



Memorandum

Subject: Engineering Evaluation/Cost Analysis Approval Memo, Colorado Smelter Superfund Site, Benedict Park

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To: Aaron Urdiales, Director
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The purpose of this memorandum is to request approval to proceed with an Engineering Evaluation/Cost Analysis (EE/CA) for a non-time-critical removal action (NTCRA) proposed for Benedict Park, located within Operable Unit 2 of the Colorado Smelter Superfund Site (Site) in Pueblo, Pueblo County, Colorado. The proposed NTCRA is being performed pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The purpose of the proposed NTCRA is to address contaminated soils that contain high levels of lead and arsenic. The removal objectives will be to minimize current and future human health risks associated with exposure to contaminated soils at the Site. This memorandum documents that the situation meets the criteria in the NCP for initiating a removal action, *see* 40 CFR § 300.415, and that the required removal action is a NTCRA. For this Site, the United States Environmental Protection Agency Region 8 (EPA) is the CERCLA lead agency with support from the Colorado Department of Public Health and Environment (CDPHE). The EPA, with support from the United States Army Corps of Engineers (USACE), will prepare the proposed EE/CA, which will present and analyze several alternatives for the removal action. The EPA, in consultation with the CDPHE, will then select a removal alternative after taking public comment on the EE/CA's proposed alternatives. The EPA will document the selection in an action memorandum and implement the removal action.

Background

The Colorado Smelter Superfund Site was listed on the National Priorities List (NPL) in 2014. The Site is comprised of two operable units (OUs): OU1, Community Properties, and OU2, the Former Smelter Area. Benedict Park is located within OU2 and is closely surrounded by the Eilers and Bessemer neighborhoods—these neighborhoods are part of OU1. Benedict Park, which is owned by the city of

Pueblo, covers 2.28 acres and is open year-round for family and recreational activities.

The Colorado Smelter was constructed around 1883, and smelting operations resulted in waste slag being deposited into a ravine between Santa Fe Avenue and the Denver & Rio Grande Western railroad tracks. The smelter reportedly operated eight blast furnaces, two calcining furnaces, one fusing furnace, and 20 kilns. In 1899, the Colorado Smelting Company was merged into the American Smelting and Refining Company (ASARCO). The facility eventually closed in 1908. Some of the slag was used as ballast for the railroad track west of Benedict Park, and in 1923, bricks from the blast furnace smokestack were used to construct St. Mary School, located immediately east of Benedict Park.

Critically, for human health risk considerations, the old flue run for the main stack once extended along what is currently the entire eastern edge of Benedict Park. This flue run was underground; consequently, the highest concentrations of contaminants in the park are in the area corresponding to the historic flue run. In this area, concentrations of lead—and particularly arsenic—increase at deeper soil horizons.

The EPA was notified by the city of Pueblo that Benedict Park will undergo a significant improvement project. The improvement project will disturb highly-contaminated soils at depth, remove playground equipment and sidewalks that act as informal barriers, and potentially relocate high levels of subsurface lead and arsenic to the surface. Due to the park improvements, it is likely that areas of the park that are currently low use will now be high-use areas.

Previous Removal Actions

In 2016, a removal action was conducted at the Site to repair chain link fencing and post caution and “no trespassing” signs along the boundary adjacent to Benedict Park to restrict access to the slag pile.

In 2016-2017, a second removal action was conducted at OU1 of the Site to remove indoor dust from twenty-seven residential homes with elevated lead levels.

In 2017, the EPA developed a Risk Evaluation Technical Memo for Benedict Park. The Risk Evaluation recommended action to remove soil with higher concentrations in subsurface soil below the playground on the east side of the park. The EPA subsequently conducted a Time Critical Removal Action (TCRA) to remove a total of 215 tons of contaminated soils (97 tons of contaminated pea gravel and 118 tons of heavy-metals-impacted waste).

OU2 Current Status

The EPA is currently conducting the OU2 Remedial Investigation/Feasibility Study (RI/FS), which includes Benedict Park. Soil sample results of the non-playground areas in Benedict Park indicate high levels of contamination are still present on site and will be disturbed with the city of Pueblo’s upcoming park improvement project.

Table 1: Concentrations of Arsenic and Lead

Contaminant of Potential Concern	Soil Layer	Depth below ground surface (inches)	Maximum Concentration (ppm)
Arsenic	Surface soil	0-1	100
	Subsurface soil	1-6	48.4
		6-12	168
		12-18	492
Lead	Surface soil	0-1	348
	Subsurface soil	1-6	378
		6-12	648
		12-18	880

Pacific Western Technologies (PWT), 2017. Colorado Smelter OU1 Technical Memorandum, Benedict Park Risk Evaluation. Prepared for US EPA Region 08 by Pacific Western Technologies, Ltd. Revision 0.

Statutory Basis for the Removal Action

In order for EPA to make a determination that a removal action is warranted, EPA must first make the determination that there is (1) a release or threat of release into the environment of a hazardous substance, or (2) a release or threat of release into the environment of a pollutant or contaminant which may present an imminent and substantial danger to public health or welfare. CERCLA, 42 U.S.C. 104(a)(1). The lead agency must also make a determination that “there is a threat to public health, or welfare or the environment.” 40 C.F.R. Section 300.415(b)(1). This determination must be based on a consideration of the appropriateness of a removal action in relation to the factors set out in Section 300.415(b)(2). The Agency considers the factors set out in 40 C.F.R. Section 300.415(b)(2) as factors that are relevant to determining whether it is appropriate, in a specific circumstance, to employ removal, rather than remedial, authority. Paragraph (b)(2)(i), (iv), (v), and (vii) of Section 300.415 directly apply to the existing conditions at Benedict Park and support EPA’s determination that removal authority is appropriate:

300.415 (b) (2) (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants

Sampling at the Site has documented elevated levels of lead and arsenic in the soil. Lead and arsenic (and their compounds) are both a “hazardous substance” as defined by Section 101(14) of CERCLA and explicitly identified in 40 CFR §302.4. Lead and arsenic have been detected at elevated levels in the soils at Benedict Park, which is open year-round for family and recreational activities.

