



**DRAFT PROGRAMMATIC ENVIRONMENTAL ASSESSMENT  
Dryland Opencut Mining Permit  
Opencut Section  
Mining Bureau  
Air, Energy and Mining Division  
Montana Department of Environmental Quality**

**February 19, 2026**

<b>AUTHORIZING ACTION .....</b>	<b>4</b>
<b>DESCRIPTION OF DEQ REGULATORY OVERSIGHT .....</b>	<b>4</b>
<b>PROPOSED ACTION .....</b>	<b>5</b>
Table 1: Summary of Activities Allowed by Proposed Action .....	5
<b>PURPOSE, NEED, AND BENEFITS .....</b>	<b>6</b>
<b>OTHER GOVERNMENTAL AGENCIES AND PROGRAMS WITH JURISDICTION .....</b>	<b>7</b>
<b>AFFECTED ENVIRONMENT AND IMPACT BY RESOURCE .....</b>	<b>7</b>
<b>EVALUATION AND SUMMARY OF POTENTIAL IMPACTS .....</b>	<b>7</b>
<b>1.    GEOLOGY AND SOIL QUALITY, STABILITY, AND MOISTURE .....</b>	<b>8</b>
<b>2.    WATER QUALITY, QUANTITY AND DISTRIBUTION .....</b>	<b>9</b>
<b>3.    AIR QUALITY .....</b>	<b>10</b>
<b>4.    VEGETATION COVER, QUANTITY, AND QUALITY .....</b>	<b>11</b>
<b>5.    TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS .....</b>	<b>13</b>
<b>6.    HISTORY, CULTURE AND ARCHEOLOGICAL UNIQUENESS .....</b>	<b>14</b>
<b>7.    AESTHETICS .....</b>	<b>15</b>
<b>8.    DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY .....</b>	<b>20</b>
<b>9.    IMPACTS ON OTHER ENVIRONMENTAL RESOURCES.....</b>	<b>21</b>
<b>10.   HUMAN HEALTH AND SAFETY .....</b>	<b>22</b>
<b>11.   INDUSTRIAL, COMMERCIAL, AND AGRICULTURAL ACTIVITIES AND PRODUCTION .....</b>	<b>23</b>
<b>12.   QUANTITY AND DISTRIBUTION OF EMPLOYMENT .....</b>	<b>23</b>
<b>13.   LOCAL AND STATE TAX BASE AND REVENUES.....</b>	<b>24</b>
<b>14.   DEMAND FOR GOVERNMENT SERVICES .....</b>	<b>25</b>
<b>15.   ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITES .....</b>	<b>26</b>
<b>16.   DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING.....</b>	<b>26</b>
<b>17.   SOCIAL STRUCTURES AND MORES .....</b>	<b>27</b>
<b>18.   CULTURAL UNIQUENESS AND DIVERSITY.....</b>	<b>27</b>
<b>19.   PRIVATE PROPERTY IMPACTS.....</b>	<b>28</b>
<b>20.   OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES .....</b>	<b>28</b>
<b>21.   GREENHOUSE GAS ASSESSMENT .....</b>	<b>28</b>
<b>DESCRIPTION OF ALTERNATIVES .....</b>	<b>30</b>
<b>ADDITIONAL ALTERNATIVES CONSIDERED .....</b>	<b>30</b>
<b>CONSULTATION.....</b>	<b>31</b>
<b>NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS.....</b>	<b>31</b>

**PUBLIC INVOLVEMENT .....32**  
**REFERENCES .....33**

## OVERVIEW OF PROPOSED ACTION

### AUTHORIZING ACTION

Under the Montana Environmental Policy Act (MEPA), Montana agencies are required to prepare an environmental review for state actions that may have an impact on the Montana environment. The issuance of “Dryland” opencut mining permits or the amendment of “Dryland” opencut mining permits are considered state actions that may have an impact on Montana’s environment. Thus, the Department of Environmental Quality (DEQ) must prepare an environmental review.

“Dryland” opencut mining permits authorize opencut operations that do not affect groundwater or surface water and have fewer than ten occupied dwelling units within half a mile of the permit boundary. This Programmatic Environmental Assessment (programmatic EA) examines and discloses potential and proximate impacts that may result from the proposed action of issuing a new or amended “dryland” opencut mining permit and alternative actions. This programmatic EA is limited to operations with disturbances less than or equal to 50 acres with mining durations less than or equal to 25 years. For operations that exceed 50 acres or durations greater than 25 years, DEQ will determine the need for additional environmental review based on consideration of the criteria set forth in Administrative Rules of Montana (ARM) 17.4.608.

### DESCRIPTION OF DEQ REGULATORY OVERSIGHT

DEQ implements the Opencut Mining Act of Montana (Sections 82-4-401, *et seq.*, MCA), overseeing the mining of opencut materials. Opencut materials are defined in § 82-4-404(6), MCA, as bentonite, clay, scoria, peat, sand, soil, gravel, or mixtures of those substances. DEQ reviews proposed mine applications to determine if they comply with the Opencut Mining Act and the rules adopted under the Opencut Mining Act. If the information submitted to DEQ is compliant, DEQ issues a notification to an applicant the requirements have been met and an applicant may commence opencut operations.

The Dryland Opencut Mining Permit (Dryland permit), as defined by ARM 17.24.202, is a permit required under § 82-4-431, MCA, for conducting opencut operations that do not meet the criteria identified in § 82-4-432(1)(b), MCA. Dryland permit applications must submit the information identified in § 82-4-432(14), MCA. Opencut operations that qualify for a Dryland permit are those where mining activities do not affect ground water or surface water, including intermittent or perennial streams, or water conveyance facilities, and where less than ten occupied dwelling units are located within one half-mile of the permit boundary of the operation per § 82-4-432(1) & (2), MCA. "Occupied dwelling unit" means a structure with permanent water and sewer facilities that is used as a home, residence, or sleeping place by at least one person who maintains a household that is lived in as a primary residence (§ 82-4-403(7), MCA). DEQ has the powers, duties and functions to issue permits when, on the basis of the information set forth in the application and an evaluation of the proposed opencut operations, DEQ finds that the requirements of this part and rules adopted to implement this part will be observed (§ 82-4-422, MCA). DEQ is further responsible for the inspection of opencut operations for purposes of compliance throughout the life of the permit (§ 82-4-425, MCA).

Prior to the final reclamation date specified in the application, the applicant would be required to grade the affected land, blend the graded land into the surrounding topography, replace an appropriate

amount of overburden and all soils, and reclaim the site to the postmining land use specified in the permit (§ 82-4-432(14)(j), MCA).

For all permits and amendments submitted by non-governmental applicants, a bond, calculated based on the parameters of the application, must be submitted to DEQ and held for the life of the permit. The bond amount must be a reasonable estimate of the cost for DEQ or hired contractors to reclaim the site based on the anticipated maximum disturbance during the life of the bonded opencut operation, including equipment mobilization, contractor profit, and overhead costs (ARM 17.24.220). If the applicant fails to complete reclamation as required, the bond is forfeited (§ 82-4-433, MCA). DEQ, its agents or contractors may enter and reclaim any affected land for which a bond has been forfeited (§ 82-4-426, MCA).

## PROPOSED ACTION

DEQ would issue a new Dryland permit or an amendment to an existing Dryland permit to mine opencut materials if the applicant has met the criteria under the Opencut Mining Act. To qualify for this programmatic EA, the Dryland permit can be up to 50 acres in size and up to 25 years of lifespan.

DEQ’s issuance of a permit would allow an applicant to mine and process opencut materials and require reclamation of the site at the conclusion of mining. If approved, the Dryland permit to conduct opencut activities would be granted for the time specified in the application. Dryland permits or amendments to an existing Dryland permit include the activities identified in Table 1.

