FIRST FIVE-YEAR REVIEW REPORT FOR COLORADO SMELTER SUPERFUND SITE PUEBLO COUNTY, COLORADO

Prepared by

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LIST OF ABBREVIATIONS AND ACRONYMS

ASARCO	American Smelting and Refining Company
BERA	Baseline Ecological Risk Assessment
bgs	Below Ground Surface
CAG	Community Advisory Group
CDC	Centers for Disease Control and Prevention
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
CSRP	Colorado Smelter Revitalization Project
EPA	United States Environmental Protection Agency
FYR	Five-Year Review
HEPA	High-Efficiency Particulate Air
HUD	Housing and Urban Development
IC	Institutional Control
IEUBK	Integrated Exposure Uptake Biokinetic
IROD	Interim Record of Decision
mg/kg	Milligrams per Kilogram
mg/m^3	Milligrams per Cubic Meter
µg/dL	Micrograms per Deciliter
$µg\text{-}m^3$	Micrograms per Cubic Meter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NTE	Not-to-Exceed
O&M	Operation and Maintenance
OU	Operable Unit
ppm	Parts per Million (also reported as Milligrams per Kilogram (mg/kg)
PRG	Preliminary Remediation Goal
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RI	Remedial Investigation
ROD	Record of Decision
RPM	Remedial Project Manager
SLERA	Screening Level Ecological Risk Assessment
TCRA	Time-Critical Removal Action
UU/UE	Unlimited Use and Unrestricted Exposure

I. INTRODUCTION

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

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

This is the first FYR for the Colorado Smelter Superfund site (Site). The triggering action for this statutory review is the on-site construction start date of the operable unit 1 (OU1) interim remedial action (January 31, 2018). The FYR has been prepared because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Site consists of two OUs. This FYR address the residential section of OU1, (Community Properties), specifically lead- and arsenic-contaminated residential soils and residential interiors within the Site Study area (Figures 1 and G-6). Commercial properties in OU1 have not been included in this review as no remedial action has been taken yet. OU2 addresses the Former Smelter Area. OU2 is not included in this FYR because the Remedial Investigation (RI) is ongoing, and a remedy has not been selected.

The EPA remedial project manager (RPM), Sabrina Forrest, led the FYR. Participants included EPA community involvement coordinator (CIC) Beth Archer, EPA counterparts, Sarah Graves and Jeannine Natterman from the Colorado Department of Public Health and Environment (CDPHE), and Alison Cattani and Johnny Zimmerman-Ward from EPA FYR contractor, Skeo. The Colorado Smelter Community Advisory Group (CAG) was made aware that the initial FYR would begin in mid-2022. Several residents and CAG members were directly invited to participate in the FYR interview process. The review began on 6/8/2022.

The EPA has determined in this five-year review that the OU1 interim cleanup at the Colorado Smelter Superfund site will be protective when the residential yard and indoor dust cleanups are complete. Current potential exposures are being reduced through accelerated soil and dust cleanups in the OU1 study area.

Site Background

The Site is in south-central Pueblo, Colorado. It includes the historic Colorado Smelter, previously owned and operated by the American Smelting and Refining Company (ASARCO) (Former Smelter Area, Figure 1), and residential, commercial and publicly-owned properties within an approximate half-mile radius of the former smelter (Study Area Boundary, Figure 1).[1] The historic Colorado Smelter footprint (OU2) consists of an approximately 700,000 square-foot (16-acre) slag pile and several more acres of active commercial businesses. The Colorado Smelter was a primary silver and lead smelter that operated from 1883 to 1908. Most of the historical smelter structures were torn down in 1909. In the 1920s, ASARCO deeded the land to Newton Lumber Company, which operated until the 1960s. After Newton Lumber Company ownership, the facility property was transferred to several individuals and mostly small to medium-sized companies. Portions of the facility's foundation and waste piles are still present.

Smelter operations resulted in elevated levels of lead and arsenic in residential soils and the large waste piles at the Site. The neighborhoods adjacent to the former Colorado Smelter's historical footprint and most affected by

[1] The Colorado Smelter, also known historically as the Colorado Smelting Company Smelter and the Eiler's Smelter, was one of five smelters in Pueblo, Colorado. More information about the historical operations can be found in the Site's 2017 Early Action Interim Record of Decision (IROD).

Site contaminants are the Bessemer, Eilers and Grove neighborhoods (Figure 1).[2]

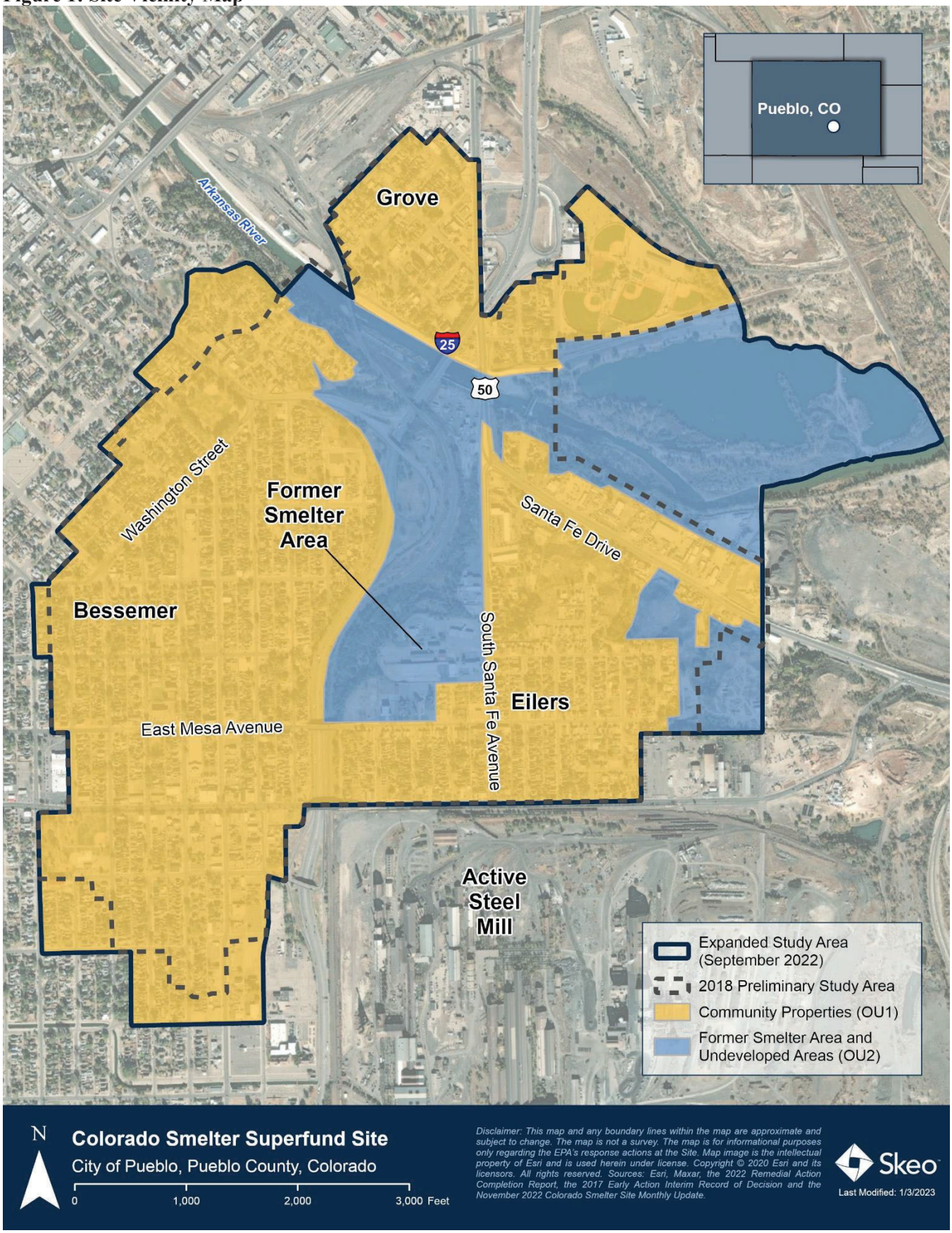
Pueblo, Colorado, is located at about 4,700 feet above mean sea level in a high desert region of southern Colorado at the confluence of the Arkansas River and Fountain Creek. Precipitation is generally low, with the winter months receiving very little moisture. The region is arid and at times windy, 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. Appendix A lists the resources referenced during the development of this FYR Report. Appendix B provides a chronology of major Site events.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Colorado Smelter		
EPA ID: CON000802700		
Region: 8	**State:** Colorado	**City/County:** Pueblo/Pueblo
SITE STATUS		
NPL Status: Final		
Multiple OUs? Yes	**Has the Site achieved construction completion?** No	
REVIEW STATUS		
Lead agency: EPA		
Author name: Sabrina Forrest with contractor support provided by Skeo		
Author affiliation: EPA Region 8 and Skeo		
Review period: 6/8/2022 – 1/1/2023		
Date of Site inspection: 7/12/2022		
Type of review: Statutory		
Review number: 1		
Triggering action date: 1/31/2018		
Due date *(five years after triggering action date)*: 1/31/2023		

[2] An active steel mill (Evraz/Rocky Mountain Steel/Colorado Fuel & Iron) is located south of the Site. The CDPHE's Resource Conservation and Recovery Act program is the lead regulatory agency for that facility. The EPA anticipates that this facility will remain active. It is not included in the Colorado Smelter investigation or cleanup area.

Figure 1: Site Vicinity Map



II. RESPONSE ACTION SUMMARY

Basis for Taking Action

The potential for contamination at the Colorado Smelter facility was discovered during an inspection of the Santa Fe Bridge Culvert site in 1989. Based on this discovery, the EPA and the CDPHE conducted several investigations starting in the early 1990s. These investigations continue today.

In 2010, the CDPHE conducted a focused site inspection of properties surrounding the former smelter. The study found elevated lead and arsenic levels in smelter slag and residential soil that pose a threat to current and future residents. In May 2014, the EPA proposed the Site for listing on the Superfund program's National Priorities List (NPL). The EPA added the Site to the NPL in December 2014.

The EPA identified the following primary sources of lead and arsenic contamination at the Site:

- Historic fugitive dust and particulate air emissions from the smelter stacks, which were deposited in Site and surrounding neighborhood soils.[3]
- Solid wastes such as slag and slag-impacted soils.
- Liquid wastes such as process solutions, acids and rinsates from historical facility operations.

OU1

The EPA initiated the remedial investigation (RI) residential sampling in 2015. As part of the RI, the EPA collected soil sample data from 302 residential yards and indoor dust sample data from 102 homes from May 2015 to June 2016.[4] Findings from RI residential sampling indicated elevated levels of lead and arsenic above regional or national health-based screening levels in some OU1 residential soil and indoor dust samples. The EPA determined that response actions were needed to prevent potential exposures to Site contaminants. Exposure scenarios were completed using Site-specific, literature review ingestion rates and default input parameters in the Integrated Exposure Uptake Biokinetic (IEUBK) model for lead in children up to seven years old. The Site-specific input parameters included relative oral bioavailability (RBA) values for metals and the mass fraction of soil in dust *(MSD)* calculation. The literature review intake rates were for soil/dust ingestion and the default input parameters included lead uptake from inhalation, water and diet, maternal blood lead concentration, and dermal contact with soil. RI sampling for the remainder of OU1 and the Site is ongoing.

In 2019, the EPA issued the draft final Human Health Risk Assessment using data collected from 2015 to 2018. It will be updated as future sampling is conducted. The results will inform future decision documents and actions required as part of OU1 and OU2. In addition, screening level and baseline ecological risk assessments (SLERA and BERA) will be completed as part of the OU2 RI.

Response Actions

Based on the initial results of the RI sampling completed from 2015-2016, the EPA initiated a time-critical removal action (TCRA) to clean up smelter-related contamination in homes with highly elevated levels of lead in indoor dust. Between mid-2016 and December 2017, the EPA conducted 27 indoor dust cleanups (located on 26 parcels) as part of the TCRA. The EPA deemed the early action indoor dust removal response necessary due to the high levels of lead in indoor dust and soil and the risk to human health predicted by the EPA's IEUBK model for lead in children.

The EPA and the CDPHE signed the Early Action Interim Record of Decision (IROD) in September 2017, which allowed the EPA to begin the early interim action before RI completion. This accelerated approach permitted EPA

[3] Fugitive dust is dust that has escaped from its place of origin and is generally uncontrolled.

