

# Central City-Clear Creek Superfund Site

April 2022



COLORADO  
Department of Public  
Health & Environment



United States  
Environmental Protection  
Agency

## New Operable Unit 5

The Colorado Department of Public Health and Environment and Environmental Protection Agency (together, the agencies) recently established an Operable Unit (OU) 5 for the Central City/Clear Creek Superfund Site. The purpose of OU5 is to evaluate potential exposures to heavy metals, primarily lead and arsenic, from mine waste piles in residential areas of the site.

The science for evaluating health risks from lead exposure has evolved over time. In recent years, preliminary assessments of some of these piles indicate that heavy metals may present a human health risk, and as more and more people move to the area the potential for exposure increases. The agencies will be investigating areas currently used and zoned for residential use. Consent for sampling access from property owners will be critical to the successful evaluation and cleanup of this new OU.

### Steps to protect your family's health

1. **Locate your property** using the map on page 2 to determine if it's located within the Site Study Area. If you're unsure, please contact us (see page 4 for contacts).
2. **Contact us to be included in the mailing list** to learn about the process, be alerted to important meetings and dates, and get valuable information about your community.
3. **Follow the best practices below** to help protect your family's health (see the [Dirt Alert!](#)<sup>1</sup> for more information).
4. **Get your blood lead level tested** by contacting your physician. We are currently working on setting up a free testing program with Clear Creek County Public Health and will share more information when testing becomes available.  
**\*\*We encourage young children to be tested.**

### Healthy home best practices

**Regularly wash hands,** pets and children's toys, homegrown produce, garden tools, floors and surfaces around your home.



**Keep dirt outside** by wiping your shoes on a doormat or take your shoes off when you enter your house.



**Create safe spaces** to play for your children that don't involve contact with bare soil, such as sandboxes filled with new sand.



