SUPPLEMENTAL DRAFT ENVIRONMENTAL ASSESSMENT

November 17, 2025

Air Quality Permitting Services Section
Air Quality Bureau
Air, Energy and Mining Division
Montana Department of Environmental Quality

PROJECT/SITE NAME: Bull Mountain Coal Mine

APPLICANT/COMPANY NAME: Signal Peak Energy, LLC.

Montana Air Quality Permit #3179-13

LOCATION: Section 12, West ½ Section 13, and Section 14, Township 6 North, Range 26 East

COUNTY: Musselshell

PROPERTY OWNERSHIP – FEDERAL: STATE: PRIVATE: X

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OVERVIEW OF PROPOSED ACTION

Background and Authorizing Action

DEQ implements the Clean Air Act of Montana, overseeing the development of Signal Peak Energy, LLC. – Bull Mountain Mine (Signal Peak) and associated facilities. Additionally, pursuant to 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 Proposed Action is a state action that may have an impact on the Montana environment; therefore, the Montana Department of Environmental Quality (DEQ) must prepare an environmental review, which was issued final on December 4, 2023.

Previously, DEQ completed an Environmental Assessment (EA) under MEPA for Montana Air Quality Permit (MAQP) #3179-13 in conjunction with application approval. The EA, however, did not include an assessment of either greenhouse gas emissions (GHG) or climate impacts that could result from the proposed action.

On January 2, 2024, Montana Environmental Information Center (MEIC) timely filed a MEPA challenge in Montana's Fourteenth Judicial District, *MEIC v. Mont. DEQ*, DV-2024-00006, under MAQP #3179-13, alleging DEQ erred by failing to consider GHG and climate impacts from the permit.

On December 18, 2024, the Montana Supreme Court affirmed in a separate case, *Held v. State*, 2024 MT 312, 419 Mont. 403, 560 P.3d 1235, that MEPA's prohibition on considering GHGs, formerly appearing at § 75-1-201(2)(a), MCA, violated the constitutional right to a Clean and Healthful Environment enumerated in Montana's constitution.

Additionally, of import, the Montana Legislature, in response to the Montana Supreme Court's decision in *Held*, passed during the 2025 legislative session several MEPA bills, including Senate Bill 221. This Bill was signed into law on May 1, 2025. SB 221 requires that DEQ and other state agencies conduct a GHG analysis under MEPA for projects defined as "fossil fuel projects" while limiting analysis to impacts to Montana's environment proximately caused by the action proposed. Additionally, SB 221 gave state agencies ample discretion to consider GHG impacts caused by non-fossil fuel projects, when deemed appropriate.