[4] Groundwater and surface water sampling was not included as part of this RI sampling effort. Groundwater and surface water will be addressed under the OU2 RI.

and CDPHE to begin addressing potential residential exposures while also addressing the community interest in completing the remedial process as quickly as possible.

The Early Action IROD presents the selected early interim action remedy for residential properties contaminated with lead and arsenic in OU1. The remedy was chosen to address elevated levels of arsenic and lead in outdoor soil and indoor dust that require cleanup before RI completion. While commercial properties and vacant lots are also present in the study area, these properties were not included in the early interim action remedy but will be addressed under future decision documents.

Table 1 lists the remedial action objectives (RAOs) identified in the 2017 Early Action IROD. Site-specific preliminary remediation goals (PRGs), which are based on Site data, Site-specific exposure scenarios and toxicity, formed the basis for Site-specific cleanup levels (Table 1). Concentrations of arsenic and lead above cleanup levels indicate the need for further action. The chronic cleanup levels calculated by the EPA are intended for comparison to area-weighted average concentrations for residential properties in OU1. Acute cleanup levels were also calculated. They are intended for use as not-to-exceed (NTE) values for any area and depth at a residential property in OU1.

Table 1: OU1 RAOs

Media	2017 Early Action IROD RAOs
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)(parts per million (ppm)) and the lead cleanup level is 350 ppm. The hotspot or 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.
Notes: RAOs have not been developed for animals, plants and other ecological receptors at the Site at this time. They will be developed as part of the OU2 RI and documented in a future OU-specific Record of Decision (ROD).	

The major components of the selected interim remedy (as provided in the 2017 Early Action IROD) include:

- Removal of soils from residential areas where contamination exceeds the lead and arsenic cleanup levels.
- Placement of a visible barrier/marker material placement where soil contamination that exceeds the cleanup levels is left in place below the depth of the excavation (e.g., 18- or 24-inches below ground surface (bgs)).
- Replacement of excavated soil with clean soil and restoration of the remediated areas.
- Off-site transport and disposal of contaminated soils in compliance with all applicable federal and state requirements.
- Indoor cleaning of contaminated surfaces, or removal and replacement of carpeting in living spaces that the EPA has determined contain historical smelter-related contaminants at concentrations above the cleanup levels that cannot be cleaned using high-efficiency particulate air (HEPA) filter vacuum methods. This component would not include remediation or encapsulation of lead-containing interior paint and lacquers that the EPA does not have the authority to clean up.
- Sampling of soil at the final excavation depth (e.g., 18- or 24-inches bgs) to determine if institutional controls will be necessary as part of the final residential soils remedy.
- Issuing cleanup completion letters to property owners and residents describing the work done; whether any soil contamination exceeding the cleanup levels was left in place for any portion of the yards; the yard restoration requirements and one-year operational and functional observation period for new grass,

trees, shrubs, other vegetation and landscaping materials; and recommendations or requirements, if needed, to maintain long-term protectiveness of the cleanup.

- The EPA will monitor yards when cleanups are complete for a minimum of one year to ensure compliance with the restoration requirements and one-year operational and functional observation period.
- If contaminated soil is left in place above levels considered acceptable for UU/UE, the EPA will conduct FYRs in cooperation with the state to evaluate the long-term effectiveness of the cleanup.
- In many cases, indoor lead dust cleanups will take place in coordination with a soil cleanup. However, a small percentage of homes that receive indoor dust cleanups will not require outdoor soil cleanups because arsenic and lead in soils do not exceed the soil cleanup levels. People generally spend a significant percentage of their time indoors, so the overall risk of exposure to smelter-related contamination may be higher in some homes from dust than from soil.

Institutional controls will be needed for properties where contaminated soil is left in place above levels safe for UU/UE. Although the need for institutional controls at specific properties and the kind of institutional controls that may be needed are still being evaluated, the community will have an opportunity to review and comment on that portion of the remedy as part of the public comment period prior to the final ROD for OU1.

Status of Implementation

The EPA has been sampling residential properties since 2015 and sampling continues. Figures G-1 and G-2 show the residential properties sampled by year and month for soil and dust, respectively. Residential cleanups within the study area began in 2018 and are ongoing. Figure G-3 shows the percentage of sampled properties that needed cleanup as of December 2022. The EPA has completed soil cleanups and restoration at 748 properties and indoor dust cleanups at over 400 properties since early December 2022 (Figure G-4).

The EPA conducts the remedial actions at OU1 in accordance with the 2017 Early Action IROD and various planning and work plan documents, including the Remedial Action Work Plan last updated in 2021. Soil is removed when the area-weighted average for any depth interval from 0 to 18 inches exceeds the corresponding arsenic or lead cleanup level. For properties where the area-weighted average contamination level for any of the sampling intervals above 12 to 18 inches require cleanup, but the 12- to 18-inch interval does not, excavation would extend only to 12 inches. If the area-weighted average contamination level for the 12- to 18-inch depth interval exceeds the lead or arsenic cleanup level, a barrier (geotextile) is placed at the bottom of the 18-inch-deep excavation prior to covering the area with clean soils. Play areas and gardens are initially included in the area-weighted averaging but are also evaluated separately against cleanup levels. If arsenic or lead concentrations in gardens or play areas exceed the cleanup levels in any depth interval, soils in those areas are removed to 24 inches. A visible barrier is also placed at the final excavation level of 18 inches for Hotspot/NTE areas or 24 inches for gardens and play areas if confirmation soil samples are greater than cleanup levels.

The soil cleanup workflow generally consists of contacting the property owner, documenting property condition, scheduling field activities, removing soil and backfilling, restoring the site (i.e., individual property), interior cleanup (if needed), inspecting and documenting the completed property, post-construction maintenance and property owner acceptance. Restoration activities are based on the status of the property prior to the remedial action, and include replacement of grass, aggregate (stone or gravel) or mulch.

Interior cleanups include damp cleaning of walls, non-carpeted floors and other hard surfaces. HEPA vacuums are used to clean carpeting and fabric covering furniture. Unstable or delicate surfaces are gently wet wiped and vacuumed to avoid damage. HEPA vacuuming and wet wiping are performed around heating, ventilation and air conditioning systems. Additionally, new filters are provided to the residents for furnaces and air conditioning units.

The EPA anticipates residential sampling and cleanups will be completed by the end of 2023. Figure G-4 in Appendix G show the cleanup activities and properties.

As of December 7, 2022, the EPA has completed:

- Soil sampling at 1,877 properties.
- Soil cleanup and restoration at 748 properties.
- Indoor dust sampling at 1,444 properties.
- Indoor dust cleanup at 400 properties.

The EPA has set the following tentative schedule for sampling and cleanup completion:

- Soil sampling, Spring to Summer 2023
- Soil cleanup, Summer to Fall 2023
- Dust sampling, Fall to Winter 2023
- Dust cleanup, Winter to Spring 2024

Since work began in 2016, the EPA has received hard refusals for interior dust sampling at 155 properties and for combined soil and dust sampling at 69 properties. As of December 2022, 148 cleaned-up properties have contamination remaining at depth based on confirmation samples collected from 18- or 24-inch-deep excavations. These properties have visible identification barriers placed at the final excavation depth so that current and future property owners/residents are aware of the final depth of clean soil should they excavate restored areas of the property.

As required by the Early Action IROD, the EPA conducts follow-up inspections for a minimum of one year to check the status of the remedy. To date, there has been no follow-up restoration needed to address exposed contaminated soil.

The initial Site study area identified in the 2017 Early Action IROD was based on an approximate ½ mile radius around the former smelter. The EPA revised the study area twice to include properties adjacent to areas with high levels of lead and arsenic. In September 2021, approximately 100 properties were added; in September 2022, 66 properties were added. The study area from the 2018 preliminary study area and the updated study area are shown on Figure 1.

Systems Operations/Operation and Maintenance (O&M)

The OU1 early interim action remedy does not require O&M activities and does not consist of any operating systems. The EPA will revisit the need for long-term O&M or inspections after selection of a final remedy for OU1.

Institutional Control (IC) Review

The 2017 Early Action IROD did not require institutional controls as part of the early interim action. Institutional controls will be included in the final OU1 ROD and will be implemented accordingly.

Table 2: Summary of Planned and/or Implemented Institutional Controls (ICs)

Media, Engineered Controls, and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Soil	Yes	No	To be determined	To be determined	To be determined
Notes: Institutional controls will be evaluated as part of the final ROD for OU1.					

III. PROGRESS SINCE THE PREVIOUS REVIEW

This is the Site's first FYR.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Community Involvement and Site Interviews

A public notice was made available by newspaper in the Pueblo Chieftain, telephone calls and newspaper notifications. (Appendix C). It stated that the FYR was underway and invited the public to submit any comments to the EPA. The results of the review and this report will be made available at the Site's information repository, Pueblo City County Library Rawlings Branch, located at 100 East Abriendo Avenue, Pueblo, Colorado 81004, and on the EPA website at https://www.epa.gov/superfund/colorado-smelter.

During the FYR process, the EPA and the CDPHE reached out to several community members, CAG members and local government officials. Interviews were conducted to document any perceived problems or successes with the remedy implemented to date. The interviews are summarized below.

Several community members were interviewed. These community members included property owners and CAG members who were well informed about the Site and Site activities. Overall, the community members feel that the cleanup is going well, and many community members appreciated the accelerated cleanup schedule. Several people indicated there were some challenges in the beginning of the project, mostly pertaining to subcontractor issues as well as restoration issues pertaining to soil choices and reseeding. These issues have been resolved. A community member with an indoor cleanup indicated that it was an easy process. A community member also indicated that the EPA and the cleanup teams listened to the community and responded accordingly. Several community members indicated potential impacts to home values but observed an overall positive impact in that their neighborhoods are now clean. The community is excited to move forward with redevelopment and reuse to further revitalize their neighborhoods. Overall, community members feel well informed about the Site and the cleanup activities through monthly CAG meetings. One community member feels unsure about the institutional controls that may be needed at the Site in the future. Another community member felt that continued monthly meetings were imperative to keeping everyone engaged and informed.

The EPA and the CDPHE interviewed Aaron Martinez from the Pueblo Department of Public Health and Environment. Mr. Martinez feels well informed regarding Site activities and cleanup progress. Mr. Martinez thinks the cleanup is going relatively smoothly. Mr. Martinez spoke about the different blood lead action levels across the various organizations, including the U.S. Department of Housing and Urban Development (HUD) and the Centers for Disease Control and Prevention (CDC), and stated that, overall, recommended blood lead action levels are dropping, which may affect the remedy in the future. In addition, Mr. Martinez expressed concern that lead paint may lead to recontamination. Overall, Mr. Martinez feels that the EPA is doing what needs to be done to move the cleanup along.

Kathleen Romalia from the EPA's remedial action contractor, APTIM, indicated the cleanup is progressing exceptionally well and the remedy has remained effective during the one-year observation period. Ms. Romalia indicated that the initial seeding plan faced challenges due to the high desert conditions. After the change was made from seed to sod, the restoration of these areas was successful.

Sarah Graves, the CDPHE's project manager, has a positive impression of the OU1 cleanup overall. She indicated that coordination between the agencies has been effective and the cleanup timeline has been impressive. Ms. Graves observed some residential complaints over the years, mostly about OU2.

Data Review

As part of the ongoing remedial action, the EPA collects soil and indoor dust samples and analyzes the samples for lead and arsenic. Based on the results, the EPA determines if cleanup of these areas is needed. If cleanup is required, the EPA samples soil at the final excavation depth to determine if institutional controls will be needed. An overview of these sampling events is provided in the Status of Implementation section of this FYR Report.

Site Inspection

The FYR site inspection took place on 7/12/2022. Participants included EPA RPM Sabrina Forrest, Jeannine Natterman from the CDPHE, and Alison Cattani and Anthony Li from EPA FYR support contractor Skeo. The purpose of the inspection was to assess the protectiveness of the OU1 remedy. Site inspection participants met at the EPA's remedial action contractor office in downtown Pueblo and participated in a health and safety meeting. From there, site inspection participants toured OU1, starting in the Grove neighborhood, and observed many completed cleanups. Yard surfaces included sod, mulch and aggregate. After the Grove neighborhood, participants observed completed cleanups in the Eilers neighborhood. Participants observed a recently completed cleanup as well as an ongoing cleanup in the Eilers neighborhood. Lastly, participants drove through the Bessemer neighborhood. During the inspection, most remediated properties were in good condition and yard surfaces were intact. A few properties had weeds growing through the gravel, and some properties had dead or dying sod due to underwatering. These issues do not affect protectiveness. Appendix E provides the site inspection checklist. Appendix F provides photographs from the site inspection.