**Garden safely** by using raised garden beds, wearing gloves, and not eating while gardening.

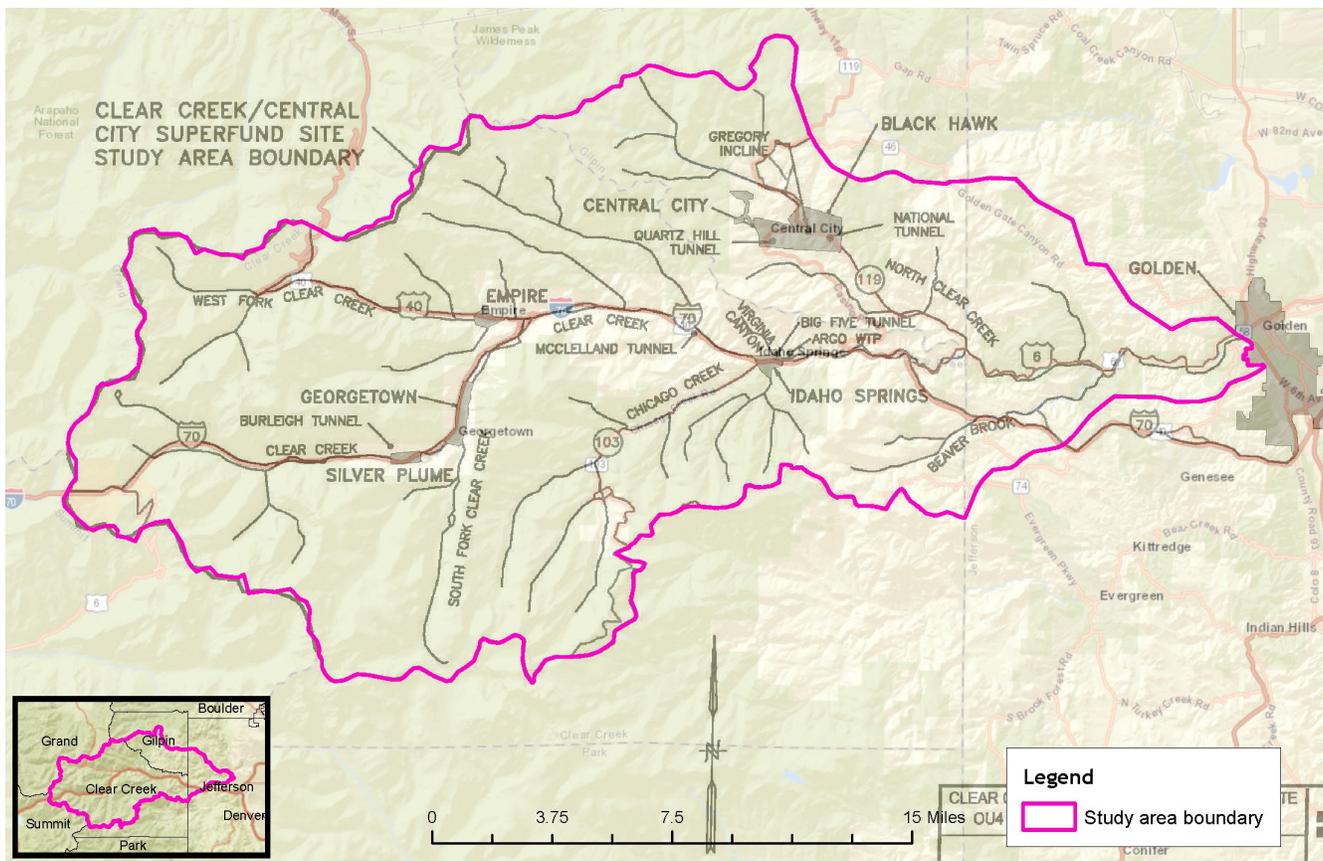


Mine waste may contain heavy metals that can harm your health. Don't let children play in areas that have mine waste.

Photos taken from the site's 2018 preliminary waste pile sampling.



## Central City-Clear Creek Study Area map



## Potential risks to human health

### Lead

- Lead can cause high blood pressure and kidney problems in adults, delays in children's physical or mental development, and lower birth-weight in infants.
- Impacts can be long lasting and the harm can be subtle and difficult to see.
- Lead poisoning can happen slowly if children are exposed to small amounts of lead or quickly if they swallow something with lead.

### Arsenic

- At high levels, arsenic can be dangerous for children and adults.
- Continually eating food contaminated with inorganic arsenic can increase the risk of cancer in the skin, liver, bladder, and lungs.
- Arsenic can impact several organ systems, including skin, digestive, liver, nervous, and respiratory.

# Questions and answers

## ..... New Operable Unit 5 .....

### Why was OU5 established?

The purpose of OU5 is to evaluate potential exposures to heavy metals, primarily lead and arsenic, from mine waste piles in residential areas of the site. In recent years, preliminary assessments of some of these piles indicate that heavy metals may present a human health risk.

### What work will be done?

With consent for access from residents, we will conduct a Remedial Investigation / Feasibility Study to further investigate OU5. We will then make a recommendation for cleanup and, after public comment, determine a remedy in a Record of Decision. From there, site cleanup will begin.

### How long will the cleanup take?

From investigation to cleanup, the process could take multiple years.

### Will the community have an opportunity to provide input?

Yes. The community will be notified of all public comment opportunities related to the cleanup process. Additional community involvement opportunities may include public meetings and informational materials.

### Am I liable for contamination on my property?

EPA issued a policy regarding enforcement discretion for residential homeowners. In part, the policy states that EPA "...will not take enforcement actions against an owner of residential property... unless the residential homeowner's activities lead to a release or threat of release of hazardous substances, resulting in the taking of a response action at the site. This policy does not apply when an owner of residential property fails to cooperate with the Agency's response actions or with a state that is taking a response action under a cooperative agreement with EPA pursuant to section 104(d)(1) of CERCLA." Homeowners are encouraged to review the policy: [OSWER Directive #9834.61](#)<sup>2</sup>. Non-residential property owners may pursue liability protections if they meet specific pre- and post-purchase requirements (find more information on [EPA's website](#)<sup>3</sup>).