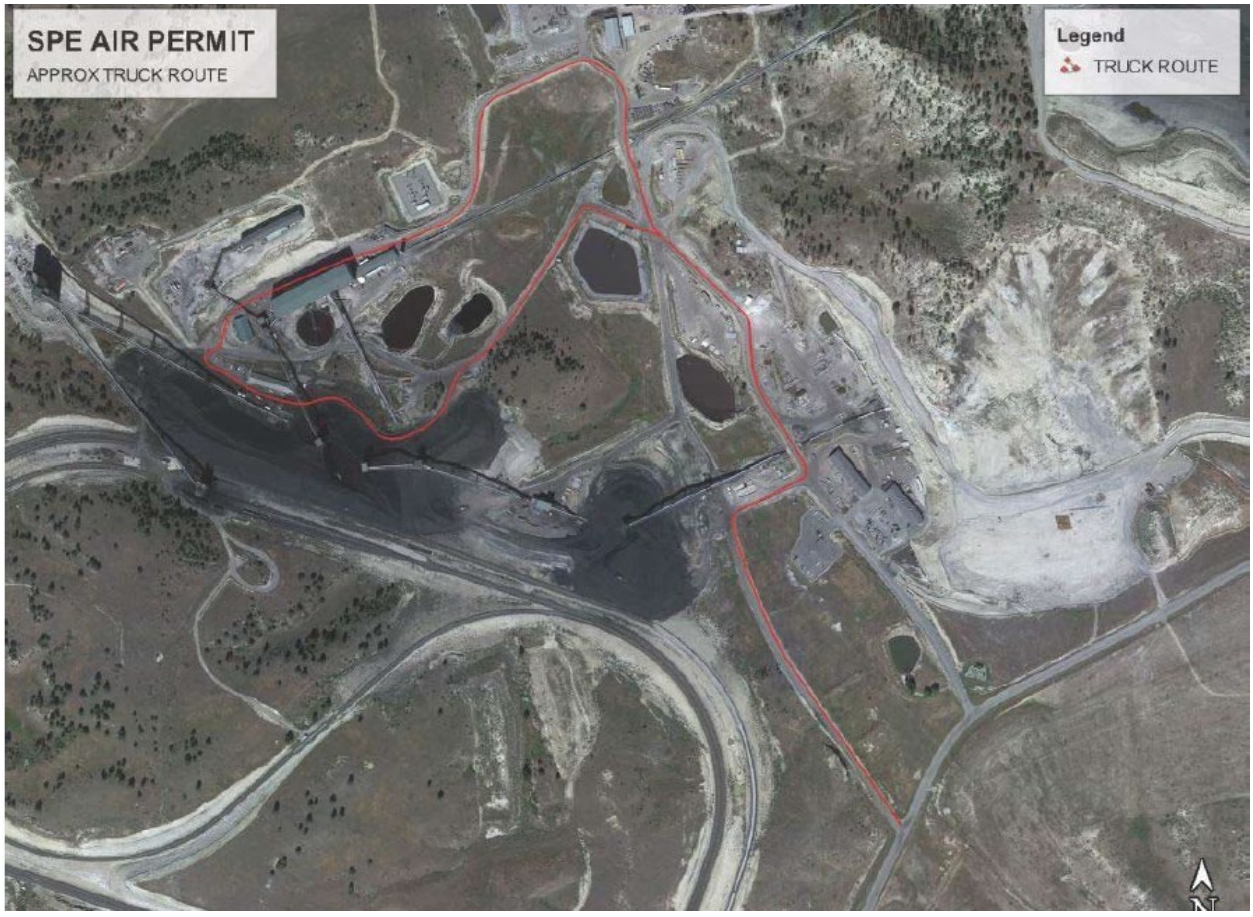
On October 16, 2025, MEIC and DEQ filed a joint motion for voluntary remand with Montana's Fourteenth Judicial District for purposes of permitting DEQ to conduct a GHG and climate analysis in a supplemental environmental review for MAQP #3179-13. The Court granted that motion on October 20, 2025.

Consistent with the Court's grant of a voluntary remand, DEQ's discretion to consider GHG and climate impacts from non-fossil fuel activities under SB 221, and commensurate with the Montana Supreme Court's holding in *Held*, this Supplemental EA examines the proposed action and alternatives to the proposed action, assesses GHG emissions, and discloses potential and proximate climate impacts that may result from the proposed and alternative actions. 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.

Proposed Action

Signal Peak Energy, LLC. (Signal Peak) applied for MAQP #3179-13 under the Clean Air Act of Montana, § 75-2-101, et. *seq*, to cover the transportation increase of allowable tonnage of coal shipped per year, from 150,000 tons per year (tpy) to 750,000 tpy, from the Bull Mountain Mine site. Because the affected MAQP does not authorize any additional coal extraction from the Bull Mountain Mine, but rather, increases the amount of coal that may be transferred via semi-truck, this Supplemental EA only assesses GHG emissions produced from the use of distillate #2 (diesel fuel) in semi-trucks driving from the property boundary to the coal loadout and back, which is approximately 2.1 miles long. The use of a front-end loader to load the coal into the semi-truck trailer is also analyzed. This Supplemental EA provides a GHG Assessment associated with the proposed action, as described above.

Figure 1. General Location of the Proposed Project



The proposed action is located on private land, in Musselshell County, Montana. Information included in this Supplemental EA is derived from the permit application, discussions with the applicant, analysis of aerial photography, topographic maps, and other research tools.

Table 1. Summary of Proposed Action

General Overview	Signal Peak Energy, LLC. submitted an application for modification of MAQP #3179-12 to allow for an increase of coal to be shipped by semi-truck. The modification requested an increase of coal shipped from 150,000 tons per year to 750,000 tons per year. The modification allowed for the expansion of the on-site load out facility which included coal stockpiles and increases in coal shipping via over the road trucks entering and exiting the site. DEQ approved the proposed action, and the permit was issued final on December 20, 2023. Other actions were also covered under the MAQP #3179-13 issuance but were administrative or not related to GHG emissions.
Location and Analysis Area	***Location:*** Section 12, West ½ Section 13, and Section 14, Township 6 North, Range 26 East, in Musselshell County, Montana. ***Analysis Area:*** The area being analyzed as part of this environmental review includes the immediate project area (Figure 1), as well as neighboring lands surrounding the analysis area, as reasonably appropriate for the impacts being considered.

Table 2. The applicant is required to comply with all applicable local, county, state, and federal requirements pertaining to the following resource areas.