V. TECHNICAL ASSESSMENT

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

The early action interim remedy is functioning as intended by the 2017 Early Action IROD. The 2017 Early Action IROD remedial action, which is ongoing, consists of residential soil removal, clean soil replacement and restoration, as well as indoor dust cleanup. As of December 7, 2022, the EPA has completed soil cleanups and restoration at 748 properties and indoor dust cleanups at 400 properties.

In 2021 and 2022, the EPA extended the study area boundary to include additional residential properties as part of determining the nature and extent of Site-related contaminants. The EPA expects to finish residential sampling in spring to summer 2023 and residential cleanup in fall to winter 2023.

At all properties that have been cleaned up, soil cleanup levels were achieved at depths of 12 or 18 inches below ground surface for yards and/or 24 inches for garden and play area cleanups. Areas where soil contamination above the cleanup levels was left in place below 18 or 24 inches were marked with a visible barrier and will require institutional controls. The 2017 Early Action IROD did not require institutional controls as part of the early action remedy. However, they will be required in the final decision document for OU1. The institutional controls could include properties with contamination at depth or properties where access for cleanup or soil sampling was refused. The indoor dust cleanup levels were achieved at most of the homes that received indoor remediation. At times, the presence of lead-containing paint or flooring shellacs required multiple indoor cleanups and post-cleanup efficacy testing. In some cases, the lead-containing surface precluded meeting the EPA's post-cleanup efficacy levels.

There are no ongoing O&M activities associated with the OU1 early action interim cleanup. As part of its operational and functional determination, the EPA performed and continues to perform regular inspections for a year post-cleanup to ensure the remedy remained/(-s) effective. To date, no additional work has been needed to address exposed contaminated soil.

As part of the ongoing RI, the local health department continues to provide additional blood lead screening, healthy home risk assessments, health education and outreach materials to residents in the Site study area. The resources help people identify other sources of lead in and around their homes so they will be aware of them, and avoid, or manage contact with them.

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

The primary exposure routes in OU1 are inhalation of dust and ingestion of, and direct contact with contaminated soil in residential properties. The exposure assumptions remain valid. While commercial properties and vacant lots are also present in the study area, these properties were not included in the early action interim remedy but will be addressed under future decision documents. The early action cleanup in OU1 was based on residential land uses in the study area, and this land use remains valid. The EPA has expanded the Site study area twice to include more residential properties as more information has become available.

There are two contaminants of concern in the 2017 Early Action IROD – lead and arsenic – addressed under the early action remedy. Current scientific literature on lead toxicology and epidemiology provides evidence that adverse health effects are associated with blood lead levels less than 10 micrograms per deciliter (µg/dL). In light of these scientific findings regarding adverse effect levels for lead and the range of community-specific risk factors present at the Site, the EPA selected a soil lead cleanup level of 350 ppm. At the time of the Early Action IROD, this cleanup level corresponded to an estimated blood lead level of 6.24 µg/dL. The soil lead cleanup level of 350 ppm is intended for comparison to area-weighted average results for each property and comports with guidance in the EPA Superfund Lead-Contaminated Residential Sites Handbook. In addition, the lead cleanup level of 350 ppm is below the EPA's current regional screening level for residential use (400 ppm). The EPA is in the process of reviewing lead toxicity and exposure studies to determine if the current lead cleanup policy and the IEUBK require revisions. Until policy work is revised and finalized, the EPA's current policy remains in effect. However, if a new lead policy is issued prior to the next FYR, the risk-based action levels for lead may be re-evaluated at that time.

The soil and dust cleanup levels for arsenic were site-specific and risk-based, equivalent to a noncancer hazard quotient of 1. During this FYR, the current toxicity values for arsenic were compared to the values used to develop the cleanup level in the 2017 IROD (Table 3). There have been no changes since the site-specific arsenic cleanup level was developed. The arsenic cleanup levels for soil and dust remain valid.

Table 3: Arsenic Toxicity Values

Toxicity Values	2017 IROD[a]	Current[b]
Chronic Oral Reference Dose (mg/kg-day)	0.0003	0.0003
Chronic Inhalation Reference Concentration (mg/m^3)	0.000015	0.000015
Oral Slope Factor $(mg/kg\text{-}day)^{-1}$	1.5	1.5
Inhalation Unit Risk $(\mu g\text{-}m^3)^{-1}$	0.0043	0.0043

Notes:
mg/kg-day = milligrams per kilogram per day
mg/m^3 = milligrams per cubic meter
$\mu g\text{-}m^3$ = micrograms per cubic meter

a. *Source:* Table 5, 2017 IROD.
b. *Source:* EPA Regional Screening Levels for Residential Soil corresponding to a cancer risk of 1×10^{-6} and a noncancer hazard quotient of 1 (https://semspub.epa.gov/src/document/HQ/403632, accessed 9/9/2022).

The exposure pathways remain unchanged since the 2017 Early Action IROD. As the cleanup progresses, RAOs to reduce human exposure to contaminated soil and indoor dust are being met at each property.

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

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

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the FYR:
OU1

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement	
Operable Unit: 1	*Protectiveness Determination:* Will be Protective
Protectiveness Statement: The early action interim remedy at OU1 will be protective when the interim remedy is complete. The EPA is on track to complete the OU1 interim remedial actions in 2023. The EPA plans on issuing a final OU1 ROD which will include institutional controls. In the interim, the local health department continues to provide additional blood lead screening, healthy home risk assessments, health education and outreach materials to residents in the study area. These resources help people identify other non-Colorado Smelter related sources of lead in and around their homes so they will be aware of them and avoid, or manage contact with, them.	

VIII. NEXT REVIEW

The next FYR Report for the Colorado Smelter Superfund site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

2006. Arsenic, Cadmium, Lead, and Mercury in surface soils, Pueblo, Colorado: implications for population health risk. Moussa M. Diawara et al., Environmental Geochemistry and Health, 28:297-315. June 27, 2005. SEMS ID# 1199049.

2016. Approval and Funding for an Emergency Removal Action Involving the Cleanup of Lead-Contaminated Indoor Dust in Residential Areas of Pueblo, CO., as a Result of Smelting Activities at the Colorado Smelter Site. EPA Region 8. July 2016. SEMS ID# 1884244 (Redacted version of SEMS ID# 1772160).

2017. Focused Feasibility Study for Operable Unit 1, Colorado Smelter Superfund Site, Pueblo, Pueblo County, Colorado, Revision 3. Prepared by Pacific Western Technologies, Ltd. June 2017. SEMS ID# 1885010, #1885012, and #1885013.

2017. POLREP #3 – Final, Colorado Smelter Superfund Site – Community Properties (OU1), Pueblo City, Pueblo County, Colorado. EPA Region 8. August 8, 2017. SEMS ID# 1985568.

2017. Early Interim Action Residential Property Cleanups, Operable Unit 1 – Community Properties, Record of Decision, Colorado Smelter Superfund Site. EPA Region 8. September 2017. SEMS ID# 1888168.

2019. Draft Final Human Health Risk Assessment for the Colorado Smelter Operable Unit 1 Site Located in Pueblo County, Colorado. EPA Region 8. June 2019. SEMS ID# 100012338.

2021. Final Remedial Action Work Plan, Colorado Smelter Superfund Site, Operable Unit 1, Pueblo, Colorado. Prepared by U.S. Army Corps of Engineers. January 2021. SEMS ID #1985571

2022. Final Remedial Action Completion Report, Colorado Smelter Superfund Site, Operable Unit 1, Pueblo, Colorado. Prepared by U.S. Army Corps of Engineers. July 2022. SEMS ID# 1985570 (Redacted version of SEMS ID# 1985569).

2022. Quality Assurance Project Plan for OU1 Remedial Investigation at Colorado Smelter, Pueblo, Pueblo County, Colorado, Revision 7. Prepared by Pacific Western Technologies, Ltd. June 2022. SEMS ID# 1985567.

APPENDIX B – SITE CHRONOLOGY

Table B-1: Site Chronology

Event	Date
The Colorado Smelting Company, and later ASARCO, operated on site	1883 – 1908
Potential for contamination discovered by citizen contact with, and follow-up by the Pueblo health department and state health department	1989
Site entered into the Comprehensive Environmental Response Compensation and Liability Information System database as the Santa Fe Bridge Culvert site	January 1990
The CDPHE conducted an initial preliminary assessment of the former Colorado Smelter	1991
The CDPHE conducted an initial site inspection, then an expanded site inspection of the former Colorado Smelter	1994-1995
Colorado State University – Pueblo transect study/report: *"Arsenic, Cadmium, Lead, and Mercury in surface soils, Pueblo, Colorado: implications for population health risk"*	2006
The CDPHE conducted a follow-on preliminary assessment of the former Colorado Smelter	2008
The CDPHE conducted a focused site inspection of properties surrounding the former Colorado Smelter	2010
The EPA proposed the Site for listing on the NPL	May 12, 2014
The EPA finalized the Site's listing on the NPL	December 11, 2014
The EPA initiated RI sampling	December 2015
The EPA initiated time-critical indoor dust cleanups	July 2016
The EPA completed the Site's focused feasibility study	June 30, 2017
The EPA completed 27 indoor dust cleanups as part of an emergency removal action	August 2017
The EPA issued the Early Action IROD	September 25, 2017
The EPA mobilized to OU1 to start remedial action	January 31, 2018

APPENDIX C – PRESS NOTICE

United States Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA), Region 8 Announces the First Five-Year Review for the Colorado Smelter Superfund Site in Pueblo County, Colorado

EPA, in cooperation with the state of Colorado, is conducting the first five-year review of the Colorado Smelter Superfund site in Pueblo County, Colorado. Five-year reviews evaluate remedies to determine whether they remain protective of human health and the environment. The first five-year review will finish in early 2023.

The Colorado Smelter was a silver and lead smelter. It ran from 1883 to 1908, and contaminated slag and neighborhood soils with lead and arsenic. EPA added the site to the National Priorities List in December 2014. EPA divided the site into two operable units (OUs) – OU1 (Community Properties) and OU2 (Former Smelter Area). In 2017, EPA and Colorado Department of Public Health and Environment signed the Interim Record of Decision for residential properties. In accordance with the decision document, EPA has led indoor dust and soil sampling and cleanups at properties in the Bessemer, Eilers and Grove neighborhoods. Sampling and cleanups are ongoing. EPA has not yet selected a cleanup plan for OU2. The five-year review focuses on OU1.

We want to hear from you! Community members are encouraged to share information that may be helpful in the five-year review process. Community members who have questions or who would like to be interviewed are asked to contact EPA by **September 30, 2022**:

Beth Archer
EPA Community Involvement Coordinator
Phone: 303-312-6611
Email: archer.elizabeth@epa.gov

Current site information is available online at:
www.epa.gov/superfund/colorado-smelter.

ENVIRONMENTAL PROTECTION AGCY
ATTN: SISAY ASHENAFI
1595 WYNKOOP ST.
DENVER, CO 802022466

PROOF OF PUBLICATION AFFIDAVIT

THE PUEBLO CHIEFTAIN

STATE OF COLORADO

County of Pueblo

I, Ryan Speller, do solemnly swear that I am an employee of THE PUEBLO CHIEFTAIN; that the same is a daily newspaper printed in the County of Pueblo, State of Colorado, and has a general circulation therein; that said newspaper has been published continuously and uninterruptedly in said County of Pueblo for a period of 365 days a year next prior to the first publication of the annexed legal notice or advertisement; that said newspaper has been admitted to the United States Mail as a second class matter under the provisions of the act of March 3rd, 1987, or any amendment thereof duly qualified for publishing legal notices and advertisements within the meaning of the laws of the State of Colorado of which is attached a true copy from said newspaper and was published is issues dated:

PUBLISHED: July 12, 2022

In witness whereof, I have hereunto set my hand this 12th day of July, 2022

Legal Clerk

Subscribed and sworn to before me, a Notary Public in and for the County of Brown, State of Wisconsin

Notary Public

6/30/2025

My commission expires

EPA United States Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA), Region 8 Announces the First Five-Year Review for the Colorado Smelter Superfund Site in Pueblo County, Colorado

EPA, in cooperation with the state of Colorado, is conducting the first five-year review of the Colorado Smelter Superfund site in Pueblo County, Colorado. Five-year reviews evaluate remedies to determine whether they remain protective of human health and the environment. The first five-year review will finish in early 2023.