**Table 1: Summary of Activities Allowed by Proposed Action**

Summary of Activities Allowed by Proposed Action	
<b>General Overview</b>	<p>This EA is for the mining of opencut materials from a site that meets the qualifications of a Dryland permit, would not result in disturbance of over 50 acres, and would have a lifespan of up to 25 years. At the conclusion of mining, the site would be reclaimed to a productive postmining land use(s).</p> <p>The site would be eligible for Phase I Release status after ripping/deep tilling and disking areas within the permit area that are affected by compaction, restoring slopes, replacing salvaged soil and overburden, and seeding the site. The site would be eligible for Phase II Release after two full growing seasons have passed after the site is reclaimed to Phase I Release requirements, and vegetation is well-established for pastureland/rangeland areas. Cropland requires only one successful harvest to meet Phase II reclamation requirements. The applicant may file to extend the final reclamation date at any time if the applicant wishes to continue to mine the site and DEQ would apply the applicable permitting process to the application at that time.</p> <p>Non-governmental applicants are required to post a reclamation bond based on operational parameters proposed in the permit application.</p>

<b>Duration &amp; Hours of Operation</b>	<p><b>Construction:</b> Construction is estimated to take between several days to several years.</p> <p><b>Operation:</b> The mine site may be operated for up to 24 hours/day, 7 days/week.</p> <p><b>Mine Operational Life:</b> 2 to 25 years</p>
<b>Estimated Disturbance</b>	<p><b>Facilities and surface disturbances:</b> Opencut disturbance would be authorized to occur on an area up to the amount specified in the application not to exceed 50 acres.</p> <p><b>Length of highwall:</b> The highwall would be permitted to the maximum length specified in the permit application.</p> <p><b>Height of highwall:</b> The highwall would be permitted to the maximum height specified in the permit application.</p> <p><b>Current disturbance onsite:</b> If the site was previously disturbed, disturbance would be evaluated using aerial imagery of the site.</p> <p><b>Access road:</b> An access road may be included in the application for this site.</p>
<b>Equipment</b>	<p>Typical opencut excavating/hauling equipment includes a backhoe, bulldozer, dump/haul truck, excavator, loader, and scraper.</p> <p>Typical opencut processing equipment includes a conveyor, screen, pug mill, grizzly, wash plant, concrete plant, asphalt plant, and crushing equipment.</p>
<b>Personnel Onsite</b>	<p>Personnel would include those hired by the applicant, contractors, representatives and others allowed onsite.</p>
<b>Location and Analysis Area</b>	<p><b>Location:</b> Location is given in application.</p> <p><b>Analysis Area:</b> The area being analyzed as part of this environmental review includes the immediate project area as well as neighboring lands surrounding the analysis area, as appropriate for the impacts being considered.</p>
<p><i>The applicant is required to comply with all applicable local, county, state, federal, and tribal requirements pertaining to the following resource areas.</i></p>	

## CUMULATIVE IMPACT CONSIDERATIONS

Cumulative impact considerations will be evaluated in the Categorical Exclusion Checklist.

## PURPOSE, NEED, AND BENEFITS

The purpose of this programmatic EA is to assess the environmental impact of the proposed action, as described in the permit application, in compliance with MEPA. The proposed action would be permitted in accordance with the Opencut Mining Act. Pursuant to § 82-4-432, MCA, the applicant has revised and resolved any outstanding deficiencies regarding their application. The applicant's purpose and need, as expressed to DEQ for the proposed action, is to obtain a new, amend an existing, or re-permit a previously closed opencut site to mine opencut commodities.

## **OTHER GOVERNMENTAL AGENCIES AND PROGRAMS WITH JURISDICTION**

All applicable local, state, and federal rules must be adhered to, which may also include other local, state, federal, or tribal agency jurisdiction. Other governmental agencies which may have overlapping or additional jurisdiction include but may not be limited to, the local City or Town where the facility would operate, the local County Commission or local County Planning Department (zoning), local County Weed Control Board (weed management), Occupational Safety and Health Administration (worker safety), Mine Health and Safety Administration (worker safety), DEQ Air Quality Bureau (air quality), DEQ Water Protection Bureau (groundwater and surface water discharge; stormwater), the Department of Natural Resources and Conservation (DNRC) (water rights), the Montana Department of Transportation (MDT) (road and transportation oversight), the local County (road access) and U.S. Environmental Protection Agency (EPA) (environmental regulations).

## **AFFECTED ENVIRONMENT AND IMPACT BY RESOURCE**

### **EVALUATION AND SUMMARY OF POTENTIAL IMPACTS**

The impact analysis will identify and estimate whether there are direct, secondary, and cumulative impacts. Direct impacts occur at the same time and place as the proposed action that causes the impact. Secondary impacts are a further impact to the Montana environment that may be stimulated, or induced by, or otherwise result from a direct impact of the proposed action. Where impacts would occur, the impacts will be described.

Cumulative impacts are the collective impacts on Montana's environment of the proposed action when considered in conjunction with other past and present actions related to the proposed action by location or generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impact statement evaluation, or permit processing procedures. The projects identified in the Cumulative Impacts Section in the Categorical Exclusion Checklist were analyzed as part of the cumulative impacts assessment for each resource. The Programmatic EA is being conducted to determine if the state action does not individually, collectively, or cumulatively result in a significant adverse effect on the human environment that would require further MEPA analysis (75-1-220(3), MCA). After the finalization of the Programmatic EA, DEQ staff would conduct a categorical exclusion checklist to document the state action to ensure the Programmatic EA analysis is sufficient to the potential impacts of the state action. The "Categorical Exclusion Checklist", as it is referred to throughout the Programmatic EA, would be provided as an attachment.

# 1. GEOLOGY AND SOIL QUALITY, STABILITY, AND MOISTURE

A map of the area where the proposed action would occur is included with the application. Montana soils are typically silts or clays, shallow to moderately deep, and derived from limestone parent material. To best evaluate accurate impacts on geology or soil quality, the United States Department of Agriculture (USDA) Web Soils Survey (WSS) was consulted for the proposed action on the proposed location. The presence of fragile, erosive, or unstable soils is evaluated in the Categorical Exclusion Checklist.

Geologic information was compiled from records gathered from the Montana Bureau of Mines and Geology. Special reclamation considerations at the prospective site, if applicable, would be discussed in the Categorical Exclusion Checklist.

DEQ considers information from the following sources when assessing impacts related to geology and soil quality, stability, and moisture: the application, analysis of aerial photography, topographic maps, the Montana Bureau of Mines and Geology, the United States Department of Agriculture (USDA) Web Soils Survey (WSS), and the Opencut Web Mapping Application (WMA).

## ***Direct Impacts***

An irreversible and irretrievable removal of opencut materials from the site would occur. Soil and overburden would be salvaged and replaced across the site upon reclamation. The severity of the impact would be high as this removal of opencut materials could occur on the entire acreage up to 50 acres. However, the extent of the impact would be small as it is limited to up to 50 acres, which would be small in comparison to the greater landscape. The site would be fully reclaimed within 25 years or less, at which point no further material would be removed. However, the removal of materials during the life of the operation would be permanent. The impact could occur daily and would not impact a particularly unique or fragile resource. The impact is certain to occur.

Soil horizons would be disrupted as soil is stripped and stockpiled across the site, potentially reducing overall soil quality. The severity of this impact is considered high because all permitted land, up to 50 acres, could be disturbed, altering soil horizons and properties throughout the entire area. However, the extent of the impact is relatively small when compared to the broader landscape. The site is expected to be fully reclaimed within 25 years or less, but natural soil horizons will require many years to redevelop. Until horizons are naturally re-established, the impact will persist indefinitely. This disturbance does not affect a unique or particularly fragile resource, and the impact is certain to occur.

## ***Secondary Impacts***

Soil quantity could be affected by erosion during occasional storm events or spring snowmelt. The severity of this impact is considered high because up to 50 acres of disturbed ground would be susceptible to erosion. However, the overall extent of the impact is relatively small compared to the surrounding landscape. The site is expected to be fully reclaimed within 25 years or less, but erosion could occur intermittently during storm events or seasonal snowmelt until reclamation is complete. This impact does not affect a unique or particularly fragile resource and is considered likely to occur. To mitigate erosion, the applicant would be required to establish vegetation capable of supporting the designated post-mining land use, including seeding and vegetating soil stockpiles.

## ***Cumulative Impacts***

Erosion could contribute to cumulative impacts associated with potential erosion on existing roads, mined surfaces, and other historical disturbances in the proposed action area.

***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a size of up to 50 acres and a life of 25 years or less. No unique or fragile resources would be impacted.

## **2. WATER QUALITY, QUANTITY AND DISTRIBUTION**

The applicant has certified that opencut operations would not intersect groundwater, surface water, or water conveyance facilities. This information was obtained from the application and was verified by a review of well logs and other data obtained from the Opencut Mining Web-mapping Application (WMA). Because a plan of operation is not required to be submitted with a Dryland permit application, it is unknown whether water may be used for operation of a wash plant, asphalt plant, concrete batch plant, pug mill, and dust control. Precipitation would generally be expected to infiltrate into the sub-surface.

Available soils on site would be salvaged for reclamation. At the first seasonal opportunity, the applicant would be required to shape and seed any soil stockpiles that would remain in place for two or more years with an approved perennial seed mix.

Applicants are required to comply with all laws relating to water, such as the federal Clean Water Act and the Montana Clean Water Act, and to obtain all required permits. An applicant may be required to obtain various permits to address stormwater runoff. The applicant would be required to comply with all applicable federal, state, county, or local regulations, ordinances, and permits, licenses, and approvals for the operation of the proposed action.

