

FINDING OF NO SIGNIFICANT IMPACT

Lewis Mine Fire Mitigation

eAMLIS Key: CO-733

Introduction

The Office of Surface Mining Reclamation and Enforcement – Denver Field Branch (OSMRE – DFB) has reviewed the Environmental Assessment (EA) submitted by the Colorado Division of Reclamation, Mining and Safety – Inactive Mine Reclamation Program (DRMS – IMRP) in consideration of the Lewis Mine Fire Mitigation project. Under the Preferred Alternative, OSMRE would provide Authorization to Proceed to IMRP to expend federal abandoned mine land (AML) grant funds to address a burning and smoldering underground coal mine fire in Boulder County, Colorado. The proposed reclamation strategy is to extinguish the burning and smoldering coal and to halt the mine fire’s progress by preventing oxygen flow to adjacent coal seams. IMRP would accomplish this task by excavating an area of approximately 1.5-acres to the bottom of the mine workings, a depth of about 25 feet below grade. Any of the excavated material measuring 100 degrees-Fahrenheit or greater would be blended with cool, non-carbonaceous fill at a ratio of approximately one-to-five. The blended fill, once cooled below 100 degrees-Fahrenheit, would be returned to the excavation and compacted in place. The disturbed area would then be recontoured and revegetated.

Reason

The subject underground coal mine fire has been ranked by the Colorado IMRP as a Priority 1 extreme hazard to public health, safety, and property. This classification and the justification for the Preferred Alternative are based on the physical safety hazards posed by the mine fire. The affected property is private and includes residential structures but the land is not open to the public. However, the fire has the potential to burn further underground, extending its lateral reach and potentially causing additional subsidence, compromising the adjacent irrigation canal, or igniting wildfire. Subsidence fissures can create human health and safety hazards including falls, burns, smoke inhalation, and suffocation.

Context 40 CFR 1508.27(a)

To determine whether the Preferred Alternative would have a significant impact on the human environment, effects related to the Preferred Alternative were analyzed in terms of context and intensity based on the criteria at 40 CFR 1508.27(b). The Preferred Alternative project area is located on private property approximately one mile south-southeast of the City of Boulder, Boulder County, Colorado. The Preferred Alternative would result in approximately 1.5 acres of surface disturbance. The Preferred Alternative is project-specific, and any impacts would be likely realized at the local, rather than regional, national, or global levels. Affected interests include property owners who have granted right-of-entry for the work and whose land may be disturbed by vehicle traffic and construction.

Intensity 40 CFR 1508.27(b)

(1) The following resources were analyzed in the Lewis Mine Fire Mitigation EA for beneficial and adverse impacts. A significant effect may exist even if OSMRE believes that on balance the effect will be beneficial.

Historic and Cultural Resources

In 2021 IMRP contracted with ERO Resources Corporation to perform a class III archaeological survey within and around the Area of Potential Effect (APE) for the proposed undertaking. The survey resulted in the documentation of three resources occurring either completely or partially within the APE: two existing, National Historic Register of Places (NRHP)-eligible resources, 5BL.5705 and 5BL.5707; and one non-supporting linear segment, 5BL.453.14. Because the scope of work for the Preferred Alternative avoids all three contributing and eligible resources, IMRP has determined a finding of *no adverse effects to historic properties* under section 106 of the National Historic Preservation Act is appropriate. The Colorado State Historic Preservation Officer concurred with IMRP's recommendation on September 11, 2023. Accordingly, there would be no impacts to cultural resources under the Preferred Alternative. Under the No Action Alternative these cultural resources would also remain in their current state.

Hydrology

Under the Preferred Alternative impacts to surface water would be minor and temporary. Sediment control best management practices (BMP) such as fencing would be implemented to ensure surface disturbances do not cause sedimentation outside the project area. Flow in the Davidson Ditch, which bisects the site, is not expected during the proposed construction window and any stormwater would be diverted around the project area and then returned to the ditch. The section of the ditch proposed for removal would be replaced to the satisfaction of the ditch company. Recontouring and revegetating disturbed areas would further mitigate the potential for erosion and sediment transport. The project would not involve any direct discharges to surface waters. Because the estimated 21,000 gallons of water needed for dust suppression and compaction under the Preferred Alternative would likely be procured from a local municipality, local waterways would not be impacted. Under the No Action Alternative impacts from the mine fire to surface water caused by potential subsidence of the Davidson Ditch, vegetation loss, and soil erosion would continue.