Air Quality	Signal Peak submitted an application for modification of MAQP #3179-12 to allow for an increase of coal to be shipped by truck. The modification requested an increase of coal shipped from 150,000 tons per year to 750,000 tons per year and was issued final on December 20, 2023. Approximately 337 metric tons of CO_2 equivalent emissions would be emitted from the on-site (mine) transfer of coal to and from the semi-truck load-out facility.
Water Quality	Impacts to Water Quality were addressed in the Final EA dated December 4, 2023, and remain unchanged.
Erosion Control and Sediment Transport	Impacts to Erosion Control and Sediment Transport were addressed in the Final EA dated December 4, 2023, and remain unchanged.
Solid Waste	Impacts to Solid Waste were addressed in the Final EA dated December 4, 2023, and remain unchanged.
Cultural Resources	Impacts to Cultural Resources were addressed in the Final EA dated December 4, 2023, and remain unchanged.
Hazardous Substances	Impacts to Hazardous Substances were addressed in the Final EA dated December 4, 2023, and remain unchanged.
Reclamation	Impacts to Reclamation were addressed in the Final EA dated December 4, 2023, and remain unchanged.

Table 3. Cumulative Impacts

Past Actions	Signal Peak submitted an application for modification of MAQP #3179-12 to allow for an increase of coal to be shipped by truck. The modification requested an increase of coal shipped over-road by semi-truck from 150,000 tons per year to 750,000 tons per year and was issued as final on December 20, 2023.
Present Actions	DEQ is not aware of any present related actions under concurrent consideration by any state agency through preimpact statement studies, separate impact statement evaluation, or permit processing procedures.
Related Future Actions	DEQ is not aware of any future related actions under concurrent consideration by any state agency through preimpact statement studies, separate impact statement evaluation, or permit processing procedures.

Other Governmental Agencies and Programs with Jurisdiction

The proposed action would be located on private land. All applicable local, state, and federal rules must be adhered to, which may include other local, state, federal, or tribal agency jurisdiction. Other governmental agencies which may have overlapped, or additional jurisdiction include but may not be limited to: Musselshell Weed Control Board, Occupational Safety and Health Administration (worker safety), DEQ AQB (air quality) and Water Protection Bureau (groundwater and surface water discharge; stormwater), and Montana Department of Transportation and Musselshell County (road access).

SCOPE OF POTENTIAL GHG IMPACTS

Summary of GHG Emission Impacts on Climate Systems

This Supplemental EA is limited to a GHG assessment and will assess how additional GHGs from approval of the permit would contribute to changes in GHG emissions and associated changes to climate systems.

Climate is defined as the long-term weather patterns (typically over a period of 30 years or longer) of a region, and climate change is an identifiable (i.e., statistically significant) and persistent change in long-term climate (IPCC, 2021).

GHGs are a specific set of gases, including carbon dioxide (CO2). The trapping of GHGs in the earth's atmosphere causes radiation to be reflected to Earth's surface. The increase of GHGs in the atmosphere causes this radiation effect to increase; higher concentrations of GHGs mean more infrared radiation gets absorbed, leading to increased warming and higher global surface temperatures. As such, GHGs are the primary drivers of anthropogenic climate change, and emissions of GHGs present an indicator of potential climate change impacts. The Intergovernmental Panel on Climate Change reports that human activity led to atmospheric warming of 1.07 +/- 0.23 degrees Celsius between 1850 and 2019 (IPCC, 2021). Impacts of climate change throughout the Northern Great Plains region, including Montana, include increased flooding and drought, rising temperatures, and the spread of invasive species (Bureau of Land Management (BLM) 2024).

Summary of Direct, Secondary, and Cumulative Impacts

The impact analysis will identify and estimate whether the impacts are direct or secondary impacts. Direct impacts occur at the same time and place as the action that causes the impact. Secondary impacts are a further impact to Montana's environment that may be stimulated, or induced by, or otherwise result from a direct impact of the action (ARM 17.4.603(18)). MEPA excludes upstream, downstream, or other indirect actions that occur independently or are caused in part or exclusively by the proposed action per 75-1-220(10)(b)(i), MCA. Where impacts would occur, the impacts are 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.