DEQ considers information from the following sources when assessing impacts related to water quality, quantity and distribution: the application, analysis of aerial photography, topographic maps, the Opencut Web Mapping Application (WMA), site inspections if applicable, and potentially the expired permit or existing permit.

***Direct Impacts***

The applicant has certified the operation would not affect surface water, including intermittent or perennial streams, groundwater, or water conveyance facilities, which meets the requirements of the Opencut Mining Act and associated rules. The Dryland permit does not allow impacts to surface water features or water quality, quantity, and distribution.

During the beginning stages of mining, stormwater that may leave the site during a heavy storm event could carry sediment. The severity of the impact would be high as the entire permit area, up to 50 acres of ground, could be disturbed and all disturbance could potentially contribute to erosion of soil in the event of a heavy storm event. However, the extent of the impact would be small as it is limited to up to 50 acres, which would be small in comparison to the greater landscape. The total area susceptible to water impacts would be the proposed permit boundary and areas beyond the permit where contaminants could be transported before being diluted. Erosion could occur during occasional heavy storm events and during the spring snowmelt. This impact would not harm a unique or particularly fragile resource. The impact has potential to occur. Permit requirements specify vegetation be established on the soil stockpiles/berms to

prevent any water that may leave the site from carrying sediment. The applicant would be required to have any other required permit(s) in place to ensure protection of the site so that it can be reclaimed to the productive postmining land use(s). The site would be fully reclaimed within 25 years of the initial disturbance.

***Secondary Impacts***

No secondary impacts to water quality, quantity and distribution would be expected from the proposed action.

***Cumulative Impacts***

In the beginning stages of mining, soil and overburden stockpiles would be unvegetated and susceptible to erosion. Sedimentation and/or turbidity from erosion events could contribute to the overall impacts to water quality in the area from industrial, agricultural, and residential uses.

***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a size of up to 50 acres and a life of 25 years or less. No unique or fragile resources would be impacted.

### **3. AIR QUALITY**

According to the Clean Air Act of 1977, any national park that is greater than 6,000 acres and any wilderness area greater than 5,000 acres are considered Class 1 airsheds. Although Class 1 airsheds are managed and regulated by the National Park Service, U. S. Fish and Wildlife Service, U. S. Forest Service and Native American Tribes, the state may still redesignate areas to be considered Class 1 airsheds to better protect the air quality of a certain area. A map of Class 1 airsheds in reference to the proposed site was consulted for this proposed action.

The proposed action would allow for the mining, screening, crushing, and stockpiling of opencut material. Opencut materials could be processed using rock crushers, screens, and conveyor belts, and could be used in the generation of asphalt at an onsite asphalt plant or concrete at an onsite concrete batch plant.

Applicants are required to comply with all laws relating to air, such as the Federal Clean Air Act, National Ambient Air Quality Standards set by the Environmental Protection Agency (EPA) and the Clean Air Act of Montana. In addition, the Administrative Rules of Montana (ARM 17.8.308) would require that the applicant take reasonable precautions to control airborne particulate matter.

The applicant would be required to complete a Portable Facility Operator Registration Form through the DEQ if the applicant uses processing equipment or facilities such as crushers and screens, asphalt plants, and concrete batch plants. This form is required for all proposed actions that use equipment to crush, grind, or screen nonmetallic minerals. ARM 17.8.1806 requires all applicants who operate portable facilities to install, operate, and maintain equipment to provide maximum air pollution control and employ dust suppression.

***Direct Impacts***

Impacts to air quality, including odor, could be expected during the life of the proposed action. Dust would also be produced while driving on/off site. The severity of the impact would be high

as all areas within the proposed action boundary, up to 50 acres, and some areas outside of the proposed action area would be susceptible to the impacts of equipment exhaust, emissions and dust. However, the extent of the impact would be small as it is limited to up to 50 acres and the nearby surrounding area, which would be small in comparison to the greater landscape. Air quality impacts could occur over the entire proposed action area and areas beyond the permit where contaminants could be transported before being diluted. Depending on the operation, these impacts could occur daily for up to 25 years, at which point the site would be reclaimed and impacts would no longer occur. This impact would not harm a unique or particularly fragile resource. The impact would be certain to occur. Fugitive dust from point source mining activities could be generated from mining, conveying, screening, and crushing. Fugitive dust from non-point source mining activities could be generated from the pit floor, unvegetated stockpiles, equipment used onsite and gravel roads used for access. Dust impacts from mining activities would be mitigated by the revegetation of soil stockpiles as required by ARM 17.24.218. Emissions from the operation of standard mining equipment used onsite could also temporarily impact air quality. The applicant would be expected to maintain compliance with the Clean Air Act of Montana regarding the need to take reasonable precautions to control airborne particulate matter.

#### ***Secondary Impacts***

Fugitive dust that leaves the site and is not dispersed by air movement could be deposited in the area in close proximity to the proposed action, which could cause irritation in varying degrees of severity to human, floral, and faunal receptors who come into contact with that dust. The severity of the impact would be high as all the areas within the proposed action boundary, up to 50 acres in size, and some areas outside the proposed action area would be susceptible to the impacts of equipment exhaust, emissions, and dust. However, the extent of the impact would be small as it is limited to up to 50 acres and nearby surrounding areas, which would be small in comparison to the greater landscape. The impact could occur on a daily basis, up to 25 years in length, until the site is reclaimed. This impact would not harm a unique or particularly fragile resource. The impact would be certain to occur. Applicants would be required to follow all applicable laws relating to air quality. The applicant's applicable equipment would be required to be registered through the DEQ Air Quality Bureau.

#### ***Cumulative Impacts***

The production of dust and emissions could add to cumulative impacts associated with nearby roadway travel and other industrial activities in or near the proposed action.

#### ***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a size of up to 50 acres and potentially nearby surrounding areas, and a lifespan of 25 years or less. No unique or fragile resources would be impacted.

## **4. VEGETATION COVER, QUANTITY, AND QUALITY**

The Montana Natural Heritage Program (MTNHP) compiles an online report to classify plant Species of Concern and Potential Concern in the state, employing a standardized ranking system to denote global (range-wide) and state status. Species are assigned numeric ranks ranging from 1 (highest risk, greatest concern) to 5 (demonstrably secure), reflecting the relative degree of risk to the species' viability, based upon available information. Species of Concern are native taxa that are at-risk due to declining population trends, threats to their habitats, restricted distribution, and/or other factors. Designation as

a Montana Species of Concern or Potential Species of Concern is based on the Montana Status Rank and is not a statutory or regulatory classification (MTNHP, 2022). Plant species of concern at the proposed action site will be identified in the Categorical Exclusion Checklist.

Existing vegetation would be removed as soil and overburden is stripped and salvaged. The site or portions of the site would need to be revegetated with the seed mix appropriate for the postmining land use. The postmining land use(s) for this site would be those described in the permit application.

***Direct Impacts***

Vegetation would be removed as soil is stripped and salvaged. The severity of this impact would be high as entire proposed action area, up to 50 acres, would be impacted by the loss of vegetation. However, the extent of the impact would be small as it is limited to up to 50 acres, which would be small in comparison to the greater landscape. The site would be fully reclaimed within 25 years, at which point, vegetation would be reestablished at the site. This impact is unlikely to harm a unique or fragile resource. The impact would be certain to occur. The impact would occur continually until the site is reclaimed. The applicant would have the opportunity to choose from the DEQ Seed Mix Guideline appropriate for the post mine land use or the applicant could propose a seed mix appropriate for the post mine land use.

***Secondary Impacts***

Land disturbance at the site may result in propagation of noxious weeds. The impact severity would be high as noxious weeds could occur on the entire permit area, up to 50 acres, and some surrounding areas. However, the extent of the impact would be small as it is limited to up to 50 acres and surrounding areas, which would be small in comparison to the greater landscape. The impact would occur continually until final reclamation and could occur for up to 25 years at which point the site would be reclaimed. This impact would not harm a unique or particularly fragile resource. The impact has potential to occur. The applicant would be required to be controlled throughout the life of the permit. Final release of the site and permit termination would not occur if noxious weeds were not controlled at the site. Soil stockpiles that would remain in place for more than two years are required to be seeded at the first seasonal availability. Any surface disturbances would be reclaimed and seeded with an appropriate seed mix.

Based on proposed post mine land use and the seed mix chosen for reclamation, revegetation could cause a change in species composition. The severity of the impact would be high as the entire proposed action area, up to 50 acres, would be impacted by the loss of vegetation. However, the extent of the impact would be small as it is limited to up to 50 acres and surrounding areas, which would be small in comparison to the greater landscape. The impact would occur continually. The site would be fully reclaimed within 25 years; however, it is likely that the species' composition would be altered long term to permanently. The impact is certain to occur.