No impacts to groundwater resources are expected under the Preferred Alternative. The proposed project area is well above any groundwater and is not located within the 100-year floodplain. There are no mapped wetlands within the proposed project area. There are no active oil and gas wells within several miles of the proposed project area. A single, dry, abandoned oil and gas well is located within about 9,000 feet of the area. The nearest groundwater well is about 300 feet from the proposed project area. The No Action Alternative would not impact groundwater resources because groundwater is not present at or above the elevation of the mine fire.

Vegetation

The Preferred Alternative project area is sparsely populated with native woody and herbaceous vegetation. The area does not include critical habitat for any threatened, endangered, proposed, or candidate plant species. There are no wetlands in the proposed project area. The proposed project area has been previously disturbed and is partially denuded. Under the Preferred Alternative vegetation would be restored to the site through reseeding, fertilizing, and mulching. The seed mix would be composed of native species and provided by the City of Boulder Open Space and Mountain Parks. Under the Preferred Alternative cutting, trampling, or otherwise clearing trees, grasses, and shrubs adjacent-to but outside the 1.5-acre area proposed for disturbance would be avoided. Additionally, to prevent the spread of noxious weeds construction contractors would be required to wash all equipment prior to entering the site. There would be minimal impacts to vegetation under the Preferred Alternative. Under the No Action Alternative there would likely be minimal impacts to vegetation resources. The mine fire would likely continue to spread underground, causing additional subsidence and vegetation loss. Because noxious weeds generally occupy surface areas affected by mine fire, the increased prevalence of noxious weeds can be expected under the No Action Alternative.

Fish and Wildlife

On September 13, 2023 IMRP queried the Environmental Conservation Online System – Information for Planning and Consultation (ECOS – IPaC) database of the U.S. Fish and Wildlife Service – Colorado Ecological Services Field Office for a listing of threatened, endangered, proposed, and candidate species potentially present in or affected by activities in the immediate Preferred Alternative project area. The consultation identified 9 threatened, endangered, proposed, or candidate species and 11 Birds of Conservation Concern with the potential to occur in the area. No critical habitat for the nine species exists within the Preferred Alternative project area and there are no fish hatcheries or refuge lands present. However, there is suitable habitat for the gray wolf and the monarch butterfly and the monarch butterfly is known to exist in the proposed project area. Under the Preferred Alternative, a pre-construction line-of-sight visual survey would be conducted to determine whether the gray wolf, monarch butterfly and /or its obligate host plant milkweed, or, during migratory bird nesting and breeding period, active migratory bird nests, are present. If the gray wolf, monarch butterfly, milkweed, or active migratory bird nests were to be found, IMRP would initiate contact with the U.S. Fish and Wildlife Service to develop a plan to avoid impacts to these species. Based on this, the Preferred Alternative would have *no effect* on protected species under section 7 of the Endangered Species Act. Under the Preferred Alternative negative impacts to fish and wildlife due to noise and human activity would be minor and temporary, while long term impacts would likely be minor and beneficial. Under the No Action Alternative no impacts to fish and wildlife would be expected and the site would likely remain in a degraded state with respect to forage and cover.

Soils and Geology

Topsoil and coal resources are present in the proposed project area. Under the Preferred Alternative impacts to soils and geology would be minor and temporary. Prior to construction topsoil would be stripped from the 1.5-acre area and stockpiled for use during reclamation,

including revegetation with a native seed mix. By extinguishing the underground coal mine fire and preserving remaining coal reserves, the Preferred Alternative would have a minor, beneficial impact. Under the No Action Alternative the mine fire would likely cause continued subsidence, loss of vegetation and resultant erosion / topsoil loss, and loss of remaining coal reserves, all minor, negative impacts.

Recreation

The Preferred Alternative would be carried out on private property and there would be little to no physical impact on public property. Impacts to the viewshed from heavy equipment and construction activity would be minor and temporary. Under the No Action Alternative there would be no impacts to recreation values though the risk of the mine fire spreading to public lands would remain.