Summary of Scope of Analysis

DEQ has determined EPA's Scope 1 GHG impacts, as defined in the Inventory Guidance for Greenhouse Gas Emissions, are appropriate under MEPA for this Proposed Action. Scope 1 emissions are defined as direct GHG emissions that occur from sources that are controlled or owned by the organization (EPA Center for Corporate Climate Leadership). DEQ's review of Scope 1 emissions is consistent with the agency's approach of evaluating proximate impacts caused by the permitted action rather than remote, downstream impacts that may be caused by a subsequent permitted action outside the authority of DEQ. Accordingly, the analysis area for this resource is limited to the activities regulated by the issuance of MAQP #3179-13, as described above, which would allow for an increase of coal to be shipped by semi-truck. The increase in allowable shipping of coal overland, via semi-truck from 150,000 tons per year to 750,000 tons per year would increase the facilities use of petroleum distillate #2 (diesel fuel) and the increased combustion of diesel fuel would generate GHGs.

The amount of petroleum distillate #2 fuel necessary to accommodate the proposed action was calculated based on the amount of coal that could theoretically be loaded into a semi-truck and trailer based in the fuel usage per loading cycle of the front end loader as well as the gallons per mile fuel usage of the semi-trucks used for transport while driving from the property boundary, to the loadout site, and then from the loadout site back to the property boundary.

For the purpose of this analysis, DEQ defined greenhouse gas emissions as the following gas species: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), 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 GHGs. 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_2), nitrous oxide (N_2O) and much smaller concentrations of un-combusted fuel components including methane (CH_4) and other volatile organic compounds (VOCs).

DEQ has calculated GHG emissions using the EPA Simplified GHG Calculator (September 2024 version), for the purpose of totaling GHG emissions using the mobile source tab. This tool totals CO_2, N_2O, and $CH_4$and reports the total as CO_2 equivalent (CO_2e) in metric tons CO_2e. The GHG values generated by EPA's Simplified GHG Calculator are widely accepted to represent a reliable calculation approach for developing a GHG inventory.

This review does not include an assessment of GHG impacts in quantitative economic terms. DEQ, instead has calculated potential GHG emissions and provides a narrative description of anticipated GHG impacts.

In furtherance of this narrative description, 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 – identify the parameters of the proposed action;
- 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.

To better ascribe a significance value to anticipated impacts, and in line with ARM 17.4.608, DEQ has offered a qualitative analysis of the anticipated severity of impacts using the following terms:

- **No impact**: There would be no change from current conditions.
- **Negligible**: An adverse or beneficial effect would occur but would be at the lowest levels of detection.
- **Minor**: The effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- **Moderate**: The effect would be easily identifiable and would change the function or integrity of the resource.
- **Major**: The effect would alter the resource.

Analysis

Direct Impacts

The proposed action authorizes the use of equipment for loading and transportation of coal for the life of the mine. Combustion of distillate fuel #2-fuel (diesel fuel) in vehicles throughout the life of the proposed project would produce exhaust fumes containing GHGs.

Signal Peak estimates that approximately 33,000 gallons of fuel would be utilized per year to load 500,000 tons of additional coal into semi-trucks; 6,785 gallons for over-the-road semi-trucks; and 26,125 gallons for operation of the front-end loader.

To quantify GHG emissions, DEQ has elected to use the EPA Simplified GHG Calculator September 2024 version (Environmental Protection Agency, 2025). This tool totals CO_2, nitrous oxide (N20), and methane (CH4) and reports the total as CO_2 equivalent (CO_2e) in metric tons. Using EPA's simplified GHG Emissions Calculator for mobile sources, 337 metric tons of CO_2e would be produced per year if the proposed action is approved.

Although the GHG emissions would continue annually for the life of the permit, no direct impacts—that is the environmental effects felt at the same time and place as a result of the project—other than CO_2e emissions are expected. The impacts of GHG emissions, including warming temperatures and accompanying environmental consequences, are necessarily felt later in time. Additionally, an increase in GHG emissions from a particular source are not necessarily representative of environmental consequences in the same corresponding location because of the inherently global nature of climate change and trends.

Ultimately, given this inherent delay between the approved action—increased emissions—and corresponding effects, no direct impacts are anticipated from the proposed project.

Secondary Impacts

As stated above, 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).

Despite well-established literature regarding the environmental consequences of GHG emissions, it is difficult to ascribe particular impacts based on GHG emissions in general because gases that constitute GHGs have their own atmospheric contributing timelines. For example, per EPA's website "Climate Change Indicators", the lifetime of CO_2 cannot be represented with a single value because the gas is not destroyed over time. The gas instead moves between air, ocean, and land mediums with atmospheric CO_2 remaining in the atmosphere for thousands of years, due in part to the slow process by which carbon is transferred to ocean sediments. Methane, by contrast, remains in the atmosphere for approximately 12 years. Nitrous oxide has the potential to remain in the atmosphere for about 109 years (EPA, Climate Change Indictors).