***Cumulative Impacts***

The entire proposed action area, up to 50 acres, would be susceptible to impacts to vegetation including propagation of noxious weeds and change in species composition. These impacts would occur indefinitely. Propagation of noxious weeds would add to other noxious weed issues in the surrounding area. Reclamation of the site within 25 years would mitigate the impacts of noxious weeds. The proposed action and subsequent reclamation could cause a change in species composition in the vicinity. This impact could be long-term to permanent. These impacts are certain to occur. The applicant would be required to control weeds during mining and

reclamation and follow any weed control measures established by the county weed board.

### ***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a size of up to 50 acres and a lifespan of 25 years to permanent. The applicant would be required to control noxious weeds pursuant to the Montana County Noxious Weed Control Act (Section 7-22-21, MCA), which requires the control and prevention of the propagation of noxious weeds. These impacts would be limited in size and extent and would be small in the overall similar landscape nearby. Unique or fragile resources are unlikely to be impacted.

## **5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS**

Montana Animal Species of Concern are native Montana animals that are considered to be "at risk" due to declining population trends, threats to their habitats, and/or restricted distribution and are reported jointly between the Montana Natural Heritage Program (MTNHP) and Montana Department of Fish, Wildlife, and Parks (MFWP). Designation as a Montana Species of Concern or Potential Species of Concern is based on the Montana Status Rank and is not a statutory or regulatory classification (MTNHP, 2022). Species of concern in the vicinity of the proposed action were identified in the Categorical Exclusion Checklist.

The Montana Sage Grouse Habitat Conservation Program (SGHCP) works to sustain viable sage grouse populations and conserve habitat. Applicants are required to submit a development project application through SGHCP if the prospective site is in core, general, connectivity habitats, or federal Bureau of Land Management (BLM) priority areas. If the proposed site is located in one of these areas, the approved plan would be provided as an attachment to the application.

### **Direct Impacts**

Terrestrial or avian wildlife could be temporarily displaced by the proposed action. The disturbance could temporarily displace some individual members of species during operations. Any displaced wildlife could find other suitable habitat nearby and could return to the proposed action area after conclusion of the proposed action. The severity of the impact would be high as the 50 acres of ground that would be disturbed, animals could be displaced from all disturbed areas. However, the extent of the impact would be small as the total surface disturbance of up to 50 acres of land is disturbed, is within an area with other similar habitat. The duration of the impact would occur until the site is fully reclaimed, up to 25 years. The impact would occur continually until reclamation is completed. No unique or particularly fragile resources would be impacted. The impact has the potential to occur. It is likely that the site could be re-inhabited following reclamation to the permitted post mining land uses, with slopes restored to 3:1 or flatter as listed in the application. Although some wildlife and wildlife habitats may be impacted until the project disturbance is reclaimed, non-developed land exists around the proposed action site that could be used by the temporarily displaced animals.

Wildlife could experience orientation or disorientation from additional illumination and be attracted to or repulsed by the increased light glare. This increased light could affect foraging, reproduction, communication, and other behaviors (Longcore and Rich, 2004). The severity of the impact would be high as the 50 acres of ground that would be disturbed, animals experience orientation and disorientation from additional illumination and be attracted to or repulsed by the increased light glare from all disturbed areas. However, the extent of the impact would be small

as the total surface disturbance of up to 50 acres of land is disturbed, is within an area with other similar habitat. The duration of the impact would occur until the site is fully reclaimed, up to 25 years. The impact would occur continually until reclamation is completed. No unique or particularly fragile resources would be impacted. The impact has the potential to occur. Any impacts that could occur to terrestrial, and avian life due to lighting impacts would last for the life of the permit.

#### **Secondary Impacts**

No secondary impacts to terrestrial and avian life and habitats would occur from the proposed action.

#### **Cumulative Impacts**

Cumulative impacts on terrestrial and avian life and habitats are evaluated in the Categorical Exclusion Checklist.

#### ***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a size of up to 50 acres and potentially nearby surrounding areas, and a lifespan of 25 years or less. Unique or fragile resources are unlikely to be impacted. Potential impacts to unique and fragile terrestrial, avian, and aquatic life habitats are site-specific and would be evaluated in the Categorical Exclusion Checklist.

## **6. HISTORY, CULTURE AND ARCHEOLOGICAL UNIQUENESS**

The Montana Cultural Resource Database under the State Historic Preservation Office (SHPO) indicates inventoried and historical sites present within the greater Montana state area. The SHPO was consulted and conducted an archeological resource file search for the area. The report's results are included in the application.

It is SHPO's position that any structure over fifty years of age is considered historic and is potentially eligible for listing on the National Register of Historic Places. If any structures are within the area of potential effect, and are over fifty years old, SHPO recommends that they be recorded, and a determination of their eligibility be made prior to any disturbance taking place. However, should structures over fifty years of age need to be altered or if cultural materials were to be inadvertently discovered during this project, SHPO would be contacted, and the site investigated.

#### ***Direct Impacts***

Direct impacts will be further analyzed in the Categorical Exclusion Checklist with consultation from SHPO. Due to the nature of the proposed action, unidentified resources could be disturbed. The severity of the impact would be high because unidentified resources may be found or disturbed on the entire proposed action area, up to 50 acres. The extent of the impact would be small because the total surface disturbance would be up to 50 acres, which would be small in comparison to other similar terrain and historic land use. The duration of the impact could be permanent. The frequency of the impact would be continual. The proposed action may impact unique or fragile resources. The probability of this impact is possible. SHPO would be contacted and may provide the applicant with mitigation recommendations. Those recommendations would be contained within the SHPO letter attached to the permit application.

### ***Secondary Impacts***

No secondary impacts to historical and archaeological sites are expected from the proposed action.

### ***Cumulative Impacts***

No cumulative impacts to historical and archaeological sites are expected from the proposed action.

### ***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a size of up to 50 acres. The impact could be permanent. If the applicant follows the criteria laid out by SHPO, it is unlikely that impacts to unique and fragile resources would occur. Potential impacts to cultural resources are site-specific and would be evaluated in the Categorical Exclusion Checklist.

## **7. AESTHETICS**

For the purposes of this MEPA environmental review, it is assumed that the proposed action would occur under the conditions described in this section. If the applicant would be operating during times of little or no sunlight, artificial light sources would be used on site to comply with federal Mine Safety and Health Administration (MSHA) regulations. The Code of Federal Regulations states, "Illumination sufficient to provide safe working conditions shall be provided in and on all surface structures, paths, walkways, stairways, switch panels, loading and dumping sites, and work areas." 30 CFR §56.17001 (2024).

DEQ has made a conservative assumption that nighttime operations could occur for about 180 nights out of the year. Opencut operations are commodity driven and seasonal in nature. It would be highly unlikely nighttime operations would occur 365 days a year. This assumption overestimates the potential impacts of the proposed action but provides the reader the fullest extent of impacts possible.

DEQ assumes light towers would be used during operations. These lights would be similar in nature to those used for nighttime construction of highways or bridges. Portable light towers are widely used on a variety of construction sites. The primary advantages of portable lights are their ability to be positioned at different sections within and across the work zone. The mounting heights typically range from six feet to a fully extended 30 feet and the light pole is usually rotatable 360 degrees. Other lighting systems that could be used during operations would be lights on headlights from equipment and trucks (Nafakh, Davila, Zhang, et. al, 2022).

Light impacts can be described in several forms. These forms of light impacts are described as spill light, glare, and sky glow. Spill light or stray light is the amount of light that leaves a specific site. Spill light can be controlled by taking measurement of vertical illuminance at the property boundary line or the edge of the road allowance (Nafakh, Davila, Zhang, et. al, 2022). Glare is the light that shines horizontally (R. Chepesiuk, 2009). Sky glow is a term that refers to the increased sky brightness caused by electric light scattering into the atmosphere, most notably from outdoor lighting in urban areas (Nafakh, Davila, Zhang, et. al, 2022).

For the purpose of this environmental assessment, the specification sheet for the Generac 4000 Series 320-watt LED portable light tower was used to derive this information (Generac, 2022). This specific light was chosen because it is considered one of the industry standard lighting options available to applicants.

The specification sheet for this type of portable light tower is dated October 12, 2022, and is included in Appendix B. Page 5 of the attached specification sheet states the light coverage from this portable light tower would be the following: Coverage at 0.5 ft-c (foot-candles) or more: 26,200 ft<sup>2</sup> (2,434 m<sup>2</sup> or 0.6 acres) (Generac, 2022).

To analyze the largest possible impact, DEQ has assumed that the entire site would need to be illuminated with portable/supplemental lighting. To calculate the number of LED light towers needed, each light covers 0.6 acres. The maximum total portable lights for this site could be computed by dividing the total acreage in the application by 0.6. Because portable lights cannot be divided, rounding up gives the maximum portable lights that could be used to illuminate the site. However, this is an inflated estimate, since in most cases the entire site would not need to be lit, but rather just the area where work is taking place.