Air Quality

The Preferred Alternative would occur in an area currently in attainment of National Ambient Air Quality Standards. Under the Preferred Alternative minor, temporary impacts to air quality through equipment emissions and fugitive dust can be expected. To mitigate these impacts the construction contractor and IMRP would ensure construction equipment is properly maintained and dust suppressant is applied to disturbed areas as needed. Under the No Action Alternative there would be no minor, temporary air quality impacts from equipment emissions or fugitive dust; however, due to the continued underground burning and smoldering of coal, a minor, enduring air quality impact likely would continue.

Noise

The proposed project area occurs in a residential neighborhood with the closest neighboring home about 200 feet to the south. Under the Preferred Alternative minor impacts to the soundscape from heavy equipment operation can be expected. These impacts would be temporary, as the Preferred Alternative is estimated to take five months to complete, and limited to the hours of 8:00 am to 5:00 pm, Monday through Friday. Due to the nature of the work, under the Preferred Alternative these noise impacts likely would be sporadic and not continuous. Under the No Action Alternative ambient noise levels would not be impacted by heavy equipment operation.

Topography

The Preferred Alternative project area is situated on a south-facing ridge surrounded by gently sloping hillsides at an elevation of about 5,600 feet. The site has previously been disturbed by mining activities. Under the Preferred Alternative there would be minor impacts to site topography associated with the 1.5-acre excavation and subsequent earthwork during reclamation. However, the Preferred Alternative includes provisions for grading and contouring the final landform to approximate and blend with the original and surrounding topography. Under the No Action Alternative there would also likely be minor impacts to topography as subsidence caused by the mine fire continues.

Health and Safety

The subject underground coal mine fire has been ranked by the Colorado IMRP as a Priority 1 extreme hazard to public health, safety, and property. This classification and the justification for the Preferred Alternative are based on the physical safety hazards posed by the mine fire. Under the Preferred Alternative there would be potential minor, temporary health and safety impacts to construction contractors associated with carbon monoxide, methane, hydrogen sulfide gas, and oxygen levels. Under the Preferred Alternative the construction contractor would use a calibrated multi-gas meter to ensure safe atmospheric levels for workers. Additionally, fire extinguishers, shovels, and water would be available onsite. Under the Preferred Alternative a project-specific safety plan would be developed to provide additional detail about worker health and safety concerns. Ultimately, the Preferred Alternative would likely result in a lasting moderately beneficial impact to human health and safety associated with mitigating the underground coal mine fire. Under the No Action Alternative the moderate, adverse impacts to human health and safety associated with elevated surface temperatures, subsidence, hazardous gas emissions, potential wildfire, and flooding would continue.

Roads

There are no National Scenic Byways or All-American Roads near the project area proposed under the Preferred Alternative. The closest roadway, Marshall Drive, is a two-lane road with moderate to heavy traffic during peak hours. Under the Preferred Alternative there would likely be temporary, moderately adverse impacts to local traffic patterns associated with increased light truck, heavy equipment, and heavy truck activity. Under the Preferred Alternative the construction contractor would adhere to roadway weight limitations and provide for traffic control, as necessary, for oversized vehicles accessing the site. Under the No Action Alternative there would be no impacts to local roadways and traffic.

(2) The degree to which the Preferred Alternative affects public health or safety

The Preferred Alternative would occur on private property. Ultimately, the Preferred Alternative would likely result in a lasting, moderately beneficial impact to human health and safety associated with mitigating the underground coal mine fire and reducing the threats of wildfire and flooding.

(3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

There are no park lands, prime farmlands, wetlands, wild and scenic rivers, wilderness areas, recreation / refuge lands, or ecologically critical areas within the Preferred Alternative project area. As such, these resources were not brought forward for analysis in the EA.

(4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

The Preferred Alternative would have no effects on the quality of the human environment that would be highly controversial.

(5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

While underground coal mine fire mitigation work is inherently dynamic and includes a degree of uncertainty that cannot be eliminated, the Colorado IMRP is considered a regional authority in this field with demonstrated success statewide. IMRP's in-house experience and expertise in mine fire mitigation is such that the Preferred Alternative would have no effects on the human environment that are highly uncertain or involve unique or unknown risks.

(6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

Action under the Preferred Alternative would not establish precedent for future actions with significant effects and would not represent a decision in principle about future considerations. The issues considered in the EA were developed within the context of past, present, and reasonably foreseeable actions.