Nevertheless, to capture the cause-and-effect relationship between GHG emissions and impacts to the Montana environment, DEQ utilized the Methods for Attributing Climate Impacts of GHG Emissions (MAGICC) model to calculate the secondary impacts of GHG emissions. The MAGICC model is a peer-reviewed, reduced-complexity model created to integrate various climate system interactions, including the carbon cycle, climate feedback loops, and radiative forcing to simulate the effects of changing GHG emissions on atmospheric composition, radiative forcing, and global mean temperature change. However, it is important to note the inherent limits of MAGICC as it relates to the analysis of project level emissions.

MAGICC accounts for the global GHG budget, and therefore it performs well when evaluating the impacts of large sums of emissions resulting from cumulative activity. For example, emissions on the magnitude of 10 gigatons ($1x10^{10}$) CO2e per year may result in end-of-century temperature change of approximately 0.3 °C. However, MAGICC and programmatic tools for evaluating model results are not infinitely precise, particularly as it relates to relatively low-level emissions. The temperature impacts of 100,000 metric tons CO2e per year, for example, demonstrate that the smallest attributable non-zero temperature impact is $5.0x10^{-6}$. Yet at that scale of emissions, the temperature impacts plotted over time illustrate that this value repeats and accounts for 50-100% of all predicted impacts. In other words, the results are effectively statistically insignificant.

Further, these very small temperature values appear to occur in one future year and then return to zero in the next year, as if the impacts are switching on and off. This behavior is likely an artifact of MAGICC's probabilistic mode, which iterates the model run more than 100 times with slightly varying internal parameters. The default model output is the median of the results probability distribution, so when the temperature impacts of relatively small emission sums (e.g., hundreds of thousands of tons CO2e per year) are evaluated with MAGICC, the difference in the median value of the probability distribution between the scenario with and the scenario without the emissions being evaluated may effectively be the exact same value.

Even when evaluating emissions as large as 500,000 metric tons per year of CO2e, temperature impacts return to zero after more than 50 years of continuous emission releases, and this is not consistent with what the science indicates. See a visual representation of the inherent problem with analyzing and predicting impacts from low-level emissions (< 10 million metric tons CO2e/year) in the figure below, and further discussion related to application of this strategy within the Cumulative Impacts section of this Supplemental EA.

However, the impacts of many million metric tons of CO2e per year far exceeds the limit of numerical precision, and therefore large emission releases provide a more reliable estimation of future temperature impacts. For the reasons discussed, DEQ has decided to assess the impacts of the sum of Montana's CO2e emissions using the MAGICC model. MAGICC is still well-suited to evaluate large sums of emissions, and it emulates complex, nonlinear climate feedbacks with little computational cost.