The LED light towers would have a maximum horizontal light or glare to illuminate an area of about 26,200 square feet or a distance of 200 feet with a standard configuration and a 70-degree tilt. After 200 feet, the glare would dissipate to viewers to less than 0.5 foot-candles if the user were standing in the direct path of the portable tower light (Generac, 2022). Sky glow beyond 0.5 foot-candles would be similar in nature to an empty urban parking lot (Foot Candle Reference Guide).

Noise is defined as unwanted and objectionable sound. Sound levels are usually measured and expressed in decibels (dB), which are logarithmic units that can be used to conveniently compare wide ranges of sound intensities. The A-weighted decibel (dBA) scale of frequency sensitivity accounts for the sensitivity of the human ear, which is less sensitive to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. On the logarithmic decibel scale, a 70 dBA sound level is approximately twice as loud as a 60 dBA sound level and four times as loud as a 50 dBA sound level. (PG&E Cressey-Gallo 115 kV Power Line Project Initial Study).

Typical Sound Levels Measured in the Environment		
Examples of Common, Easily Recognized Sounds	Decibels (dBA, at 50 feet)	Subjective Evaluations
Near Jet Engine	140	Deafening
Threshold of Pain (Discomfort)	130	
Threshold of Feeling - Hard Rock Band	120	
Accelerating Motorcycle (at a few feet away)	110	
Loud Horn (at 10 feet away)	100	Very Loud
Noisy Urban Street	90	
Noisy Factory	85	
School Cafeteria with Untreated Surfaces	80	Loud
Near Freeway Auto Traffic	60	Moderate
Average Office	50	
Soft Radio Music in Apartment	40	Faint
Average Residence Without Stereo Playing	30	
Average Whisper	20	Very Faint
Rustle of Leaves in Wind	10	
Human Breathing	5	
Threshold of Audibility	0	
Note: Continuous exposure above 85 dBA is likely to degrade the hearing of most people. Range of speech is 50 to 70 dBA.		
Source: U.S. Department of Housing and Urban Development, The Noise Guidebook, 1985.		

Figure 1. Typical Sound Levels Measured in the Environment. Source: PG&E Cressey-Gallo 115 kV Power Line Project Initial Study.

Typical Construction Equipment Noise Levels						
Equipment Description	Acoustical Usage Factor (%)	Specified L <sub>max</sub> at 50 feet (dBA)	Specified L <sub>max</sub> at 100 feet (dBA)	Specified L <sub>max</sub> at 1,000 feet (dBA)	Specified L <sub>max</sub> at 2,000 feet (dBA)	Specified L <sub>max</sub> at 4,000 feet (dBA)
All Other Equipment > 5 horsepower	50	85	76	56	50	44
Auger Drill Rig	20	85	72	52	46	40
Backhoe	40	80	70	50	44	38
Crane	16	85	71	51	45	39
Dump Truck	40	84	74	54	48	42
Grader	40	85	75	55	49	43
Pickup Truck	40	55	45	25	19	13
Tractor	40	84	74	54	48	42

Notes: dBA = A-weighted decibels; Leg = equivalent sound pressure level Equation to calculate L<sub>max</sub> at 1,000, 2,000 and 4,000 feet is as follows:  $Leg(h) = L_{max} + 10 \cdot \log(A.U.F.) - 20 \cdot \log(D/Do)$  where: L<sub>max</sub> = Maximum noise emission level of equipment based on work cycle at D/Do (decibel). A.U.F. = Acoustical usage factor, which accounts for the percent time that equipment is in use over the time period of interest (1 hour). D = Distance from the equipment to the receptor (feet). Do = Reference distance (generally, 50 feet) at which the L<sub>max</sub> was measured for the equipment of interest (feet). Source: FHA 2006

Figure 2. Typical Construction Equipment Noise Levels. Source: PG&E Cressey-Gallo 115 kV Power Line Project Initial Study.

MSHA PEL noise dose for sand and gravel workers.			
Job title	Number of recorded doses	Worker range of MSHA PEL dose, %	Outside cab range of MSHA PEL dose, %
FEL operator	17	0.19-51.83	27.21-244.31
Laborer/utility man	7	16.81-63.05	ND <sup>2</sup>
Dredge operator/trainee (CR <sup>1</sup> )	7	2.32-10.74	ND
Plant operator (CR)	6	1.72-10.45	ND
Plant man	6	28.79-90.02	ND
Crane operator	6	3.06-26.36	48.20-109.81
Haul truck operator	5	10.32-50.27	63.12-121.99
Boat pilot	4	8.58-43.58	ND
Crusher operator	3	3.66-41.20	ND
Technician	3	0.83-15.39	ND
Shopman/maintenance man	3	5.95-38.56	ND
Belt picker	2	23.71-89.96	ND
Dredge oiler	2	8.67-11.27	ND
Water truck operator	2	14.6-59.13	ND
Deck hand	1	4.74	ND
Scale man	1	1.67	ND

<sup>1</sup>CR = Control room  
<sup>2</sup>ND = Not determined

Figure 3. Sand and Gravel Operation Noise Surveys. Data from noise surveys collected from nine sand and gravel operations. Data was collected using personal noise dosimeters and sound level meters. The sampling pool included three surface pits, five dredges and eight processing plants. The worker range of MSHA permissible exposure limit (PEL) dose % over the course of a full 8-hour shift. Bauer, E.R. and Spencer, E.R. (2008). Snapshot of Noise and Worker Exposures in Sand and Gravel Operations.

**Sound level measurement at sand and gravel sites surveyed.**

Area	Equipment	Location	Leq range, dB(A) <sup>1</sup>
Dredge	Crane, operators cab	Inside	76-85
	Crane, engine room	Inside	102-107
	Office, tool room, misc. rooms	Inside	64-89
	Diesel motor	Inside	103
	Barge area	Outside	64-102
	Control room	Inside	66-76
	Control room	Outside	69-84
	Suction pump drive motors	Outside	83-96
	Hydraulic pump room	Inside	98
	Electrical room	Inside	92
Towboat	Pilothouse	Inside	67-74
	Deck	Outside	75-100
	Auxiliary rooms	Inside	76-83
	Engine room	Inside	110
Plant	Crane, operators cab	Inside	82-88
	Crane, engine room	Inside	92-107
	Crushers	Area	81-112
	Control rooms	Inside	56-79
	Control rooms	Outside	73-83
	Screens	Area	77-108
	Cyclones	Area	81-88
	Belts, drives, transfers	Area	62-95
	Sand classifiers	Area	76-89
	Misc. buildings, trailers	Inside	51-89
	Scale house	Inside	51-72
	Sand screws	Area	81-88
	Plant area noise	Ground level	61-97

<sup>1</sup>Measured with a 3-dB exchange rate.

Figure 4. Sound Levels at Processing Facilities: Summary of all the sound levels measured in all the processing facilities included in the study. Bauer, E.R. and Spencer, E. R. (2008). Snapshot of Noise and Worker Exposures in Sand and Gravel Operations.

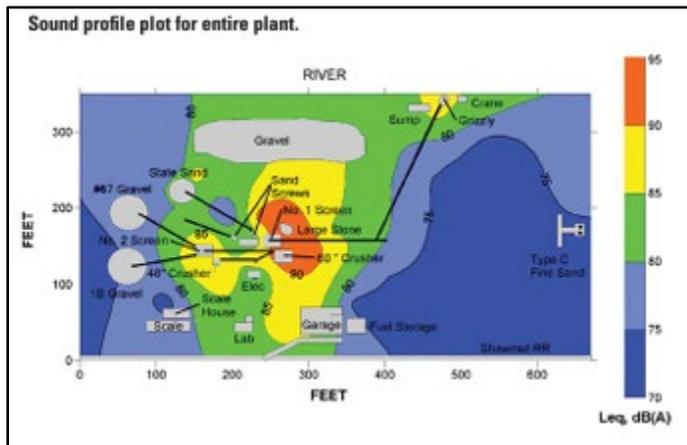


Figure 5. Sound Levels Across a Generic Sand and Gravel Plant. The large gravel stockpile to the north provides a buffer to the decibel range of 90-85 dB(A). Thus, reducing the range immediately behind it to 85-80 dB(A). Bauer, E.R. and Spencer, E.R. (2008). Snapshot of Noise and worker Exposure in the Sand and Gravel Operations.