(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

The action proposed under the Preferred Alternative is not related to other actions with individually insignificant but cumulatively significant impacts. Though IMRP is planning additional mine fire mitigation work in the area, in response to the catastrophic Marshall Fire of December 30, 2021 which destroyed over 1,000 structures, those future mitigation efforts, taken together with the beneficial and adverse minor-to-moderate impacts to resource values under the Preferred Alternative, remain localized undertakings that do not cumulatively rise to the level of environmental significance.

(8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

Two existing, National Historic Register of Places (NRHP)-eligible resources, 5BL.5705 and 5BL.5707; and one non-supporting linear segment, 5BL.453.14 occur either partially or completely within the APE. Because the scope of work for the Preferred Alternative avoids all

three contributing and eligible resources, IMRP has determined a finding of *no adverse effects to historic properties* under section 106 of the National Historic Preservation Act is appropriate. The Colorado State Historic Preservation Officer concurred with IMRP's recommendation on September 11, 2023.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

There are 9 threatened, endangered, proposed, or candidate species and 11 Birds of Conservation Concern with the potential to occur in the Preferred Alternative project area. No critical habitat for the nine species exists within the Preferred Alternative project area and there are no fish hatcheries or refuge lands present. However, there is suitable habitat for the gray wolf and the monarch butterfly and the monarch butterfly is known to exist in the proposed project area. Under the Preferred Alternative a pre-construction line-of-sight visual survey would be conducted to determine whether the gray wolf, monarch butterfly and /or its obligate host plant milkweed, or, during migratory bird nesting and breeding period, active migratory bird nests, are present. If the gray wolf, monarch butterfly, milkweed, or active migratory bird nests were to be found, IMRP would initiate contact with Colorado Parks and Wildlife to develop a plan to avoid impacts to these species. Based on this, the Preferred Alternative would have *no effect* on protected species under section 7 of the Endangered Species Act.

(10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The Preferred Alternative would not violate any known federal, state, local, or tribal law or requirement imposed for the protection of the environment. The Preferred Alternative is consistent with applicable plans, policies, and programs.

Mitigation Measures

Under the Preferred Alternative, IMRP would ensure the following mitigation measures are implemented:

- If unidentified archaeological or paleontological resources are discovered during the project, work would be interrupted until the resources have been evaluated in terms of the NRHP eligibility criteria and in consultation with the Colorado Office of Archaeology and Historic Preservation;
- Sediment control BMPs such as fencing would be installed along excavation boundaries to minimize the transport of sediment-laden water from the project site;
- Disturbed areas would be recontoured, graded, and revegetated following reclamation activities. Permanent sediment controls, such as a roughened surface, berms, and swales would be installed during contouring and grading of the project area;
- If signs of site usage from federally-listed species are found the U.S. Fish and Wildlife Service would be contacted to develop an appropriate mitigation plan;

- Topsoil would be stockpiled for reuse during site reclamation;
- Excessive dust would be controlled using dust suppression measures for access roads, soil stockpiles, and excavation work;
- Emissions from vehicles and heavy equipment would be minimized by ensuring that equipment is properly maintained and equipped with emission control devices;
- Hours of operation would be limited to 8:00 am to 5:00 pm, Monday through Friday;
- A health and safety plan would be developed and implemented to address safety concerns, including use of multi-gas meters to ensure that atmospheres in the work area would not be hazardous to health;
- The contractor for the project would adhere to roadway weight limitations and would provide traffic control, when necessary, for oversized vehicles and haul trucks accessing the project site; and
- Contractors would be restricted to traveling and working on existing roads or mine disturbance where possible.

Statement of Environmental Significance

The Preferred Alternative would not have a significant impact on the human environment and an Environmental Impact Statement is not required. The Preferred Alternative is the only action alternative contemplated in the EA. Under the No Action Alternative, the underground coal mine fire would likely continue to smolder and burn, resulting in additional subsidence, hazardous gas emissions, and continued risks of wildfire and flooding. The Preferred Alternative would likely have a minor to moderately beneficial impact on the local human environment. OSMRE selects the Preferred Alternative for the Lewis Mine Fire Mitigation project.

Reviewed

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