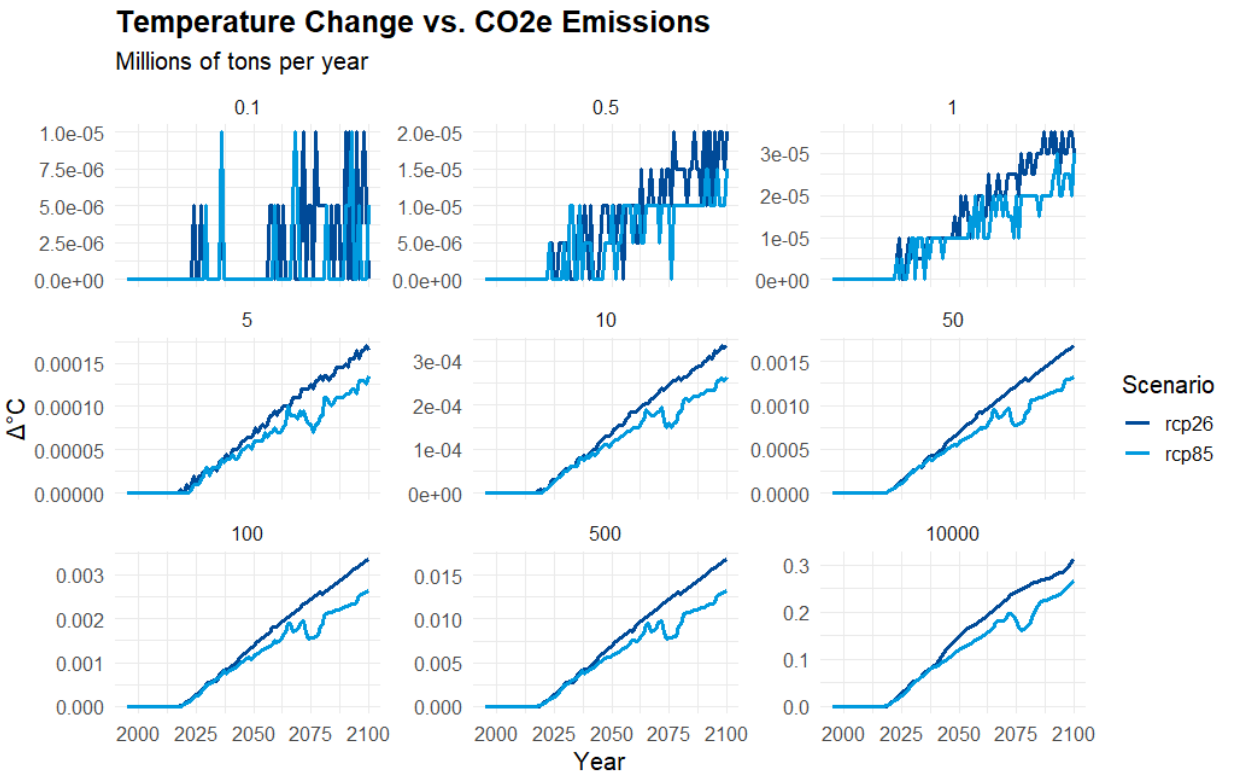


Figure 2. Iterative model runs were performed with varying magnitudes of CO2e emissions in millions of tons (e.g., 0.1 = 100,000 tons/year), and their attributable temperature change in °C were plotted for years 2000-2100. For this analysis, US short tons were used, and it was assumed that emissions were released every year beginning with 2020.

The MAGICC model is available online with editable tabular input files that represent the baseline emission scenarios introduced in the Intergovernmental Panel on Climate Change's (IPCC) 2014 Fifth Assessment Report (AR5) and 2021 Sixth Assessment Report (AR6). These representative concentration pathways (RCPs) emulate future scenarios with varying degrees of GHG emission mitigation that result in predicted future changes in radiative forcing (W/m^2). For example, the RCP2.6 scenario results in a global radiative forcing increase of 2.6 W/m^2 between the years 1750 and 2100. For this analysis, DEQ chose to evaluate secondary impacts within the RCP2.6 and RCP8.5 pathways because these scenarios cover a range from high to low GHG emission mitigation, respectively.

To contextualize the magnitude of future temperature impacts resulting from the Proposed Action's emissions, the statewide emissions in **Table 2** were subtracted from the high (RCP8.5) and low (RCP2.6) GHG emission pathway scenario input files, and it was assumed that these annual CO2e emissions correspond to a 20-year release, i.e., an approximate life of the project/mine.

The input files for the online version of MAGICC contain global GHG emissions by GHG species for every decade rather than every year between 2020 and 2100, so the CO2e emissions in Table 2 were subtracted from the 2030, 2040, and 2050 anchor points.

After the example GHG emissions were subtracted from the base scenarios, the model was run using probabilistic mode with the now-modified RCP2.6 and RCP8.5 emission input files. The default model output provides the predicted surface temperature increase above the 1850 to 1900 baseline period for every year between 1995 and 2100. The base RCP2.6 and RCP8.5 (i.e., no emission subtracted) were also run using probabilistic mode. For each RCP scenario, the surface temperature results by year in the modified emission scenario were subsequently subtracted from the base emission scenario results, resulting in the increase above baseline future temperature change (ΔT) in degrees Celsius (°C) that can be attributed to Montana's statewide CO2e emissions.

Table 2. lists the MAGICC model results for the impacts of total CO2e generated across all sectors throughout Montana. The results yield a predicted ΔT of 0.00049 degrees °C to 0.00059 °C, by 2050, and a ΔT of 0.00057 to 0.00067, by 2100.

Table 2. MAGICC Model Montana Total Annual GHG Emissions (all sectors).

Scenario	Annual Emissions (metric tons CO_2e/yr)	RCP2.6 ΔT by 2050 (°C)	RCP8.5 ΔT by 2050 (°C)	RCP2.6 ΔT by 2100 (°C)	RCP8.5 ΔT by 2100 (°C)
Statewide Emissions Scenario	50.74 million	0.00059	0.00049	0.00067	0.00057

For context, Montana's temperature has risen by approximately 2.5 degrees Fahrenheit (ºF), or 1.4 ºC, from 1900 to 2020 (NOAA, 2022), and is expected to increase approximately this same amount between 2020 and 2050, (Alder & Hostetler, 2013), equating to roughly 0.46 ºC of warming per decade over this future period in Montana. Incorporating only the GHG emissions from the proposed action, therefore, is expected to result in a negligible impact on the Montana environment.

