COLORADO
Department of Public Health & Environment

Special Report to the Colorado General Assembly

The History, Status and Long-Term Funding Needs of the Colorado CERCLA Program

Submitted November 1, 2014






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COLORADO
Hazardous Materials & Waste Management Division
Department of Public Health & Environment

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This Annual Report (2013-2014) by the Colorado Department of Public Health and Environment (the department) documents the status of cleanup at Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, or Superfund) sites, and presents information about current and future funding needs for the program. Appendix A contains narratives for each of the Superfund sites, including information on the progress of cleanups, future state funding needs for construction and operation and maintenance, and schedules for deleting the sites from the National Priorities List (NPL).

Federal/State Statutory and Other Authority

The department possesses authority under the following statutes to participate in the cleanup of Superfund sites in Colorado:

- Comprehensive Environmental Response, Compensation and Liability Act 42, U.S.C. Secs. 9601 to 9675 (1988);
- Colorado Hazardous Waste Management Act, Secs. 25 -15-301 to 313 (1998); State Hazardous Waste Sites, Secs. 25-16-101 to 201 (1998); and
- other state and federal public health and environmental statutes.

The department's mission in this program is to protect public health and the environment by cleaning up sites that are contaminated with hazardous substances in a cost-effective and timely manner. This is accomplished through proper remedy selection and by recovering costs from responsible parties, whenever appropriate and possible. The department seeks out and values the opinions of local communities and public officials in the decision-making process ensuring that selected remedies are acceptable to the affected stakeholders.

Nelson Tunnel / Commodore Mine Superfund site.

The Superfund process is a multi-phased process. It begins with site characterization (the remedial investigation phase), to selecting and evaluating appropriate clean-up options (the feasibility study and record of decision), to design of the remedy and, finally, to construction of the remedy. After construction is complete, and the cleanup has achieved the desired goals, the site can be deleted from the NPL. There may be a requirement for continuing operation and maintenance of the remedy after construction has been completed.

State and federal roles vary, depending on the type of site. For sites with viable responsible parties, the department generally acts as a support agency to the EPA (EPA), overseeing the site cleanup. Cleanup costs are funded by the responsible parties whenever possible. If there is no viable responsible party, EPA and the department share cleanup costs under a 90 percent/10 percent cost-sharing arrangement. Sites where the government pays for the cleanup are called "fund-lead," and portions of sites funded by the government (where the remainder of the cleanup is funded by responsible parties) are called "orphan shares." The department can take either a lead or support role on these sites.

For sites that the federal government owns, the department acts as a support agency providing regulatory oversight to either the Department of Energy or the Department of Defense, implementing site cleanup. The federal government pays for all of the cleanup and oversight costs. For the Rocky Mountain Arsenal, department oversight costs initially are paid by the state Hazardous Substance Response Fund and then are recovered from the U.S. Army and Shell Oil Company and returned to the fund.

For natural resource damage sites, the department acts as oversight agency to the responsible party. A similar process blueprint is followed. The responsible party pays for all cleanup and oversight costs. Natural resource damage sites may or may not be listed on the NPL of Superfund sites.

Superfund and the Long Bill

The department's Hazardous Materials and Waste Management Division (the division) is the implementing agency for the Superfund program within Colorado. Because of the multifaceted and long-term nature of Superfund cleanups, appropriations for the Superfund program appear in a variety of ways within the division's annual appropriations bill.

Most operating budget expenditures are appropriated, using Hazardous Substance Response Fund cash funds and federal funds, within the Contaminated Site Cleanups line item group. There are also the Rocky Flats Agreement appropriations (non-matched federal funds) for the costs of oversight of the post-closure operations and monitoring at the former Rocky Flats Nuclear Weapons site.

Capital construction appropriations are requested to pay for site cleanup costs when the department must cost-share. These appropriations are normally financed 10 percent from Hazardous Substance Response Fund cash funds and 90 percent from EPA grant funds.

Whenever possible, court-approved settlement funds are obtained from responsible parties to finance all, or a portion, of cleanup costs. These custodial funds are accounted for within two separate funds: the Hazardous Substance Settlement Fund (CORE fund 14X0), and the Natural Resource Damage Recovery Fund (CORE fund 1270). Budgetary spending authority for these custodial funds expenditures is obtained from the Office of State Planning and Budgeting and the State Controller's Office. Accordingly, these expenditures are not included within the department's legislative budget requests. The following table (Table 1) summarizes the major funding components of the Superfund sites.

TABLE 1: SUMMARY OF THE MAJOR FUNDING COMPONENTS OF THE SUPERFUND SITES

Superfund Site	Expenditures Included within Legislative Budget Requests			Custodial Fund Expenditures Not Included within Legislative Budget Requests	
	Operating Budgets		Capital Construction Budgets		
	Contaminated Site Cleanups: Long Bill Group	Rocky Flats Cleanup Agreement: Long Bill Group	Superfund Site Cleanups	Hazardous Substance Settlement Fund	Natural Resource Damage Recovery Fund
Broderick	X				
California Gulch	X		X		X
Captain Jack Mill	X		X		
Clear Creek	X		X		
Chemical Sales	X		X		
Cotter (Lincoln Park)				X	X
Denver Radium (Shattuck)	Completed			X	X
Eagle Mine				X	X
Globeville Smelter	X			X	X
Idarado				X	X
Lowry Landfill	X				X
Marshall	X				
Nelson Tunnel	X		X		
PJKS (Martin Marietta)	X				
Rocky Flats		X			
Rocky Mountain Arsenal	X				X
Sand Creek	X				
Smeltertown	Completed			X	
Smuggler Mine	Completed				
Standard Mine	X		X	X	X
Summitville	X		X	X	X
Uravan				X	X
Vasquez/I-70	X		X		
Woodbury	Completed				

About Superfund

CERCLA is short for "Comprehensive Environmental Response, Compensation, and Liability Act," also known as the Superfund law. The term "Superfund" refers to the fund accumulated in the U.S. Treasury by a tax on chemical manufacturers. This tax has been discontinued. EPA pays for cleanup, with a 10 percent state match requirement, at sites where there is no viable responsible party.

Long-term funding requirements fall into two categories, both of which are funded through the annual revenue and reserves in the Hazardous Substance Response Fund. Table 2 depicts future department obligations for Superfund capital construction and operations and maintenance costs. Detailed expenditure estimates by site, comprising these totals, can be found within Appendix B.

Table 2 does not include any cleanup costs funded by the responsible parties. The figures in the table are based on a department cost-share of 10 percent of actual construction costs at sites for which there is no responsible party to pay all or some of the costs. The federal government is responsible for 90 percent of these costs. When a remediation is publicly funded, Superfund requires that the department assume responsibility for 100 percent of the ongoing operation and maintenance of

TABLE 2: SUMMARY OF FUTURE HAZARDOUS SUBSTANCE RESPONSE FUND-FINANCED STATE MATCH OBLIGATIONS

(As of June 30, 2014)

	Remedial Action Costs		Operations & Maintenance Costs	
Site	**Future Value**	**NPV**	**Future Value**	**NPV**
California Gulch	$1,300,000	$1,095,323	$485,781	$283,253
Captain Jack Mill	$530,000	$469,175	$4,587,542	$2,169,926
Chemical Sales	$60,000	$51,367	$853,890	$502,653
Clear Creek	$1,981,648	$1,863,802	$40,091,118	$23,600,145
Denver Radium - All Other	$0	$0	$305,058	$179,576
Denver Radium - Shattuck	$0	$0		
Nelson Tunnel	$1,673,472	$1,459,101	$11,025,770	$0
Sand Creek	$0	$0	$189,595	$75,188
Summitville	$0	$0	$66,670,770	$32,266,303
Standard Mine	$647,331	$0	$2,115,599	$0
Totals	**$6,192,451**	**$4,938,768**	**$126,325,123**	**$59,077,044**
Grand Totals:				
Future Value	**$132,517,574**			
Net Present Value	**$64,015,812**			

LONG-TERM FUNDING REQUIREMENTS

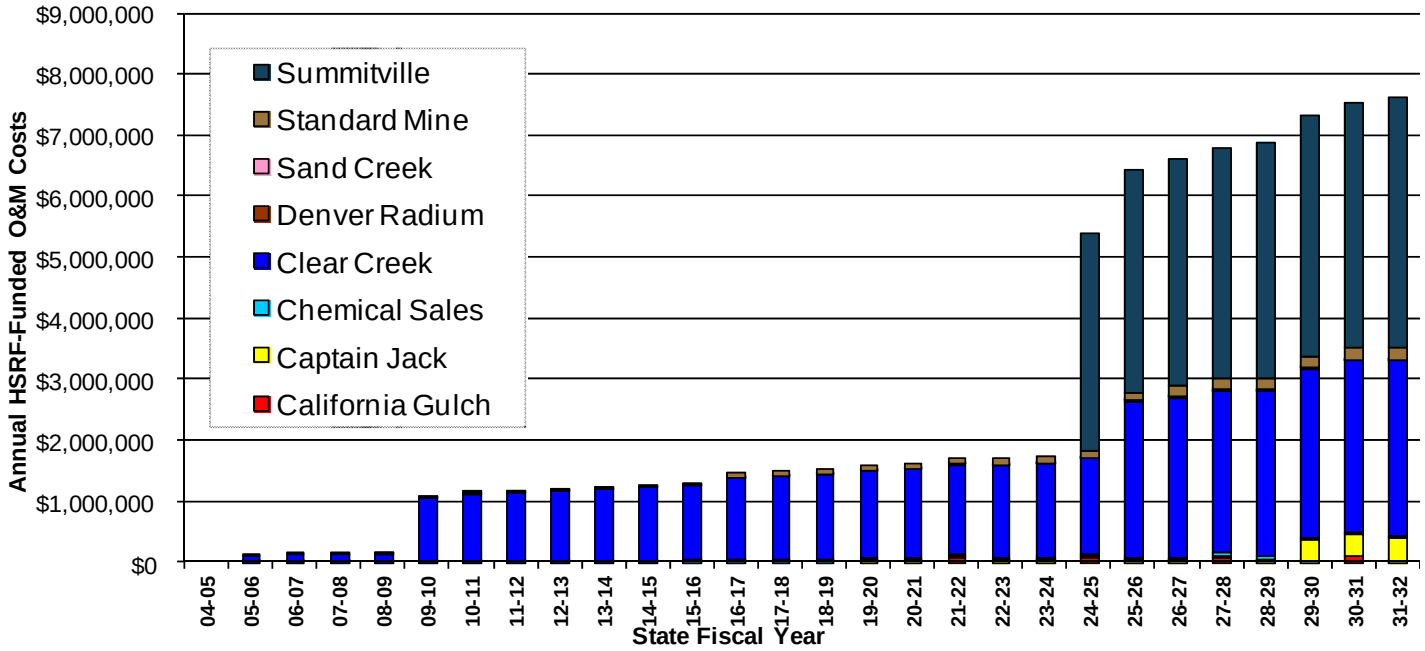
the remedy. EPA has the ability to continue the 90/10 cost-share for the first 10 years of operation for groundwater restoration remedies, but after that, the department assumes all future responsibility. It must be noted that the EPA decision to cost-share for the first 10 years of operations and maintenance on some remedies is discretionary. EPA language in the regulations that implement Superfund (the National Contingency Plan or NCP) allows for some remedies to be classified as "long-term restoration activities."