The Colorado Smelter was a silver and lead smelter. It ran from 1883 to 1908, and contaminated slag and neighborhood soils with lead and arsenic. EPA added the site to the National Priorities List in December 2014. EPA divided the site into two operable units (OUs) – OU1 (Community Properties) and OU2 (Former Smelter Area). In 2017, EPA and Colorado Department of Public Health and Environment signed the Interim Record of Decision for residential properties. In accordance with the decision document, EPA has had indoor dust and soil sampling and cleanups at properties in the Bessemer, Eilers and Grove neighborhoods. Sampling and cleanups are ongoing. EPA has not yet selected a cleanup plan for OU2. The five-year review focuses on OU1.

We want to hear from you! Community members are encouraged to share information that may be helpful in the five-year review process. Community members who have questions or who would like to be interviewed are asked to contact EPA by **September 30, 2022**.

Barb Archer
EPA Community Involvement Coordinator
Phone: 303-312-6431
Email: archer.barbara@epa.gov

Current site information is available online at:
www.epa.gov/superfund/colorado-smelter

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U.S. EPA Region 8
JUL 20 2022
RA's Office

AMY KOKOTT
Notary Public
State of Wisconsin

APPENDIX D – INTERVIEW FORMS

COLORADO SMELTER SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Colorado Smelter	
EPA ID: CON000802700	
Interviewer name: Alison Cattani	**Interviewer affiliation: Skeo**
Subject name: Aaron Martinez	**Subject affiliation: Pueblo Department of Public Health and Environment**
Interview date: 7/12/2022	**Interview time: 2:00 p.m.**
Interview location: 101 West 9th Street| Pueblo, CO 81003	
Interview format (select one): In Person Phone Mail Email Other:	
Interview category: Local Government	

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

   Yes.

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

   Yes. I think the EPA is doing a good job of conveying site information to the community.

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

   From what I'm aware of, during the emergency response, the emergency response crew had its equipment stolen and vandalized and broken into it. In terms of homes being messed with during cleanup, I have not heard of any at all.

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

   I think that remains to be seen until we get the institutional controls put in. I don't think we'll know until institutional controls are decided upon.

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

   No.

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

   Yes.

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

I think things are going relatively smoothly. They've done a great job pushing it through and, unfortunately, I think to the citizens you can't have it both ways, you can't have it done fast without having bumps in the road come up. I think that has been a sticking point to some of the citizens – they want it done quick fast and efficient with no issues, that's not really reality. I think that has been kind of a sticking point, how fast the community wanted it to move versus how fast it could actually move, plus we had the COVID-19 public health emergency throw a wrench in the middle of everything. Haven't had too many complaints, or any complaints really, more so a comment not really a suggestion.

8. Do you consent to have your name included along with your responses to this questionnaire in the FYR Report?

   Yes.

EPA Follow-up Question 1. Did you want to talk a little more about things you talked about with the regional administration and the various agencies and how they handle cleanup levels and blood lead levels differently?

I think part of this whole process is that the EPA started this process with certain blood lead levels it goes by, HUD has its own levels it goes by, CDC has its own levels it goes by, and they're all disjointed. The lead levels for indoor dust are significantly higher than what HUD would recommend for indoor lead level samples that would possibly pose a risk. Blood lead levels have been dropping over the past 20 years, blood lead numbers have decreased, and while we're doing this project, I think we're at 5 µg/dL, now it's moved even lower to 3.5 µg/dL, I think being aware of when guidelines and rules change, these agencies need to be flexible and catch up with that as well. I know it takes a while for agencies to reach a consensus, but if we're doing the same work on the same actual contaminant, then maybe they could try to get there a little faster. And then also, this is not just the EPA agency wide, there are so many different silos of environmental health programs that deal with specific contaminants and issues. It's not seamless, they don't always work together.

I know Superfund has nothing to do with lead-based paint. When you're cleaning up a yard that's going to be re-contaminated in a year or two due to the deterioration of the old house's paint, not being able to address this, except for telling the homeowner they have lead-based paint and they need to correct it without poisoning themselves or their neighbors. That is difficult.

When you have a big agency doing a big project like this, it's hard, when and where the individual responsibility comes in. Individual responsibility here includes them knowing what needs to get done and the consequences for not getting it done. It's hard to know that balance. It'd be nice to have some sort of funding like that from Superfund, similar to what HUD has for the abatement, something like all homes in a Superfund site having access to a small loan to help fund getting the home cleaned.

In terms of cleanup and the work the EPA has been doing, I think it's been moving along.

EPA Follow-up Question 2. Do you think there's more communication we can do on the homeowner responsibility piece?

I think that is definitely an area we could beef up. I think that's an area the local health department could beef up and push out that kind of information and messaging.

There's a lot of these homes, you could just look at, I know it's not too beautifying, but if you look at the homes on Rio Grande five years ago versus today, it looks like a different street. We had issues on that street every year with how bad things were, and it's brought that down too, and walking is really nice now. People are taking a little more pride in their neighborhood and where they're living.

COLORADO SMELTER SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Colorado Smelter	
EPA ID: CON000802700	
Interviewer name: Alison Cattani	**Interviewer affiliation: Skeo**
Subject name: Kathleen Romalia	**Subject affiliation: APTIM**
Subject contact information: 720-989-1154	
Interview date: 8/2/2022	**Interview time: not applicable**
Interview location: via email	
Interview format (select one): In Person Phone Mail **Email** Other:	
Interview category: Remedial Action Contractor	

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

   The project is progressing exceptionally well. In 2018, the Site was targeted for additional funding to allow for expedited cleanup timeframe. The community participation is high, allowing for a high percentage of properties and homes to be sampled and remediated, if required. The remedy is adequate for preventing exposure to lead and arsenic. During the one-year observation period, the remedy has remained effective.

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

   The remedy is adequate for preventing exposure to lead and arsenic. During the one-year observation period, the remedy has remained effective.

3. What are the findings from the monitoring data? What are the key trends in contaminant levels that are being documented over time at the Site?

   The monitoring performed by the remedial action contractor does not include monitoring contaminant levels. We perform inspections to make sure that the cover material – fill, topsoil, rock and/or grass – remains in place and provides an effective barrier to any contamination remaining in place.

4. Is there a continuous on-site O&M presence? If so, please describe staff responsibilities and activities. Alternatively, please describe staff responsibilities and the frequency of site inspections and activities if there is not a continuous on-site O&M presence.

   Regular monthly inspections are performed during the first 60 days after completion of the remedial action. For a one-year observation period, homeowners can contact the assigned property coordinator for issues. A final one-year inspection is performed to ensure the restoration has been successful. Inspections are performed by a qualified quality control officer in accordance with the approved Quality Control Plan and the Remedial Action Work Plan.

5. Have there been any significant changes in site O&M requirements, maintenance schedules or sampling routines since start-up or in the last five years? If so, do they affect the protectiveness or effectiveness of the remedy? Please describe changes and impacts.

   No changes have been made that I am aware of.

6. Have there been unexpected O&M difficulties or costs at the Site since startup or in the last five years? If so, please provide details.

   Establishing grass from seed was a challenge due to the high desert conditions at the Site. A change was made to offer sod rather than seed. The sod was very successful in establishing grass to match pre-existing conditions.

7. Have there been opportunities to optimize O&M activities or sampling efforts? Please describe changes and any resulting or desired cost savings or improved efficiencies.

   See above. The changes from seed to sod was cost effective and successful.

8. Do you have any comments, suggestions or recommendations regarding O&M activities and schedules at the Site?

   Not at this time.

9. Do you consent to have your name included along with your responses to this questionnaire in the FYR Report?

   Yes.

COLORADO SMELTER SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Colorado Smelter	
EPA ID: CON000802700	
Interviewer name:	**Interviewer affiliation:**
Subject name: Sarah Graves	**Subject affiliation:** CDPHE HMWMD
Subject contact information: sarah.graves@state.co.us	
Interview date: 8/25/2022	**Interview time:**
Interview location:	
Interview format (circle one): In Person Phone Mail Email Other:	
Interview category: State Agency	

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

   My overall impression of the project so far is that the OU1 cleanup has been incredibly successful. Coordination between agencies has been effective and the project timeline to remedy the residential impact has been impressive.

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

   So far the remedy appears to be performing as designed. I am looking forward to future 5 year reviews, when the residential remedy has been in place for a longer time period, to see the effectiveness over time.

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

   As a regular attendee of the CAG and other community meetings there have been some complaints voices, however they are mostly in regard to OU2 which is still in the very beginning phases of investigation. My impression of the OU1 residential cleanup activity is that the community response has been overwhelmingly positive.

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

   As a supporting agency to the project, CDPHE has conducted community outreach to the CAG along with the EPA. I have reviewed proposed work plans and participated in planning/site meetings for OU2 investigations. My role on the project so far has been primary as support, however the state has taken the lead on drafting and negotiating the institutional control ordinance.

5. Are you aware of any changes to state laws that might affect the protectiveness of the Site's remedy?
   Not at this time.

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

   The institutional controls are still in the process of implementation. At this time I an comfortable with the status as negotiations on the IC ordinance are nearly complete.

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

   Not at this time.

8. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?

   None at this time, I am excited to see the OU2 remedy take shape in the coming years.

9. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?

   Yes.

COLORADO SMELTER SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Colorado Smelter	
EPA ID: CON000802700	
Interviewer name: Ali Cattani	**Interviewer affiliation: Skeo**
Subject name: Redacted	**Subject affiliation:**
Subject contact information:	
Interview date: 8/5/2022	**Interview time: 9:00 AM**
Interview location:	
Interview format (circle one): In Person **Phone** Mail Email Other:	
Interview category: Resident	

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

   Yes. I'm aware of them now. I was not aware of it when I purchased my property. Moved to Pueblo in 2006 and didn't realize that it had profoundly impacted the community and the possibilities of a Superfund Site.

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

   I think you have a really good team working on it. We are on an accelerated schedule which everyone appreciates. Progress has been substantial. Were initially some issues with subcontractor and they did not do good work with a number of people. Everything has been corrected since then. I think that overall, they've done a really good job. Still moving into OU2 and community would like to keep them tied together. I think that basically I believe we are moving in a positive direction. Revitalization process is still being worked on. Haven't been able to integrate into the community and still working on it. Basically, been a pretty good experience. Neighborhood looks quite a bit better post-remediation. Are getting some improvements in the neighborhood working with community. Been a positive experience overall.

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

   Well, I think general improvement in appearance and safety for people living in the Site. Connectivity between residents and the neighborhood. Been able to organize the community to a small degree and form some direction and create a voice with the city and various agencies. Neighborhood looks better and most people are glad to have it done. Complaints with initial Aptim contractors didn't know what they were doing and resulted in drainage issues as well as other issues. These have mostly been attended to. Working with community members to get anything else resolved.

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

   Not to my knowledge and nobody has mentioned anything about trespassing or petty theft.

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

Yes, I think they have to a degree. Meetings have been monthly with the Citizens advisory group. The representatives in the meetings, go into the neighborhood and answer any questions. So I think that has been working really good. We are getting to a point where the EPA has wanted to limit the number of CAG meetings but personally thinks it's good to keep neighborhood involved and informed. In our last CAG meeting, there was an EPA suggestion to reduce the number of meetings to quarterly but believe every citizen wants to continue the monthly meetings. Seemed as though that decision has been made. First time felt that EPA had already decided to go to monthly. Generally attentive to our questions.

Just keeping a core group of people informed during CAG meetings. I think that is useful. Many EPA staff in the Denver area and been doing hybrid meeting for a length of time. Would like to have some personal presence because they are more productive. Monthly meetings are a bit of an inconvenience but useful. Know that OU2 will be much more extensive and drawn-out process.

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

We should be cautious on finishing up too hastily and have a high participation. Everyone wants to make sure everything is taken care of before the final call. Everyone is satisfied. As far as staffing, been more issues with contractors and changing personnel halfway through the job. Had a good guy working with them that had made some inroads and everyone liked. They let him go and the process seems like that when someone is doing a good job and getting close to the community, they get reassigned. Of course, it has been a considerable amount of time so maybe that just happens.

