lt;sup&gt;a&lt;/sup&gt; (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Uranium (as Uranium Salts)</td>
<td>6.4</td>
<td>52</td>
</tr>
</tbody>
</table>

Notes:


$$RSL_{weighted} = \frac{HQ \times AT \times 365 \text{ days/year}}{1/RfD_{oral} \times 10^{-6} \text{ kg/mg} \times IFS_{adjusted} \text{ (mg/kg)}}$$

Where:

- $RSL_{weighted}$ = time-weighted regional screening level = 52 mg/kg
- $AT$ = averaging time (is ED$_{child+adult}$ [exposure duration] = default of 26 years)
- $HQ$ = noncancer hazard quotient (default of 1)
- $RfD_{oral}$ = oral reference dose in mg/kg/day (0.0002 mg/kg/day for uranium)
- $IFS_{adjusted}$ = age-adjusted resident soil ingestion rate (36,750 mg/kg) calculated as follows:

$$\frac{\text{Child ingestion rate (mg/day) \times EF \times ED}_{(age \: 0 \: to \: 6)} \times \text{Child Body weight (kg)}}{200 \text{ mg/day \times 350 \: days/year \times 6 \: years}} + \frac{\text{Adult ingestion rate (mg/day) \times EF \times ED}_{(age \: 6 \: to \: 26)} \times \text{Adult Body Weight (kg)}}{100 \text{ mg/day \times 350 \: days/year \times 20 \: years}} = 36,750 \text{ mg/kg}$$

Carcinogenic Risk from Radionuclides (Uranium-234 and -238 and Lead-210)

A screening-level risk evaluation was also conducted to determine if the changes in the risk-based toxicity values for radionuclides would alter the COC list obtained from the 1998 HHRA conclusions. The screening-level risk analysis below in Table F-4 compares the maximum soil EPCs from the nine residential zones to EPA’s 2014 PRGs for residential exposure for soil ingestion, inhalation and external exposure pathways. The 1998 HHRA also evaluated exposure to produce; however, the measured values in produce were below detection or below background levels in produce. Therefore this pathway was not included in this screening analysis. As shown in Table F-4, no radionuclide maximum EPCs correspond to carcinogenic risks outside of EPA’s risk management range. Therefore, the risk assessment conclusions remain valid, and no new COCs were identified for soil.
Table F-4: Screening-Level Risk Assessment for Other Radionuclides

<table>
<thead>
<tr>
<th>Radionuclide</th>
<th>Maximum EPC (pCi/g)</th>
<th>Residential PRGb (pCi/g)</th>
<th>Carcinogenic Riskc</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ingestion</td>
<td>Inhalation</td>
<td>External</td>
</tr>
<tr>
<td>Lead-210</td>
<td>11.6</td>
<td>0.76</td>
<td>780</td>
</tr>
<tr>
<td>Uranium-234</td>
<td>2.14</td>
<td>6</td>
<td>300</td>
</tr>
<tr>
<td>Uranium 238+D</td>
<td>2.14</td>
<td>4.5</td>
<td>360</td>
</tr>
</tbody>
</table>

Notes:

a. Maximum EPC from the nine residential exposure zones from Table 3-4 in the 1998 HHRA.
c. The cancer risks were calculated using the following equation, based on the fact that PRGs are derived based on 1 x 10^{-6} risk: Cancer risk = (EPC ÷ cancer-based PRG) × 10^{-6}.

Bold – indicates risk exceeds the upper bound of EPA’s risk management range of 1 x 10^{-6} to 1 x 10^{-4}.