There has always been controversy regarding whether the treatment of acid mine drainage qualifies as one of these activities because the remedy does not provide source control. Therefore, the resource (i.e. the groundwater) is never "restored." EPA Region 8 has historically included the treatment of acid mine drainage within the definition of a long-term restoration activity. But with increasing financial pressures, in 2005, EPA issued a draft policy to specifically exclude this activity. If the policy becomes final, EPA would no longer cost-share on the treatment plants operated by the department at Superfund sites. (There are currently two and additional plants may be built in the future.) This could have significant consequences regarding solvency of the Hazardous Substance Response Fund. In December 2013, EPA Region 8 provided a letter to the department, which stated that EPA considered the next mine water treatment plant to be constructed in Colorado, the Central City/Clear Creek North Fork Mine Water Treatment Plant, to be a restoration activity and eligible for 10 years of operations and maintenance cost-share. However, EPA's cost share of any subsequent mine water treatment plants would be at EPA's discretion.

Figure 1 shows the department's projections of future operation and maintenance estimates, with dramatic increase in 2025 after 10 years of operation and maintenance cost-share at the Summitville site. The department is currently funding 100 percent of the cost at the Clear Creek Argo Tunnel treatment plant. As evidenced by this table, the assumption of 100 percent of treatment costs by the department is the most significant action impacting the fund balance. Implementation of the EPA policy mentioned above would accelerate this impact.

FIGURE 1: LONG-TERM HAZARDOUS SUBSTANCE RESPONSE FUND-FUNDED OPERATIONS & MAINTENANCE COSTS

(As of June 30, 2014)



HAZARDOUS SUBSTANCE RESPONSE FUND

Funding for the department Superfund expenses comes from the Hazardous Substance Response Fund (the fund). This fund, legislatively authorized in 1986, receives income from a tipping fee (the Solid Waste Users Fee) collected at all solid waste landfills in the state. The fee amount has varied over the years, based on the projected needs of the fund. Over the years, the department had a goal of obtaining a fund balance equal to the net present value of all current and future Superfund obligations.

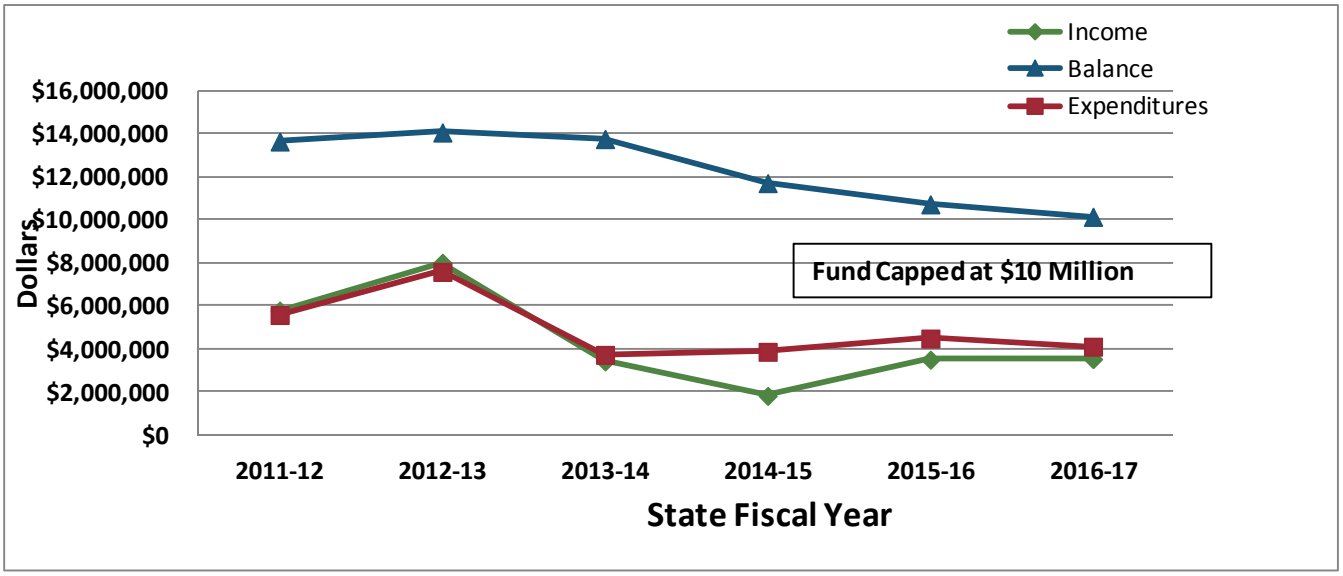
In 2009, the general assembly reallocated $32.5 million from the Hazardous Substance Response Fund to balance the budget. The fund transfer did not include any payback provisions. In addition, an unexpected result of the economic recession was that landfill volumes decreased significantly, thus reducing the revenue to the fund. These two factors dramatically changed projections for the fund balance, and changed the projection of when the fund would become insolvent from 2025 to 2014. The legislature addressed this issue in 2010.

In 2010, in response to department concerns about fund viability, the General Assembly extended the Solid Waste User Fee (HB 10-1329, the fee), which supports the Solid Waste Program and related Department of Law support, and the Hazardous Substance Response Fund/Superfund. The legislation also transferred fee-setting responsibility to the Hazardous and Solid Waste Commission, and capped the fee at 50 cents. In addition, the fee also set a cap on the Hazardous Substance Response Fund balance of $10 million. With this greater flexibility to adjust the tipping fee, and given current estimated expenditures from the Hazardous Substance Response Fund, it is expected to remain solvent until approximately 2027. The major driver for when the Hazardous Substance Response Fund will become insolvent is when the department becomes responsible for 100 percent of operation and maintenance for the Summitville Mine treatment plant, currently estimated to be in FY2022.

The department's current Hazardous Substance Response Fund balance projections are graphically depicted in Figure 2 and summarized in Appendix C. In 2010, the Hazardous and Solid Waste Commission set the Hazardous Substance Response Fund fee at 16 cents. Due to higher than expected revenues and lower expenses resulting from multiple economic factors, it became apparent the fee needed to be reduced to maintain the fund below the required cap of $10 million dollars. In November 2011, the Hazardous and Solid Waste Commission approved an adjustment to the fee to 5 cents per ton. Figure 2 is based on the revised fee of 5 cents that went into effect July 1, 2012.

House Bill 14-1342 provides for the restoration of the $32.5 million reallocated from the Hazardous Substance Response Fund in 2009 into a newly created Hazardous Substance Site Response Fund. In September 2014 the State Controller's Office transferred $10 million into the Hazardous Substance Site Response Fund to supplement the HSRF in meeting the State's long term Superfund Program obligations. A budget request will need to be submitted before the fund balance in the Hazardous Substance Site Response Fund can be accessed.

FIGURE 2: HSRF PROJECTIONS SFY 2012— 2017



Introduction

Superfund sites can be described in various ways. Most are on the National Priorities List, some are Natural Resource Damage sites (state claims under CERCLA brought in 1983, most of which have now been settled), and some are both. The funding for cleanup and oversight costs can be complex. Oversight costs may be funded through grants provided by EPA, the Department of Defense and the Department of Energy, or by responsible party settlements: the proceeds of which are earmarked in the Hazardous Substance Response Fund for oversight at the particular site. Cleanup costs are funded by responsible parties, EPA, the department or a combination.

The goal at all sites is to require responsible parties to clean up the contamination. At many sites, some or all of the responsible parties no longer exist, or are not solvent. Cleanup then requires full or partial public funding. When federal dollars are needed, Superfund requires states to pay 10 percent of the cost of remedial action. Once a remedy that requires ongoing operation and maintenance is deemed operational, such as groundwater pump-and-treat, states pay 100 percent of future operation and maintenance costs. Colorado funding comes from a tipping fee at landfills that is deposited into the Hazardous Substance Response Fund.

BRODERICK WOOD PRODUCTS

5800 GALAPAGO STREET, ADAMS COUNTY

Description: Broderick Wood Products, Inc. operated the site as a wood treatment facility from 1946 to 1981. The operation consisted of treating railroad ties, telephone poles and similar products in unlined ponds. This activity resulted in the contamination of soils and groundwater with creosote, pentachlorophenol and related compounds.

Management and Funding: This site is managed by the EPA, with the responsible parties paying for site cleanup. State oversight is funded through an EPA grant and by settlement funds provided by Union Pacific. Currently, the site is managed by Broderick Investment Company (BIC).

Cleanup Status: Wood treatment sludge was excavated and incinerated off-site. Ongoing treatment of groundwater from the shallow aquifer, biological treatment of contaminated soils and bioventing of soils in the former impoundment and process areas is occurring. The soils remediation was completed in 2010, however groundwater treatment is expected to continue for some time. BIC expressed to EPA that lack of revenue leading to funding issues for remedial actions at the site has delayed progress.

Brannon Sand and Gravel Company successfully purchased a portion of the former Broderick Wood Products property from BIC in June 2012. This transaction infused BIC with funding to re-start the groundwater pump and treat system.

Neither EPA or the department has received any communications from BIC regarding the ability of the updated treatment plant to meet the iron and manganese standards. BIC is required, per their permit, to provide the results of the sampling of the plant effluent to the department's Water Quality Control Division (WQCD) in order for WQCD to assess whether or not standards are being met.

The department received the 2014 Broderick Site Operations and Maintenance Report. In addition, Brannon has verbally informed BIC that they may wish to expand their operations on the property and if that transpires, Brannon would purchase additional acreage for their expansion.

Estimated State-Funded Costs: All remediation costs are funded by the responsible parties including any future operation and maintenance. Union Pacific provided funding for the department to review the changes to the cleanup plan that were required as a result of the realignment of the rail line.

Schedule for Deletion: This site cannot be deleted until all remedial activities have been completed.

CALIFORNIA GULCH (LEADVILLE AREA)
LAKE COUNTY

Description: The California Gulch Superfund Site encompasses the city of Leadville, significant areas of the mining district located directly east of the city, and adjacent areas. Contamination of residential soils, groundwater and surface waters resulted from over a century of mining, milling and smelting. Contaminants of concern include arsenic, cadmium, lead, zinc and other heavy metals. Past and continuing releases of these contaminants pose threats to local residents, and to fish and other biota in the upper Arkansas River.

Due to the site's size and complexity, the site was divided into 12 sections or Operable Units (OUs). Each of the OUs addresses a type or source of contamination and is managed and funded uniquely.

Superfund activities at the site are managed by the EPA with oversight provided by the department. The department's oversight is funded through an EPA grant. A large percentage of site cleanup costs have been funded by two responsible parties, Resurrection/Newmont Mining Company and American Smelting and Refining Company (ASARCO).

Work has been completed or substantially completed for all areas of the site, except for OU6 (Stray Horse Gulch) and OU12 (site-wide water quality). Cost for OU6 will be shared by EPA and the department, and work in OU12 will be funded with settlement monies received from Newmont and ASARCO.

Under a 2008 consent decree, Newmont continues to have responsibility for several site operable units. Settlement funds recovered from both Newmont and an ASARCO bankruptcy settlement will be used to help fund certain remedial actions and/or pay for long-term maintenance costs.