## ..... Soil Sampling .....

### Why should my property be sampled?

If we request access to your property for sampling it is important to know that it is because we need to determine if mining-related heavy metals are present and could impact your health. Sampling is free, easy, and can help protect the health of yourself and loved ones.

### What is a consent for access form?

A consent for access form gives the consultant permission to sample the soil around your home. Our consultant will seek consent for access from the property owners and tenants. We will not sample your property without your consent.

### What does the consent for access form allow the consultant to do?

The access form allows the consultant to conduct soil sampling, which may include sample collection of surface sediments (typically 0-6 inches). It also allows the consultant to take photographs or make sketches to record the process.

### Do I need to be home when samples are collected?

Property owners or tenants do not need to be home when outdoor soil samples are collected. However, you are welcome to observe sampling.

### What happens after sampling is finished?

The consultant will contact each property owner and tenant with the results. The data will help inform the Remedial Investigation and eventual cleanup decisions at the site, which could take multiple years. We will prioritize future cleanup based on risk to human health and the environment.

**CDPHE website:** <https://cdphe.colorado.gov/central-city-clear-creek>

**EPA website:** <https://cumulis.epa.gov/supercpad/cursites/csinfo.cfm?id=0800257>



## Site background

Central City/Clear Creek was listed on the National Priorities List in 1983, making it a Superfund site. The site is located about 30 miles west of Denver in Clear Creek and Gilpin counties. The Study Area encompasses the approximately 400 square mile Clear Creek watershed, which has been impacted by a number of inactive precious metal mines. Concerns include risks to human health from heavy metals in tailings piles and waste rock, as well as impacts to aquatic life and habitats, drinking water, and recreational resources.

### Overview of cleanup decisions and activities:

- 1987 - OU1 Record of Decision (ROD): Mine discharge treatment**  
OU1 focused on five mine tunnels - the Gregory Incline and the National near the Black Hawk, the Argo and the Big Five in Idaho Springs, and the Quartz Hill near Central City. The ROD called for treatment of mine discharges, however implementation was delayed due to ongoing Phase II investigations, as discussed below.
- 1988 - OU2 ROD: Tailing and waste rock remediation**  
Addressing the waste piles adjacent to the five original tunnels, the OU2 ROD called for stormwater controls and slope stabilization of the mine tailings and waste rock piles. Some of these remedies were implemented as interim actions, but final remedies were put in place under the OU3 and OU4 RODs.
- 1991 - OU3 ROD: Phase II (Study Area)**  
OU3 was established as the result of the Phase II Remedial Investigation/Feasibility Study, which reassessed the site by evaluating the entire watershed. The OU3 ROD superseded the OU1 ROD. Remediation included capping waste piles, establishing institutional controls, and active treatment of mine discharge.
- 2004 - OU4 ROD: North Clear Creek**  
The North Fork of the Clear Creek sub-watershed was the focus of cleanup strategies such as erosion control, capping or removal of waste piles, and treatment of point and non-point sources of surface water contamination.
- 2022 (estimated) - OU5 Interim-ROD**

### To join the mailing list or for more information:

#### Primary contact

Shannon Bauman  
CDPHE Community Involvement Specialist  
[shannon.bauman@state.co.us](mailto:shannon.bauman@state.co.us), 303-692-3421

#### Secondary contacts

Kyle Sandor  
CDPHE Remedial Project Manager  
[kyle.sandor@state.co.us](mailto:kyle.sandor@state.co.us), 303-692-6394

Jamie Miller  
EPA Remedial Project Manager  
[miller.jamie@epa.gov](mailto:miller.jamie@epa.gov), 303-312-6519

### References:

<sup>1</sup> Dirt Alert!: <https://oitco.hylandcloud.com/CDPHERMPop/docpop/docpop.aspx?clienttype=html&docid=7831148>

<sup>2</sup> OSWER Directive #9834.6: <https://www.epa.gov/sites/production/files/documents/policy-owner-rpt.pdf>

<sup>3</sup> EPA Common Elements Guidance: <https://www.epa.gov/enforcement/common-elements-guidance>