**Arsenic**

The 2002 OU2 soil ROD identified possible unacceptable carcinogenic risk from arsenic in soil, but attributed this to background based on a national background concentration range of 1-40 mg/kg. Current risk assessment guidance discourages the use of national background values and encourages the use of site-specific background concentrations due to local and regional variability of metals concentrations.\(^{7}\) In addition, in 2014 CDPHE issued Risk Management Guidance for Evaluating Arsenic Concentrations in Soil, which stated that the average background concentration of arsenic in Colorado for mining land use is 10 milligrams per kilogram (mg/kg) and for all land uses (averaged) is 11 mg/kg.\(^{8}\) To determine if excluding arsenic as a COC was still valid in light of changes regarding background values, a screening-level risk evaluation was performed using EPA’s current RSLs and the maximum EPC listed in the 1998 HHRA for the Lincoln Park residential area. Table F-5 below shows that the maximum EPC for arsenic in Lincoln Park is equivalent to a residential cancer risk that falls within EPA’s risk management range of 10^{-4} and 10^{-6} and a noncancerous HQ that is below EPA’s noncancer threshold of 1.0, indicating that this arsenic concentration does not pose an unacceptable risk in Lincoln Park.

Table F-5: Residential Screening-Level Risk Evaluation of Arsenic in Soil

<table>
<thead>
<tr>
<th>COC</th>
<th>EPC (mg/kg)a</th>
<th>Residential RSLs (mg/kg)b</th>
<th>Carcinogenic Riskc</th>
<th>Noncarcinogenic HQd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic EPC in Lincoln Park Residential Zonee</td>
<td>32.8</td>
<td>0.68</td>
<td>35</td>
<td>5 x 10^{-5}</td>
</tr>
</tbody>
</table>

Notes:

a. EPCs are the 95% upper confidence limit on the mean and are included in Table 3-4 of the 1998 HHRA.
c. The cancer risks were calculated using the following equation, based on the fact that RSLs are derived based on 1 x 10^{-6} risk: Cancer risk = (cleanup level ÷ cancer-based RSL) × 10^{-6}.
d. The noncancer HQ was calculated using the following equation: HQ = cleanup level ÷ noncancer-based RSL.
e. The HQ of 0.9 is conservative because the EPC includes background concentrations of arsenic.

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Lead

Although the 2002 OU2 soil ROD did not identify lead as a COC, this FYR reevaluated Site lead data due to the availability of the 2014 ATSDR report and the 2016 EPA lead memo. Past soil, dust and blood lead sampling for Lincoln Park have indicated that lead concentrations did not present unacceptable risk for residential land use. A detailed review of these data is included in the 2012 FYR and the 2014 ATSDR public health assessment. The lead soil data and evaluation included in the 2012 FYR remain valid, as new data have not been collected and the residential RSL used for comparison in 2012 has not changed. ATSDR evaluated the dust data with EPA’s Integrated Exposure Uptake Biokinetic Model and Site-specific information. No model parameters have changed that would result in a more stringent evaluation; therefore, this evaluation is also still valid. Lastly, the blood lead data is summarized in the 2014 ATSDR report and states that none of the children had elevated blood lead levels using EPA’s current blood lead level of 10 μg/dL, which has also not changed. EPA is in the process of evaluating its lead policy; in the interim, use of the current policy is recommended until the policy is formally updated.

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APPENDIX G – INTERVIEW FORMS

Below is a blank residential interview form. Due to the high number of residential interviews, a blank interview form was included here rather than including each individual form. Interviews are summarized in the body of this report.

### Lincoln Park Superfund Site

#### Five-Year Review Interview Form

<table>
<thead>
<tr>
<th>Site Name:</th>
<th>Lincoln Park</th>
<th>EPA ID No.:</th>
<th>COD042167858</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewer Name:</td>
<td>Affiliation:</td>
<td>Subject Name:</td>
<td>Affiliation:</td>
</tr>
<tr>
<td>Subject Contact information:</td>
<td>Date:</td>
<td>Time:</td>
<td>Interview location:</td>
</tr>
<tr>
<td>Interview Format (circle one):</td>
<td>In Person</td>
<td>Phone</td>
<td>Mail</td>
</tr>
</tbody>
</table>

**Interview Category:** Residents

The Lincoln Park Superfund Site currently consists of two operable units (OUs). OU2 has been subdivided based on the principal environmental media of soils and groundwater. This 2017 FYR addresses Lincoln Park Study Area soils at OU2 only. The purpose of this discretionary FYR is to summarize the activities performed to evaluate and remediate contaminated OU2 soil. OU2 groundwater is not addressed in this FYR. The questions we have for you today are specific to the activities to date at the Lincoln Park soils.