For example, the impacts of climate change throughout the eastern portion of Montana include changes in flooding and drought, rising temperatures, and the spread of invasive species (BLM 2021). The BLM Specialist Report also indicates that higher global surface temperatures may result in longer growing seasons, decreases in snowpack, drier forests resulting in increased likelihood of forest fires in Montana. (BLM 2024). The Great Plains, including Montana, are already experiencing climate impacts such as reduced peak streamflow, more intense spring storms, and increased localized drought. (Knapp, 2023). The Montana Climate Assessment (Whitlock, 2017) discussed similar climate impacts, providing comprehensive data on Montana's current health profile, including how the populations' health may be impacted (Adams, 2021).

However, as stated, due to the inherent cumulative and global nature of climate change, it's currently unfeasible with best available technology, i.e., models such as MAGICC, to link a single source of GHG emissions to a specific environmental impact, such as ΔT. GHGs mix in the atmosphere due to atmospheric circulation, and are incorporated into every other global emission source, blurring regional signals. (NOAA, 2025; United States Environmental Protection Agency, 2025b, 2025c).

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 designed by the 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 accounts for CO_2, CH_4, and N_2O and reports the total as CO_2e. The SIT consists of eleven Excel based modules with pre-populated data that can be used with 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 GHG emissions by sector and GHG emissions by type of GHG.

DEQ determined the use of the default data provides a reasonable representation of the GHG inventory for the various sectors of Montana and the estimated total annual GHG inventory by year. The most recent SIT data available from the EPA extends only to 2022, as it takes several years to validate and release data within revised modules. DEQ maintains a copy of the output results of the SIT and this data is available upon request.

DEQ determined the use of the default data provides a reasonable representation of the GHG inventory for all of the Montana state sectors, and an estimated total annual GHG inventory by year. At present, Montana accounts for a total of 51.74 million metric tons of CO_2e based on the EPA SIT for the year 2022. This project may contribute up to 337 metric tons per year of CO_2e. The estimated emission of 337 metric tons of CO_2e from the proposed project would contribute approximately 0.000664% of Montana's annual CO_2e emissions.

Because of the inherent limits of MAGICC related to project level emissions (see discussion above), DEQ instead uses MAGICC to analyze impacts from the estimated total annual Montana GHG emissions (all sectors). We then relate the proposed project level GHG emissions of 337 metric tons per year to Montana's overall GHG emissions of 50,700,000 metric tons per year and the associated ΔT of 0.00049 ºC to 0.00059 ºC by 2050. Project level emissions would be expected to result in some change in the Montana and global ΔT, but because GHG emissions from the proposed action represent just 0.000664% of Montana's total GHG emissions, the project level ΔT would be at the lowest level of detection or less, and therefore negligible.

As stated, due to the inherent cumulative and global nature of climate change, and a lack of available technology for such purposes it is currently not feasible to accurately link a single source of GHG emissions to a specific environmental impact, such as Montana or global ΔT. GHGs mix in the atmosphere due to atmospheric circulation, and are incorporated into every other global emission source, blurring regional signals. (NOAA, 2025; United States Environmental Protection Agency, 2025b, 2025c).

Description of Alternatives

No Action Alternative: Under the No Action Alternative, MAQP #3179-13 would not be approved, and the allowable transport of an additional 500,000 tons of coal per year overland, via semi-truck would not occur. There would be no greenhouse gas emissions increase from the proposed increase in transportation of coal at the Bull Mountain Mine site.

The ongoing impact of maintaining the status quo for allowable semi-truck transportation of coal at 150,000 tons of per year would be 67.2 tons of CO2e per year, or approximately 270 tons of CO2e per year less than if the project were approved. Thus, under the No Action Alternative, there would be no change to the greenhouse gas emissions from the existing allowable transportation of coal via semi-truck, and the project would not have an impact on Montana's climate.

Although denial of the application for MAQP #3179-13 was considered, Signal Peak submitted a complete application for the proposed action, and conditions contained within the MAQP ensure the proposed action would operate in compliance with the Clean Air Act of Montana and the Federal Clean Air Act. Therefore, DEQ did not deny the Proposed Action.

Consultation

DEQ engaged in internal and external efforts to identify substantive issues and/or concerns related to the proposed project. Internal scoping consisted of internal review of the EA document by DEQ staff and Signal Peak staff.

Public Involvement

The public comment period for this Supplemental EA will occur from 11/17/2025 through 12/17/2025.