### Direct Impacts

There would be a temporary alteration of aesthetics while mining is underway. Noise associated with the proposed action may be heard by receptors located in an area. The severity of the impact would be medium as any receptors on or near the site that do not have berms or other

sound dampening features between them, and the site would hear noise. The extent of the impact would be small as noise may be heard by receptors located in an area where sound related to the proposed action has not been fully diminished by distance or other sound dampening feature. The duration of the impact would be the life of the proposed action, 25 years or less. The frequency of the impact would be continually during the proposed action until reclamation is completed. No unique or fragile resources would be impacted. The impact is certain to occur. The tables above (entitled: Typical Sound Levels Measured in the Environment and Typical Construction Equipment Noise Levels) show the noise potentially experienced by receptors in the vicinity of the proposed action. The further a receptor is from the proposed action in distance lessens the noise impact to the receptor. Those receptors in the immediate vicinity of the proposed action would have a higher noise impact than those who are further from the proposed action. The applicant would be required to comply with all federal, state, tribal, county and local laws and ordinances limiting the exposure of noise to workers and surrounding neighbors. Noise is typically regulated at the local, and/or county level through zoning.

Light associated with the proposed action may be seen by receptors located in an area. The severity of the impacts would be medium as any receptors on or near the site that do not have means of blocking light between them and the proposed action could see light from the site, if operational at night. The extent would be small as the total area susceptible to light impacts would be the up to 50-acre proposed action and areas beyond the proposed action that do not have berms or other means of blocking light between those areas and the site. The duration of the impact would be the life of the proposed action, 25 years or less. The frequency of the impact would be continually during operations until reclamation is completed. No unique or fragile resources would be impacted. The impact has potential to occur.

The applicant would be required to construct a berm that is a minimum of six feet in height between the proposed action and residences within 300 feet. The constructed berm would dampen noise impacts and reduce aesthetic impacts from the proposed action.

***Secondary Impacts***

No secondary impacts to aesthetics would be expected from the proposed action.

***Cumulative Impacts***

No cumulative impacts to aesthetics would be expected from the proposed action.

***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a size of up to 50 acres and potentially nearby surrounding areas, and a lifespan of 25 years or less. No unique or fragile resources would be impacted.

## **8. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY**

The proposed action would mine natural deposits from the site. No unusual demands on land, water, air, or energy are anticipated from the proposed action. Examples of unusual demands, which would not be anticipated from this proposed action, would be rerouting creeks, rebuilding of roads, or relocating

specific utilities.

***Direct Impacts***

Based on the analysis of available data and certifications made by the applicant, DEQ does not foresee any unusual demands on land, water, air or energy resulting from this proposed action. Therefore, no direct impacts would be anticipated.

***Secondary Impacts***

No secondary impacts to demands on environmental resources of land, water, air, or energy would be expected from the proposed action.

***Cumulative Impacts***

No cumulative impacts to demands on environmental resources of land, water, air, or energy would be expected from the proposed action.

***Significance Determination***

No impacts were identified for this resource area.

## **9. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES**

DEQ searched the Opencut WMA and the following websites or databases for nearby activities that may affect the proposed action:

- Montana Department of Natural Resource and Conservation (DNRC)
- Montana Department of Environmental Quality (DEQ)
- Montana Department of Transportation (MDT)
- United States Department of Interior, Bureau of Land Management (BLM)
- United States Forest Service (USFS)

Activities that may affect the project were analyzed in the Categorical Exclusion Checklist.

***Direct Impacts***

Based on the analysis of available data and on the certifications made by the applicant, DEQ does not foresee any impacts on other environmental resources from this proposed action. Therefore, no direct impacts are anticipated.

***Secondary Impacts***

No secondary impacts to other environmental resources would be expected as a result of the proposed action.

***Cumulative Impacts***

No cumulative impacts to other environmental resources would be expected from the proposed action.

***Significance Determination***

No impacts were identified for this resource area.

## **10. HUMAN HEALTH AND SAFETY**

The location of the site was chosen by the applicant because of the availability of resources and to provide materials for their needs. The applicant has certified that there are fewer than 10 occupied dwelling units within one-half mile of the project area. An occupied dwelling unit is defined as “a structure with permanent water and sewer facilities that is used as a home, residence, or sleeping place by at least one person who maintains a household that is lived in as a primary residence” (§ 82-4-403(7), MCA).

The applicant would be required to adhere to all applicable state and federal safety laws. Industrial work such as the work proposed by the applicant is inherently dangerous. The Occupational Safety and Health Administration (OSHA) has developed rules and guidelines to reduce the risks associated with this type of labor. Few, if any, members of the public would be in the general project proximity during mining operations.

### ***Direct Impacts***

Increases in operation-related traffic would likely occur. Wear and tear to local roads would be expected. The daily traffic that would be leaving the site could vary greatly. The severity of the impact would be medium as the proposed action could add to traffic on nearby roads. The extent of the impact would be small as the total increase in traffic would not substantially add to traffic already travelling on nearby roads. The duration of the impact would be up to 25 years. The frequency of the impact would be continually until the site is reclaimed. No unique or fragile resources would be impacted. The impact is certain to occur.

### ***Secondary Impacts***

Fugitive dust that leaves the site and is not dispersed by air movement could be deposited in the area in close proximity to the site, which could cause irritation with varying degrees of severity to receptors who come into contact with that dust. The severity of the impact would be high as areas within the up to 50-acre proposed action, and some areas outside of the proposed action area would be susceptible to the impacts of equipment exhaust, emissions and dust. The extent of the impact would be small as the air quality impacts would occur over the entire proposed action area and areas beyond the proposed action where contaminants could be transported before being diluted. The duration of the impact would be up to 25 years. The frequency of the impact would be continually until the site is reclaimed. No unique or fragile resources would be impacted. The impact has potential to occur. ARM 17.8.308 would require the applicant to take reasonable precautions to control airborne particulate matter. Dust impacts from mining activities would be mitigated by the revegetation of soil stockpiles as required by the application.

### ***Cumulative Impacts***

No cumulative impacts to human health and safety would be expected from the proposed action.

### ***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a size of up to 50 acres and potentially nearby surrounding areas, and a lifespan of 25 years or less. No unique or fragile resources would be impacted.

## **11. INDUSTRIAL, COMMERCIAL, AND AGRICULTURAL ACTIVITIES AND PRODUCTION**

The acreage listed in the application, not already in opencut use, would be changed from its current land use. Upon completion of mining, the land would be reclaimed to the postmining land uses described in the application with slopes restored to 3:1 or flatter.

### ***Direct Impacts***

Impacts to current land uses are anticipated as the proposed action is for opencut mining activities. The acreage listed in the application, and not already occupied by opencut activity, would be changed from its current land use. Current land uses would be reduced as soil stripping and operations progress across the site. If the application is approved, all existing non-opencut activities would eventually cease on the acreage listed and would be reclaimed to the permitted postmining land use(s) by the reclamation date specified in the application. The severity would be high as all the proposed action area, up to 50 acres of ground, would be disturbed, and all disturbance would be removed from its existing land use. The extent would be small as the disturbance would occur within an area surrounded by other similar land uses. The duration of the impact would occur through the life of the proposed action, up to 25 years. The frequency of the impact would be continual until the site is reclaimed. No unique or fragile resources would be impacted. The impact is certain to occur.

### ***Secondary Impacts***

Secondary impacts to current land uses would be expected. Opencut materials mined from the site would be available for use or sale to other entities. The severity would be high as the proposed action area, up to 50 acres, that would be disturbed, most would be utilized to mine opencut materials and make them available for use/sale. The extent would be small as the amount of material to be mined is a small quantity in the context of state-wide opencut resources available on the market. The duration of the impact would occur through the life of the proposed action, up to 25 years. The frequency of the impact would be continual until the site is reclaimed. No unique or fragile resources would be impacted. The impact is certain to occur.

### ***Cumulative Impacts***

No cumulative impacts to current land uses would be expected from the proposed action.

### ***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a size of up to 50 acres and a lifespan of 25 years or less. No unique or fragile resources would be impacted.

## **12. QUANTITY AND DISTRIBUTION OF EMPLOYMENT**

New jobs could be created for this operation, but it is unknown whether this proposed action would require the applicant to hire additional employees. It is not anticipated that this proposed action would create, move, or eliminate jobs.

***Direct Impacts***

New employment opportunities would be limited. No lasting positive or negative impacts to employment would be expected from this project. The severity would be low as the proposed site would create limited employment opportunities. The extent would be small as the employment opportunities would be minor in comparison to other employment opportunities. The duration of the impact would occur through the life of the proposed action, up to 25 years. The frequency of the impact would be continual until the site is reclaimed. No unique or fragile resources would be impacted. The impact is certain to occur.

***Secondary Impacts***

No secondary impacts to quantity and distribution of employment are anticipated as a result of the proposed action.

***Cumulative Impacts***

No cumulative impacts to the quantity and distribution of employment would be expected from the proposed action.

***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a lifespan of 25 years or less and would create few, if any jobs. No unique or fragile resources would be impacted.