# Central City-Clear Creek Superfund Site

New Operable Unit 5

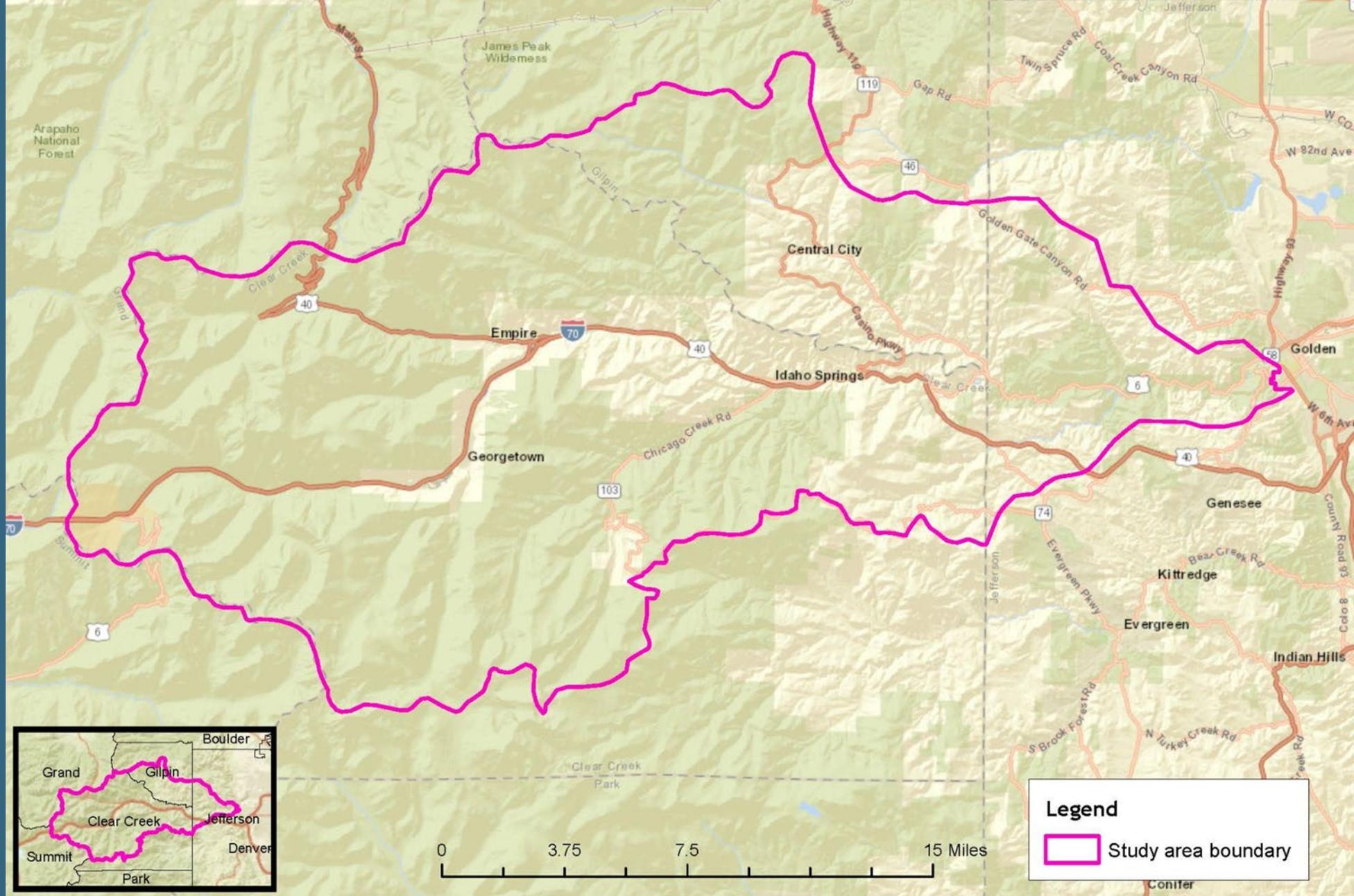
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**Kyle Sandor, Remedial Project Manager**  
Colorado Department of Public Health and Environment

