Explanation of Significant Differences
Colorado Smelter Superfund Site
Pueblo, Colorado

Introduction and Statement of Purpose

This Explanation of Significant Differences (ESD) presents the details of a change to the remedy selected in the September 26, 2017, Early Interim Action Residential Property Cleanups Operable Unit 1 Record of Decision (i-ROD) for the Colorado Smelter Superfund Site located in Pueblo, Colorado.

This ESD documents two actions: 1. the decision to recognize the current Operable Unit 1 (OU1) Study Area as the final OU1 Boundary, which reflects the nature and extent of Colorado-Smelter-related contamination in residential soils and 2. to allow the existing remedy to be modified to implement institutional controls (ICs) for residential properties within the OU1 Boundary where contaminated soil is left in place above levels acceptable for unlimited use and unrestricted exposure. Institutional Controls developed for OU1 will only apply to the residential soils remedy that was selected in the i-ROD and will comply with the Colorado Environmental Covenant Statute, C.R.S. §§ 25-15-317 *et seq*.

The Colorado Smelter Superfund Site ("Colorado Smelter Site" or "Site") is located in south central Pueblo, Colorado, and includes the historic Colorado Smelter, previously owned and operated by the American Smelting and Refining Company (ASARCO). The Site is organized into two geographic operable units. Operable Unit 1 (OU1) consists of community properties within an approximate one-half mile radius surrounding the former smelter facility, an area encompassing approximately 700 acres. There are approximately 2,074 residential parcels and another 300-400 non-residential parcels within OU1, including vacant properties, commercial businesses, schools, parks, and city-owned alleys and rights-of-way. Operable Unit 2 (OU2) is located south of the Arkansas River, west of Santa Fe Avenue, north of Mesa Avenue and east of Interstate 25. OU2 consists of the former smelter area, including slag piles and several more acres of active commercial businesses overlying the former smelter footprint.

Pueblo, Colorado, is located at about 4,700 feet above mean sea level in a high desert region of southern Colorado at the confluence of the Arkansas River and Fountain Creek. Precipitation is generally low, with the winter months receiving very little moisture. The region is arid and at times windy, making bare soils prone to movement and creating dusty conditions in the study area and throughout Pueblo. The dry conditions increase the mobility of metals-contaminated soils throughout the community. The drinking water in the study area is from municipal water sources that are not contaminated with lead or arsenic. Potential groundwater contamination will be addressed under OU2.

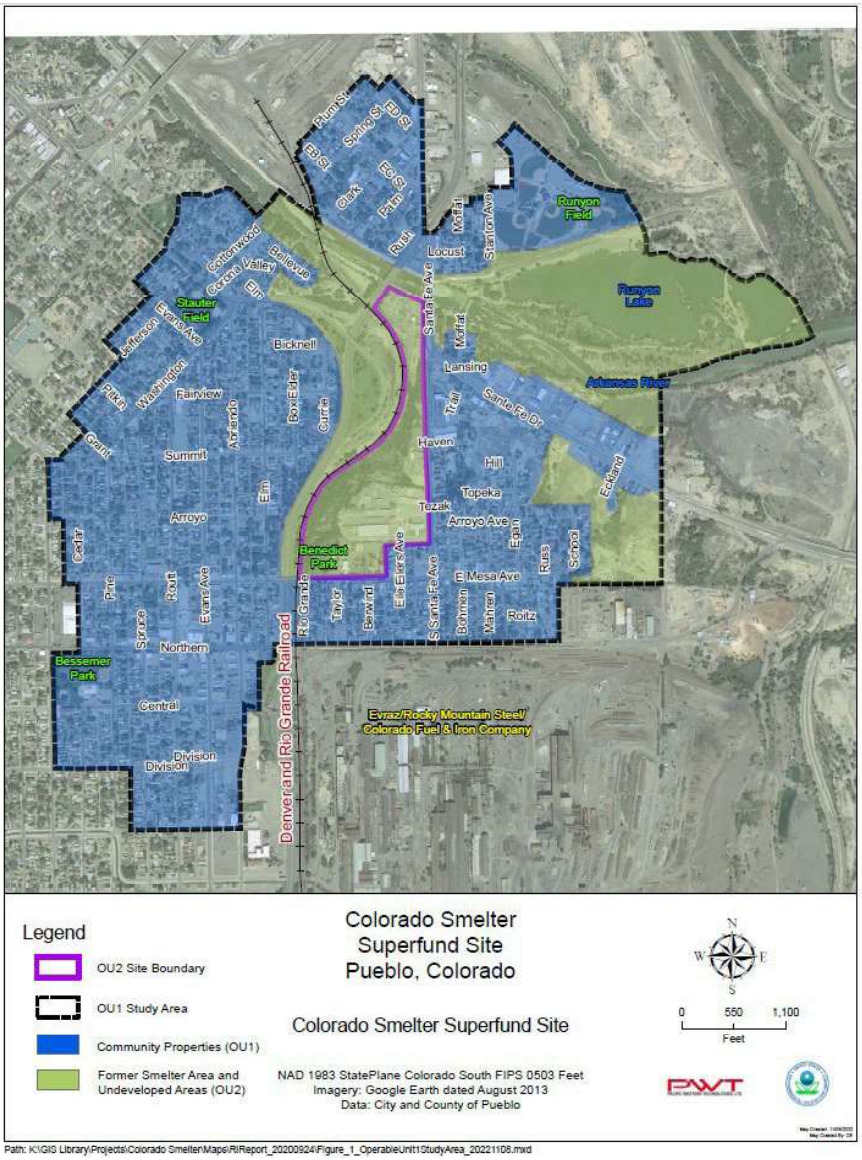
The EPA is the lead agency for oversight of the investigations, feasibility studies, remedial designs, and remedial actions. The Colorado Department of Public Health and Environment