Cleanup Status: As described above, work has been completed or substantially completed for all areas of the site, except for OU6 (Stray Horse Gulch) and OU12 (site-wide water quality). Some of the more notable accomplishments include construction and continuing operation of the Yak Tunnel Water Treatment Plant, capping of the Apache and Oregon Gulch Tailings Impoundments, and soil treatment and revegetation of contaminated areas within an eleven-mile section of the upper Arkansas River floodplain (OU11).

The EPA and the department have revised the Stray Horse Gulch (OU6) Record of Decision. EPA is currently preparing the remedial design for OU6 which is expected to be completed in 2015.

OU12 addresses site-wide water quality issues remaining after work at other operable units has been completed. In September 2009, EPA selected a "No Action" remedy for OU12. Under this remedy, the department will continue to monitor site-wide water quality to monitor the trend of improving water quality, and determine if state water quality standards are being achieved in the upper Arkansas River. If not, additional work may be required.

Estimated State-Funded Costs: The OU6 remedy work is currently estimated to cost about $13 million which would include the state's cost share of $1.3 million. Remedy costs for OU12 are estimated to be approximately $250,000 per year for five to ten years. Settlement funds received from Newmont are expected to cover these costs. However, if

The new repository will be used to dispose of contaminated residential soil from Leadville.

The Pyrenees Waste Pile is located in OU6 of the California Gulch Superfund site. When rain or snowmelt percolates through mine waste piles heavy metals cause acid rock drainage that can get into waterways where it harms fish and other aquatic life. EPA is currently developing the design for this operable unit.

monitoring indicates that additional response actions are necessary, EPA and the state will share costs that exceed available settlement funds.

The department will also be responsible for long-term maintenance costs for OU6 and for the operable units for which ASARCO or other private parties were formerly responsible. The ASARCO bankruptcy settlement included $1.7 million for long-term maintenance, and settlement funds are expected to cover these expenses for approximately 15 years. The state will be fully responsible for maintenance once these funds are expended.

Schedule for Deletion from the NPL: Multiple OUs have been deleted from the NPL. These include: OU2 (Malta Gulch), OU8 (lower California Gulch), OU9 (residential populated area) and OU10 (Oregon Gulch). The EPA's proposal to delete OU4 (upper California Gulch), OU5 (former smelter sites) and OU7 (Apache Tailings Impoundment) was published in the Federal Register on August 12, 2014. Deletion of these three OUs is expected by the end of 2014.

The remedial action work required for OU1 (Yak Tunnel) and OU3 (slag piles and rail yards) is complete, but completion of various administrative tasks is needed before deletion of these OUs can occur. Although OU11 (Arkansas River Floodplain) remedy construction was completed in 2011, two to three years of monitoring is required before the remedy is considered "operational and functional" as required by CERCLA. In addition, institutional controls will need to be established for OU11. Deletion of OU6 is dependent on construction completion and implementation of institutional controls, while deletion of OU12 will be considered after completion of construction in OU6 and several years of additional water quality monitoring.

CAPTAIN JACK MILL SITE

1.5 MILES SOUTHEAST OF WARD, LEFTHAND CREEK WATERSHED, BOULDER

Description: This mining site is located at the headwaters of the Left Hand Creek Watershed in a narrow valley approximately 1.5 miles southeast of Ward in the mountains west of Boulder. Mining for gold and silver in the region began about 1860. The site consists of a horizontal mine entrance (known as an adit) to the Big Five Tunnel, which drains acidic mine water and several large waste rock piles including the Big Five, Cornucopia, Philadelphia and White Raven. Two tailings ponds were created during operations of the Captain Jack Mill. Heavy metals from mine waste piles and acid mine drainage impact the fishery of Left Hand Creek. In addition, the Left Hand Water District, which provides drinking water to about 15,000 people, has an intake approximately 15 miles below these abandoned mines and contaminant sources. Contaminants from historic mining also affect wetlands downstream of Captain Jack along Left Hand Creek. The site was listed on the NPL on September 29, 2003.

Management and Funding: The department implemented investigations and evaluations as the lead agency under a grant from the EPA (100 percent federal funding), and a Record of Decision was issued in September 2008. Cleanup costs will be borne by the EPA and the department, in a 90/10 percent cost share, because the mining impacts are from companies that no longer exist and no viable responsible parties have been identified for this site at this time.

Cleanup Status: The remedy calls for plugging of the tunnel and treatment of the Big Five mine pool, as well as consolidation and capping of mine waste piles. To facilitate design and construction, the two components of the remedy are being handled separately. Design for the Big Five tunnel component of the remedy began in May 2011 and was completed in September 2013. The start of Big Five tunnel construction will depend on receiving funding from EPA.

The first phase of the Captain Jack remedy, consolidation and capping of mining related wastes, was completed in November 2012. Activities included the removal of four waste rock piles and a mill tailings impoundment to an on-site engineered mine waste repository. In addition, the Big Five Mine waste rock pile was consolidated, re-graded and capped in-place. Continued monitoring of the vegetated cover was conducted in 2014.

Estimated State-Funded Costs: The cost for construction of the waste pile portion of the remedy was about $1.8 million. The engineering cost estimate for the construction of the Big Five tunnel remedy is approximately $5 million. The department will be responsible for 10 percent of the cleanup construction cost and 100 percent of any operation and maintenance required for the site.

Schedule for Deletion: At this time, no schedule has been developed for construction completion and deletion of the site. It is anticipated that the subsurface remedy will be constructed during 2015, followed by two years of monitoring. If water quality standards are not met after construction of the bulkhead in the Big Five tunnel (Phase I), a biochemical reactor will be designed and constructed outside of the adit (Phase II). Phase II will require one year for design, one year for construction and another year to develop the deletion package. Therefore, the earliest the site could be considered for deletion would be roughly 2020.

Big Five Tunnel at the Captain Jack Mill.

CENTRAL CITY/CLEAR CREEK

CENTRAL CITY & IDAHO SPRINGS MINING DISTRICT, CLEAR CREEK & GILPIN COUNTIES

Description: The Central City/Clear Creek Superfund study area covers the 400-square mile drainage basin of Clear Creek, which has been affected by a number of inactive precious metal mines. To date, the Superfund investigation has focused on six priority mine drainage tunnels and more than 40 priority mine waste piles. The most significant environmental impacts are on the Clear Creek stream system, including a reduced fishery and impacts to other aquatic life and habitat. Acidic water draining from many mines contains a variety of heavy metals and mine wastes, which contribute to the non-point source impacts to the basin. Clear Creek is a drinking water source for more than 250,000 people living in the northern Denver metropolitan area and is used for kayaking, rafting, fishing, wildlife watching and gold panning. The human health hazards from this site involve the potential for exposure to heavy metals — primarily lead, arsenic and cadmium — in surface water and soils.

Pittsburg Waste Rock Pile

Management and Funding: The department implements design and cleanup as the lead agency under several grants from the EPA (both 100 percent federal and 90/10 percent federal/state funding). The cleanup costs are borne by the EPA and the department, in a 90/10 percent cost share, because the mining impacts in this basin are from companies that no longer exist. Argo Tunnel Water Treatment Plant operations and maintenance is fully funded by the department.

Cleanup Status: Cleanup accomplishments include capping or removal of more than 40 waste rock piles, construction of an on-site mine waste repository, closing mine openings, conducting domestic well sampling, building a constructed wetlands to filter metals, and constructing sediment retention dams. The department operates the Argo Tunnel Water Treatment Facility in Idaho Springs to treat the Argo and Big Five tunnel discharges and Virginia Canyon groundwater. The facility prevents approximately 900 pounds of metals per day from entering Clear Creek, thereby treating the single largest point source of metals in the basin. In August 2013, modifications were completed at the Argo facility to improve the efficiency. These changes should reduce chemical usage, labor and sludge disposal, which may, over time, reduce the department's operating costs. A flow-control bulkhead will be constructed in the Argo Tunnel this fall. The bulkhead will prevent future uncontrolled surge events from the Argo Tunnel from impacting Clear Creek. A surge event would likely overwhelm the Argo Tunnel Water Treatment Facility, resulting in a fish kill on the main stem and compromising downstream water supplies. The funding for the project is in place and the project is scheduled to bid in September 2014 with a construction start date in early November 2014.

Quartz Hill is scheduled to be regraded and capped with a rock cover to prevent erosion in the summer of 2014. The objective of this work is to reduce contaminated runoff into North Clear Creek.

Construction of a mine water treatment plant along the North Fork of Clear Creek to treat the Gregory Incline and National Tunnel discharges and Gregory Gulch surface water is expected to begin in 2015, pending finalization of a water use agreement with Black Hawk and Gilpin County. While EPA funding is available, in spring 2014 the department halted the construction procurement process due to the uncertainty of water use negotiations. Maintenance of mine waste pile erosion control structures and the mine waste repository are ongoing.

Estimated State-Funded Costs: The site cleanup decision documents are complete and therefore projected costs for completion of Superfund Remedial Action can be estimated. In addition to the significant remediation projects already completed, the department's share of constructing the North Fork water treatment plant, tunnel bulkhead installation, and Quartz Hill capping and related activities is estimated at $2,000,000 (see Appendix B).

Currently, the major operation and maintenance

component at Clear Creek is operation of the Argo Tunnel Water Treatment Plant. The treatment plant began full operation in April 1998, with an annual operating cost of approximately $1,000,000. As of October 2009, the department is responsible for the full annual operating cost in perpetuity.

The department also will be responsible for the treatment of the Gregory Incline and National Tunnel discharges. Engineering estimates of construction cost are approximately $19 million dollars. The department will be responsible for 10 percent of the construction cost. The current cost-estimate for operations and maintenance is $926,000 per year. The department will be responsible for 10 percent of the annual costs, or approximately $95,000 per year, for the first 10 years of operation, and the full annual cost beginning in 2025 and continuing in perpetuity.

The department will also be responsible for 100 percent of the costs for operations and maintenance associated with maintaining covers and sediment control structures at several mine reclamation sites throughout the Clear Creek basin.

The Argo Tunnel Water Treatment Plant

Schedule for Deletion: Construction completion for the entire site is currently estimated to occur by December 2016, with deletion to follow.

CHEMICAL SALES COMPANY
4661 MONACO PARKWAY, DENVER COUNTY

Description: The Chemical Sales Company Superfund site extends from the facility at 4661 Monaco Street, Denver, approximately five miles to the north. The site covers portions of the city and county of Denver, south Adams County and Commerce City. Soil and shallow groundwater at the facility are contaminated with chlorinated volatile organic compounds and 1,4 dioxane.

Management and Funding: The management and funding of the Chemical Sales project was complex and shared by the Chemical Sales Company, the EPA and the department. Early in the project, Chemical Sales declared bankruptcy, the EPA performed most of the remedial design for Operable Unit 1, and then turned management of the remainder of design and construction over to the department. State oversight and management costs are funded through EPA grants requiring state matching funds (90 percent federal, 10 percent state). Cleanup costs are shared between the EPA and the department (90/10 percent). A portion of the cleanup costs was recovered through settlement consent decrees with the Chemical Sales Company and Interstate Distribution Center Associates, and a prospective purchaser agreement with G.L. Bryan Investments, Inc.