Need for Further Analysis

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:

1. *The severity, duration, geographic extent, and frequency of the occurrence of the impact.*

The Proposed Action's individual contribution to climate change is determined to be not significant. As detailed in the cumulative impacts section, the action would account for a negligible fraction of the total warming in Montana over the next decade, contributing only 0.000664% of Montana's total annual GHG emissions. This is not to downplay the effects of GHG emissions. Rather, given the wide dispersion of greenhouse gas effects, the resulting climate impacts associated with project level emissions are globally indistinguishable and nondifferentiable. Consequently, the Proposed Action's individual emissions are insufficient to cause a significant impact on climate systems globally or in Montana. The severity, duration, geographic extent and frequency of the occurrence of the impacts are addressed in turn:

- Severity: The Proposed Action's contribution of GHG emissions would not be distinguishable on a global or local scale. GHG emissions incrementally add to global GHGs and, thus, to cumulative climate impacts. However, the Proposed Action would not induce attributable climate impacts (see Cumulative Impacts Analysis).
- Duration: While the GHG impacts are long-term (over decades and centuries), the Proposed Action's duration is finite. The impact would not be permanent on Montana's climate because global emission impacts are continuous and cumulative, and the Proposed Action's commencement or cessation would not be distinguishable on a global or local scale and thus would not alter the long-term trend.
- Geographic extent: The emissions would originate in Montana, but their ultimate impact (change in climate systems) is global in nature. Because the impacts are not concentrated in the immediate Bull Mountain Mine area, or within the State of Montana, the project's contribution of GHGs would be indistinguishable from the background of statewide and global GHG emissions.

Therefore, the contribution would not alter the frequency or intensity of climate events in the Bull Mountain Mine area or Montana.

- Frequency of occurrence of the impact: The emission of GHGs would occur continuously for the life of the mine as long as coal is transported. While the activity is frequent, the resulting impact on climate systems would not be significantly increased by the Proposed Action because the project would not alter the frequency or intensity of climate events.

2. *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.*

The probability that the proposed project would contribute to GHGs is certain. However, as discussed in the Cumulative Impacts section, the severity of the additional greenhouse gas contributions is negligible to the overall warming of Montana.

3. *Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts.*

The Proposed Action would not have any growth-inducing or growth inhibiting aspects, or significant contribution to cumulative impacts. The Proposed Action's GHG emissions, which are only associated with transporting coal within the boundaries of an existing mine would not induce new regional or national growth. The Proposed Action does not increase the amount of allowable coal production at the Bull Mountain Mine, but rather approves additional transport of coal overland, via semi-truck. The Proposed Action's negligible contribution to global GHG concentrations does not meaningfully alter the probability or severity of climate-related events at a scale that would inhibit growth either locally or globally.

4. *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 Proposed Action would not impact any resources that are considered unique or fragile within Montana's environment because the project's contribution to global climate change is negligible and does not constitute a measurable effect on the quantity and quality of the stable global climate system, nor would it impact the integrity of any localized environmental resource as a result of climate change.

5. *The importance to the state and to society of each environmental resource or value that would be affected.*

Although the value of a stable climate system is of the highest importance to the state and society, the Proposed Action, approving additional overland transport of coal, would have a negligible contribution to Montana's GHG emissions.

6. *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.*

Issuance of MAQP #3179-13 to the applicant does not set any precedent that commits DEQ to future actions with significant impacts or a decision in principle about such future actions. This supplemental EA is conducted for this specific permitting action, and including an analysis of overland coal transportation GHG emissions, is performed pursuant to a voluntary remand.

This voluntary analysis does not constitute a decision in principle or set a binding precedent requiring DEQ to analyze transportation emissions in its review of MAQPs. If the applicant submits another MAQP application to authorize additional allowable amounts of transportable coal, DEQ is not committed to issuing those authorizations. Pursuant to MEPA, 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 Clean Air Act of Montana and rules adopted under that Act, and the Federal Clean Air Act and rules promulgated under that Act.

7. Potential conflict with local, state, or federal laws, requirements, or formal plans.

The Proposed Action would not have any growth-inducing or growth-inhibiting aspects that would conflict with any local, state, or federal laws, requirements, or formal plans. All applicable local, state, and federal requirements would be adhered to.

Conclusions and Findings

This Supplemental EA addresses the GHG Impacts associated with distillate fuel #2 (diesel) necessary for the addition of 500,000 tons of coal shipped over the road by semi-truck and trailer as well as the use of heavy equipment to load the semi-trucks and trailers. The potential impact of GHGs associated with the permit action could have negligible impact on the immediate areas surrounding the Bull Mountain Mine site and could potentially increase the ambient temperatures in the affected area and globally; however, the ΔT caused by the proposed action would not be distinguishable on a global or local scale.

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