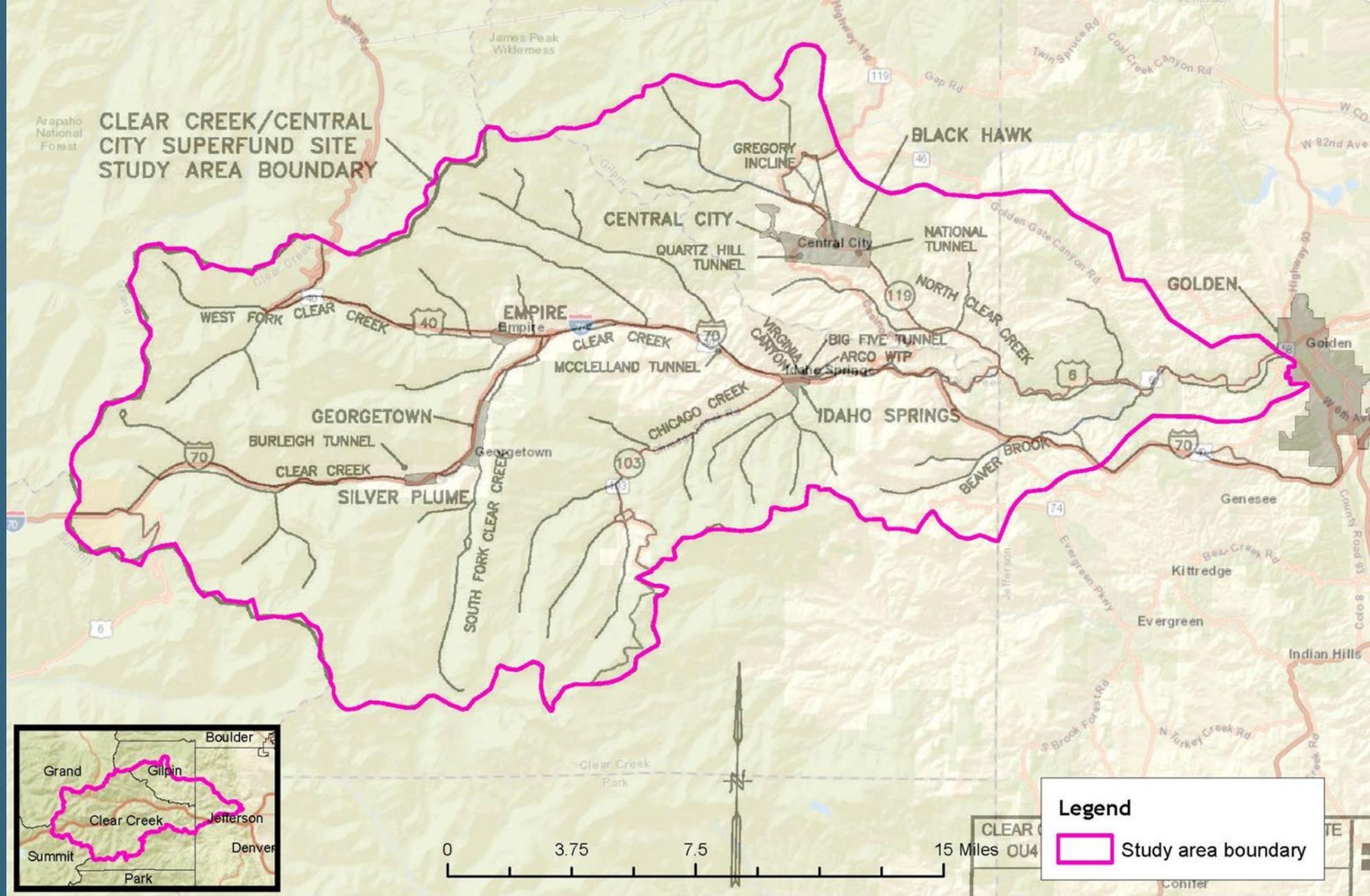
# Overview

- Study Area map
- Overview of Cleanup decisions and Activities
- New Operable Unit 5 (OU5)
- Remedial Investigation/Feasibility Study (RI/FS)
- OU5 Questions and Answers
- Liability
- Potential Risk to Human Health
  - Best Practices at Home
  - Blood Lead Testing
- Community Involvement
  - How to get involved