1. Are you aware of the former environmental issues with surface soil in the Lincoln Park area of the Site and the activities that have taken place to date?

2. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

3. What have been the effects of this Site on the surrounding community, if any?

4. Are you aware of any events or activities, such as flooding or irrigation, which could have changed the surface soil since 2002?

5. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?

6. Has EPA and the state kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide Site-related information in the future?

7. Do you own a private well in the affected area in addition to or instead of accessing city/municipal water supplies? If so, for what purpose(s) is your private well used?

8. Are you aware of anyone drilling new wells since 2012?

9. Do you have any comments, suggestions or recommendations regarding any aspects of the OU2 soils part of the project?
Lincoln Park Superfund Site  Five-Year Review Interview Form

Site Name: Lincoln Park  EPA ID No.: COD042167858
Interviewer Name: N/A  Affiliation: N/A
Subject Name: Mark Aguilar  Affiliation: EPA RPM
Subject Contact Information: Aguilar.Mark@epa.gov
Time: 12:30 p.m.  Date: 4/13/2017
Interview Location: N/A

Interview Category: EPA Remedial Project Manager

1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

My overall impression of the OU2 soils is that the past surface cleanup activities have removed the surface contamination to meet EPA’s unlimited use and unrestricted exposure (UU/UE) or residential standards. Due to these conditions, maintenance for OU2 soils is not required. The agencies have been very active regarding reuse activities including hosting a public forum with the community, local business owners and public officials to discuss reuse for the entire site and surrounding area.

2. What have been the effects of this Site on the surrounding community, if any?

The overall environmental effect of the site has not been determined. We are currently in the process of conducting efforts to characterize the nature and extent of contamination at the site and the surrounding areas, with the exception of the OU2 soils.

3. Are you aware of any complaints or inquiries regarding Site-related environmental issues or remedial activities since the implementation of the cleanup?

Yes, there are concerns regarding site-related environmental issues and we are currently working closely with public to better understand their concerns as we move through the Superfund process.

4. What is your assessment of the current performance of the remedy in place at the Site?

The remedy is operating as designed.

5. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?

Yes, OU2 soils is meeting residential standards for soils and therefore, there are no institutional controls required. Currently, OU2 soils does not require a 5 year review however, EPA understands there has been community concern historically as this site and is conducting discretionary 5 year reviews.

6. Are you aware of any community concerns regarding the Site or the operation and management of its remedy? If so, please provide details.

The site is no longer operating as a uranium mill. There are concerns regarding site-related environmental issues and we are currently working closely with all parties on these issues. Examples of these concerns are about the hydrogeology of the site and ensuring public safety from environmental exposures. We will be getting CAG input throughout the process.
7. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site’s remedy?

Not at this time.
1. What is your overall impression of the project, including cleanup, maintenance and reuse activities (as appropriate)?

It is a complex project involving multiple regulatory authorities and involvement. In specific to OU2 soils, past surface cleanup activities have removed the contaminated soils to below the regulatory standards. The OU2 groundwater will be characterized and the remedy and/or the necessary institutional controls will be determined through the upcoming RI/FS works pursuant to the Administrative Order on Consent (AOC).

2. What is your assessment of the current performance of the remedy in place at the Site?

The remedy is adequate.

3. Are you aware of any complaints or inquiries regarding Site-related environmental issues or remedial activities from residents in the past five years?