It takes so much time and keeping personnel is probably one of the more important to communicate thoroughly with the community. Facilitator for the CAG was changed. Had a facilitator that everyone liked and she ended up being replaced. Overall feels like it is well managed.

COLORADO SMELTER SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Colorado Smelter	
EPA ID: CON000802700	
Interviewer name: Ali Cattani	**Interviewer affiliation: Skeo**
Subject name: Redacted	**Subject affiliation:**
Subject contact information:	
Interview date: 7/12/2022	**Interview time:12:00 PM**
Interview location:	
Interview format (circle one): In Person Phone Mail Email Other:	
Interview category: Resident	

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

   Yes

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

   Redacted noted she liked her cleanup crew. For her the work was mostly just the back and front yard. The crew that attended to **Redacted** property, Isidro's, was good, friendly, professional, and quick. **Redacted** wishes all the properties that had cleanup had Isidro's crew.

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

   Biggest effect on the Site was the traffic during clean up. Parking is mostly street parking. Neighbors would have to sometimes ask contractors to move their truck amidst cleanups.

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

   Redacted noted two nearby houses, a white house with a fence and a pink house, as being crack houses. No problems were noted during cleanup. Her own property has a fence, and she's had no issues with vagrants.

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

   Redacted is part of the CAG and CAG committee, and to this she says yes, she knows she's being informed.

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

   Redacted notes that there used to be a man, **Redacted** on the CAG who would go to homes and stop crews to ask why his property did not get the same thing that the house they were working on was getting. Other than that, however **Redacted** notes the crews have been professional, friendly, and quick. She cites an example where they were able to quickly fix her sprinkler system. **Redacted** noted her neighbor opted out of the cleanup because of **Redacted** and the cleanup crew being unable to accommodate the neighbor's property's fruit trees.

Redacted did not have any recommendations or ideas on how to better spread and/or share information.

“I try my best in my neighborhood [to try and convince neighbors to do cleanup]”

COLORADO SMELTER SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Colorado Smelter	
EPA ID: CON000802700	
Interviewer name: Ali Cattani	**Interviewer affiliation: Skeo**
Subject name: Redacted	**Subject affiliation: OU1 cleanup resident**
Subject contact information:	
Interview date: 7/12/2022	**Interview time: 9:30 AM**
Interview location: Phone	
Interview format (circle one): In Person **Phone** Mail Email Other:	
Interview category: Resident	

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

   Yes

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

   Pleased with property for sure

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

   I've heard some negative things but that was in the beginning of it, and I fought it for 5 years before I let them do it to my place... [didn't want my place looking like other properties]... until I got the perfect girl (**Redacted**) working with me and things changed over the years, that's when I decided to do it"

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

   No

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

   I don't know that.

   Do you feel well informed by EPA? Yes

6. Do you have any comments, suggestions or recommendations regarding any aspects of the project?
   Not really

   Do you specifically want any site related information? No

7. Comments, suggestions, recommendations for this project

No, I don't; like I said, I fought it for years until I got the perfect person to work with me to explain it better to me to let me realize the things I can do with my property as far as cleaning it up... I thought my property was going to look like everyone else's who's had it done because I took a lot of pride in my home, and I didn't want to do that.

Did you feel well informed about work done at your property?

Yes... all the workers that worked here too were excellent. They realized how anxious I was about the project and they went above and beyond to ensure me that it would all be good.

Anything else you want to say or have recorded as part of the interview?

No that's it. I'm very happy for it and my [property] does not look like the others.

COLORADO SMELTER SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Colorado Smelter	
EPA ID: CON000802700	
Interviewer name: Ali Cattani	**Interviewer affiliation: Skeo**
Subject name: Redacted	**Subject affiliation: Resident**
Subject contact information:	
Interview date: 7/12/2022	**Interview time:12:00 PM**
Interview location: Phone	
Interview format (circle one): In Person **Phone** Mail Email Other:	
Interview category: Resident	

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

   Yes

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

   I think that in the beginning there was some issues that I think some of the parameters they set at the beginning, I think we've corrected the ones we think wouldn't work. I remember there being one CAG meeting where they decided they would do indoor dust, and we asked them what would be used to clean up, and they said a chemical that was on EPA's watchlist. The fact that they didn't use sod from the beginning – we had a lot of issues with that. It was a slow start with some issues. We told them where to get soil for the project. They used soil from the north side that even though didn't have bentonite, we showed them it was just bad soil. They didn't use what we thought was good enough soil. There were other issues like they used this horrible soil on our block, it's so hard, and then what they did with the sprinkler system, they used a roto tiller, they brought all of that awful soil to the top, and the top soil went down in, and then the fact that the seed, those of them that had seed it turned out they looked really good but it turned out it was only on yards that had a lot of reseeding (cited example of her cousin across the street). It looks great but it took so much work, they'd hand pick out the weeds. The seeds that were used later on, like the ones that were used at 1226 South Santa Fe Avenue, had so much paper and cardboard in it that they ended up having to redo the whole yard and have to put it on sod. And when they switched to sod it was amazing. There was, over here on our block, the rock or road base or whatever they call it, they put down in the parking areas was really good. But later on, they switched and put in a really cheap base that turned into mud in the wintertime and had holes and cracks. Then they changed back to the really good stuff, and it was really good.

   We originally thought the sprinkler system that EPA put in did the low flow, the ones that rotate, those ones ended up being really good. Those impact sprinkler heads actually work really well, the other ones on our block, our cousins for instance, also have that and it seems to work really well. There have been, as far as I can tell, our cousin across the street was a disaster. The properties they told us they'd replace, it turned out they didn't do that over there. The work reduced the water flow inside the house, I don't think it was ever resolved; they ended up having to bring in a plumber to do work. Because the water came up right to his back patio because the soil did not have proper drainage.

   I guess what I'm trying to say is at the start of this, and we were one of the first blocks they did, there was a lot of learning process with this. It was very difficult. It was surprising because my husband and I thought this

part would be, because of the CAG meeting, would be the easiest, but it turned out to be one of the most stressful. We had 8 rentals of ours we had to go through with this. The beginning of this was awful. But having said that, they listened to us, and I'm sorry to say we had to complain a lot, Sabrina is well aware of this, we had to complain a lot to get it done right, because our goal was to make our properties better at the end of this, to make sure they were done properly, and in order for that to happen it took all of us a lot of effort to keep on top of things when it first started. I think the indoor cleanup, surprisingly, went much easier than we thought it would; it was easier than the soil cleanup for us and for our rentals. We had one instance where the cleaning product that they used at **Redacted**, that product ruined part of our laminate floor, but that was the only issue we had with indoor cleanups. Going back to the soil cleanups, I think that once this block was done, we had to fight like crazy, my husband even put together an accounting of how much cheaper it would have been to do sod from the beginning because they had to repeat and go back to these yards. And it wasn't until 2 or 3 years, I don't remember, 2 or 2 and a half years in when they finally transferred to sod which made it a whole lot better for everyone.

And I think and I've told Sabrina this multiple times now, we're glad they were here, we're really happy with how things have turned out. We are ecstatic about the timeline. Sabrina and her team listened to everything we had to say as a neighborhood. And EPA responded. When we talked to **Redacted** and he asked us what we thought and we told him the stopping and starting made no sense, he was able to get that, whatever it was, to get the project continuously worked from beginning to end. It was much more efficient. People have called us bulldogs in this effort. I think it has worked out beautifully, and we're very happy.

I haven't asked the question recently, about ICs, I don't understand all of that even though we worked on that for quite a while, I don't understand all of that portion, I appreciate the fact that EPA will come back every 5 years to repeat the process, perhaps without the indoor cleanup, just the soil. I do believe that the other aspect of this, that was really hard was the children and the health of the neighborhood and everyone in it, we are so pleased that we're going to be the cleanest and safest neighborhood in the city. That has truly been a great benefit. We're so thrilled about that. The alleys are still an issue, we haven't been going to the CAG so we're not sure what the alley issue is going to be. I think the alleys should be done. I think the other part of this was, when this first happened, the economic impact of the neighborhood was devastating for years. There were elderly people and people who needed to sell their property who couldn't sell them without having the indoor and outdoor cleanups done. People had such a hard time figuring what to do with these people's properties. I think the initial economic impact was awful but that has turned around. We sold some of our properties and some of the lenders have asked us for the paperwork. I think that perhaps one issue that I'm not sure residents themselves understand is the future of selling property within the neighborhood – I don't know if people are clear on that issue, if it's just the soil that has to be clean when they sell out. I think it's hit or miss with these renters who ask or don't ask for the paperwork, it'll be an issue for the people who don't ask for it and then try to sell the property. But the economic situation now, over past 1.5 – 2 years, has been really good, but the long-term effects of those economic impacts is that our neighborhood now is, more so than before, is full of rentals, not as stable as it used to be. These landlords don't care, they bought these properties for cash at very cheap prices, and they put in some not so great tenants. And it's difficult, very difficult, to turn that around. The prices economically within the neighborhood, I think are affordable, not as affordable for rentals, which I think is helpful for us. It's going to be a long time, I think, before we can build home ownership up for this neighborhood. It started, two of our properties that we sold are homeowners, but it's hard; I think it's turning around as our real estate agent was able to sell one of their properties, so it's turning around.

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

Here's what I will say about that – the Superfund redevelopment initiative has been worth its weight in gold, there were a lot of us, Sabrina knows this, that have worked on, through the CAG and redevelopment initiative, a lot of us have put so much time as volunteers, into creating a vision for our neighborhoods going forward. That really started at the CAG and then with the subgroup and then with the redevelopment initiative and the conferences we had there to put together a comprehensive plan. I don't think the Colorado Smelter Revitalization Project today would be what it is, the fact that we have funded staff that are helping us get our plan implemented. That again was our goal to make these neighborhoods better than what they were before.

What EPA has offered was really invaluable, and we've taken advantage of that. And Fran and her group has been fantastic with helping us – that's been moving along really well. In fact, we're having a meeting on the 21st of July as volunteers, and the goal of that meeting is the sustainability of the CSRP long term, and the art and history walk should be up and running sometime this fall. This has been invaluable for our neighborhood, we're installing lighting, we're doing murals, we're doing the art and history walk, sidewalk repair, and that's due to the help of EPA putting us in touch with stakeholders.

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

   Yes. That's part of that issue about rentals. We have more vandalism and theft than we've ever had. That is an issue because of the rental situation. The answer to that is most definitely.

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

   Yes.

   Do you have any recommendations to EPA to best provide info

   That's a difficult question because whether it be the neighborhood association or the EPA or CSRP, there isn't an easy way to do that. Because of the different age groups and what type of communication works best for each age group. For our particular situation there are more elderly people here and email and all of that doesn't do much. The door to door they did, as well as the mailings and all of that. It's really hard to keep people informed. So, I think, we had lots of discussions at the CAG about communication and volunteering, and it's just hard no matter what organization you're a member of, and they did as well as they could. With that being such a difficult thing to get a handle on, so I think EPA did a really good job.

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

   I think that the biggest issue is starting out with sod, to be really honest with you. We were told by some of the workers that a lot of the other EPA superfund sites started off with sod, and they didn't with us and that looked awful to us. The next one I think using Pueblo workers. That was an issue we talked about a lot and demanded really way back when, so using Pueblo workers. And also having the funding up front to continue the project to completion and getting out as quickly as possible. These recommendations are all equal in importance.

COLORADO SMELTER SUPERFUND SITE FIVE-YEAR REVIEW INTERVIEW FORM	
Site Name: Colorado Smelter	
EPA ID: CON000802700	
Interviewer name: Ali Cattani	**Interviewer affiliation: Skeo**
Subject name: Redacted	**Subject affiliation:**
Subject contact information:	
Interview date: 7/12/2022	**Interview time: 1:00 PM**
Interview location: Phone	
Interview format (circle one): In Person **Phone** Mail Email Other:	
Interview category: Resident	

1. Are you aware of the former environmental issues at the Site and the cleanup activities that have taken place to date?

   Yes

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

   Overall, **Redacted** thinks it's gone well.