Cleanup Status: After implementing numerous groundwater treatment technologies in 2011, the department's contractor began conducting in-situ chemical oxidation injections. Groundwater contaminant concentrations in Operable Units 1 and 2 are regularly sampled and reported to monitor the effectiveness of treatment. The next in-situ chemical oxidation treatment was scheduled for fall 2014. The department continues to monitor results and coal waste treatment technologies.

Estimated State-Funded Remaining Clean-up Costs: In-situ treatment of the groundwater costs $120,000 per year, with the department share being $12,000.

Schedule for Deletion: Chemical oxidation is anticipated to continue for at least one more year. A deletion schedule has not been established.

DENVER RADIUM
VARIOUS SITES, DENVER COUNTY

Description: The site includes 65 properties contaminated with radioactive soils and debris, which are organized into 11 operable units. Denver was the site of various radium processing operations during the early 1900s. When radium processing ended in the 1920s, the site locations were forgotten. In 1979, the EPA discovered the situation and the department, with help from numerous agencies, conducted studies to locate the properties. Soils at these sites were contaminated with radium, thorium and uranium. The radioactive decay of these elements produces radon gas. At some sites groundwater was impacted.

Management and Funding: The EPA was the lead agency for managing the Denver Radium sites, although the department managed portions of the Shattuck project. All but one, Shattuck Chemical, were considered orphan shares, for which cleanup costs were funded by the EPA and the department in a 90/10 cost share. The responsible parties paid for the original cleanup of the Shattuck site. However, with the revised decision to move the Shattuck waste, the department and EPA were responsible for most of the additional cost.

Cleanup Status: Clean-up of all sites (except Shattuck groundwater) consisted of excavation of contaminated materials and disposal at a licensed facility in eastern Idaho or eastern Colorado, and is complete. Some residual contamination was left under streets in accordance with EPA standards, but those contaminants have since been removed. A Five-Year Review, completed on September 24, 2013, requires additional groundwater monitoring for at least five more years. The next Five-Year Review is scheduled to be completed by September 2018. The department monitors Shattuck groundwater twice per year and at other locations, as necessary.

Estimated State-Funded Costs: Due to increased contaminant volumes at the site, costs for the Shattuck site cleanup totaled $58 million. The required state cost share was $5.28 million. Government costs were offset by recovery of $5.2 million of the total cost from the responsible party. The department completed payments of its 10 percent cost share in 2006. The department also estimates that it may incur approximately $10,000 per year for monitoring contaminated groundwater. It should be noted that the city and county of Denver has spent several million dollars over the past five years to remove contamination under city streets. Denver obtained funding for these activities by withholding HSRF tipping fees collected at county landfills.

Schedule for Deletion: Except for Shattuck groundwater (OU8), the site was deleted on Nov. 5, 2010. Groundwater at Shattuck cannot be deleted until it meets department standards. Semi-annual ground water monitoring continues at OU8.

EAGLE MINE
SH 24 BETWEEN REDCLIFF & MINTURN, EAGLE COUNTY

Description: The Eagle Mine and associated mining wastes are located approximately eight miles southwest of Vail. Heavy metals, such as lead, zinc, cadmium, arsenic and manganese impact surface soils and local streams, including the Eagle River.

Management and Funding: The department is the lead agency under the consent decree between Colorado and the responsible party, CBS Operations, Inc (CBS). CBS bears the cost of site cleanup. The department's oversight costs are funded by the CBS through the Hazardous Substance Response Fund Eagle Mine settlement account.

Cleanup Status: In September 2001, the EPA determined cleanup activities at the site were complete. There has been a dramatic improvement in water quality in the Eagle River and a rebound in aquatic life populations as a result of the cleanup. A biologically based standard for the Eagle River was proposed to the Colorado Water Quality Control Commission (WQCC) in December 2005. However, this standard was not adopted because local residents wanted additional cleanup. In June 2008 the WQCC adopted new underlying standards for metals in the Eagle River. These standards cannot be attained with the current remedy; therefore, CBS was required to conduct a feasibility study to determine what additional work can be performed to meet the

new standards. A Five-Year Review was completed in September 2008 and determined that the remedy is not fully protective because it does not meet the new water quality standards. The focused feasibility study was completed in July 2013 and published on the Eagle Mine website in August 2013. The department prepared a Proposed Plan selecting the preferred remedy for additional work. However, issuance of the Proposed Plan was delayed pending the preparation of a feasibility study addendum addressing arsenic. Arsenic was not previously considered a contaminant of concern in surface water due to no detections. However, with newer analytical techniques and a very stringent surface water standard of 0.02 ug/l, additional information needed to be developed for the Administrative Record to document how the proposed remedy will address arsenic in surface water. EPA completed the fourth Five-Year Review in 2013.

Estimated State-Funded Costs: All cleanup, operation and maintenance, state oversight and state legal costs are borne by the responsible party, CBS.

Schedule for Deletion: A review of the site will be performed every five years to ensure that the waste repositories are still performing as expected. Deletion will be tied to completion of the additional work that is yet to be determined.

The site features various historic features including a trestle that once conveyed mine wastes. It now conveys contaminated water to the treatment plant.

GLOBEVILLE SMELTER
495 EAST 51ST AVENUE, DENVER, ADAMS & DENVER COUNTIES

Description: The site consists of the plant, along with properties in the surrounding communities in North Denver and South Adams counties. The Globeville Plant has operated as a lead smelter. It also refined arsenic and cadmium, and produced gold and silver. The facility is no longer operating. ASARCO is required to clean up all contamination in, and around, the Globeville Plant site, which includes the former neutralization pond, groundwater and surface water, community soil and air emissions. Cadmium, arsenic and lead are present in the surrounding soils and in localized groundwater east of the plant.

Management and Funding: The department is the lead agency. Through settlement of the department's claims, the responsible party, ASARCO, funded cleanup and oversight costs up until the time that the company declared bankruptcy. To settle the department's bankruptcy claim, ASARCO paid $16 million into a settlement trust to complete the remediation work on the plant site and to fund the department's oversight. This settlement is also funding ongoing water treatment. In addition, the department received $1.1 million from a national trust account to complete the cleanup of contaminated soils from commercial/ industrial properties surrounding the Globeville Plant site.

Cleanup Status: Construction activities have been completed at all off-site residential properties. Cleanup of the former sedimentation pond has been completed and the groundwater extraction and treatment system is constructed and operating. During 2011, sampling and removal of off-site contaminated soils was completed. Remaining work includes closure of the former neutralization pond and capping of the on-site contaminated soils. Remediation of the on-site soils and groundwater began in March 2012. The smelter stack and all buildings have been demolished. Materials that were found to be hazardous were sent off-site to the appropriate landfill, and most of the concrete has been pulverized for reuse on the property. The first phase of the project was completed in December 2012. The second phase of the soil and groundwater portion is set to be completed in December 2014, with three years of monitoring to confirm that the remedy is working as designed.

Estimated State-Funded Costs: The ASARCO bankruptcy settlement resulted in $16 million for the cleanup of the site, to be placed in a

multi-state custodial trust. The department is working with the trustee and Globeville Inc., LLC to complete cleanup of the property. The cost of site cleanup, including the department's oversight costs, will be funded by the trust. Due to cost overruns related to running the waste water treatment plant, and larger areas of heavily contaminated arsenic soils than expected, there is currently a deficit in the funding for the cleanup. The department is working with the trust and perspective purchasers of the property to come up the required funding necessary to complete remediation of the property.

Schedule for Deletion: This site was proposed for listing on the NPL, but EPA deferred final listing of the site because the department was actively working with the potentially responsible party to complete cleanup. We are currently working with the EPA to attempt to de-propose the listing for the site by early October 2014.

IDARADO MINE

SH 145 & US 550, SAN MIGUEL & OURAY COUNTIES

Description: The Idarado mine extends beneath a mountain ridge between the towns of Telluride and Ouray. In the Telluride District, there are seven infiltration lagoons and six tailings ponds. The western portal of the mine in the Telluride District is located three miles east of the town of Telluride. In the Red Mountain District, there are five tailings ponds. The eastern portal of the mine in the Red Mountain District is located about 11 miles south of Ouray. The major human health concern is possible exposure to heavy metals in the tailings, specifically lead and cadmium. High zinc concentrations adversely affect aquatic life in nearby rivers and creeks. Farmers and ranchers downstream of the Red Mountain District also have concerns about contaminated irrigation water.

Management and Funding: The site is managed by the department through the Natural Resource Damage settlement. Cleanup costs and state oversight costs are funded by the responsible party, Newmont.

Cleanup Status: A majority of the cleanup activities have been completed on the site, and compliance monitoring in Red Mountain Creek and the San Miguel River is ongoing. Remediation of Society Turn Tailings Pile Number 1, in the Telluride District, remains. The results of compliance monitoring indicate that the current remedy will meet the standards agreed upon in the settlement between the department and Newmont Mining in the Telluride District. The department is in discussions with Newmont to identify additional remedial measures that may be necessary to meet standards in the Red Mountain District.

Final remedy completion has been delayed by negotiations between the department and the town of Telluride, which owns property where contamination remains. The town of Telluride, the department and Newmont have entered discussions on site access and identifying cleanup activities needed to address the remaining contamination.

Estimated State-Funded Costs: All cleanup, operation and maintenance, and state oversight costs are borne by the responsible party.

Schedule for Deletion: This site is not on the NPL and will not require deletion.

Idarado Mine site.

LINCOLN PARK (COTTER)

0502 FREMONT COUNTY ROAD 68, FREMONT COUNTY

Description: The site consisted of a uranium processing mill and tailings disposal cells located adjacent to the community of Lincoln Park, approximately 1.5 miles south of Cañon City. Operation of the mill since 1958 led to contamination of soils and groundwater on-site and groundwater contamination in the adjacent community of Lincoln Park. The contaminants of concern are molybdenum and uranium.

Funding and Management: This site is managed by the department through the radioactive materials license held by the operator, and a consent decree and court order issued in 1988. Most cleanup and oversight costs are borne by the responsible party. Cotter receives some monies from the U.S. Department of Energy for pre-1972 tailings disposal.

Cleanup Status: Soils in the Lincoln Park area have been remediated. Groundwater contamination still exists in the Lincoln Park area and is monitored for quality and use. Cotter has committed to performing additional water investigations, water cleanup studies and capital cost expenditures in the Lincoln Park area during the next year. A five-year review was performed in 2012 and site closure continues for the mill and impoundments. Soil and groundwater contamination still exist on the Cotter property. Major on-site soil remediation occurred in 2008, and water and air monitoring continues. Most of the mill buildings have been dismantled and disposed in the primary impoundment. A new evaporation pond is under consideration. Additional soil and groundwater characterization is expected in 2014 as part of the remedial investigation / feasibility study.

Estimated State-Funded Costs: All cleanup, operation and maintenance, and department oversight costs are borne by the responsible party. There are no department-funded remaining operations and maintenance costs estimated.

Schedule for Deletion: Deleting the Lincoln Park Operable Unit site from the NPL cannot occur until groundwater in the area meets standards and has met the CERCLA process requirements. The timeframe for achieving these standards is unknown at this time.

Cotter site, prior to dismantling.

LOWRY LANDFILL
3500 SOUTH GUN CLUB ROAD, ARAPAHOE COUNTY

Description: The site is located 15 miles southeast of the city and county of Denver and less than a mile east of Aurora at the intersection of East Quincy Avenue and Gun Club Road. The Lowry site consists of 480 acres, and is a portion of the Denver Arapahoe Disposal Site, owned by the city and county of Denver (Denver) and operated by Waste Management of Colorado, Inc.