There have been occasional inquiries regarding the Cotter mill or other Lincoln Park Superfund Site area in general. Most of these inquiries have been discussed and addressed in the monthly Community Advisory Group (CAG) meetings.

4. Has your office conducted any Site-related activities or communications in the past five years? If so, please describe the purpose and results of these activities.

Yes, the Cotter mill is currently regulated by the State of Colorado under a Radioactive Materials License. The activities were mostly related to routine licensing and inspection activities, the ongoing activities under the AOC, and the community involvement.

5. Are you aware of any changes to state laws that might affect the protectiveness of the Site’s remedy?

No.

6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?

There is currently no institutional control implemented or needed for the OU2 soils. The OU2 groundwater will be characterized and the remedy and/or the necessary institutional controls will be determined through the upcoming RI/FS works pursuant to the AOC.

7. Are you aware of any changes in projected land use(s) at the Site?

No.
8. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site’s remedy?

No.
Lincoln Park Superfund Site

Site Name: Lincoln Park

<table>
<thead>
<tr>
<th>Interviewer Name:</th>
<th>Warren Smith</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Name:</td>
<td>Sid Darden</td>
</tr>
</tbody>
</table>

EPA ID No.: COD042167858

Affiliation: EPA

Affiliation: CDPHE

Subject Contact Information: Sid.daren@fremontco.com

Time: 10:00 a.m.

Date: 3/15/17

Interview Location: N/A

Interview Category: Local Government

Interview Format (circle one): In Person

Phone

Mail

Other:

The Lincoln Park Superfund Site currently consists of two operable units (OUs). OU2 has been subdivided based on the principal environmental media of soils and groundwater. This 2017 FYR addresses Lincoln Park Study Area soils at OU2 only. The purpose of this discretionary FYR is to summarize the activities performed to evaluate and remediate contaminated OU2 soil. OU2 groundwater is not addressed in this FYR. The questions we have for you today are specific to the activities to date at the Lincoln Park soils.

1. Are you aware of the former environmental issues with surface soil in the Lincoln Park area of the Site and the activities that have taken place to date?

   I am basically familiar with some of that. I always thought of it more as a groundwater issue. I recall they did some crop analysis in the area and that it was primarily related to the groundwater but might also be affected by soil. One of the initial pushes was to get folks onto city water. I think the conclusion was that they didn’t find anything elevated over what they would have found elsewhere. My understanding was that there wasn’t a significantly elevated level of anything.

2. Do you feel well-informed regarding the Site’s activities and remedial progress? If not, how might EPA convey Site-related information in the future?

   Relatively; I know there is a lot of information out there. I am not on the CAG and don’t regularly go to those meetings. You can be as informed as you want to be. I think communicating through the public meetings is great. They are well publicized and well attended. Communicating through the media outlets is a good way, and it is what they usually do.

3. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?

   Not that I am aware of.

4. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site’s remedy?

   No. That is partly because I mainly do restaurants, schools and child care centers.

5. Are you aware of any changes in projected land use(s) at the Site?

   No.

6. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide Site-related information in the future?
As far as I know you all are doing excellent outreach and it is up to people to reach out if they want. It is up to people to take advantage of the opportunities.

7. Do you have any comments, suggestions or recommendations regarding the project?

People have the opportunities to find out if they want.
The Lincoln Park Superfund Site currently consists of two operable units (OUs). OU2 has been subdivided based on the principal environmental media of soils and groundwater. This 2017 FYR addresses Lincoln Park Study Area soils at OU2 only. The purpose of this discretionary FYR is to summarize the activities performed to evaluate and remediate contaminated OU2 soil. OU2 groundwater is not addressed in this FYR. The questions we have for you today are specific to the activities to date at the Lincoln Park soils.

1. Are you aware of the former environmental issues with surface soil in the Lincoln Park area of the Site and the activities that have taken place to date?
   
   Yes. I used to work as a firefighter and was aware of someone being injured at the pond on Site.