   Redacted followed since day one, coauthor of the letter sent from the city that requested this site be listed. He's very well familiar with what's gone on. Between EPA and CDPHE and contractors, **Redacted** been pleased, they worked their way through and has been as sensitive as possible, took into account community's needs and desires, and if they can't meet them, they do their best to explain why. At "our" request they've shifted from the normal process to an interim ROD process that's expedited process a bit, There's also been a good deal of support from management at Region 8 that provided more money allowing for this shift in process, all of that adding into his answer of thinking tis all gone well.

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

   Redacted thinks it has a potential significant effect, the sheer effect of knowing pollution challenges and the ongoings are an overall negative. Neighborhood can be concerned. But he recognizes there's a positive field knowing the EPA and state are on the ground cleaning things up. **Redacted** knows some people are holding their breath waiting to see what's been done.

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

   A lot of problems with the homeless population at the site's portion by the Benedict Park area. He knows it's an issue that citizens have raised early on back when law enforcement attended community meetings. He has not heard specifically questions or concerns about that lately, there may be questions or things going on about that but haven't gone into his radar screen.

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

   Redacted thinks EPA does the best they can, has been to EPA's meet and greet sessions and recognizes it's not easy to do as people have busy lives. **Redacted** recognizes EPA reaches out and tries to get information into the public despite the difficulties. One of the things he's struggling with is getting the attention of folks who have not been paying attention.

   Do you have an opinion on better ways to provide info
   He's been sharing info to the CAG. He thinks it should be treated like a typical political canvass situation – send people out to community, collect information on if they talked, if not, if they did talk what did they talk about. Analyze results figure out what they mean and then repeat the process. **Redacted** has not been up to speed on this but he has been suggesting it to the CAG.

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

   - He's extremely anxious about the fact that we're perceiving to coming to the conclusion of OU1, **Redacted** has been an opponent of separating OU1 activity from OU2, they're connected physically and economically and other ways. OU2 has been delayed for good reasons **Redacted** recognizes (residential cleanup took priority). Doesn't seem to be a big fan of some of OU2's money being shifted to OU1, perceived that OU2 is lagging behind on cleanup. **Redacted** is a heavy critic of not being able to begin OU2 until OU1 is finished.
   - He's raised this before in Canyon City, to observe Skeo doing a public interaction in that. He noticed the separation there between residential and commercial and he raised it in the meeting during the meeting and at the CAG meeting.
   - He does think that CAG needs to be involved as heavily as possible in the outreach process in what's called "last call," last call is difficult, coming quicker than anticipated, he thinks needs to work closely with agencies and the CAG to work through this to do the best they all can.
   - On the topic of ICs: he's very anxious about ICs, very first conversation with Sabrina he had angst on what would be left behind once the project's done. He wants to make sure any remaining problems are minimized, which has led up to the normal IC conversation. Has had several concerns from the CAG on the IC, is more of a conversation towards the end of the project, where we're at now, and he feels there's been a bit of a breakdown in communication between public official instituting ICs and the public community. **Redacted** senses that there have been breakdowns in conversations (lawyers on both sides getting emotional) which isn't helpful, he recognizes they're critical, he would like to limit them, he would like to come up with a method of enforcement that does not cause issues to the community or residents.
   - **Redacted** notes there are several issues where local citizens have objected to EPA's approach on some things. He's hashed them over, in **Redacted** opinion EPA has done a good job, recognizes that some issues are out of EPA's hands. "We hear what your arguments are but there's nothing we can do at a local level." This causes issues with local community. **Redacted** been trying to steer this into identifying who it is that may have the potential in the government authority change to make the changes the public community is asking for, and then have the community reduce their concerns to communicate at that level rather than "beating up" our local agency folks. **Redacted** been only somewhat successful at this effort with his CAG and agencies, "it's a little frustrating dealing with a monolith the size of EPA."
     - *Is this really focused around the area averaging and soil clean up level* – yes, says a citizen wants to finish the cleaning up duct work
     - Starts with the area weighted averaging issue, goes next to the cleanup levels, then thirdly to the duct work clean up
   - **Redacted** enjoys working with the people who are working on this project.

APPENDIX E – SITE INSPECTION CHECKLIST

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST

I. SITE INFORMATION

Site Name: Colorado Smelter	**Date of Inspection:** 7/12/2022
Location and Region: Pueblo, Colorado, Region 8	**EPA ID:** CON000802700
Agency, Office or Company Leading the Five-Year Review: EPA	**Weather/Temperature:** Sunny, 80s

Remedy Includes: (check all that apply)

- ☐ Landfill cover/containment
- ☐ Access controls
- ☐ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls
- ☒ Other: Soil excavation and off-site disposal, indoor cleaning and indoor dust removal

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (check all that apply)

1. **Remedial Action Contractor Site Manager**

Kathleen Romalia	APTIM	8/2/2022
Name	Title	Date

Interviewed ☐ at site ☐ at office ☐ by phone Phone: _____
Problems, suggestions ☐ Report attached: See Appendix D

2. **O&M Staff**

_____	_____	_____
Name	Title	Date

Interviewed ☐ at site ☐ at office ☐ by phone Phone: _____
Problems/suggestions ☐ Report attached: _____

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

Agency Pueblo Department of Public Health & Environment

Contact	Aaron Martinez	Program Manager	7/12/2022	719-583-4341
	Name	Title	Date	Phone

Problems/suggestions ☐ Report attached: See Appendix D

Agency CDPHE

Contact	Sarah Graves	Project Manager	8/25/2022	_____
	Name	Title	Date	Phone

Problems/suggestions ☐ Report attached: See Appendix D

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone

Problems/suggestions ☐ Report attached: _____

Agency _____

Contact	_____	_____	_____	_____
	Name	Title	Date	Phone

Problems/suggestions ☐ Report attached: _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone
Problems/suggestions ☐ Report attached: _____

4. **Other Interviews** (optional) ☐ Report attached: _____

Community members

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

1. **O&M Documents**

☐ O&M manual	☐ Readily available	☐ Up to date	☒ N/A
☐ As-built drawings	☐ Readily available	☐ Up to date	☒ N/A
☐ Maintenance logs	☐ Readily available	☐ Up to date	☒ N/A

Remarks: The EPA keeps record of each yard and indoor dust cleanup.

2. **Site-Specific Health and Safety Plan** ☒ Readily available ☒ Up to date ☐ N/A
☒ Contingency plan/emergency response plan ☒ Readily available ☒ Up to date ☐ N/A

Remarks: _____

3. **O&M and OSHA Training Records** ☒ Readily available ☒ Up to date ☐ N/A

Remarks: _____

4. **Permits and Service Agreements**

☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A
☐ Effluent discharge	☐ Readily available	☐ Up to date	☒ N/A
☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☒ N/A
☐ Other permits: _____	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

5. **Gas Generation Records** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

6. **Settlement Monument Records** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

7. **Groundwater Monitoring Records** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

8. **Leachate Extraction Records** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

9. **Discharge Compliance Records**

☐ Air	☐ Readily available	☐ Up to date	☒ N/A
☐ Water (effluent)	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

10. **Daily Access/Security Logs** ☒ Readily available ☒ Up to date ☐ N/A

Remarks: _____

IV. O&M COSTS ☐ Applicable ☒ N/A

V. ACCESS AND INSTITUTIONAL CONTROLS ☐ Applicable ☒ N/A

A. Fencing

1. **Fencing Damaged** ☐ Location shown on site map ☐ Gates secured ☒ N/A

Remarks: _____

B. Other Access Restrictions

1. **Signs and Other Security Measures** ☐ Location shown on site map ☒ N/A

Remarks: _____

C. Institutional Controls (ICs)

1. **Implementation and Enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ☐ No ☒ N/A

Site conditions imply ICs not being fully enforced ☐ Yes ☐ No ☒ N/A

Type of monitoring (e.g., self-reporting, drive by): _____

Frequency: _____

Responsible party/agency: _____

Contact _____ _____ _____ _____

Name Title Date Phone

Reporting is up to date ☐ Yes ☐ No ☒ N/A

Reports are verified by the lead agency ☐ Yes ☐ No ☒ N/A

Specific requirements in deed or decision documents have been met ☐ Yes ☐ No ☒ N/A

Violations have been reported ☐ Yes ☐ No ☒ N/A

Other problems or suggestions: ☐ Report attached

2. **Adequacy** ☐ ICs are adequate ☐ ICs are inadequate ☒ N/A

Remarks: _____

D. General

1. **Vandalism/Trespassing** ☐ Location shown on site map ☐ No vandalism evident

Remarks: _____

2. **Land Use Changes On Site** ☒ N/A

Remarks: _____

3. **Land Use Changes Off Site** ☒ N/A

Remarks: _____

VI. GENERAL SITE CONDITIONS

A. Roads ☐ Applicable ☒ N/A

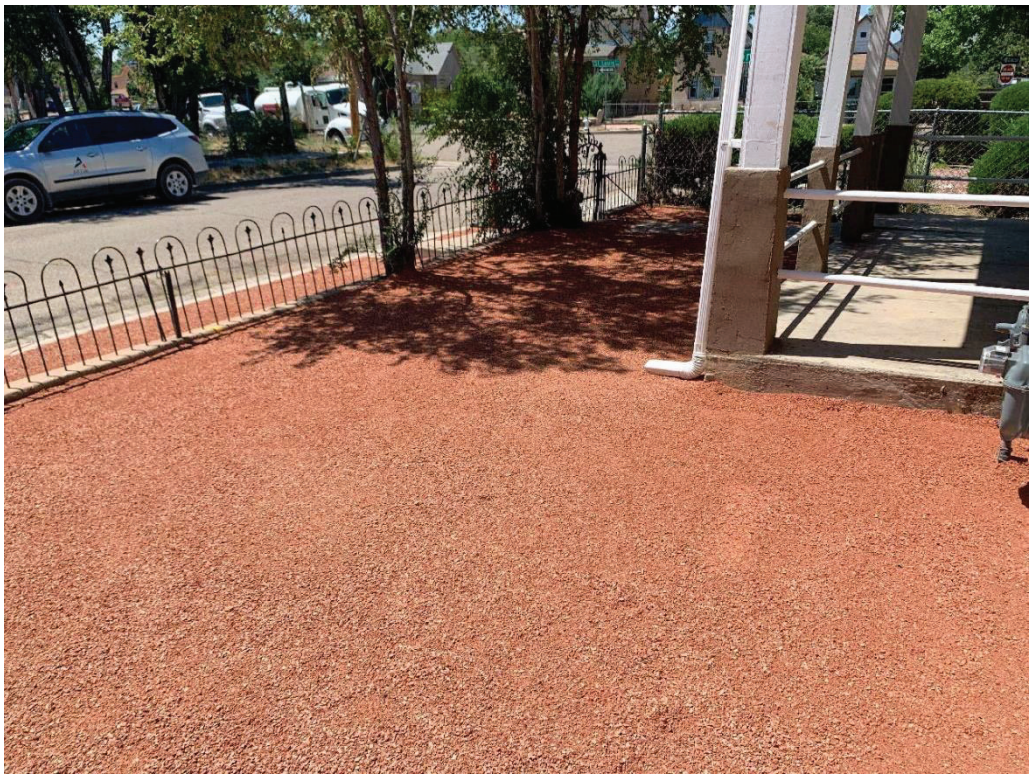
B. Other Site Conditions

	Remarks: _____
VII. LANDFILL COVERS	☐ Applicable ☒ N/A
VIII. VERTICAL BARRIER WALLS	☐ Applicable ☒ N/A
IX. GROUNDWATER/SURFACE WATER REMEDIES	☐ Applicable ☒ N/A
X. OTHER REMEDIES	
Residential yard and indoor cleanups were conducted in accordance with the 2017 IROD and restored in accordance with previous condition and owner preference. Current cleanup activities were observed and occurring in accordance with site decision documents.	
XI. OVERALL OBSERVATIONS	
A.	**Implementation of the Remedy**
	Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions). The interim early action remedy at OU1 is designed to address elevated levels of arsenic and lead in outdoor soil and indoor dust. The activities conducted to date have been effective and the remedy is functioning as designed. Additional cleanups are ongoing.
B.	**Adequacy of O&M**
	Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. Not applicable.
C.	**Early Indicators of Potential Remedy Problems**
	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future. None.
D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. None.