**13. LOCAL AND STATE TAX BASE AND REVENUES**

Local, state and federal governments would be responsible for appraising the property, setting tax rates, collecting taxes, etc., from the companies, employees, or landowners benefiting from this proposed action. Some positive, yet limited, benefit to the local and state economy could result from this proposed action because the tax base on the land may change to industrial. However, minimal tax revenue from income or expenses would be expected from this proposed action.

***Direct Impacts***

The tax base for this land use type could temporarily change to industrial. There would most likely be an increase in tax revenue for the proposed tax base change. Additionally, the proposed action could have a limited increase in tax revenue related to the payroll taxes from new and/or existing employees residing and/or working in the area. The severity would be low because all of the acres would be considered industrial and it is unlikely that this proposed action would require sufficient employees to cause a noticeable increase in payroll tax revenue. The extent would be small as the industrial tax base for a site up to 50 acres in size would be small compared to tax revenue from the surrounding landscape and the number of employees needed would be small. The duration would occur through life of the proposed action, up to 25 years. The frequency of the impact would be continual until the site is reclaimed. No unique or fragile resources would be impacted. The impact to the tax base is certain, and the impact to tax revenues is possible.

***Secondary Impacts***

No secondary impacts to local and state tax base and tax revenues would be expected from the proposed action.

***Cumulative Impacts***

No cumulative impacts to local and state tax base and tax revenues would be expected from the proposed action.

***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a lifespan of 25 years or less and would create little, if any, tax revenue. No unique or fragile resources would be impacted.

## **14. DEMAND FOR GOVERNMENT SERVICES**

The proposed action would remove material from the site over the life of the proposed action. It would be up to the local zoning authority to regulate impacts that would occur on roads. Occasional increases in construction-related traffic may occur. Traffic loads would depend on site activity.

***Direct Impacts***

Occasional increases in operation-related traffic would likely occur. Wear and tear to local roads and bridges may occur. The daily traffic that would be travelling to or from the site could vary greatly. The severity would be low because the proposed action could add small amounts of traffic too nearby roads. The extent would be small because the total increase in traffic would not substantially add to the traffic already travelling on nearby roads. The duration would occur through life of the proposed action, up to 25 years. The frequency of the impact would be continual until the site is reclaimed. No unique or fragile resources would be impacted. The impact is certain to occur.

***Secondary Impacts***

No secondary impacts to the demand for government services would be expected from the proposed action.

***Cumulative Impacts***

No cumulative impacts to the demand for government services would be expected from the proposed action.

***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a lifespan of 25 years or less and would create minor wear on government roads when compared to normal daily traffic. No unique or fragile resources would be impacted.

## **15. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES**

Based on DEQ's review of available information, DEQ does not anticipate that any wilderness or recreational areas would be impacted by the proposed action.

### ***Direct Impacts***

No direct impacts to wilderness or recreational areas are anticipated from the proposed action. The proposed action would not limit access to wilderness or recreational areas nearby.

### ***Secondary Impacts***

No secondary impacts to wilderness or recreational areas are anticipated from the proposed action.

### ***Cumulative Impacts***

No cumulative impacts to access to, and quality of, recreational and wilderness activities would be expected.

### ***Significance Determination***

No impacts were identified for this resource area.

## **16. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING**

The applicant chose this area for the proposed action because of the location of the resources, and to provide materials for local projects.

The applicant has certified that there are fewer than 10 occupied dwelling units within one-half mile of the project area. An occupied dwelling unit is defined as "a structure with permanent water and sewer facilities that is used as a home, residence, or sleeping place by at least one person who maintains a household that is lived in as a primary residence" (§ 82-4-403(7), MCA).

### ***Direct Impacts***

The proposed action could add to the population or require additional housing for the duration of the permitted operation. The severity would be low because it is unlikely that this proposed action would require sufficient employees to cause a noticeable increase in housing demand. The extent would be small because the site is relatively small, and it is unknown how many employees would be required to work at the site. The duration would occur through the life of the proposed action, up to 25 years. The frequency of the impact would be continual until the site is reclaimed. No unique or fragile resources would be impacted. The impact has potential to occur.

### ***Secondary Impacts***

No secondary impacts to density and distribution of population and housing are anticipated as a result of the proposed action.

### ***Cumulative Impacts***

No cumulative impacts to the density and distribution of population and housing would be expected from the proposed action.

***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a lifespan of 25 years or less and it is unlikely that the proposed action would require sufficient employees to cause a noticeable increase in housing demand. No unique or fragile resources would be impacted.

## **17. SOCIAL STRUCTURES AND MORES**

DEQ is not aware of any native cultural concerns that would be affected by the proposed action, also described in the 'Historical and Archaeological Sites' Section above. It is not anticipated that this proposed action would disrupt native or traditional lifestyles or communities.

***Direct Impacts***

No direct impacts to social structures and mores are anticipated as a result of the proposed action.

***Secondary Impacts***

No secondary impacts to social structures and mores are anticipated as a result of the proposed action.

***Cumulative Impacts***

No cumulative impacts to social structures and mores would be expected from the proposed action.

***Significance Determination***

No impacts were identified for this resource area.

## **18. CULTURAL UNIQUENESS AND DIVERSITY**

DEQ is not aware of any unique qualities of the area that would be affected by the proposed action. It is not anticipated that this proposed action would cause a shift in some unique quality of the area.

***Direct Impacts***

No impacts to cultural uniqueness and diversity are anticipated from the proposed action.

***Secondary Impacts***

No secondary impacts to cultural uniqueness and diversity are anticipated as a result of the proposed action.

***Cumulative Impacts***

No cumulative impacts on cultural uniqueness and diversity would be expected from the proposed action.

***Significance Determination***

No impacts were identified for this resource area.

## **19. PRIVATE PROPERTY IMPACTS**

The land ownership for the proposed action is specified in the Categorical Exclusion Checklist. DEQ's approval of this Dryland permit, with conditions, would affect the landowner's real property. DEQ has determined, however, that the permit conditions are reasonably necessary to ensure compliance with applicable requirements under the Opencut Mining Act. The permit conditions demonstrate compliance with Opencut Mining Act requirements or have otherwise been agreed to by the applicant and landowner through the signed Landowner Consultation Form. Therefore, DEQ's approval of this permit would not have private property-taking or damaging implications

## **20. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES**

Due to the nature of the mining activities, no further direct or secondary impacts would be anticipated from this proposed action.

## **21. GREENHOUSE GAS ASSESSMENT**

The analysis area for this resource is limited to the activities regulated by the issuance of the opencut permit which are construction, operations, and reclamation of the opencut pit. Issuance of the opencut permit would authorize use of various equipment and vehicles to mine and process material and reclaim the site. Vehicles would also be used to transport material from the site. Typical opencut excavating, mining, and hauling equipment includes bulldozers, dump trucks, haul trucks, excavators, loaders, scrapers, and backhoes. The site would be permitted to utilize processing equipment, which would consume fuel. The amount of diesel fuel utilized at this site would be impacted by a number of factors including the size of the site, depth of mining, and duration of the operation. To account for these factors, DEQ has calculated an estimated range of emissions (low, average, and high) using compiled data from permitted Dryland sites from July 2021 through July 2025 (n=120, BT Memo to the Opencut Program 2025) (see discussion of DEQ's estimate in the "direct impacts" section below).

For the purpose of this analysis, DEQ has defined greenhouse gas emissions as the following gas species: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and many species of fluorinated compounds. The range of fluorinated compounds includes numerous chemicals which are used in many household and industrial products. Other pollutants can have some properties that also are similar to those mentioned above, but the EPA has clearly identified the species above as the primary Greenhouse Gasses (GHG). Water vapor is also technically a greenhouse gas, but its properties are controlled by the temperature and pressure within the atmosphere, and it is not considered an anthropogenic species.

The combustion of diesel fuel at the site would release GHGs primarily being carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O) and much smaller concentrations of non-combusted fuel components including methane (CH<sub>4</sub>) and other volatile organic compounds (VOCs).

DEQ has calculated GHG emissions using the EPA Simplified GHG Calculator version dated September 2024 for the purpose of totaling GHG emissions. This tool totals carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), and methane (CH<sub>4</sub>) and reports the total as CO<sub>2</sub> equivalent (CO<sub>2</sub>e) in metric tons CO<sub>2</sub>e. The

calculations in this tool are widely accepted to represent reliable calculation approaches for developing a GHG inventory.

### ***Direct Impacts***

Operation of diesel-fueled vehicles throughout the life of the proposed action would produce exhaust fumes containing GHGs. Previous estimates from opencut operators have indicated that up to 70 gallons of diesel would be utilized per 1,000 cubic yards of material extracted and transported.