From 1966 through 1980, Denver operated a municipal solid waste landfill, accepting liquid and solid municipal refuse and industrial wastes, including sewage sludge. Approximately 138 million gallons of liquid industrial wastes were co-disposed with solid industrial and municipal wastes in approximately 78 unlined pits over 400 acres. In addition, 6 million to 10 million waste tires were disposed of on-site. Over time, the liquids seeped from the pits and mixed with surrounding refuse, contaminating groundwater and surface water with volatile and semi-volatile organic compounds.

Management and Funding: Clean-up and oversight costs are borne by the responsible parties. The EPA manages the site. The department's oversight costs are funded through an EPA grant.

Cleanup Status: In 2005, EPA and the responsible parties entered into a consent decree with the court settling remaining issues regarding cleanup components. All cleanup work required by the decree has been completed. However, contamination in groundwater was subsequently discovered more than two miles beyond the site boundary. The EPA considers the associated investigation and remediation part of the site operations and maintenance. On-site and off-site remedial measures are currently under way.

Estimated State-Funded Costs: All cleanup, operation and maintenance, and department oversight costs are borne by the responsible parties.

Schedule for Deletion: Construction completion was achieved in 2006. Once site completion is achieved and all cleanup goals are met, the site will be eligible for deletion. It is unknown how the discovery of off-site contamination will affect the deletion schedule.

MARSHALL LANDFILL
66TH STREET & SH 170, BOULDER COUNTY

Description: The site covers 160 acres in southeast Boulder County. The inactive landfill has contaminated the Cowdrey Drainage and Community Ditch, which conveys raw drinking water for Louisville. The main chemicals found in the groundwater and surface water at the site include the volatile organic compounds benzene, trichloroethylene and tetrachloroethylene, heavy metals, and major ions such as chloride, nitrate and sulfate.

Funding and Management: This site is managed by the EPA and the department's oversight costs are funded by an EPA grant. All cleanup and oversight costs are borne by the responsible party.

Cleanup Status: All cleanup work has been completed. The treatment plant has been shut down and groundwater is being monitored to ensure that further treatment is not required.

Estimated State-Funded Costs: None.

Schedule for Deletion: The responsible party stopped groundwater treatment in 2004 and was required to monitor for three years to ensure that contaminant levels do not increase. This data indicates there are slightly elevated levels of arsenic in the on-site groundwater. A five-year review was completed in 2012. Although there is a slight elevation for 1,4-Dioxane in the groundwater, EPA is starting the process to determine if delisting can proceed.

NELSON TUNNEL/COMMODORE WASTE PILE
ONE MILE NORTH OF CREEDE, MINERAL COUNTY

Description: The Nelson Tunnel/Commodore Waste Pile is located outside of Creede. The site consists of a large mine waste pile that impacts Willow Creek and a discharging tunnel. A large percentage of the zinc load delivered to the Rio Grande River via Willow Creek is attributed to the Nelson Tunnel discharge.

Management and Funding: This site is managed by the EPA. The department's oversight costs are funded by an EPA grant (100 percent federal). It is anticipated that in the future a 10 percent state cost share will be required to implement the remedy.

Cleanup Status: Stabilization of the Commodore Waste Pile was completed in 2009 as an EPA emergency response. The Remedial Investigation of the draining adit (Nelson Tunnel) was completed in 2011. Contractors continue to study the mine hydrology to determine if the flow into the tunnel can be reduced and/or if a passive treatment system can be used. Remedial options will be developed once the hydrology study is completed. A draft feasibility study for water treatment has been completed; however, EPA is waiting for the results of the hydrologic studies before issuing the final feasibility study. There is a high likelihood that water treatment will be needed as part of the final remedy.

Estimated State-Funded Costs: The department will be responsible for cost sharing on the cleanup. Estimated cleanup costs assume active water treatment will be necessary; however, this conclusion is highly speculative because the feasibility study has not been completed. The costs are based on recent estimates developed for the Central City/Clear Creek Superfund Site (see Table 2).

Schedule for Deletion: Unknown at this time.

The mine features historic structures including ore bins.

PJKS AIR FORCE BASE
12500 SOUTH SH 75, JEFFERSON COUNTY

Description: The site is a 460-acre facility near Waterton Canyon, 20 miles southwest of Denver. The facility was used for missile/rocket manufacturing, research and development and rocket fuels development. Contaminants in soil and groundwater include volatile organic compounds, hydrocarbons, rocket fuel, organic and inorganic compounds and some radionuclides. Some contaminant plumes have migrated off-site, and perhaps merged with plumes from the surrounding Lockheed Martin Astronautics Facility, which is not on the NPL.

Management and Funding: The department is the lead regulator at the site in accordance with an agreement with the EPA. The department is handling the site through its Resource Conservation and Recovery Act (RCRA) program. The Department of Defense (Air Force) reimburses the department for it oversight costs through the Defense and State Memorandum of Agreement (DSMOA).

Cleanup Status: The Air Force completed the voluntary removal of seven underground storage tanks used to manage heating oil and the bio-remediation of one hydrocarbon plume. The minor volume of thorium-contaminated soil has been excavated and disposed off-site. Clean closure was achieved for four of the five RCRA interim status units. Residential/unrestricted use cleanup levels have been achieved at 32 of the RCRA corrective

action Solid Waste Management Units (SWMUs) with soil contamination.

The final selected remedies have been constructed for all 15 of the remaining SWMUs with soil contamination. The remedies consisted of asphalt covers and/or enforceable land-use controls to protect human health.

The final selected remedy for groundwater at the site consists of active treatment at all seven of the contaminant source areas using in-situ enhanced biological treatment to help reduce contaminant mass in the source areas. Additional remedial action is being conducted to treat the dissolved-phase contaminant plumes at the site boundary and beyond. Implementation of the selected final remedies required no new construction because the selected final remedies were simple continuations of existing interim measures. As a result, the Air Force was able to submit the construction completion report demonstrating that all of the remedies specified in the Final PJKS ROD by the end of calendar year 2013. The construction completion report was approved by EPA and the department in February 2014. The PJKS Air Force Base is now in the long-term operation, maintenance and monitoring phase. The ultimate remediation of the groundwater at the site is anticipated to take many years.

Estimated State-Funded Costs: None.

Schedule for Deletion: In March 2001, the United States completed the sale of the U.S. Air Force Plant — PJKS to the Lockheed Martin Corporation. Lockheed Martin also owns the surrounding Lockheed Martin Astronautics Facility. Lockheed Martin has expressed a desire to have PJKS deleted from the NPL. However, neither Lockheed Martin nor the U.S. Air Force has formally approached the department or the EPA regarding deletion.

Research involving this rocket test stand resulted in soil and water contamination including volatile organic compounds, hydrocarbons, rocket fuel, organic and inorganic compounds and radionuclides.

ROCKY FLATS SITE
SH 93, JEFFERSON COUNTY

Description: The Rocky Flats site is located approximately 16 miles northwest of downtown Denver, about halfway between the cities of Boulder and Golden. Rocky Flats consisted of 6,241 acres with a central industrialized area of 384 acres where major plant structures were located. Rocky Flats produced components for nuclear weapons for about 40 years. Radionuclides such as plutonium and americium, metals, solvents and other organic compounds are present in soils, building foundations, surface water and groundwater. Releases off-site via surface water constitute the potential exposure route to the public.

Management and Funding: The site was managed by the U.S. Department of Energy (DOE) and operated by contractors. The department and EPA jointly oversaw cleanup of the site under an agreement that divided lead regulatory responsibilities. The department is the post-closure lead regulatory agency and oversees maintenance and environmental monitoring activities and data reporting. The DOE was responsible for all cleanup costs and currently funds the department's oversight costs through a grant (100 percent federal).

Cleanup Status: Remedial actions addressed contaminated soil, including source removal from several old disposal trenches and removal of plutonium-contaminated soil at, and around, the 903 Pad drum storage area. Over 800 buildings and structures were remediated by being decontaminated and then either completely removed or demolished with remaining below -grade structures covered by at least three feet of clean fill. Four groundwater treatment systems were installed and two landfills were constructed. The shipment of all weapons grade plutonium from Rocky Flats was completed in July 2003 and physical cleanup work was completed in October 2005. The remedy selected in the record of decision, signed on Sept. 29, 2006, is no action for the Peripheral Operable Unit. The remedy for the Central Operable Unit is institutional and physical

controls with continued monitoring and maintenance. A post-closure care agreement, the Rocky Flats Legacy Management Agreement, was signed in March 2007.

Most of the Peripheral Operable Unit (nearly 4,000 acres) was transferred to the U.S. Fish and Wildlife Service and became a national wildlife refuge in July of 2007. Due to the presence of residual contamination and the continued operation of groundwater treatment systems after site closure, management of the 1,308-acre Central Operable Unit has been retained by DOE. Offsite areas were investigated and determined to require no action in a 1997 Record of Decision.

Estimated State-Funded Costs: None

Schedule for Deletion: The site was partially delisted on May 16, 2007. The Peripheral Operable Unit and Operable Unit 3 (Offsite Areas) were delisted, while the Central Operable Unit remains on the NPL.

ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, ADAMS COUNTY

Description: The Rocky Mountain Arsenal (RMA) was originally a 27-square mile U.S. Army facility and is located approximately 10 miles northeast of downtown Denver, directly north of the former Stapleton International Airport and west of Denver International Airport. The arsenal was used between 1942 and 1982 as a chemical agent/incendiary munitions plant. In addition, the property was the site of one of Shell Oil Company's pesticide manufacturing facilities. Soils, structures, surface water, and groundwater became severely contaminated with pesticides, heavy metals, organic solvents and chemical-agent breakdown products. Unexploded ordnance, some containing nerve agent, also has been found. During the 1950s, groundwater contamination was discovered to have moved off-site. As such, the RMA is addressed by two separate Records of Decisions (RODs): one for the on-post cleanup, and one that covers the off-post plume.

Groundwater pump-and-treatment systems (covered by the On-Post ROD) were installed during the late 1970s to contain the groundwater to the site interior, and those systems have been operating ever since. The construction of the other remedy structures (caps, covers and all groundwater pump-and-treat/containment systems) is now completed. The intention of this remedy is to contain and encapsulate the contamination on-site, underground in soils and groundwater and in landfills, with all pathways to the surface cut off. Most of the site is now a national wildlife refuge, with the exception of approximately 1,000 acres where the caps, covers and landfills are located. Those areas have been retained as Army property and will likely remain so in perpetuity. Groundwater under the Western Tier Parcel on the west side of RMA has been deleted from the NPL. Groundwater under the eastern section of RMA has also been deleted from the NPL. Groundwater in both of those areas was never contaminated from activities at RMA but had been included in the original site listing.

The contaminated groundwater plume covered by the Off-Post ROD remains on the NPL and is expected to slowly attenuate over time. The Army maps these plumes annually and funds a sampling program through Tri-County Health Department to monitor the contaminant levels in private wells that still exist in the area. Warnings are attached to new well permits (issued by the State Engineer's Office) in, and near, the contaminated area.

Management and Funding: The Army is the lead agency and manages the cleanup directly. Oversight of the cleanup is conducted by the department, the EPA and Tri-County Health Department (collectively, "the Agencies"). The Army and Shell are both responsible for cleanup costs.

Cleanup Status: Beginning in 1975, some interim response actions were implemented to control some of the contamination. A ROD was negotiated in 1996. The cleanup strategy was primarily containment-oriented and consisted of soil excavation, building demolition and on-site landfilling of 5.5 million cubic yards of contaminated soil and debris. The remedy also requires ongoing treatment and containment of contaminated groundwater. Monitoring of groundwater and assessment of the integrity of the containment structures will continue in perpetuity. Institutional controls, including prohibitions against residential development, consumption of fish and game and agricultural use, are incorporated into the ROD as an integral component of

the cleanup, and cover for the need for post-remedy sampling and risk assessment.

In 2010, the Army, U.S. Fish and Wildlife Service (USFWS), and Shell Oil approached the agencies with a proposal to re-evaluate the need for the residential institutional controls at the site. A risk assessment was attempted in 2011 to support this effort, but there was not enough underlying site data to provide a clear and meaningful result about long-term risks that could be associated with unrestricted/residential use of the site. That effort was tabled, but USFWS immediate needs were accommodated by a compromise that allows for short-term occupational use of the on-site residential bunkhouses on a case-by-case basis by written agreement with agencies.

Currently, USFWS states that the institutional controls that remain on the site hamper their ability to carry out refuge functions, and in 2013, approached the Agencies with requesting the wholesale removal of all the institutional controls. The most pressing restrictions that USFWS seeks to eliminate are the game consumption restriction and the agricultural use restriction (as the bison herd currently housed on-site is over its carrying capacity and USFWS would like to auction off some animals to the public). This issue is under analysis and review. A sampling and analysis plan is being prepared to develop a procedure with which to sample live bison using tail bulb fat.

In early 2014, the Army approached the department and EPA with a conceptual proposal to conduct some limited post-remedy surface soil sampling with the intent of characterizing the site and possibly refining or lifting the ROD restrictions that are integral to the existing remedy. Discussions have continued through late summer 2014 and could extend into 2015. At the time of this writing, the scope of the proposed sampling is only sufficient to support a list of expanded refuge uses for USFWS but is not comprehensive enough to support a risk assessment to lift the ROD restrictions in their entirety. Additionally, there is reluctance on the Army's part to pursue a risk assessment for this purpose. Concurrently, a multi-party Stewardship Agreement is under development that will provide the department with an enforceable document to continue to oversee the ROD at RMA. It is expected that any technical work that results in revised or clarified ROD restrictions would be captured in the Agreement.

Estimated State-Funded Costs: All cleanup, operation and maintenance, and state oversight costs are borne by the Army and Shell Oil Company.

Schedule for Deletion: In 2003, the EPA deleted 940 acres along the western boundary of the arsenal. In accordance with the National Wildlife Refuge Act, this property was sold to Commerce City for commercial and recreational development. In 2004, an additional 5,053 acres along the perimeter of the site was deleted to establish the national wildlife refuge. Also, 126 acres along 96th and 56th avenues and Highway 2 were transferred to local and state governments for road improvements. In 2006 an area of approximately 7,795 acres (12 square miles) was deleted, and will be added to the refuge property.

By September 30, 2010, an additional (approximately) 2,800 acres of cleaned up property was deleted from the NPL and added to the Wildlife Refuge land. It is not known when the underlying groundwater on the central portion of RMA and in the off-site plumes migrating north and northwest of RMA will meet cleanup standards and permit groundwater deletion, but it is generally expected to take at least a century. Most of RMA's surface property has now been deleted from the NPL with the caveat that the current institutional/land use controls must still remain in place. In addition to the approximately 1,000 acres that will be retained by the Army, there is a minor amount of surface land that could be eligible for deletion in the future, but it is unclear at this time when that will occur.

A lysimeter measures moisture infiltration to ensure that landfilled waste stays dry.

SAND CREEK INDUSTRIAL
EAST 52ND AVENUE & DAHLIA STREET, COMMERCE CITY, ADAMS COUNTY

Description: The 350-acre site is located south of Sand Creek, north of 48th Avenue, east of Colorado Boulevard and west of Ivy Street and includes a closed landfill, a former pesticide manufacturer, a closed acid storage impoundment and a former oil refinery. The 48th and Holly landfill accepted residential, commercial, agricultural and industrial solid waste from 1968 to 1975. The Colorado Organic Chemical Company, located at East 52nd Avenue and Dahlia Street, manufactured pesticides from the 1960s until 1984. The LC Corporation's acid neutralization impoundments operated from 1968 to 1972 for brines from the Shell Chemical Company production of herbicides at the Rocky Mountain Arsenal. The Oriental Refinery operated at East 52nd Avenue and Dahlia Street until it was destroyed by fire in 1965, releasing up to 48,000 gallons of refined petroleum products. Volatile and semi-volatile organic compounds, petroleum products, pesticides, herbicides and metals contaminate soil, surface water and groundwater at the site.

Management and Funding: The Sand Creek site was managed by the EPA. The department's oversight costs were funded through EPA grants (100 percent federal). Funding of cleanup activities was a combination of responsible party, the EPA and department funding. The department share of cleanup funding was approximately $740,000.

Cleanup Status: Remedial action at all operable units was completed by late 1995.

Estimated State-Funded Costs: The department is responsible for continued site-wide groundwater monitoring, which costs approximately $8,000 per year. The responsible parties are continuing to operate and maintain the landfill gas extraction system and flare at the 48th and Holly Landfill at their cost.

Schedule for Deletion: The site was deleted from the NPL in December 1996.

SMELTERTOWN
9000 COUNTY ROAD 152, SALIDA, CHAFFEE COUNTY

Description: The site, located one mile northwest of Salida on the eastern bank of the Arkansas River, was proposed for inclusion on the NPL in February 1992, but was never listed. Past operations on the 125-acre site included metals smelting (gold, silver, copper and lead) from 1902 to 1920, and creosote treatment of railroad ties from 1926 to 1946. Contamination at the site includes heavy metals in mining waste, soils and groundwater and creosote-contaminated soils and groundwater.

Management and Funding: This site is managed by the EPA. Cleanup costs were funded by the responsible parties and by the EPA in a removal action. The department did not share costs on this removal action. Oversight of operations and maintenance is performed by the department and funded by the responsible parties.

Cleanup Status: Consolidation and capping of smelter wastes was completed in October 2003. Cleanup actions for the former wood-treating portion of the site were completed in 2000 and included the installation of additional groundwater monitoring wells, fencing, and establishing a mining restriction area to ensure gravel operations do not disturb contaminated soils.

Estimated State-Funded Costs: All cleanup, operation and maintenance, and department oversight costs are borne by the responsible party. The department currently incurs expenditures for oversight of Operable Units 1 and 2 and bills the responsible parties annually under the terms of consent decrees for each operable unit.

Schedule for Deletion: This site was never listed on the NPL.

SMUGGLER MINE
GIBSON AVENUE, ASPEN, PITKIN COUNTY

Description: This 116-acre site represents an area of inactive silver and lead mining. The site is located in the northeastern section of the city of Aspen. Housing units and recreational facilities have been constructed on the mine waste, including two trailer parks, condominiums, private homes and a tennis club. The health hazard from this site involves potential exposure from heavy metals in soils, primarily lead, arsenic and cadmium.

Management and Funding: The site was managed by the EPA. State oversight was funded by an EPA grant (100 percent federal). The responsible parties funded site clean-up.

Cleanup Status: All work has been completed. Ongoing materials management is overseen by the county.

Estimated State-Funded Costs: Pitkin County manages the remaining contaminated materials at the site, including supervising excavation and disposal at the county landfill by private owners. County costs are derived from the Hazardous Substance Response Fund fees and, therefore decrease the fund revenue by about $50,000 per year.

Schedule for Deletion: The Smuggler site was deleted from the NPL in November 1999. The last five-year review was completed in June 2012.

STANDARD MINE
GUNNISON COUNTY

Description: The Standard Mine is a 20-acre mine site outside of Crested Butte. The mine consists of several waste piles, a mill tailings impoundment and a discharging tunnel.

Management and Funding: This site is managed by the EPA. The department's oversight costs are funded by an EPA grant (100 percent federal). Implementation of the remedy will require a 10 percent department cost share, and these funds will come from the Hazardous Substance Response Fund.

Cleanup Status: The remedial investigation and feasibility study has been completed. The Record of Decision was finalized in September 2011.

The EPA Removal Program was mobilized to the site in 2007 to address concerns involving the tailings impoundment located at the site. The concern was the failure of the impoundment and subsequent transport of the tailings to adjacent Elk Creek and further transport to Coal Creek, the drinking water supply for Crested Butte. The Removal Program removed the impoundment as well as mine waste rock piles to an on-site mine waste repository.

The EPA Removal Program was mobilized to the site in July 2012 to start the removal of a collapse within the drainage tunnel. The Removal Program is responsible for the containment and treatment of the mine drainage as the removal of the collapse moves forward. The Removal Program contracted Environmental Restoration, an EPA remedial action contractor, to oversee the treatment, disposition of a bioreactor and removal and disposition of the collapse material at the site's engineered repository. The Removal Program also contracted Harrision Western to rehabilitate the draining adit to address safety issues and to remove the collapse. Harrision Western will continue assessing the adit to determine a potential location to construct a flow-through bulkhead to control mine drainage discharges.

Department staff met with EPA staff and their design contractor, HDR, in February, March and June 2014 to discuss the design for the first phase of remedial action at the Standard Mine. The department reviewed and commented on several draft design documents related to the rehabilitation of the mine workings at this site.

The department and EPA staff met to compile the Standard Mine State Superfund Contract (SSC). After several meetings the SSC was finalized.

The Phase I remedial action at the Standard Mine Site is scheduled to occur in the summer of 2015.

EPA, HDR and department staff will review the proposals from mining contractors for the rehabilitation prior to the 2015 Phase I remedial action. Upon completion of the rehabilitation, a design for the Level 1 tunnel bulkhead will be initiated by HDR with implementation scheduled to start in 2016 or 2017,

depending upon the ability to complete the rehabilitation effort in 2015.

Estimated State-Funded Costs:
The department will be responsible for cost-sharing on the clean-up (10 percent). Department cost estimates are based on the feasibility study. The remedy is structured to be two-phased. If the first phase is unsuccessful in reaching clean-up goals, passive treatment of the draining adit will be implemented. The department cost-share for remedy construction is estimated to be $744,811, assuming both phases are conducted.

Schedule for Deletion:
Unknown at this time.

Standard Mine.

SUMMITVILLE MINE
RIO GRANDE COUNTY

Description: This 1,231-acre site is in the San Juan Mountains, surrounded by the Rio Grande National Forest at an elevation of 11,500 feet. The Wightman Fork flows from the site then joins with the Alamosa River, which continues through forest and agricultural land in Rio Grande and Conejos counties and past the San Luis Valley towns of Capulin and La Jara. The Terrace Reservoir, 18 miles downstream of the site on the Alamosa River, is used for irrigation. All of these surface water bodies and uses are impacted by heavy metals, primarily copper, aluminum and acid mine drainage that emanate from the mine and surrounding mineralized areas.

Management and Funding: The EPA initiated lead management responsibilities at the site with its emergency response action in 1992. EPA performed several interim cleanup actions, which included the interim water treatment plant, heap leach pad and mine pits closure, and installation of adit bulkheads. The department has lead responsibility for the site-wide reclamation project, remedial investigation and feasibility study, site-wide record of decision (ROD) and all projects associated with the 2001 ROD, which includes the design and construction of a new water treatment plant. State costs for these activities are funded through an EPA grant. The funding is 100 percent federal in the characterization and design phase, 90/10 federal-state for construction, and 90/10 federal for the first 10 years of water treatment plant (WTP) operation and maintenance. One hundred percent of the operation and maintenance associated with other constructed site features (exclusive of the new water treatment plant) are borne by the department as soon as the construction phase for that element is complete. The department cost share is partially funded through settlements with responsible parties, which are held in custodial accounts.

Cleanup Status: Site-wide reclamation of the surface disturbance was completed in 2002. Redesign of a new treatment plant occurred in 2009. Construction of the treatment plant began in September 2009, with the receipt of government stimulus (American Recovery Reinvestment Act) funding, and was completed in September 2011. Additional projects — including increased contaminated storage impoundment capacity, improved surface water and groundwater collection systems, and rehabilitation of abandoned adits — were completed between 2002 and 2012.

Estimated State-Funded Costs: In FY2001, the department and EPA settled with Robert M. Friedland, the principal responsible party. The settlement provides $10 million for future response costs. The department also settled with five other responsible parties, and received an additional $1,335,000 from those parties. In addition, the department has recovered $1.8 million from the Galactic Resources Ltd. bankruptcy. Settlement funds are used to pay for remedy implementation and to defray future operation and maintenance costs.

The major cost associated with the site is water treatment plant operation and maintenance of engineered structures within the abandoned mine property, which

included revegetated slopes and erosion repair. The department share of these costs is estimated at $74 million for the next 25 years. These costs continue, essentially in perpetuity, and are detailed in Appendix B.

Schedule for Deletion:
Construction completion for all structures and improvements identified in the Summitville Record of Decision 2001 are complete as of September 2012. EPA will cost share at 90/10 federal/state until the year 2021. In year 2022, the department will assume 100 percent responsibility for the new water treatment plant.

The new water treatment plant treats 1,600 gallons per minute. A micro-hydroelectric plant generates supplemental electricity

URAVAN MILL
SH 141, URAVAN, MONTROSE COUNTY

Description: The Uravan Mill site is located above the San Miguel River between the Uncompahgre Plateau and the Paradox Valley. Radium, uranium and vanadium ores located throughout the Colorado Plateau were processed at the site from the late 1800s until 1984.
Soils, mill residues and mill structures contaminated from uranium mill tailings and other processing residues are disposed of in secure repositories away from the San Miguel River. Contaminated groundwater was pumped from the ground and evaporated in a series of lined impoundments.

Management and Funding: The department is the lead management agency. All clean-up, operation and maintenance, and state oversight costs are funded by the responsible party, Umetco Minerals.

Cleanup Status: Soil cleanup and repository construction are complete. Groundwater pumping and evaporation in lined ponds is complete and the ponds have been decommissioned. EPA declared construction complete in September 2008. Alternate concentration limits for the groundwater are in place. EPA is preparing the record of decision.

Estimated State-Funded Costs: None

Schedule for Deletion: Site deletion from the NPL is anticipated to occur in 2015.

Today, nothing remains of the mill or the former town.

VASQUEZ BOULEVARD & I-70 (VB I-70)
CITY AND COUNTY OF DENVER

Description: The Vasquez Boulevard/I-70 site is located in northeast Denver. Two smelters, Omaha & Grant, and Argo, operated at various times from the 1870s through the 1900s, refining a variety of metals including gold, silver, copper, lead, zinc, arsenic and cadmium. The site consists of three Operable Units (OUs). OU1 of the site includes residential soils in all or portions of the Swansea, Elyria, Clayton, Cole and West Globeville neighborhoods. OU2 includes the site of the former Omaha & Grant Smelter. OU3 includes the area in and around the site of the former Argo Smelter. The contaminants of concern at the site are heavy metals, particularly arsenic and lead. Exposure to metals can occur through ingestion of contaminated soil particles and inhalation of contaminated airborne particles (dust).

Cleanup Status: Residential cleanup (OU1) began in FY2004 and was completed in 2006, with 761 homes remediated. Based upon the last five-year review, EPA determined it must try to get access to the roughly 190 property owners who were denied access for either sampling or remediation of their properties. EPA is in the process of getting access to these homes and will give all the owners one more chance at remediation. All of the homes whose owners grant access will be sampled and, if necessary, remediated. During the 2013 construction season, twenty-three homes were tested and found to have elevated contaminants and were remediated. EPA is in the process of sending out letters to the owners and/or tenants that their property has either not been sampled or has been sampled and are in need of remediation.

The remedial investigation of the Omaha & Grant Smelter site (OU2) has completed its review of the groundwater. There are volatile organic compounds (voc's) coming from an unknown source. The area has an area-wide plume of voc's from historic activities in the area and the EPA wants to further review the area's groundwater.

The record of decision for the Argo Smelter site (OU3) was produced in 2009, but is currently under revision because EPA attorneys felt it did not properly explain why groundwater was not going to be treated.

Estimated State-Funded Costs: The department's 10-percent cost share on OU1 was $2.6 million. Payment was completed in 2006.

Costs for OU2 are unknown at this time. The feasibility study has been completed; however a record of decision has not been filed. Any further costs will be borne by the city and county of Denver, which will then withhold payments to the Hazardous Substance Response Fund and fund this work directly. State costs for OU3 are also unknown because no decision has been made as to the need to remediate groundwater.

Schedule for Deletion:

As a result of all the properties that will be remediated in 2013, OU1 will be eligible for deletion from the NPL sometime during 2014. Timing of deletion of the other operable units is uncertain.

WOODBURY CHEMICAL
GARFIELD STREET & 54TH AVENUE, COMMERCE CITY, ADAMS COUNTY

Description: The Woodbury Chemical site consists of 11 acres located north of 54th Avenue between Harrison and Adams streets in Commerce City. Organochlorine pesticides were manufactured at the site in the 1950s until 1971. McKesson Corporation operated a chemical distributorship at the site from 1971 to 1986. Contamination at the site included construction rubble and debris from a 1965 fire, as well as bags of pesticides and contaminated soil at the facility and on an adjacent lot. The chemicals of concern at the site fall into three categories: metals, including arsenic and zinc; organochlorine pesticides, including aldrin, chlordane, DDT, dieldren and toxaphene; and volatile organic chemicals, including tetrachloroethylene and trichloroethylene. Contamination at the site was restricted to the surface soils.

Management and Funding: The site was managed by the EPA, with funding for state oversight through an EPA grant (100 percent federal). Cleanup costs were borne by the responsible party.

Cleanup Status: Cleanup of the site was completed in June 1992.

Estimated State-Funded Remaining Costs: None

Schedule for Deletion: The site was deleted from the NPL on March 22, 1993.

Appendix B

SUPERFUND SITES - EST. STATE MATCH LIABILITIES

THROUGH FY 2039-40

CONTRACT/ ESTIMATE	SUPERFUND SITE	TOTAL FUTURE STATE MATCH OBLIGATIONS	NET PRESENT VALUE OF STATE MATCH OBLIGATIONS
	BRODERICK		
SSC-C878489	OU #1 Sludges		
SSC-HAZ930973	OU #2 Phase 1		
NA	OU #2 Phase 2		
	DENVER RADIUM	$0	$0
	Operation & Maintenance	$305,058	$179,576
	CALIFORNIA GULCH	$1,300,000	$1,095,323
ESTIMATE	OU 6 - StrayHorse Gulch	$1,300,000	$1,095,323
	OU 9 - Residential Soils	$0	$0
SSC09FEA0009	OU 11 - Arkansas River Floodplain	$0	$0
	OU 12 - Sitewide Ground & Surface Water -No Action ROD	$0	$0
	OU 11 - Arkansas River O&M	$480,454	$277,342
	OU 12 - Sitewide Ground & Surface Water O&M	$189,743	$133,176
estimate	OU 6 - Stray Horse Gulch O&M	$485,781	$283,253
	CLEAR CREEK	$1,981,648	$1,863,802
	Lyon Ck	$0	$0
SSC-C378406	OU 2 - Argo Tailings (RA Complete)	$0	$0
Coop. Agreement	OU 2 - Big 5 Waste Rock (RA Complete)	$0	$0
Coop. Agreement	OU 3 - Argo Tunnel	$0	$0
Coop. Agreement	OU 3 - Virginia Canyon GW/Big Five (RA Complete)	$0	$0
Coop. Agreement	OU 3 - Chase Gulch #2 Tailings (RA Complete)	$0	$0
Coop. Agreement	OU 3- Argo Tunnel Bulkhead - (in design)	$62,000	$59,615
Coop. Agreement	OU 3 - Argo Tunnel WTP Improvements (HDS) (RA Complete)	$0	$0
Coop. Agreement	OU 4 - Mine Waste Repository (constructed but not state O&M ye	$20,000	$18,861
Coop. Agreement	OU 4 - Quartz Hill Mine Waste Pile (in construction)	$109,000	$104,808
Coop. Agreement	OU 4 - Golden Gilpin Mill (RA Complete)	$0	$0
Coop. Agreement	OU 4- Mine Drainage Pipeline (RA Complete)	$0	$0
Coop. Agreement	OU 4 - New Active Treatment Plant (final design)	$1,790,648	$1,680,518
Coop. Agreement	OU 4 - Mine Waste and Sediment Control (RA Complete)	$0	$0
Coop. Agreement	OU 4 - NCC Sediment Improvement & WTP Site Prep. (RA Com	$0	$0
estimate	O & M - New Water Treatment Plant	$19,487,363	$10,273,796
estimate	O & M - Repository and waste piles (w/o sludge disp.)	$800,757	$480,726
estimate	O & M - Argo Tunnel Water Treatment Plant	$40,091,118	$23,600,145
	SAND CREEK	$0	$0
estimate	O & M	$189,595	$75,188
SSC-C379562	**SMUGGLER**	$0	$0
	CHEMICAL SALES	$60,000	$51,367
Coop. Agreement	OU 1	$60,000	$53,422
SSC-920947	OU 2&3	$0	$0
estimate	O and M	$853,890	$502,653
	SUMMITVILLE	$0	$0
Reclam. Bond	OU 2 - Cap Cropsy (SSC)	$0	$0
Coop. Agreement	OU 4 - Reclamation/Reveg.	$0	$0
Coop. Agreement	OU 4 - Exploration Benches	$0	$0
SSC-9705364	OU 1 - Heap	$0	$0
estimate	OU 5- Water Treatment Plant	$0	$0
	O&M - Water Treatment match & Reclamation	$6,529,882	$5,563,874
	O&M - Water Treatment 100% State	$73,615,530	$50,706,630
SSC-	old water treatment contract w/EPA	$0	$0
	O&M Totals	$80,145,412	$42,614,712
	VASQUEZ BLVD/I-70	$0	$0
estimate	OU 1 - Residential Soils		
	Denver Rad - SHATTUCK	$0	$0
	credit for settlement		
estimate	Removal	$0	$0
	CAPTAIN JACK MILL	$5,117,542	$2,555,643
estimate	**capping mine waste/tunnel plug**	$530,000	$469,175
	In-situ Treatment	$4,587,542	$2,169,926
	STANDARD MINE	$744,811	$647,331
SSC in draft	Phase I costs based on SSC discuss/ROD. Assume Ph 2 is built.		
estimate	O&M	$3,561,657	$2,115,599
	NELSON TUNNEL	$1,673,472	$1,459,101
ESTIMATE	Assume Active Plant - no remedy decisions made yet		
ESTIMATE	O&M	$21,255,909	$11,025,770
TOTAL CONSTRUCTION COST		$8,459,190	$7,025,236
Less: Summitville settlements (Fund 14X)		$0	$0
NET CONSTRUCTION COST		**$8,459,190**	**$7,025,236**
TOTAL OPERATION AND MAINTENANCE COST		$160,758,083	$94,246,286
Less: Summitville settlements (Fund 14X)		($13,474,642)	($10,348,409)
NET OPERATIONS AND MAINTENANCE COST		**$147,283,441**	**$83,897,878**
Net Summitville HSRF-Funded O&M Costs		$66,670,770	$32,266,303