300.415(b)(2)(iv) – High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate

The city of Pueblo’s upcoming park improvement project will involve disturbance of soils, which could

allow for subsurface soils that are heavily contaminated with lead and arsenic to be surfaced, become airborne and migrate downwind.

300.415(b)(2)(vii) – The availability of other appropriate federal or state response mechanisms to respond to the release

The state of Colorado and city of Pueblo have been actively involved with planning and investigation of the Colorado Smelter Superfund Site; however, they do not possess the funding to take removal actions.

After the EE/CA is finalized and the public comment period has closed, the EPA will formally document its decision to commence a NTCRA at Benedict Park in an Action Memorandum.

Additional Considerations

In addition to considering Section 300.415(b)(2) factors, EPA decision makers should also consider the following additional factors in determining whether to employ a non-time- critical removal action or a remedial action in a particular situation: (1) time-sensitivity of the response; (2) the complexity of both the problems to be addressed and the action to be taken; (3) the comprehensiveness of the proposed action and (4) the likely cost of the action.

To date, the EPA has identified the presence of Site-related hazardous substances, pollutants or contaminants in surficial soils at Benedict Park. Time sensitivity refers to the need to take relatively prompt action. Here, there is time-sensitivity for this work given the city of Pueblo's 2026 construction schedule for the Benedict Park improvement project. If EPA were to employ its removal authority to clean up the Park, the work would likely take place in 2027/2028 or later, after EPA issues a Record of Decision for OU2. Failure to address the Site promptly would result in potential risk to human health and the environment. In accordance with § 300.415(b)(4) of the NCP, the EPA has determined that a planning period of at least six months exists before on-site activities will be initiated.

The NTCRA is anticipated to be consistent with any further cleanup action to be taken at the Site. Based on the above considerations, it is appropriate to conduct an EE/CA for an NTCRA to evaluate the likely cost of the NTCRA. Based on a review of applicable EPA guidance, the NCP, and conditions at the Site, and upon approval of this EE/CA Approval Memorandum, the EPA will consider and analyze options in an EE/CA to address the contaminated soils at Benedict Park that pose an exposure threat to human health in an EE/CA. The EPA will publish notice of the EE/CA in a major local newspaper of general circulation and make the EE/CA available for public review and comment. After careful consideration of any public comments received, the EPA will then select a preferred NTCRA to implement at Benedict Park. In accordance with Section 300.415(j) of the NCP, the NTCRA will attain any federal or state ARARs to the extent practicable considering the exigencies of the situation. The EPA will consult with the CDPHE, as a support agency, and city of Pueblo, as the PRP that will implement the Benedict Park improvement project, during the planning, selection, and implementation of the NTCRA.

Previous Enforcement Actions

Under CERCLA Section 107, the city of Pueblo is a potentially responsible party (PRP) as the current owner of property located within the Site, including Benedict Park. There are currently no enforcement actions pending against the city of Pueblo regarding the Site.

In 2023, as a part of its cost recovery efforts, the EPA perfected Superfund Liens on six parcels located in OU2. That same year, the EPA subsequently entered into a cashout settlement agreement with one of the OU2 property owners (CERCLA Docket No. CERCLA-08-2023-0004). Under this agreement, the EPA will release the Superfund Lien that the EPA perfected on the property once the property owner reimburses the EPA for its response costs associated with its property.

Proposed Project, Oversight, and Cost

With approval of this memorandum, an EE/CA will be developed and finalized, and the information generated will be used to establish the scope of the proposed actions and cost estimates.

The EPA estimates a cost of \$750,000 based on educated estimations about park size and assumptions of removal depth of up to two feet below surface and associated backfill, with a -30% (\$525,000) to +50% (\$1,125,000) estimate accuracy range. This range is a pre-EE/CA estimate. It should be noted that the final alternative chosen during the EE/CA process may significantly affect the project budget estimate.

Estimated costs needed for funding ceiling:

Task	Estimated Costs
1. EE/CA Preparation	\$112,500
2. Removal Work Plan/Documentation	\$62,500
3. Removal Action Field Work	\$1,125,000

*EPA direct and indirect costs, although cost recoverable, do not count toward the removal ceiling for this removal action. Liable parties may be held financially responsible for costs incurred by the EPA as set forth in Section 107 of CERCLA.

Public Involvement

The EPA will lead public involvement activities for this NTCRA. The EPA will update the Community Involvement Plan for this NTCRA. The EPA expects to issue an EE/CA for public comment in 2026, along with a concurrent fact sheet and newspaper publication that describes the EE/CA, notifies the public of the EPA’s preferred alternative for the NTCRA, and provides an opportunity for public involvement.

Approval/Disapproval

The conditions at the Site meet the NCP criteria for a removal action. Based on the information and analysis presented in this memorandum, please indicate your concurrence or non-concurrence with the recommendation to perform an EE/CA as part of an NTCRA for Benedict Park at the Colorado Smelter Superfund Site.

AARON

Approve: URDIALES

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Aaron Urdiales, Director

Superfund and Emergency Management Division

Disapprove: _____

Aaron Urdiales, Director

Superfund and Emergency Management Division