Site Inspection Participants:
Sabrina Forrest, EPA RPM
Jeannine Natterman, CDPHE
Ali Cattani, Skeo
Anthony Li, Skeo

APPENDIX F – SITE INSPECTION PHOTOS

Completed backyard cleanup and restoration with sod



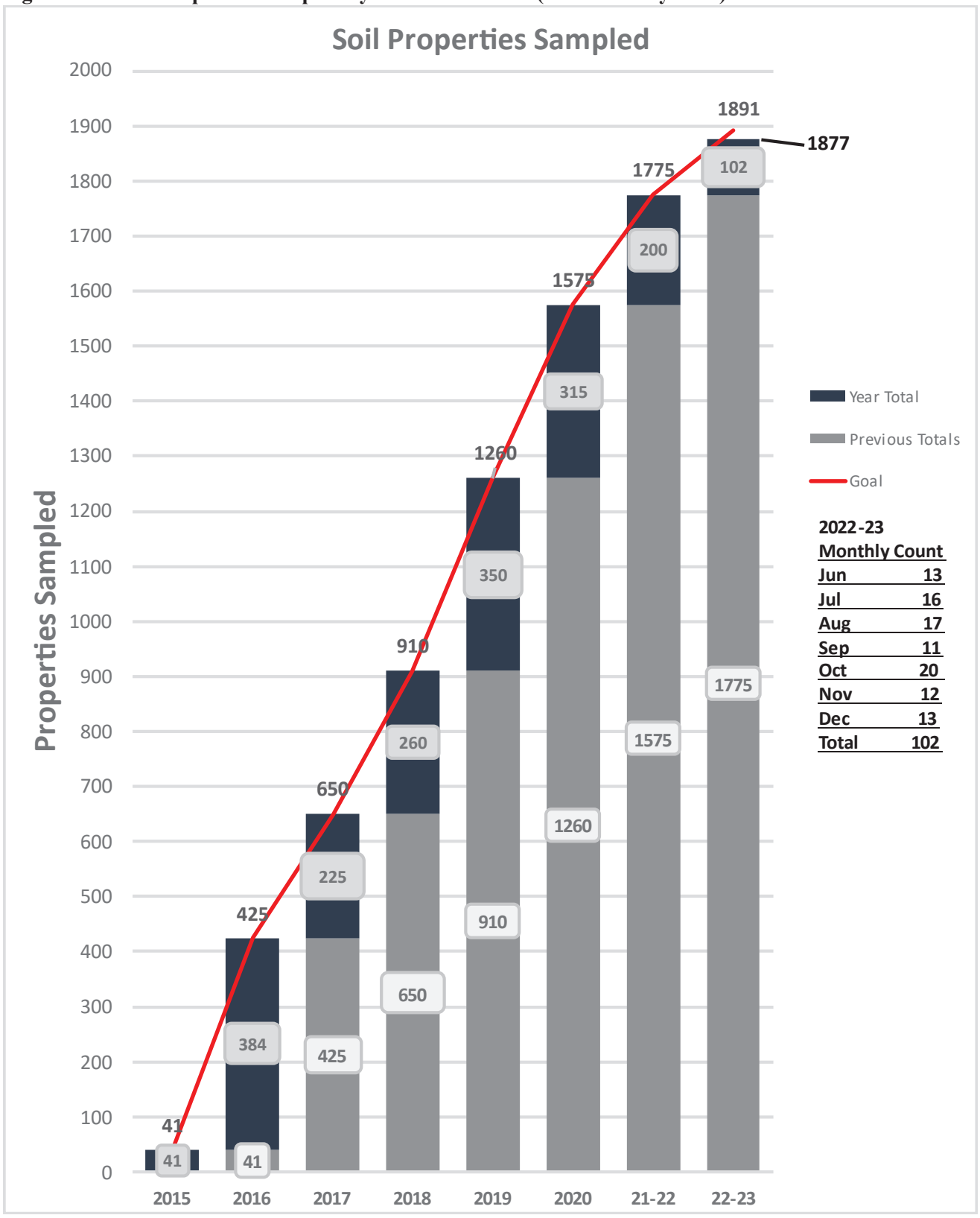
Completed front yard cleanup and restoration

Completed side yard cleanup and restoration with gravel

Home for sale, completed aggregate restoration

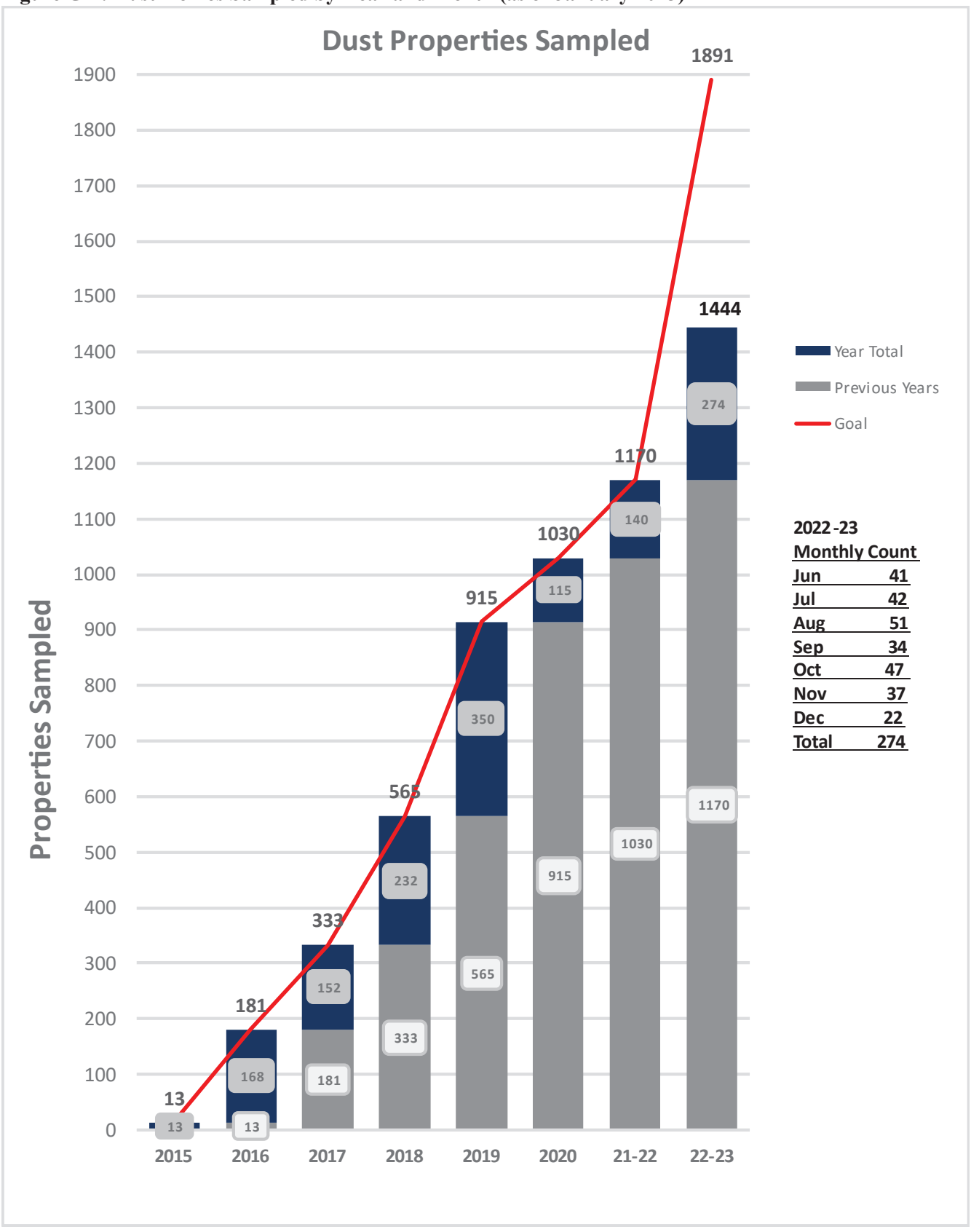
APPENDIX G – DATA FIGURES

Figure G-1: Soil Properties Sampled by Year and Month (as of January 2023)[5]



[5] *Source:* January 2023 Colorado Smelter Site Monthly Update.

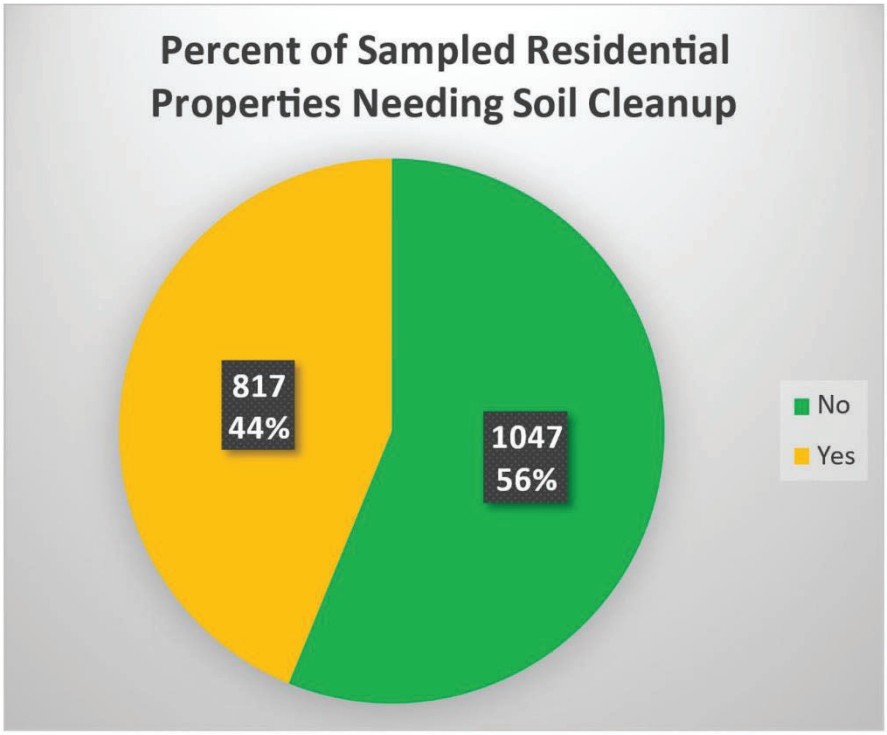
Figure G-2: Dust Homes Sampled by Year and Month (as of January 2023) [6]



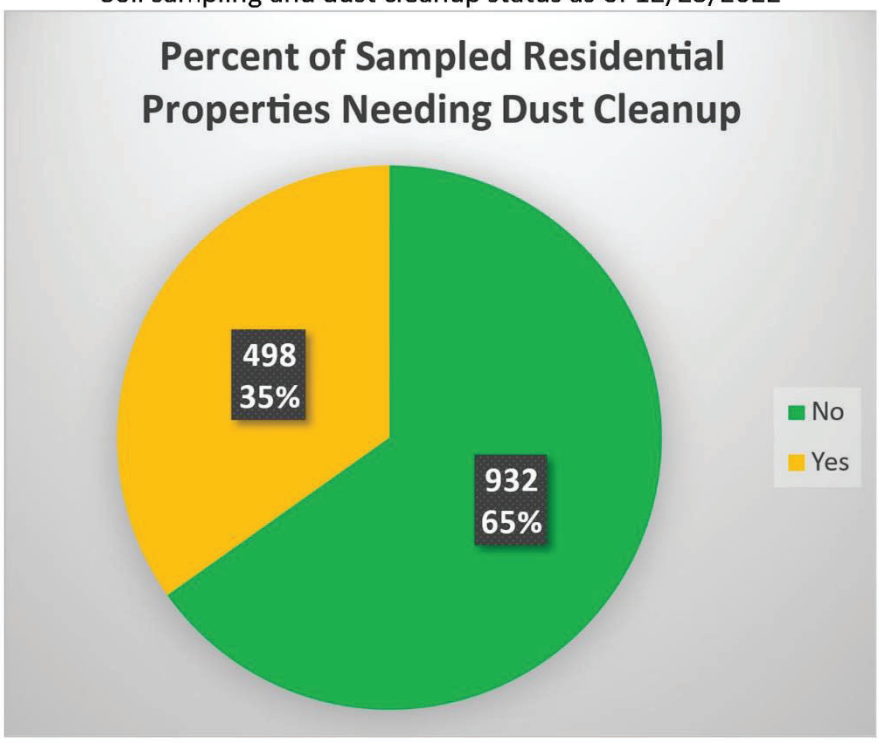
[6] *Source:* January 2023 Colorado Smelter Site Monthly Update.