The site would be permitted for the acreage described in the application. DEQ has compiled acreage, permit year, and reclamation date data from permitted Dryland opencut sites from July 2021 through July 2025 that are proposed for less than 100 acres and a lifespan of 25 years (n=120, BT Memo to the Opencut Program 2025). DEQ determined an estimated range of volume to be mined. Based on these parameters, DEQ estimates that the range would be approximately 4,839 (low), 579,712 (average), 6,445,548 (high) cubic yards of material to be mined from the proposed site.

At 70 gallons of diesel per 1,000 cubic yards of material mined and transported, this would result in 339 (low), 40,580 (average), 451,188 (high) gallons of diesel used over the life of the proposed action. Using the Environmental Protection Agency's (EPA) simplified GHG Emissions Calculator for mobile sources, between 643 and 786 kilograms of CO<sub>2</sub>e would be produced per 1,000 cubic yards. Mining up to 4,839 (low), 579,712 (average), 6,445,548 (high) cubic yards of material would produce an average of 3.5 (low), 414.3 (average), 4,606.6 (high) metric tons of CO<sub>2</sub>e (MTCO<sub>2</sub>e).

### ***Secondary Impacts***

GHG emissions contribute to changes in atmospheric radiative forcing, resulting in climate change impacts. GHGs act to contain solar energy loss by trapping longer wave radiation emitted from the Earth's surface and act as a positive radiative forcing component (BLM 2021). The impacts of climate change throughout the Northern Great Plains may include flooding and drought, rising temperatures, and the spread of invasive species (BLM 2021).

### ***Cumulative Impacts***

Montana recently used the EPA State Inventory Tool (SIT) to develop a greenhouse gas inventory in conjunction with preparation of a possible grant application for the Community Planning Reduction Grant (CPRG) program. This tool was developed by EPA to help states develop their own greenhouse gas inventories, and this relies upon data already collected by the federal government through various agencies. The inventory specifically deals with carbon dioxide, methane, and nitrous oxide and reports the total as CO<sub>2</sub>e. The SIT consists of eleven Excel based modules with pre-populated data that can be used as default settings or in some cases, allows states to input their own data when the state believes their own data provides a higher level of quality and accuracy. Once each of the eleven modules is filled out, the data from each module is exported into a final "synthesis" module which summarizes all of the data into a single file. Within the synthesis file, several worksheets display the output data in a number of formats such as emissions by sector and emissions by type of greenhouse gas.

DEQ has determined that the use of the default data provides a reasonable representation of the GHG inventory for all of the state sectors, and an estimated total annual GHG inventory by year. At present, Montana accounts for 47.77 million metric tons of CO<sub>2</sub>e based on the EPA SIT for the year 2021.

The estimated emissions of a proposed opencut mine would be 3.5 (low), 414.3 (average), 4,606.6 (high) metric tons of CO<sub>2</sub>e (MTCO<sub>2</sub>e) or between 0.000035 (low), 0.000414 (average), 0.004607 (high) million metric tons (MMTCO<sub>2</sub>e) over the life of the proposed action. When dividing these figures by an approximate proposed action lifespan, the emissions would be equivalent to between 0.000004% (low), 0.000063% (average), 0.000386% (high) of Montana's annual CO<sub>2</sub>e emissions.

GHG emissions that would be emitted as a result of the permitted activities would add to GHG emissions from other sources. The current land use (i.e. the No Action Alternative) may also produce GHG emissions.

The severity would be high because all vehicles and equipment that utilize diesel fuel within the proposed action area, up to 50 acres, and some areas outside of the proposed action area would emit GHGs. The extent would be small GHG emissions would occur over the entire proposed action area and areas beyond the proposed action where contaminants are emitted before being diluted into the atmosphere. The duration would occur through life of the proposed action, up to 25 years. The frequency of the impact would be daily until the site is reclaimed. No unique or fragile resources would be impacted. The impact has potential to occur.

#### ***Significance Determination***

The impacts identified above are not significant because the impacts would be limited to a lifespan of 25 years or less and due to the size of the proposed action, up to 50 acres, the maximum emissions from a site would not produce noticeable GHGs. No unique or fragile resources would be impacted.

## **DESCRIPTION OF ALTERNATIVES**

### **ADDITIONAL ALTERNATIVES CONSIDERED**

Pursuant to ARM 17.4.609, when an applicant proposes an action with the potential to have an impact on the Montana environment, the associated EA must include a description of reasonable alternatives. For purposes of MEPA, the alternatives analysis must include the "no action" alternative. However, if the applicant demonstrates compliance with all applicable rules and regulations required for approval, the "no action" alternative would not be appropriate. Rather, the "no action" alternative forms the baseline from which the impacts of the proposed action can be measured. Pursuant to section 75-1-201(4)(a), MCA, DEQ "may not withhold, deny, or impose conditions on any permit or other authority to act based on" an environmental assessment. Therefore, if an application meets all the requirements for permit approval, DEQ cannot require any alternative to the proposed action as described in the permit application, including a "no action" alternative.

No Action Alternative: In addition to the proposed action, DEQ considered a "no action" alternative. The "no action" alternative would deny the approval of the Dryland permit to mine opencut materials. The

applicant would lack the authority to conduct the proposed activity. Any potential impacts that would result from the proposed action would not occur.

## **CONSULTATION**

DEQ engaged in internal and external efforts to identify substantive issues and/or concerns related to the proposed action. Internal scoping consisted of internal review of the environmental assessment document by DEQ staff.

External scoping efforts also included queries to the following websites/ databases/ personnel:

- Montana State Historic Preservation Office (SHPO)
- Montana Department of Natural Resource and Conservation (DNRC)
- Montana Department of Environmental Quality (DEQ)
- Montana Department of Transportation (MDT)
- County/Municipality website
- US Geological Society – National Hydrography Data Set
- Montana Natural Heritage Program (MTNHP)
- Montana Cadastral Mapping Program
- Montana Groundwater Information Center (GWIC)
- Montana Bureau of Mines and Geology (MBMG)
- United States Department of Interior, Bureau of Land Management (BLM)
- United States Forest Service (USFS)

## **NEED FOR FURTHER ANALYSIS AND SIGNIFICANCE OF POTENTIAL IMPACTS**

When determining whether the preparation of an environmental impact statement is needed, DEQ is required to consider the seven significance criteria set forth in ARM 17.4.608, which are as follows:

- The severity, duration, geographic extent, and frequency of the occurrence of the impact;
- The probability that the impact will occur if the proposed action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;
- Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;
- The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values;
- The importance to the state and to society of each environmental resource or value that would be affected;
- Any precedent that would be set as a result of an impact of the proposed action that would commit the department to future actions with significant impacts or a decision in principle about such future actions; and
- Potential conflict with local, state, or federal laws, requirements, or formal plans.

The severity, duration, geographic extent, and frequency of the occurrence of the impact, the probability that the impact will occur if the proposed action occurs, and the quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values is discussed in each resource section. DEQ has not identified any significant impacts associated with the proposed action on any environmental resources.

DEQ does not believe that the proposed action would have any growth-inducing or growth-inhibiting aspects that would conflict with any local, state, or federal laws, requirements, or formal plans.

Issuance of a Dryland permit to the applicant does not set any precedent that commits DEQ to future proposed actions with significant impacts or a decision in principle about such future proposed actions. If the applicant submits another permit application or amendment to conduct additional mining, DEQ is not committed to authorizing those proposed actions. DEQ would conduct an environmental review for any subsequent authorizations sought by the applicant that require environmental review. DEQ would make a permitting decision based on the criteria set forth in the Opencut Mining Act.

Based on a consideration of the criteria set forth in ARM 17.4.608, the proposed action is not predicted to significantly impact the quality of the human environment. Therefore, preparation of an EA is the appropriate level of environmental review for MEPA.

## **PUBLIC INVOLVEMENT**

DEQ determines whether a permit application falls under a programmatic EA after careful review of the application materials and completion of the Categorical Exclusion Checklist. Once the determination has been made, the current application and programmatic EA are published on Montana DEQ's website for a public comment period that would be open until the permit was issued or the application was no longer valid. The programmatic EA will undergo a public comment period and should DEQ receive any comments they would be addressed below.

**Programmatic Environmental Assessment and Significance Determination Prepared By**  
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**Programmatic Environmental Assessment Reviewed By**  
Craig Jones, MEPA-MFSA Coordinator; Isabelle Nebel, DEQ Attorney; Eric Dahlgren, Mining Bureau Chief

***Approved By***

**SIGNATURE** \_\_\_\_\_ **Date** \_\_\_\_\_

Bailey Tasker – Opencut Section Supervisor  
Department of Environmental Quality

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## II. COMMENT SUMMARY AND RESPONSES TO SUBSTANTIVE COMMENTS