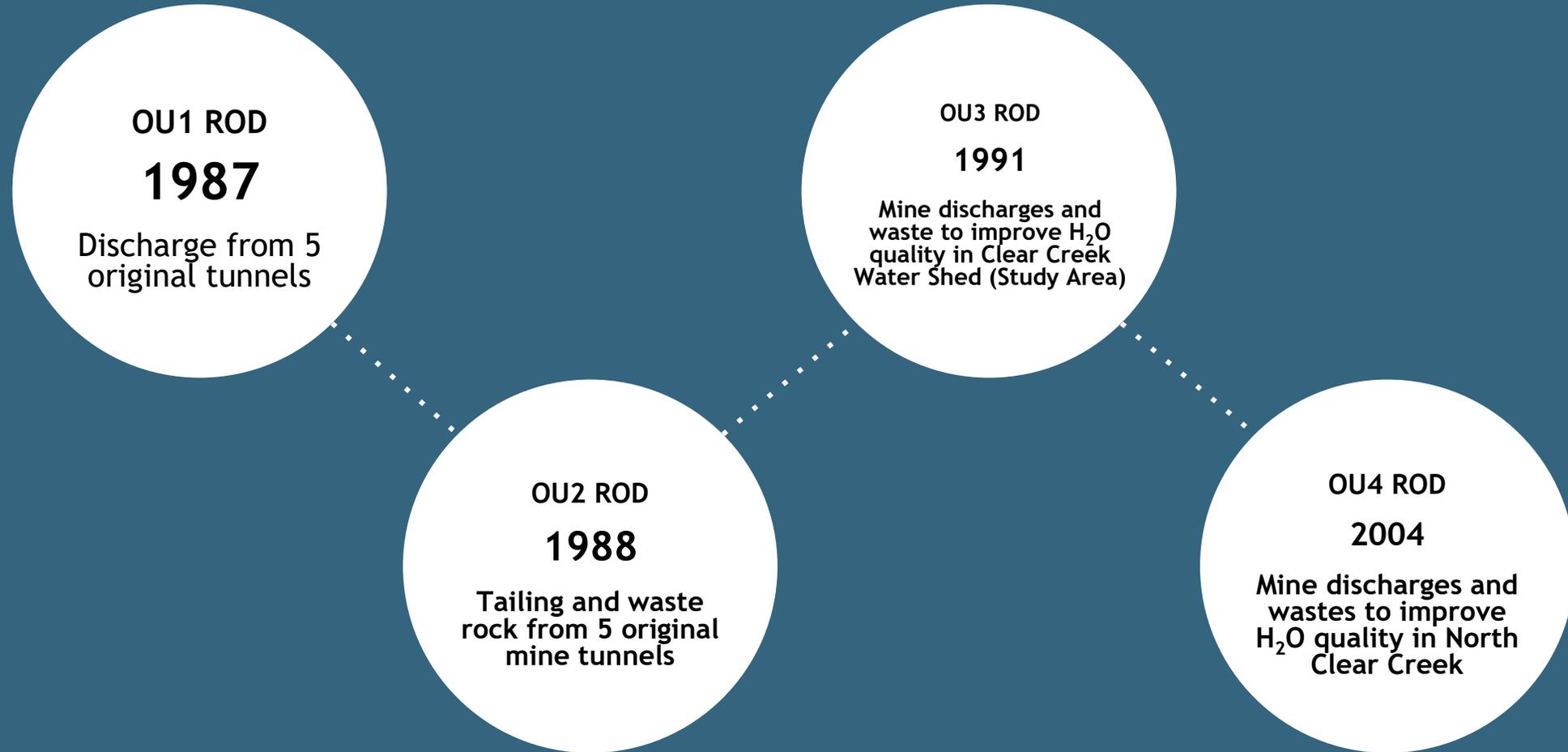
# Study Area Map



# Detailed Study Area map



# Overview of Cleanup Decisions



# Overview of Cleanup Activities

- Argo Tunnel and North Clear Creek Water Treatment Plants
- Waste rock pile stabilization, capping, removal, and diversion of run-on water
- Habitat, sediment reduction, and channel stability improvements
- Church Placer Waste Rock Repository
- Argo Tunnel Flow Control Bulkhead