(CDPHE) is the support agency, and the Pueblo Department of Public Health and Environment (PDPHE) is a critical lead education and outreach partner for this project.

This ESD is issued in accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, (CERCLA), 42 U.S.C. 9617(c) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Section 300.435(c)(2)(i). The changes described in this ESD significantly change, but do not fundamentally alter, the remedy selected in the i-ROD with respect to scope, performance, or cost of the selected remedy.

This ESD and its supporting documentation will be incorporated into the Administrative Record maintained for this Site, as required by the NCP Section 300.825(a)(2). All documents making up the Administrative Record, are available for public review on the Colorado Smelter site profile page at: https://www.epa.gov/superfund/colorado-smelter
A notice containing a summary of this ESD will be published in a local newspaper, as required by NCP Section 300.435(c)(2)(i)(A) & (B).

Figure 1: Colorado Smelter Superfund Site Boundary



Site History and Contamination

The historic Colorado Smelter was a silver and lead smelter that operated in the Eilers and Bessemer neighborhoods from 1883 to 1908. The Colorado Smelter historical footprint is bound by Santa Fe Avenue to the east, Mesa Avenue to the south, Interstate 25 to the west, and the Arkansas River to the north. The Bessemer, Eilers, and Grove neighborhoods are adjacent to the former Colorado Smelter site, which now consists of building remains and an approximately 700,000-square-foot slag (waste) pile. Some slag from the facility was used as track ballast for the D&RG track constructed between Florence and Cañon City; and, in 1923, bricks from the blast furnace smokestack were used to construct St. Mary School. Pueblo was once home to five ore smelters and is still home to one active steel mill, which is not a part of the Superfund site.

Contamination at the Colorado Smelter Site was discovered during an inspection of the Santa Fe Bridge Culvert site, which began a series of investigations in the early 1990s. In 2010, the Colorado Department of Public Health and Environment (CDPHE) inspected properties surrounding the Colorado Smelter. This study found the presence of elevated lead and arsenic levels which pose a threat to current and future residents. The EPA listed the site on the National Priorities List in December 2014, due to the high levels of arsenic and lead (metals) identified in smelter slag and neighborhood soils. The EPA then divided the Site into two operable units (OUs), OU1 (Community Properties) and OU2 (Former Smelter Area).

From 2015 to the present day, residential sampling has been ongoing. Since 2016 and 2018, significant progress on indoor dust cleanups and residential soil cleanups has been made, respectively. Additional sampling on the former smelter and surrounding undeveloped parcels will help determine the type and scope of cleanup activities needed for those areas.