Figure G-3: Percent of Sampled Properties Needing Cleanup* [7]

December 2022 Colorado Smelter



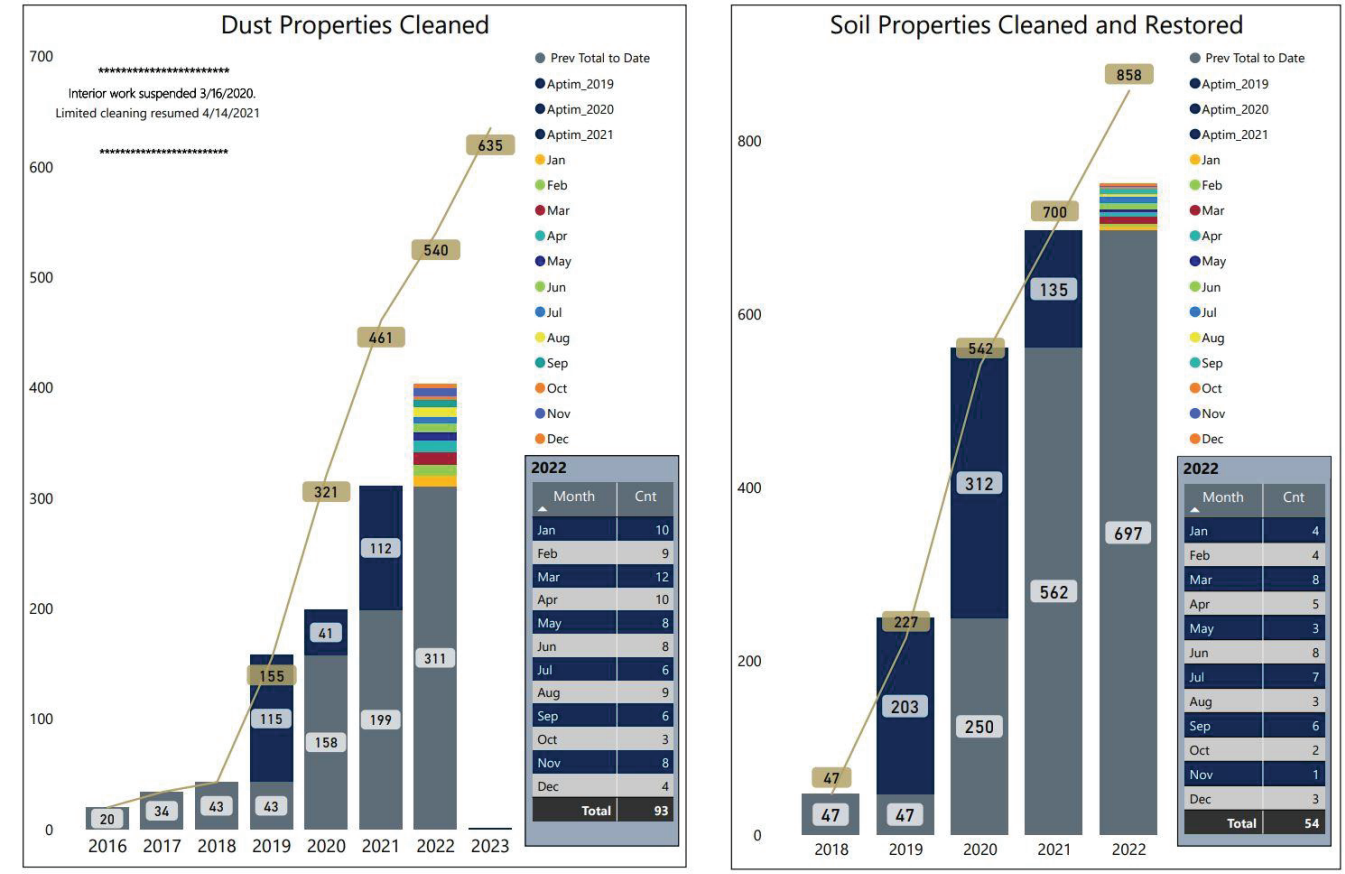
Soil sampling and dust cleanup status as of 12/23/2022



**Pie chart totals are based on validated data and may be different than sampling totals.*

[7] *Source:* December 2022 Colorado Smelter Site Monthly Update.

Figure G-4: Dust and Soil Properties Cleaned and Restored (as of January 2023) [8]



[8] *Source:* January 2023 Colorado Smelter Site Monthly Update.

Figure G-5: Study Area Expansion

November 2022 Colorado Smelter

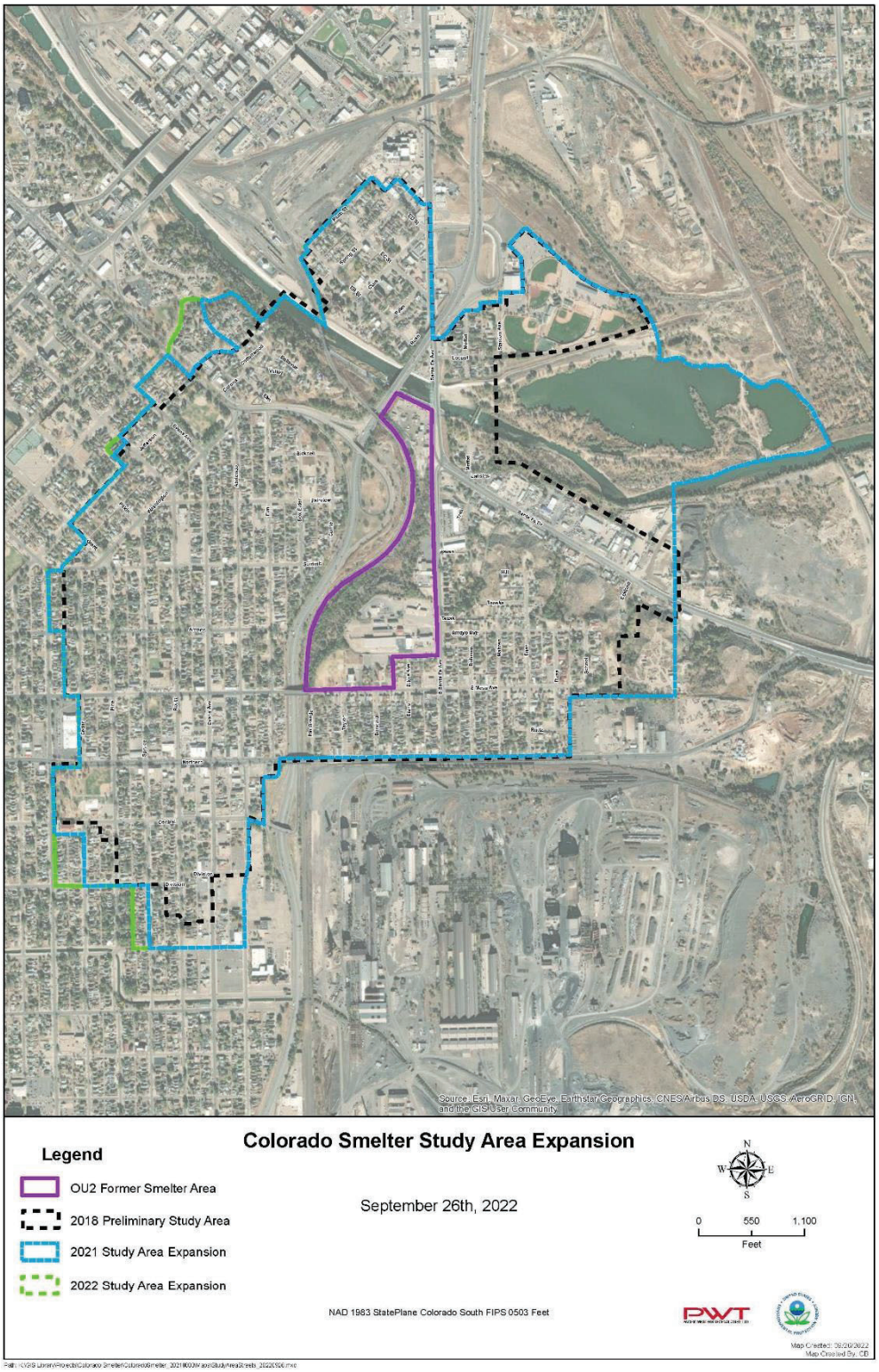
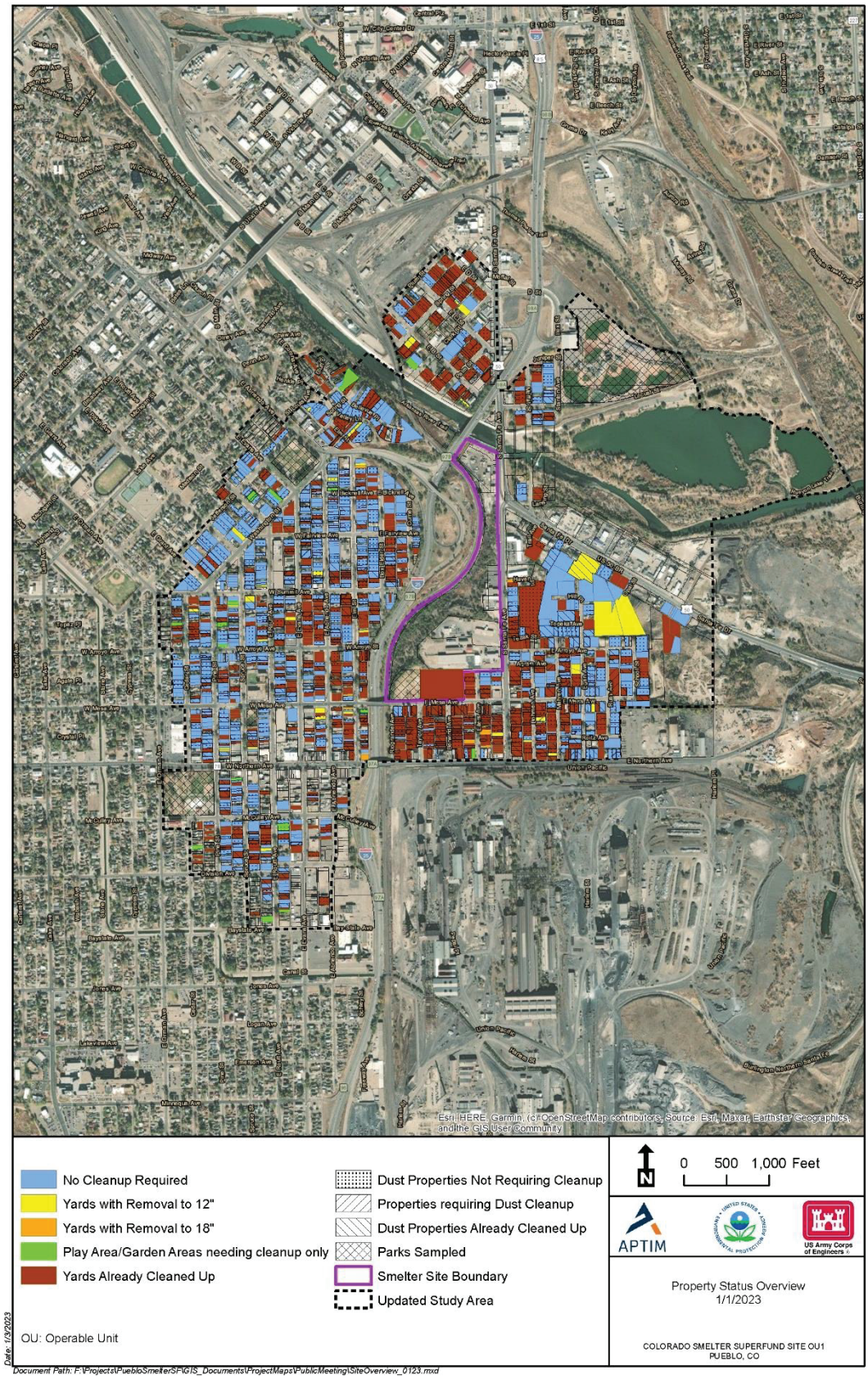


Figure G-6: Property Status Overview, January 2023[9]



[9] *Source:* January 2023 Colorado Smelter Site Monthly Update.