# New Operable Unit 5 (OU5)

- Purpose is to investigate mine waste piles in current residential areas of Study Area for unacceptable risk to human health and develop a risk based clean up approach that incorporates both on the ground clean-up and implementation of institutional controls.
- Recent assessments of mining waste piles in 2015/2018 indicated potentially concerning levels of heavy metals.
- Agencies will be prioritizing the evaluation of waste piles that pose the greatest risk to human health.
  - Focusing on criteria like proximity waste piles

# OU5 Remedial Investigation/Feasibility Study

- CDPHE has hired a CDM Smith Inc. to conduct the Remedial Investigation and Feasibility Study (RI/FS)
- The RI is the data collection and characterization phase of the project
- The FS is the process by which we develop, screen and evaluate remedial action alternatives (clean up options) for the OU
  - Human Health Risk Assessment

# OU 5 Questions & Answers

- 1 What work is planned?
- 2 How long will this take?
- 3 What properties/waste piles will be sampled?
- 4 Will the community have an opportunity to provide input?

# Liability

- CERCLA (Superfund) liability is retroactive, joint and several, and strict.
- However, EPA policy regarding enforcement discretion for residential property owners that states:
  - EPA “will not take enforcement actions against an owner of residential property... unless the residential homeowner’s activities lead to a release or threat of release of hazardous substances, resulting in the taking of a response action at the site. This policy does not apply when an owner of residential property fails to cooperate with the Agency’s response actions or with a state that is taking a response action under a cooperative agreement with EPA pursuant to section 104(d)(1) of CERCLA.”
- Non-residential property owners may pursue liability protections if they meet specific pre- and post purchase requirements
- CDPHE and EPA are encouraging developers of both residential and non-residential development projects that impact mine waste piles within the Study Area to reach out to the project managers for guidance
- We are establishing a stream-lined process to help developers conduct the work safely and avoid potential future liability concerns

# OU5 Potential Risks to Human Health

## Lead

- Can cause high blood pressure in adults, kidney problems, delays in children's physical or mental development, lower birth-weight in infants.
- Lead poisoning can happen slowly or quickly in children.
- Impacts can be long lasting and difficult to see.

## Arsenic

- Continually eating food contaminated with inorganic arsenic can increase risk of cancer in the skin, liver, bladder, and lungs.
- Arsenic can impact several organ systems, including skin, digestive, liver, nervous, and respiratory.







# Healthy Home Best practices



**Regularly wash** hands, pets and children's toys, homegrown produce, garden tools, floors and surfaces.



**Keep dirt outside** by wiping your shoes on a doormat or leaving them at the door.



**Create safe spaces** to play for your children that don't involve contact with bare soil.



**Garden safely** by using raised garden beds, wearing gloves, and not eating while gardening.

# Blood Lead Testing

- We encourage young children to be tested
- Contact your physician
- CDPHE is currently coordinating with Clear Creek County Public Health to provide free blood lead testing.
  - Currently waiting on blood lead testing strips

# Community Involvement

- CDPHE community involvement staff have begun coordinating informational sessions and public meetings with stake holder groups.
  - Meetings scheduled currently for April/May
- CDPHE has developed factsheet that provides some initial information for the new OU and highlights potential risks associated with mine waste piles
  - Considering a factsheet that focuses on information for potential development on or near a mine waste pile within the Study area.

# Get Involved!

- Email [shannon.bauman@state.co.us](mailto:shannon.bauman@state.co.us) to join the site mailing list
- Community involvement plan interviews occurring later this year
- Find more information at:
  - <https://cdphe.colorado.gov/central-city-clear-creek>
  - <https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0800257>

# Thank you

## More questions?

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