In July 2018, based on risk to residents in the study area from Colorado-Smelter-related lead and arsenic contamination, the EPA expedited funding for residential cleanup. The remedial funding strategy provided up to $15 million in annual cleanup funding until 2022, more than double the amount originally budgeted, to expedite the EPA's work to remove lead at homes in the Bessemer, Eilers, and Grove neighborhoods. As a result, the EPA estimated residential cleanups will cost $75 million and will take four to six years to complete, instead of the ten-year or more timeframe originally estimated. The EPA anticipated cleaning up approximately 850 residential properties. As of December 1, 2023, 807 properties' soils have been remediated.

There are approximately 2,074 residential parcels and between 300-400 commercial and vacant non-residential properties in the preliminary study area, which covers an approximate half-mile radius from the former smelter's tallest smokestack. They are predominantly single-family detached homes, many with bare-soil yards. Ninety-five percent of the homes are pre-1978 (before the lead paint ban) so lead-based paint hazards may also be present. Since 2015, the Pueblo Department of Public Health and Environment has helped share lead education and outreach materials, characterize lead-based paint hazards, and complete blood lead screening in the study area through their EPA Cooperative Agreement.

Selected Remedy

The OU1 i-ROD for residential properties was signed on September 26, 2017. Under the 2017 i-ROD, the cleanup level for lead is 350 parts per million (ppm) and 61 ppm for arsenic. The language in the 2017 i-ROD is as follows: "Soil Removal and Replacement to 18 Inches Below Ground Surface with Indoor Dust Cleanup." The Remedial Action Objectives (RAOs) and Remedy Components per the 2017 i-ROD are as follows in Table 1.

Table 1: OU1 RAOs

RAOs	Remedy Components
OU1 Arsenic and Lead in Soil	• Reduce human exposure to soils with contamination exceeding health-based cleanup levels. • The arsenic cleanup level is 61 milligrams per kilogram (mg/kg) or (ppm)and the lead cleanup level is 350 ppm. The hotspot or Not to Exceed (NTE) cleanup level for arsenic is 1,000 ppm and for lead is 1,918 ppm.
OU1 Arsenic and Lead in Indoor Dust	• Reduce human exposure to indoor dust exceeding the health-based cleanup levels for arsenic and lead in indoor dust. • The indoor dust arsenic cleanup level is 61 ppm. The indoor dust lead cleanup level is 275 ppm.

Basis for this ESD

This ESD documents the determination of the final OU1 boundary based on the weight of evidence supporting the nature and extent of contamination within the current OU1 Study Area. The OU1 Study Area boundaries were expanded in September 2021 and August 2022 due to soil and dust properties exceeding the cleanup levels identified in the i-ROD.

This ESD is also needed to document and implement institutional controls that will protect human health and the environment and minimize disturbance to contaminated or potentially contaminated soils. Soils that will require ICs will either 1. have not been sampled or remediated and have contaminated soils left in place or 2. have contaminated soils at depth below the remediation; both of which would require the owner to apply for an Overlay District Permit through the Pueblo City Planning Department if the activity will disturb more than five cubic yards of soil. ICs are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. The remedy selected in the 2017 i-ROD mentions the need for institutional controls, but it does not include the specific properties and what kind of ICs may be needed.

As of March 22, 2024, there are approximately 234 properties (e.g., residential properties, road aprons, alleys, parks) located within the OU1 Boundary that require institutional controls. The EPA plans to reassess the Site-specific cleanup levels in light of EPA's January 17, 2024 Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities[1], which may change the total number of properties that require institutional controls.

[1] Available at: https://www.epa.gov/superfund/updated-soil-lead-guidance-cercla-sites-and-rcra-corrective-action-facilities.

The ICs developed for OU1 will comply with the Colorado Environmental Covenant Statute, C.R.S. §§ 25-15-317 *et seq*. Specifically, the Colorado Department of Public Health and Environment is working with the EPA and the City of Pueblo to develop and implement an ordinance for residential properties. The ordinance is meant to create an overlay zone to implement environmental use restrictions on properties where contaminated soil is left in place above levels that are safe for UU/UE before the final OU1 ROD is issued. ICs are not anticipated to apply to the indoor cleanups because smelter-related contamination above cleanup levels will be addressed where needed, and if post-cleanup indoor lead screening data indicate elevated indoor lead levels, the cause may be interior lead-based paint or other non-smelter sources.