HAZARDOUS SUBSTANCE RESPONSE FUND: PROJECTED BALANCES

Fund 116

Base HSRF fee of $0.16/cubic yard, with decrease to $0.05/cubic yard effective 7/01/12...Proposed reinstatement of $0.16/cubic yard effective 07/01/15

SFY	BEGINNING FUND BAL	Landfill Fees: Cubic Yards	Non-NPL Landfills: Fee	HSRF %	Net Rev*	Interfund Transfers	Damage Awards	Other Income	RMA Cost Recoveries	Interest	TOTAL REVENUES	O&M COSTS	HB00-1306	OPER EXP	Refinance HMWMD	Refinance DOL: Cost-Recovery Contracts	CERCLA GF Capital	Construction	RMA-NRDS Divert To: Restoration Selection	General Fund	SW &/or AGO	TOTAL EXPENDITURE	ENDING FUND BAL
2003	$8,046,260	--	--	100%	$2,082,010				$0	$338,929	$2,439,256	$119,530	$123,832	$732,691	$479,078	$415,000	$1,134,563					$3,004,694	$7,480,822
2003-04	$7,480,822		$0.1390	100%	$0				$980,253	$194,230	$3,940,332	$118,492	$176,813	$726,906	$460,108	$415,000	$423,829					$2,790,029	$8,631,125
2004-05	$8,631,125		$0.1390	100%	$0				$977,049	$222,863	$4,314,393	$140,691	$60,702	$636,766	$439,243	$415,000	$2,325,012					$4,470,413	$8,475,104
2005-06	$8,475,104	18,557,447	$0.1390	100%	$2,514,998				$30,504,743	$821,788	$34,003,616	$136,902	$496,851	$951,551	$447,274	$425,000	$4,024,099					$6,948,608	$35,530,112
2006-07	$35,530,112	18,928,595	$0.1190	100%	$2,196,190				$997,137	$1,705,452	$4,898,779	$102,674	$289,222	$699,318	$520,877	$425,000	$293,060					$2,330,150	$38,098,741
2007-08	$37,755,224	19,307,167	$0.1190	100%	$2,470,043				$1,201,322	$1,676,967	$5,348,332	$117,516	$93,778	$949,037	$872,392	$425,000	$10,351					$2,468,074	$40,635,482
2008-09	$40,635,482	16,147,520	$0.1190	100%	$1,562,980		$976,238	$57,583	$1,589,337	$1,155,860	$4,308,176	$152,984	$141,837	$1,266,779	$68,185	$425,000	$419,017		$29,968,517			$32,442,319	$12,501,339
2009-10	$12,501,339	15,799,936	$0.1190	100%	$1,804,521			$876,864	$513,212	$266,959	$3,618,513	$834,871	$202,649	$371,387	$366,698	$473,000	$110,993		$2,500,000			$4,859,598	$11,260,254
2010-11	$11,260,254	16,053,570	$0.1190	100%	$2,029,008	$225,253			$1,372,206	$250,542	$4,753,874	$972,910	$29,820	$338,435	$302,812	$876,959	$47,282					$2,568,217	$13,445,911
2011-12	$13,445,911	15,027,385	$0.1600	100%	$3,002,049	$156,419	$5,689	$2,434,023	$0	$187,996	$5,786,175	$1,191,752	$288,545	$339,563	$312,063	$715,819	$2,753,879					$5,581,622	$13,650,465
2012-13	$13,650,465	15,297,889	$0.0500	100%	$2,070,098	$128,524	$665,630	$4,453,803	$534,876	$156,847	$8,009,779	$1,075,866	$530,658	$359,133	$219,012	$614,448	$4,788,423					$7,587,541	$14,072,703
2013-14	$14,072,703	15,450,868	$0.0500	100%	$1,637,707	$108,656	$7,602	$1,125,593	$400,768	$139,535	$3,419,862	$1,030,476	$335,018	$489,848	$296,868	$528,117	$1,046,115					$3,726,443	$13,766,122
2014-15	$13,766,122	15,682,631	$0.0500	100%	$764,528	$114,915			$810,142	$126,192	$1,815,777	$1,230,726	$250,000	$480,051	$267,182	$528,117	$1,112,400					$3,868,476	$11,713,423
2015-16	$11,713,423	15,996,284	$0.1600	100%	$2,495,420	$110,000			$781,939	$111,095	$3,498,455	$1,295,341	$250,000	$470,450	$240,463	$528,117	$1,700,859					$4,485,230	$10,726,648
2016-17	$10,726,648	16,396,191	$0.1600	100%	$2,557,806	$110,000			$756,557	$103,304	$3,527,667	$1,592,497	$250,000	$461,041	$216,417	$528,117	$1,058,736					$4,106,809	$10,147,506
2017-18	$10,147,506	16,806,096	$0.1600	100%	$2,621,751	$110,000			$733,713	$95,713	$3,561,177	$1,624,347	$250,000	$451,820	$194,775	$528,117	$1,458,736					$4,507,796	$9,200,887
2018-19	$9,200,887	17,226,248	$0.1600	100%	$2,687,295	$110,000			$713,153	$90,005	$3,600,454	$1,657,729	$250,000	$442,784	$175,298	$528,117	$747,200					$3,801,128	$9,000,213
2019-20	$9,000,213	17,656,904	$0.1600	100%	$2,754,477	$110,000			$694,650	$90,480	$3,649,607	$1,741,806	$250,000	$433,928	$157,768	$528,117	$242,000					$3,353,619	$9,296,201
2020-21	$9,296,201	18,098,327	$0.1600	100%	$2,823,339	$110,000			$677,997	$94,803	$3,706,138	$1,757,191	$250,000	$425,250	$141,991	$528,117	$30,600					$3,133,149	$9,869,190
2021-22	$9,869,190	18,550,785	$0.1600	100%	$2,893,922				$663,009	$100,491	$3,657,422	$1,843,313	$250,000	$416,745	$127,792	$528,117	$31,212					$3,197,179	$10,329,433
2022-23	$10,329,433	19,014,555	$0.1600	100%	$2,966,271				$649,519	$105,451	$3,721,240	$1,851,180	$250,000	$408,410	$115,013	$528,117	$31,836					$3,184,556	$10,866,117
2023-24	$10,866,117	19,489,919	$0.1600	100%	$3,040,427				$637,379	$111,150	$3,788,956	$1,865,763	$250,000	$400,242	$103,512	$528,117	$32,473					$3,180,106	$11,474,967
2024-25	$11,474,967	19,977,167	$0.1600	100%	$3,116,438				$626,453	$99,306	$3,842,197	$5,534,974	$250,000	$392,237	$93,160	$528,117	$33,122					$6,831,610	$8,485,554
2025-26	$8,485,554	20,476,596	$0.1600	100%	$3,194,349				$616,619	$64,598	$3,875,566	$6,582,315	$250,000	$384,392	$83,844	$528,117	$33,785					$7,862,453	$4,498,667
2026-27	$4,498,667	20,988,511	$0.1600	100%	$3,274,208				$607,769	$24,305	$3,906,282	$6,753,472	$250,000	$376,704	$75,460	$528,117	$34,461					$8,018,214	$386,735
2027-28	$386,735	21,513,224	$0.1600	100%	$3,356,063				$599,804	$0	$3,955,867	$8,332,786	$250,000	$369,170	$67,914	$528,117	$35,150					$9,583,137	($5,240,535)
2028-29	($5,240,535)	22,051,054	$0.1600	100%	$3,439,964				$592,635	$0	$4,032,600	$8,464,352	$250,000	$361,787	$61,123	$528,117	$35,853					$9,701,231	($10,909,166)
2029-30	($10,909,166)	22,602,330	$0.1600	100%	$3,525,964				$586,183	$0	$4,112,147	$8,919,917	$250,000	$354,551	$55,010	$528,117	$350,000					$10,457,595	($17,254,614)
2030-31	($17,254,614)	23,167,389	$0.1600	100%	$3,614,113				$580,377	$0	$4,194,489	$9,164,865	$250,000	$347,460	$49,509	$528,117	$357,000					$10,696,951	($23,757,076)
2031-32	($23,757,076)	23,746,573	$0.1600	100%	$3,704,465				$575,151	$0	$4,279,616	$9,309,563	$250,000	$340,511	$44,558	$528,117	$364,140					$10,836,889	($30,314,349)
2032-33	($30,314,349)	24,340,238	$0.1600	100%	$3,797,077				$570,447	$0	$4,367,524	$9,465,887	$250,000	$333,701	$40,103	$528,117	$371,423					$10,989,230	($36,936,055)
2033-34	($36,936,055)	24,948,744	$0.1600	100%	$3,892,004				$566,214	$0	$4,458,218	$9,728,410	$250,000	$327,027	$36,092	$528,117	$378,851					$11,248,497	($43,726,334)
2034-35	($43,726,334)	25,572,462	$0.1600	100%	$3,989,304				$562,405	$0	$4,551,709	$9,880,519	$250,000	$320,486	$32,483	$528,117	$386,428					$11,398,033	($50,572,658)
2035-36	($50,572,658)	26,211,774	$0.1600	100%	$4,089,037				$558,976	$0	$4,648,013	$10,045,275	$250,000	$314,076	$29,235	$528,117	$394,157					$11,560,860	($57,485,505)
2036-37	($57,485,505)	26,867,068	$0.1600	100%	$4,191,263				$555,890	$0	$4,747,153	$10,326,706	$250,000	$307,795	$26,311	$528,117	$402,040					$11,840,969	($64,579,321)
2037-38	($64,579,321)	27,538,745	$0.1600	100%	$4,296,044				$553,113	$0	$4,849,157	$10,486,535	$250,000	$301,639	$23,680	$528,117	$410,081					$12,000,052	($71,730,216)
2038-39	($71,730,216)	28,227,214	$0.1600	100%	$4,403,445				$550,613	$0	$4,954,058	$10,660,126	$250,000	$295,606	$21,312	$528,117	$418,282					$12,173,444	($78,949,602)
2039-40	($78,949,602)	28,932,894	$0.1600	100%	$4,513,531				$548,363	$0	$5,061,895	$33,661,610	$250,000	$289,694	$19,181	$528,117	$1,171,459					$35,920,061	($109,807,768)