2. Do you feel well-informed regarding the Site’s activities and remedial progress? If not, how might EPA convey Site-related information in the future?
   
   Yes. There are meetings; I am able to attend some. There are articles in the paper. I think that social media (such as Facebook) are a good means to connect with people. Posting information at the county administration building would be helpful too.

3. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?
   
   I am not aware of any.

4. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site’s remedy?
   
   No.

5. Are you aware of any changes in projected land use(s) at the Site?
   
   As an agency, we looked at a bordering property immediately north of the Site as a prospective park site (~120-acre area) but backed away because there were large flow irrigation wells. We had wells tested that came back outside the acceptable limits for a watering source, to use to irrigate the fields of park. We backed away from the property based on the water source. In the last three years, we were looking at the property east of the mill that Cotter owns to see if we could use that for open space activities to use for an off-highway vehicle park, but had to consider whether that would be safe, because that use stirs up lots of dust - much more than mountain biking. The property is on both sides of Chandler Road. The prevailing winds are out of the west, so soil concern is to the east of the Site. The off-highway vehicle park is still in the master plan whether that can be considered in the future. We are not going to see a lot of housing there, so it may be good
for recreation. The agency is also looking at a trail to the south to connect to U.S. Forest Service land from the off-highway vehicle site. There was also discussion of a shooting range on the south end of property, but it’s still in the discussion phase.

6. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide Site-related information in the future?

Yes.

7. Do you have any comments, suggestions or recommendations regarding the project?

I am concerned with the water. We allowed the United States Geological Survey access for well testing. We have a well east of our office down in the park; our office is on the south side of the river and north end of Lincoln Park. The tester said the well was trending the wrong direction. They were testing streams as well. I can send EPA info on the well trending up.
The Lincoln Park Superfund Site currently consists of two operable units (OUs). OU2 has been subdivided based on the principal environmental media of soils and groundwater. This 2017 FYR addresses Lincoln Park Study Area soils at OU2 only. The purpose of this discretionary FYR is to summarize the activities performed to evaluate and remediate contaminated OU2 soil. OU2 groundwater is not addressed in this FYR. The questions we have for you today are specific to the activities to date at the Lincoln Park soils.

1. Are you aware of the former environmental issues with surface soil in the Lincoln Park area of the Site and the activities that have taken place to date?

   Not detailed, but I know enough. It sounds like there was some storage of some materials there that had leaked into the soils and that there was a groundwater part, but you aren’t talking about that part. I am not completely sure how soil contamination spreads and what area that is.

1. Do you feel well-informed regarding the Site’s activities and remedial progress? If not, how might EPA convey Site-related information in the future?

   If I had paid more attention, it seems like there are a lot of community meetings. There is that group that meets fairly regularly. For me it is more of a periphery - if I had the time. My interest would be more as a landowner and resident of the area rather than as an employee.

   The position I am in with the Bureau of Land Management has very little to do with that site and any overlap. My involvement is that the community group had asked me to participate in some of the post-use development plans from a recreational standpoint, which is my professional background. I participated in the reuse charrette. They wanted my involvement from the recreation aspect of it.

2. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism or trespassing?

   The only thing I have ever heard is the occasional leaks that get reported in the news. It seems that there have been retention ponds that have leaked. It has been hard to track details beyond headlines.

3. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site’s remedy?

   That is out of my expertise. A Bureau of Land Management soils or hydrology person would be a better fit to answer that.

4. Are you aware of any changes in projected land use(s) at the Site?

   Not that I am aware of.
5. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide Site-related information in the future?

It seems like it. If you want to be involved and informed, there are plenty of opportunities to do that. No suggestions for improving it. The community group gets exposure and interest.

6. Do you have any comments, suggestions or recommendations regarding the project?

No. Now a lot of people are really focused on a) staying safe and that they can drink water and grow vegetables and b) getting it cleaned up in the future. They want to see progress on getting everything cleaned up and the potential future uses.