Table 2: Summary of Planned and/or Implemented ICs as of January 28, 2023

Media, Engineered Controls, and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Document	Impacted Parcel(s)	IC Objective	Title of IC instrument Implemented and date
Soil	Yes	No	To be determined	To be determined	To be determined

Table 2b: Summary of Planned and/or ICs as of December 19, 2023

Media, Engineered Controls, and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in this Decision Document	Impacted Parcel(s)	IC Objective	Title of IC instrument Implemented and date
Soil	Yes	Yes	234	1. Implement environmental use restrictions 2. Protect human health and the environment 3. Minimize disturbance to contaminated or potentially contaminated soils.	Ordinance number TBD Date TBD

Description of Significant Differences

This ESD documents the decision to allow the existing selected remedy to be modified to include the implementation of institutional controls for residential properties where contaminated soil is left in place above levels safe for UU/UE. These ICs are intended to implement environmental use restrictions that will protect human health and the environment and minimize disturbance to contaminated or potentially contaminated soils. The significant difference from the OU1 i-ROD and the action proposed in this ESD is the selection and implementation of institutional controls now, rather than before the final OU1 ROD is issued. The applicable or relevant and appropriate federal and state requirements (ARARs) identified in the i-ROD requires implementation of environmental covenants (ECs) or notice of environmental use restrictions (RNs) whenever residual contamination is left in place at properties and at levels above unlimited use and unrestricted exposure or an engineered feature or structure that requires monitoring, maintenance, or operation.

The capital cost of this ESD is estimated to be $10,000.

Support Agency Comments

The Colorado Department of Public Health and Environment indicated that a rough estimate of the RA costs for the IC is about $10 thousand to cover the cost of public notification and create a survey\legal description of the study area boundary.

The Colorado Department of Public Health and Environment concurs with this ESD.

Statutory Determinations

In accordance with CERCLA Section 121, 42 U.S.C. § 9621, the EPA believes that this action is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action. This ESD makes no changes to the remedy's use of permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable.

Because this action will result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, a statutory review will continue to be conducted within five years after the remedial action to ensure that the remedy is, or will be, protective of human health and the environment. The most recent five-year review was completed on January 23, 2023. This review found that the remedy will be protective of human health and the environment when the interim remedy is complete. This modified remedy satisfies CERCLA §121.

Public Participation Requirements

This ESD and its supporting documentation, which includes the 2017 i-ROD, 2022 Site Expansion, Background Study, Site Boundary Technical Memo, and properties that require ICs will be available for public review in the Administrative Record at this location https://www.epa.gov/superfund/colorado-smelter under the Site Documents & Data tab. A notice containing a brief summary of the action will be published in a local newspaper, as required by NCP Section 300.435(c)(2)(i)(A) & (B). The Community Advisory Group will also have the opportunity to discuss this topic at our monthly meetings. The public participation requirements set out in NCP section 300.435(c)(2)(i)(A)&(B) have been met.

AUTHORIZING SIGNATURE

This Explanation of Significant Differences (ESD) documents the first significant modification to the 2017 Early Interim Action Residential Property Cleanups Operable Unit 1 Record of Decision at the Colorado Smelter Superfund Site.

The following authorized official at EPA Region 8 approves the modification as described in this ESD.

Becker, Kathleen Digitally signed by Becker, Kathleen
Date: 2024.04.25 07:58:06 -06'00'

KC Becker, Regional Administrator
U.S EPA, Region 8

Date:

AUTHORIZING SIGNATURE

This Explanation of Significant Differences (ESD) documents the first significant modification to the 2017 Early Interim Action Residential Property Cleanups Operable Unit 1 Record of Decision at the Colorado Smelter Superfund Site.

The following authorized official at the State of Colorado concurs with the modification as described in this ESD.

Trisha Oeth

Trisha Oeth, Director
Environmental Health and Protection
Colorado Department of Public Health and Environment

May 17, 2024

Date: