

COMMENT RESPONSE SUMMARY

Consistent with the National Environmental Policy Act (NEPA), 40 C.F.R. 1503.4(b) and 30 C.F.R.774.13(c), responses included in this report address the substantive comments received on the Bull Mountains Mine No. 1 Federal Mining Plan Modification Environmental Assessment (EA) and unsigned Finding of No Significant Impact (FONSI). Each letter and email was read and analyzed to identify *substantive* comments. Conclusions on whether or not comments were considered substantive were based on the following definitions:

- Substantive comments include those that challenge, with reasonable basis, the information in the EA or the FONSI as being inadequate or inaccurate, develop reasonable alternatives not considered by the agency, or offer new specific information that may have a bearing on the decision.
- Non-substantive comments are those that do not pertain to the project area, Proposed Action or alternatives or express opinions or position statements about the project or agency policy without accompanying factual basis or rationale to support the opinion.

All comments—substantive or not substantive—and all agency responses, are part of the administrative record for this EA, and have been considered during the decision-making process. The purpose of this document is to provide responses to *substantive* comments received on the EA and the FONSI.

Comment Analysis Process

A standardized content analysis process was conducted to analyze the public comments on the Mining Plan EA and unsigned FONSI. Each comment letter or email received was read by OSMRE to ensure that all substantive comments were identified. The comments were not weighted by organizational affiliation or status of respondents, and the number of duplicate comments did not bias the analysis. The process was not one of counting votes, and no effort was made to tabulate the exact number of people for or against any given aspect of the EA. Rather, emphasis was placed on the content of a comment.

Comment Overview

The first set of public comments was received by OSMRE during the initial comment period with a submission deadline of November 10, 2014. OSMRE received two public comment submissions by this date. In response to a request from the Western Environmental Law Center to extend the comment period, OSMRE extended the comment deadline to November 17, 2014. The comment deadline was again extended, due to an incorrect supporting document being posted to the OSMRE website. The correct supporting document was published to the OSMRE website and the comment period deadline was extended to November 21, 2014.

A total of four comment letters were received; each submission was unique and reviewed by OSMRE. If substantive comments were identified within a letter, the resource area or process of concern was noted and summarized in the response to comments presented herein. **Table I** presents the name of each commenter and organization.

Table I. Public Comment Submission Summary

Commenter	Organization	Date
Alan Olson	Senator, Montana Senate District 23	Nov. 2, 2014
Jodi Bush	US Fish and Wildlife Service	Nov. 5, 2014
Steve Charter	Northern Plains Resource Council Bull Mountain Land Alliance	Nov. 13, 2014
Sandra Jones	Mayor, City of Roundup, Montana	Nov. 13, 2014
Shiloh Hernandez	Western Environmental Law Center Citizens for Clean Energy Montana Environmental Information Center Sierra Club	Nov. 21, 2014

COMMENT I

OSMRE’s Purpose and Need is unduly narrow and inconsistent with controlling statutory purposes.

Response: As described in 40 CFR 1502.13, the purpose and need “...shall briefly specify the underlying purpose and need to which the agency is **responding** in proposing the alternatives including the Proposed Action.” Pursuant to 30 CFR 746 OSMRE is responsible for reviewing plans to conduct coal mining and reclamation operations on lands containing leased Federal coal. OSMRE shall prepare and submit to the Secretary of the Interior a decision document recommending approval, disapproval or conditional approval of the proposed mining plan modification. On November 22, 2013, following approval of Amendment 3 to the State Permit, Signal Peak Energy (SPE) submitted the mining plan modification to OSMRE. Accordingly, OSMRE must **respond** to the action recommending approval, disapproval or conditional approval of the proposed mining plan modification. The purpose and need is not unduly narrow nor inconsistent with controlling statutory purposes, but in fact defined by statute or “law”.

In response to the comments received, the first paragraph of **Section 1.2** of the Federal Mining Plan EA has been revised to read, “The purpose of the Proposed Action is to *recommend approval, disapproval, or approval with conditions of the proposed mining plan modification to the assistant secretary of DOI. If approved, the Mining Plan would allow SPE to conduct coal mining and reclamation operations within the coal lease and economically recover Federal, state, and private coal reserves through a logical mining unit.*” In addition, the sentences discussing the National Energy Policy Act have been deleted due to the percentage of Bull Mountains No. 1 Mine coal that is exported. The sentence discussing lease bonus payments, royalty payments,

and sulfur content were also removed as they are more applicable to the leasing process than the mining plan review.

COMMENT 2

OSMRE has not considered reasonable alternatives including renewable alternatives and energy efficient alternatives to continued coal consumption; and consideration of approval with conditions (e.g. minimization impact to aquatic life, historic resources, subsidence mitigation and “distant future” water mitigation).

Response: The CEQ states that an agency must consider alternatives that are not within their respective jurisdiction if the alternative is “reasonable.” The EA IDT team determined the Proposed Action being evaluated (proposed mining plan modification) has only two reasonable alternatives that would satisfy the purpose and need; they are to recommend approval or disapproval. While the EA need only consider the Proposed Action if OSMRE determines there are no unresolved conflicts about the Proposed Action with respect to alternative uses of available resources, OSMRE included a No Action Alternative (43 CFR, Section 46.310 (b)). The land has been leased for coal extraction; consequently, there are no unresolved conflicts about the Proposed Action with respect to alternative uses of available resources. Analysis of additional alternatives related to renewable energy sources pertain to national policy and are beyond the scope of this document.

OSMRE did not identify impacts warranting additional mitigation beyond that which would be employed in accordance with the existing mine permit; therefore, conditional approval was not analyzed as an alternative.

COMMENT 3

The Bull Mountains Mine No. 1 Federal Mining Plan Decision requires preparation of an EIS.

Response: 43 CFR Part 46 establishes procedures for the Department of the Interior, and its constituent bureaus, to use for compliance with CEQ and NEPA.

When available, the Responsible Official should use existing NEPA analyses for assessing the impacts of a proposed action and any alternatives. Procedures for adoption or incorporation by reference of such analyses must be followed where applicable. The FONSI, page 1, notes that:

“This finding of no significant impact (FONSI) is based on the attached *Federal Mine Plan EA*, which was prepared by the OSMRE Program Support Division in Denver, Colorado. The *Bureau of Land Management Environmental Assessment DOI-BLM-MT-C010-2009-0010-EA and associated FONSI and Decision Record (DR)* (the Coal Lease EA) was previously prepared by

BLM's Billings Montana Field Office of the Montana BLM and is incorporated by reference into the *Federal Mining Plan EA*. “

Section 1.0 of the Federal Mining Plan EA and Part C of the FONSI have been revised to state:

“Both the Coal Lease EA and the Federal Mining Plan Modification EA incorporate prior analyses including the Bull Mountains Exchange Final EIS (BLM 1990) and the Bull Mountains Mine No. 1 EIS (MDSL 1992), which analyzed the effects of proposed mining and connected actions.”

Responsible Officials should make the best use of existing NEPA documents by supplementing, tiering to, incorporating by reference, or adopting previous NEPA environmental analyses to avoid redundancy and unnecessary paperwork (43 CFR 46.120).

- Responsible Official may adopt an environmental assessment prepared by another agency, entity, or person, including an applicant, if the Responsible Official:
 - Independently reviews the environmental assessment; and
 - Finds that the environmental assessment complies with this subpart and relevant provisions of the CEQ Regulations and with other program requirements.
- When appropriate, the Responsible Official may augment the environmental assessment to be consistent with the bureau's Proposed Action.
- In adopting or augmenting the environmental assessment, the Responsible Official will cite the original environmental assessment.
- The Responsible Official must ensure that its bureau's public involvement requirements have been met before it adopts another agency's environmental assessment (43 CFR 46.320).

One commenter suggested an EIS is required because the effects of the action are “highly controversial” and are “highly uncertain or involve unique or unknown risks”.

The FONSI (page 5) notes that

“The Bull Mountains Mine No. 1 plan to mine Federal coal and its effects are not unique. Approvals of Federal mining plans have been made in this region for many years. There is no scientific controversy over the nature of the impacts. There is some scientific uncertainty regarding the long-term effects of subsidence and how these effects can be managed. Proposed mitigation and reclamation procedures should be successful in reducing impacts and mitigating impacts in a manner that ensures land uses are restored in a timely manner. The potential intensity of these effects on the quality of the human environment is minimal.” and,

“The Bull Mountains Mine No. 1 plan to mine Federal coal is not unique or unusual. The OSMRE has experience implementing similar actions in similar areas. The environmental effects to the human environment are fully analyzed in the Federal Mining Plan EA and the Coal Lease EA, which is incorporated by reference. The observation of actual mining operations since the Coal Lease EA was prepared and environmental monitoring improve the certainty with regard to projected impacts as discussed in the Federal Mine

Plan EA. There are no anticipated effects on the human environment that are considered to be highly uncertain or involve unique or unknown risks.”

OSMRE has determined the EA has adequately demonstrated that the foreseeable effects of implementing the Bull Mountain Mine No.1 Federal mining plan would not significantly affect the quality of the human environment and that there is no need to prepare an EIS. OSMRE adopted the Lease EA and incorporated it by reference. OSMRE has determined the Mining Plan EA has adequately demonstrated that the foreseeable effects of implementing the Bull Mountain Mine No.1 Federal mining plan would not significantly affect the quality of the human environment and that there is no need to prepare an EIS.

COMMENT 4

The direct and indirect impacts have not been adequately analyzed, including the consideration of transportation of coal by railroad and the combustion of coal.

Response: The Proposed Action Alternative and associated connected actions are discussed in Section 2.2.2 of the Mining Plan EA. The direct and indirect impacts of the Proposed Action and No Action alternatives are described in Section 4.1 and 4.2 respectively. Based on these discussions, OSMRE has determined the Mining Plan EA has adequately demonstrated that the foreseeable effects of implementing the Bull Mountain Mine No.1 Federal mining plan would not significantly affect the quality of the human environment. OSMRE adopted the Coal Lease EA and incorporated it by reference.

The following prior analyses evaluated effects of increased mining rate and duration, which affected the rate and duration of rail transport.

- The BLM’s 1990 Coal Exchange EIS evaluated impacts of mining up to 3.0 million tons per year and transporting coal at a rate as high as one train per day, although the specific route of transport was not known and site specific effects were not analyzed.
- The MDSL’s 1992 Bull Mountains Mine No. 1 EIS analyzed the effects of proposed mining, including construction and use of the rail spur between the mine and the BNSF mainline at Broadview. The EIS analyzed the effects of one train every 1-2 days (11,500 tons per train) at peak annual production of 3.3 million tons per year during a 30-year mining period.
- The MDEQ’s 2006 EA analyzed the effects of a permit amendment and expanded underground mine plan to mine 39.5 million tons at a rate up to 11 million tons per year, effectively increasing the rate of coal shipment on the rail spur although the impacts to train traffic were not specified.
- The BLM’s 2011 Coal Lease EA stated that the existing transport rate was three trains a day. Mining federal coal would extend mining for an additional seven years, but the maximum rail traffic would remain three trains per day (Coal Lease EA, Section 4.2.13).

The same number or fewer trains per day would transport coal under the Proposed Action relative to that identified in the Coal Lease EA. The Mining Plan EA did not re-analyze the impacts of rail transport since the number of trains per day would not increase from the current condition and the duration would be less than the 30-year duration identified in MDSL's 1992 EIS.

The existing rail lines between Broadview and destinations including power plants and port locations have independent utility and there are no currently proposed federal or non-federal actions or undertakings associated with the rail lines in connection with the Proposed Action. The uncertainty regarding future combustion locations and transportation routes and an absence of methods to reasonably evaluate specific impacts associated with the Proposed Action, make analysis of train traffic beyond Broadview speculative.

GHG emissions resulting from mining, processing, shipping, and combusting coal are disclosed in Section 3.1.2 of the Mining Plan EA, based on EPA standards (SPE 2014a; Smith 2014a), and their impacts are discussed in Sections 4.1.3 and 4.3.1. In response to comments received, the OSMRE revised its statement in **Section 4.3.1** that "there is no national policy or law in place that regulates CO₂ emissions" to reference the proposed EPA rule by stating "EPA is developing standards for greenhouse gas emissions from mobile and stationary sources under the Clean Air Act (EPA 2014c)."

Evaluating non-local effects of non-GHG emissions from transport and combustion would be speculative due to the uncertainty regarding combustion locations, transport routes, and emissions controls and an absence of methods to reasonably evaluate specific impacts associated with the Proposed Action. Speculation regarding the impacts attributed to non-GHG emissions associated with transport and combustion would not support meaningful analysis of the alternatives. Local emissions associated with mining are approved under the existing Montana Air Quality Permit as previously analyzed as discussed in the Coal Lease EA. Emissions associated with coal transport along the rail spur were previously analyzed on a per train basis in MDSL's 1992 Bull Mountains Mine No. 1 EIS and such emissions would also be addressed by emissions standards associated with rail operation.

COMMENT 5

The "degree" and "significance" of impact has not been adequately discussed.

Response: The degree and significance of impacts are described in Part C of the FONSI.

COMMENT 6

Cumulative impacts have not been adequately analyzed, including the "mirror image mine scenario" to the north and mining of additional coal seams.

Response: Cumulative impacts of the mining and Reasonably Foreseeable Developments (RFDs) are discussed in Section 4.3 of the Mining Plan EA. The impacts of mining, processing, shipping, and combusting the coal on GHG and Climate Change are considered in this EA because they are logical consequences of approving a mining plan for an existing mine. The information presented in this section supplements the cumulative effects analysis presented in the Coal Lease EA, which remains applicable and was incorporated by reference into the analysis in this section.

GHG emissions related to transportation and combustion of coal are discussed in the Mining Plan EA and generally accepted effects of climate change are discussed. Specific local impacts of climate change attributed to the Proposed Action's associated emissions are speculative. The limitations of evaluating direct and indirect effects of non-GHG emissions from transport and combustion are discussed in the response to Comment 4. Consequently, cumulative effects of non-GHG emissions related to transportation and combustion of coal are speculative and would not be informative when evaluating the alternatives.

The level and duration of GHG emissions from the Proposed Action has been quantified, but the state of climate change science does not allow any given level of emissions to be tied back to a quantifiable effect on climate change. **Section 4.3.1** has been revised to include the summary findings of the IPCC 5th Assessment Report (AR5) released October 31, 2014. The section has also been revised to include the following paragraph:

“It is difficult to discern whether global climate change is already affecting resources in the analysis area because no specific studies have been done. It is important to note that projected changes are likely to occur over several decades to a century. Therefore many of the projected changes associated with climate change may not be measurably discernible within the reasonably foreseeable future. Existing climate prediction models are global or continental in scale; therefore, they are not appropriate to estimate potential impacts of climate change on the mine vicinity. Yellowstone National Park is being considered as a location for a long-term climate study.”

Cumulative impacts to vegetation are discussed in Section 4.3.2, specifically the potential for growth of noxious and invasive weeds in disturbed areas.

The “mirror image mine” and mining of additional coal seams scenarios are not considered to be RFDs as defined by CEQ:

- Actions for which NEPA documents are in preparation or finalized;
- Actions in a detailed design or planning phase;
- Actions listed in formal NOI published in the Federal Register or State publications;
- Actions for which enabling legislation has been passed or a Memorandum of Understanding has been signed; and,
- Actions that have been submitted to Federal and State regulators to begin the permitting process (i.e. land use/ROW applications).

The mirror image mine scenario and mining of additional coal seams are speculative actions and not reasonably foreseeable. The future mining areas have been discussed and conceptual planning has occurred; but there is no evidence that would qualify these actions as RFDs per the criteria described above. Available information regarding such actions is too preliminary to meaningfully estimate their cumulative impacts in a way that would inform the decision on the Proposed Action. If such projects are proposed at some future date, they would fall under the jurisdiction of State and Federal regulatory agencies which would then analyze impacts and ensure that such activities comply with applicable standards. Prior to mining additional seams within the Federal coal lease area, SPE would be required to submit a mining plan modification, which would also require analysis under NEPA.

COMMENT 7

OSMRE has not adequately considered impacts associated with the Waste Disposal Area (WDA) #2 including water and air pollution.

Comment 7.1 OSM has failed to consider the impacts of water (and air) pollution that could result from the use of coal ash in the WDA #2 at the mine.

Response: Environmental impacts potentially associated with the WDA #2 are discussed in EA in Sections 4.1.1, 4.1.3, 4.1.4, 4.1.5, 4.1.7, 4.1.10, 4.1.11, 4.1.12, 4.1.13, and 4.1.14.

The fly ash used at the Bull Mountain Mine site is not regulated under the SMCRA. Rather, its use is regulated by the Montana Department of Environmental Quality Solid Waste Program (SWP). A Beneficial Use Determination (BUD) application was made and approved by the SWP. SPE submits annual reports to the SWP to ensure compliance with BUD is maintained. Quarterly TCLP-metal (D004 through D011) analysis is performed and reported for all fly ash used at Bull Mountain Mine to the SWP. The results of monitoring are submitted to the SWP for review to ensure that no issues exist with fly ash. The existing air quality permit approves all operations at the mine, including WDA operations. As proposed, WDA #2 would be constructed, operated, and reclaimed in a manner comparable to the existing WDA. Associated permits would ensure that the proposed WDA and related operations would not significantly affect water and air resources.

Comment 7.2 There are concerns about the use of Madison water due to its quality.

Response: This issue of the Madison well water quality is discussed in the Probable Hydrologic Consequences (PHC) of the DEQ permit, Sections 6.2.3 and 6.2.8. Section 6.2.3 states the following in reference to the mine waste or gob:

“...it is deemed that any changes water quality attributable to the presence of Madison water would be inconsequential and too small to detect analytically.”

This is also addressed in Section 9.4.1 of the CHIA whereby the following is concluded by DEQ:

“Due to the use of deep Madison well water for coal processing, the potential for the accumulation of Madison water constituents in coal processing waste emplaced in the WDA exists, however they are not anticipated to approach levels of concern for groundwater or surface waters. Groundwater flow through the WDA is controlled to prevent groundwater flow from the WDA to underlying aquifers, thereby limiting their potential for contamination due to WDA materials.”

Based on public comments, OSMRE has added a sentence to **Section 3.2.1** noting that “while the Madison Well water exceeds human health standards, the water is not used for human consumption and the PHC concluded that any changes to water quality attributable to the presence of Madison Well Water would be inconsequential and too small to detect analytically”. This finding does not affect the findings in the Mining Plan EA.

COMMENT 8

The effects of subsidence and surface disturbance associated with underground longwall mining have not been adequately analyzed.

Response: Chapter 3 of the Mining Plan EA discusses the effects of subsidence that have occurred to date, including hydrologic effects discussed in Section 3.2. Chapter 4 Mining Plan EA discusses future subsidence and effects associated with the No Action and Proposed Action alternatives.

The Coal Lease EA discusses subsidence and associated monitoring and mitigation in Section 4.2.1, noting that subsidence is expected to range from 5.45 to 9.1 feet. While the current permit indicates that subsidence may be slightly more (9.45 feet), subsidence monitoring completed for longwall mining Panels 1 and 2 indicate the subsidence angle of draw is consistent with the range presented in the Coal Lease EA. Maximum subsidence observed to date is 8 to 9 feet, with most areas subsiding less than 6 feet (SPE 2014a). The angle of draw is less than originally anticipated and usually does not extend beyond the panel width (SPE 2014a), reducing the area of subsidence relative to that presented in the Coal Lease EA. Ongoing and future monitoring will be conducted as described in Mine Permit Section 17.24.901 (SPE 2014a), which is consistent with the monitoring described in the Coal Lease EA Section 4.2.2.

The Mining Plan EA presents an updated discussion of subsidence to supplement the prior analysis presented in the Coal Lease EA, which is incorporated by reference. Chapter 2 of the Mining Plan EA, **Section 2.1.4** in particular, discusses the existing and ongoing operations related to subsidence and repairs and now includes the following statement:

“The maximum elevation change in Longwall Panels 1 and 2 was 8 to 9 feet, with most areas subsiding less than 6 feet (SPE 2014a). The angle of draw is less than previously estimated and typically does not

extend beyond the panel width (SPE 2014a), reducing the area of subsidence relative to that considered in the Coal Lease EA.”

COMMENT 9

OSMRE has not adequately analyzed impacts to water resources including groundwater quality and quantity; and potential mitigation requirements.

Response: Prior to submittal of the mine application, baseline water monitoring was conducted to inventory ponds, springs, wells, and streams and install monitoring facilities. In total, over 300 monitoring points were established, most of which continue to be monitored as required by the current mine permit (SPE 2014 a). The baseline hydrologic and geologic data were evaluated in the context of proposed mining to prepare a description of the Probable Hydrologic Consequences (PHC) of mining, which has been updated based on the most current mining plan and observed effects of mining (SPE 2014a). Periodic monitoring of springs, ponds, streams, and wells is completed in accordance with the mine permit (SPE 2014a) to detect impacts of mining. The mining permit (SPE 2014a) specifies plans to mitigate the hydrologic effects of mining. The Cumulative Hydrologic Impact Assessment (CHIA) prepared by MDEQ (2013) further describes the hydrologic conditions, anticipated impacts, and mitigation.

The Coal Lease EA described the existing hydrologic condition (Coal Lease EA Section 3.4) and anticipated effects of mining (Coal Lease EA Section 4.2.4). The Mining Plan EA references the current mine permit, including the PHC, MDEQ’s CHIA and recent monitoring (Catena and Nicklin 2014) to present an updated description of the current condition (Mining Plan EA Section 3.2) and anticipated impacts of future mining (Mining Plan EA Section 4.1.4).

Comment 9.1 The impacts of aquifer severance can be seen many miles from the mine.

Response: Sections 3.2 and 4.1.4 of the Mining Plan EA discuss current ground water conditions and expected future impacts, respectively. There is no evidence that any aquifer has been adversely impacted to date. Some drawdown has occurred in the Mammoth coal just north of the mine and that was predicted in the PHC.

Comment 9.2 The PHC and the groundwater model on which it was based concluded that the polluted gob water would migrate beyond the permit boundary within 50 years after the cessation of mining. Groundwater quality impacts outside the mine permit boundary would require mitigation.

Response: There is no statement in the PHC report that concludes that ”polluted gob water” will move beyond the permit boundary in 50 years. Groundwater modeling conducted for the PHC defines the direction of groundwater flow for a given particle of water over time. Groundwater modeling that predicts the extent of transport for dissolved groundwater constituents (transport modeling) requires knowledge of

adsorption/desorption, dilution and attenuation. Transport modeling is not practical for the hydrologic setting that is involved due to the complexity of the hydrologic system.

The PHC (Appendix 314-5) does discuss the issue for potential impacts to groundwater quality and where it should be anticipated as follows:

“Based upon analysis of observed data collected to date and described in Section 3.5, there is no evidence that groundwater quality has been affected by mining activity in the overburden, Mammoth coal or underburden. Any impacts to the groundwater quality are anticipated to be limited to the mine gob, and perhaps, to a limited portion of the upper underburden that is in direct hydraulic communication with the mine gob.”

“A general increase in total dissolved solids, sodium and sulfate concentration is anticipated in the groundwater that flows through the gob and potentially in the highly fractured zones immediately above the mined out area; however, groundwater quality will continue to be suitable for the current and post-mining uses of watering livestock and wildlife.”

There is no requirement or plan for any entity to use the mine gob water for any purpose. If any entity is currently dependent upon Mammoth coal water and that groundwater use is adversely affected by mining activity, mitigation is required. For consumptive uses, the most logical source for that mitigation is the deep underburden aquifer.

The mine permit (SPE 2014a) requires monitoring to detect groundwater impacts outside the mine permit boundary. Although mining is not expected to adversely impact aquifers outside of the permit boundary (SPE 2014a; MDEQ 2013), existing state regulations require mitigation if such impacts occur.

Comment 9.3 The proposed permit amendment mentioned an increase in hydraulic conductivity post-mining from 0.2 feet/day to 16 feet/day. This is a dramatic shift. As transmissivity increases in the mined-out area, we believe that it will lead to lower groundwater levels south of the mine area.

Response: The increase in hydraulic conductivity will be limited to the long-wall footprint. There is no basis to believe that groundwater levels south of the mine will be lowered. It is noted that the Mammoth coal to the south either contains very little water or is unsaturated (dry). Hence, no significant drawdown can occur to the south. Any springs to the south tend to be associated with lower strata, which will not be affected.

Comment 9.4 Postmine water quality that will be unsuitable for livestock and sulfate levels are of particular concern. The MDEQ CHIA has concluded that post-mining water quality in the mined area (caved zone) may have sulfate levels in excess of 1,000 mg/L. Recent science indicates that sulfate levels above 1,000 mg/L are harmful to cattle.

Response: With respect to potential water quality impacts to springs that could be utilized by livestock, the PHC (SPE 2014a) addresses this issue for all springs per the following:

“It is anticipated that groundwater quality in the shallow fractured and weathered bedrock, which sources most spring flow, will not be degraded by mining activities, especially in the topographically higher areas. Hence, spring water quality should be similar before, during and after mining.”

“In summary, any groundwater quality degradation that occurs is likely to be associated with desaturation/saturation of the mining gob during and following mining activity.”

[both from page 314-5-58 of PHC]

There has been no evidence to date that any spring that has been undermined by long-walls has been adversely impacted either in terms of flow or water quality.

With respect to potential impacts to livestock wells, premine observations in some monitoring wells have background sulfate concentrations exceeding 1,000 mg/l. Hence, even baseline groundwater in many instances does not meet this sulfate guideline. Note as discussed in Response 9.2, where groundwater use is adversely affected by mining activity mitigation would be required. The primary mitigation source is the deep underburden aquifer. Sulfate concentrations are below 1,000 mg/l for the deeper underburden as tested at BMP-121.

COMMENT 10

OSMRE has failed to adequately address impacts to springs, alluvial valley floors and wetlands

Response: Environmental analysis for springs, alluvial valley floors and wetlands is discussed at Section 4.1.4. of the Mining Plan EA.

Comment 10.1 Alluvial valley floors (AVFs) may be impacted by the Proposed Action.

Response: Alluvial valley floors are defined by SMCRA (Section 701, Definitions, [30 U.S.C. 1291] as the unconsolidated stream laid deposits holding streams where water availability is sufficient for subirrigation or flood irrigation agricultural activities but does not include upland areas which are generally overlain by a thin veneer of colluvial deposits composed chiefly of debris from sheet erosion, deposits by unconcentrated runoff or slope wash, together with talus, other mass movement accumulation and windblown deposits.

The issue of AVFs is addressed in Section 17.24.325 of the MDEQ Permit and by the CHIA. Note the following from the CHIA:

“Alluvial deposits are found in both the Rehder and Fattig Creek valleys, however the alluvial deposits are generally dry and do not provide a source of subirrigation. Historic and current farming also does not depend on surface irrigation. Therefore, no alluvial valley floor has been identified in the area.”

Alluvial valley floors were not discussed in the EA as they are not present in the area that would be affected by the Project.

Comment 10.2 The PHC and EA indicate that the underburden aquifer may not support full-scale mitigation water for wetlands and stream reaches.

Response: The DEQ approved the PHC and the groundwater modeling efforts which are discussed respectively in mine permit Appendix 314-5 and 314-6. Appendix 314-6 (Attachment 3M) offered by SPE was a means to examine the overall capacity of the deep underburden aquifer to address all potential mitigation requirements.

Appendix 314-7 summarizes the deep underburden model effort and was submitted to MDEQ on September 11, 2014. DEQ provided comments on October 22, 2014, most of which request clarification and editorial corrections; the comments do not specify a need/requirement for additional modeling. The results set forth in the Appendix support the conclusion that the underburden aquifer can support mitigation of consumptive uses as presented in the EA.

Mitigation of wetlands and stream reaches will be limited, by the constraints of Montana Water Rights laws as administered by the Montana Department of Natural Resources and Conservation (DNRC). It is doubtful that DNRC will allow pumpage from the underburden aquifer at rates and volumes that exceed 35 gpm and 10 acft/year respectively. This would not affect mitigation for consumptive uses (e.g., stock tanks), but could preclude use of pumped water to mitigate impacts to flowing reaches in the event flows were adversely affected. As discussed in Section 4.1.4 of the Mining Plan EA, depending on the site and degree of impact to spring discharge, some channel segments may not exhibit intermittent or perennial flow after mining. If a given spring is affected to the degree that it cannot meet the use that existed prior to mining, then mitigation would be implemented. The two most practical means of mitigation for spring flows are (in order of priority) spring redevelopment (e.g., repair) or construction of a replacement water source.

Ongoing and future monitoring described in and required by the mine permit (SPE 2014a) will detect impacts and identify where mitigation is required. Presently, there is no evidence that undermined springs have been adversely affected. So mitigation of spring sourced surface water may not be required in a majority of instances. Where mitigation is necessary, mitigation measures would be selected from the options specified in the approved mine permit and implemented. Mining regulations require

inspection of affected areas to ensure hydrologic reclamation is complete prior to bond release

Comment 10.3 Concerns are expressed about measures requiring the implementation of management practices to mitigate the effects of using the deep underburden water, which has a high sodium adsorption ratio (SAR), to mitigate impacted stream reaches or wetlands.

Response: This issue is discussed in the Coal Lease EA in Section 3.4.3.7. Note that existing (pre-mine) groundwater is discussed as being unsuitable for irrigation purposes because of SAR. The SAR of the deep underburden is discussed in the Coal Lease EA (observation well 62720-03 per page 3-42).

The issue of SAR is only relevant as it applies to irrigated land, wetlands or the localized intermittent stream reaches. There is no agricultural irrigation located within, or near, the footprint of the mine. Large scale mitigation for flowing reaches will be subject to the constraints of Montana Water Law which currently precludes continuous pumping into a stream bed for mitigation for three reasons:

- It will not be considered a beneficial use in terms of Montana Water Law;
- It is subject to the Prior Appropriation Doctrine (first in time first in right); and
- Montana Basin Closure rules (the Musselshell River is a closed basin).

There is no evidence to date that any existing spring that has been undermined has been adversely impacted. However, should the underburden water be used as discussed in the Coal Lease EA, monitoring required by the mine permit would ensure such mitigation measures are successfully employed as required by the Montana Strip and Underground Mine Reclamation Act (MSUMRA) and SMCRA.

COMMENT 11

OSMRE has failed to consider mine portal discharges and associated environmental impacts.

Response: The issue was discussed in the PHC and CHIA as a possibility, but may not occur and is not permissible under current permits. Any future discharge would be subject to Montana Pollution Discharge Elimination System (MPDES) permitting as is the case for all mining activity where potential or existing discharges to surface water may arise. The future review conducted in association with the MPDES permitting process, if necessary, would ensure protection of hydrologic conditions.

COMMENT 12

OSMRE has not adequately analyzed impacts of GHG and Climate Change.

Response: GHG and Climate Change are discussed in Section 4.1.3 of the Mining Plan EA and in Sections 4.1.3 and 4.2.3 in the Coal Lease EA.

Based on Draft CEQ Guidance regarding GHG and Climate Change in NEPA analysis (CEQ 2014), OSMRE has revised the last sentence of **Section 4.1.3** of the Mining Plan EA to delete the word ‘negligible’ when describing the contribution of CO₂ emissions from the Bull Mountains No. 1 mine to *a percentage (0.35 percent) of the contribution in relation to total U.S. annual emissions*. The draft guidance notes that quantifying the emissions from a government action or approval is more a statement about the nature of the climate change challenge, and that agencies have substantial discretion in how they tailor their NEPA processes so long as they provide the public and decision-makers with explanations of the basis for the determinations.

Three paragraphs are noted in the draft guidance:

“Inherent in NEPA and the CEQ Regulations is a rule of reason which ensures that agencies are afforded the discretion, based on their expertise and experience, to determine whether and to what extent to prepare an analysis based on the availability of information, the usefulness of that information to the decision-making process and the public, and the extent of the anticipated environmental consequences.”

“In light of the difficulties in attributing specific climate impacts to individual projects, CEQ recommends agencies use the projected GHG emissions and also, when appropriate, potential changes in carbon sequestration and storage, as the proxy for assessing a proposed action's potential climate change impacts. This approach allows an agency to present the environmental impacts of the Proposed Action in clear terms and with sufficient information to make a reasoned choice between the no-action and proposed alternatives and mitigations, and ensure the professional and scientific integrity of the discussion and analysis.”

“Agencies are encouraged to apply this guidance to all new agency actions moving forward and, to the extent practicable, to build its concepts into currently on-going reviews.”

As discussed in Comment 4, impact analysis would be speculative and consequently could not be used to make a reasoned choice between the No Action and Proposed Action alternatives because of the uncertainty regarding future combustion locations and transportation routes, and an absence of methods to reasonably evaluate specific impacts to environmental resources as a consequence of climate change.;

As noted in response to Comment 4, OSMRE has revised its statement in **Section 4.3.1** that “there is no national policy or law in place that regulates CO₂ emissions” to reference the proposed EPA rule by stating “EPA is developing standards for greenhouse gas emissions from mobile and stationary sources under the Clean Air Act (EPA 2014c).” The Mining Plan EA text (Section 4.1.3 Greenhouse Gases/Climate Change) has been revised to reflect a more complete analysis of

the impact of CO₂ on local air emissions. In addition, Section 4.3.1, Climate Change, has been revised to reflect the conclusions of the International Panel of Climate Change's (IPCC's) Fifth Assessment Report (AR5), which was released on October 31, 2014.

COMMENT 13

Potential impacts to Threatened and Endangered Species have not been adequately addressed.

Response: As noted in the Section 4.1.8 of the Mining Plan EA, no species listed as threatened or endangered under the ESA are known or likely to occur in the area affected by the Proposed Action. Therefore, OSMRE has determined that the Proposed Action would have "No Effect" on listed species, which is now specifically noted in Section 4.1.8 of the Mining Plan EA. Additional information pertaining to greater sage-grouse has been incorporated into Sections 3.6 and 4.18.

Impacts to Threatened and Endangered Species associated with coal transport and coal combustion are not evaluated in the Mining Plan EA nor are species at risk from climate change because they are speculative and therefore beyond the scope of analysis (see response to Comment 4)

COMMENT 14

Potential impacts to migratory birds including bald and golden eagles have not been discussed.

Response: The use of the Project Area by migratory birds, including bald and golden eagles, is discussed in Section 3.5 of the Mining Plan EA. Potential impacts are addressed in Section 4.1.7, which was revised to specifically discuss bald and golden eagles. **Section 4.1.7** also states the following:

"The State-approved mine permit and associated mining regulations specify mitigation measures for wildlife, including minimization of disturbance, reclamation of habitats and raptor-safe powerline construction. The measures specified in the permit and enforced by MDEQ ensure compliance with the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and the Endangered Species Act, thereby ensuring impacts to those protected wildlife species would not be significant. Approved measures include:

- *Minimizing surface disturbing activities (e.g. soil salvage, road and drill pad construction, grubbing, logging) during the April through July time period. If surface disturbing activities are scheduled during the April through July time period, SPE will make the area unsuitable for ground nesting (e.g. mow, blade, etc.) prior to the nesting period.*

- *Ensuring searches for raptor nests are conducted prior to initiating disturbance during raptor nesting season. Searches will be conducted within the proposed disturbance area with an additional 500 foot buffer zone.*
- *Conducting regular discussions with equipment operators, supervisors, and contractors to maintain awareness for the commitment to minimize surface disturbances, especially during the April through July time period.*
- *Locating and operating access and haul roads to avoid or minimize impacts to important fish and wildlife species or species protected by state or federal law.”*

COMMENT 15

OSMRE has failed to comply with the National Historic Preservation Act.

Response: Section 4.1.10, Cultural Resources, presents a list of inventories which have been completed in compliance with NHPA and clearly states OSMRE’s commitment to complying with the NHPA on all surface disturbances on the mine site.

Cultural resources affected by “transportation of coal from the mine to coal ports on the Pacific coast and the Great Lakes” are not evaluated because they are outside the area of potential effect, as discussed in Comment 4. There are no currently proposed federal or non-federal actions or undertakings associated with the BNSF main line to consider. Furthermore, the coal transport routes are uncertain and impacts would be speculative.

COMMENT 16

OSMRE has not disclosed findings regarding short-term uses and long-term productivity.

Response: Section 4.1.15 of the Federal Mining Plan EA discloses OSMRE’s findings regarding short-term uses and long-term productivity. Specific disclosures are presented in various resource analyses presented in Chapter 4 of the Coal Lease EA and Mining Plan EA.

The BLM’s Coal Lease EA which is incorporated by reference presents information regarding the long-term financial impacts to Musselshell County in Section 4.2.15 (Socioeconomics).

COMMENT 17

OSMRE has not disclosed irreversible and irretrievable commitment of resources.

Response: Section 4.1.17 of the Federal Mining Plan EA discloses the irreversible and irretrievable commitment of resources.

COMMENT 18

OSMRE relies on mitigation to justify its conclusion that impacts of the Proposed Action will not be significant.

Response: The mitigation measures discussed in the Mining Plan EA are required by the approved mine permit and the MSUMRA and SMCRA and are therefore integral aspects of the Proposed Action. The mitigation measures are neither speculative nor alternatives for consideration. While further mitigation beyond that already proposed is allowable by NEPA, OSMRE did not identify further mitigation as necessary to avoid significant impacts.

COMMENT 19

OSMRE is violating conflict of interest provisions by adopting a NEPA document prepared by Catena Consulting and Nicklin Earth and Water.

Response: The OSMRE may permit the applicant to prepare the EA as noted in 40 CFR 1506.5(b) and then applicant may pay a contractor to prepare an EA. OSMRE has independently evaluated the information submitted, accepted responsibility for its accuracy, and cited the names of persons responsible for preparing the EA. While contractors and the applicant have assisted in preparation of the EA, the OSMRE has made its own evaluation of the environmental issues and taken responsibility for the scope and content of the EA.

COMMENT 20

The valuation of the coal resource is inadequate.

Response: Valuation of coal is not within the OSMRE's jurisdiction. The coal valuation was determined in association with BLM's coal leasing process, as presented in the Coal Lease EA. The lease has been sold.

COMMENT 21

The amount of the Reclamation Bond is inadequate.

Response: The MDEQ has an approved program under the SMCRA as described in the MSUMRA and regulations adopted pursuant thereto, which ensures that adequate bond is posted to complete reclamation as specified in the permit and discussed in the Mining Plan EA.

COMMENT 22

The Federal Mining Plan EA should conduct a cost benefit analysis including the social cost of carbon.

Response: The social cost of carbon protocol (SCC) was developed by an Interagency Working Group (IWG), including the Environmental Protection Agency (EPA) and others, for use in cost-benefit analyses of proposed regulations that could impact cumulative global emissions (Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866, available at: <http://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/Social-Cost-of-Carbon-for-RIA.pdf>).

EO 12866 requires cost-benefit analyses when developing regulations and the IWG encourages the use of the SCC protocol in those cases. The Federal Mining Plan Modification EA was not prepared to support the promulgation of a regulation. Rather, the analysis was prepared to inform the OSMRE's decision as to whether or not to recommend approval, disapproval or approval with conditions of the SPE mining plan.

The SCC is used to monetize damages associated with an incremental increase in carbon emissions in a given year. It includes (but is not limited to) changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services due to climate change. The SCC was developed to assist agencies in meeting Executive Order (EO) 12866's requirement to assess costs and benefits during the development of regulations.

OSMRE is aware of the *High Country Conservation Advocates v. United States Forest Serv.*, 2014 U.S. Dist. LEXIS 87820 (D. Colo. 2014) (*West Elk II*) District Court of Colorado decision that commenters reference. In that decision, the court found that BLM and the Forest Service did not provide a rational explanation for including an SCC analysis in the Draft EIS but then removing it from the Final EIS. The Judge acknowledged that federal agencies are not required to conduct a cost benefit analysis when preparing a NEPA document, nor are they required to quantify the cost of GHG emissions. Rather, the Judge provided that:

[T]he agencies might have justifiable reasons for not using (or assigning minimal weight to) the social cost of carbon protocol to quantify the cost of GHG emissions from the Lease Modifications. Unfortunately, they did not provide those reasons in the FEIS, and their post-hoc attempts to justify their actions, even if the Court were permitted to consider them, are unpersuasive. Therefore I find that the FEIS's proffered explanation for omitting the protocol was arbitrary and capricious in violation of NEPA.

Recently, a federal district court in the District of Oregon rejected a claim that the Forest Service should have used the social cost of carbon protocol to disclose negative short term impacts with a logging project in *League of Wilderness Defenders/Blue Mts. Biodiversity Project v. Connaughton*, 2014 U.S. Dist. LEXIS 170072 (D. Or. Dec. 9, 2014), providing that “the Forest Service did not rely on a tool to provide a quantitative analysis of the cost or benefit of the Project in relation to climate change because “there are a number of different views on the topic and still no clear science as to the effect of forest thinning projects and carbon storage.”

The court distinguished the *West Elk II* case finding that “[b]ecause there was no way to quantify the benefits or costs, the Forest Service did not selectively omit which data to share in the final EIS, as the agency did in *High Country [West Elk II]*.”

Additionally, NEPA does not require a cost-benefit analysis, although CEQ NEPA regulations allow agencies to use it in NEPA analyses in certain circumstances (40 CFR 1502.23). The Coal Lease EA, which is adopted and incorporated by reference to the Federal Mining Plan EA includes an economic impact assessment, to be distinguished from a cost-benefit analysis. A cost-benefit analysis examines the economic efficiency of a proposed action—the net change in social welfare resulting from the costs and benefits of a proposal, including consideration of market and non-market values. The economic impact assessment estimates the distributional effects of an action on sectors of a regional economy, primarily by measuring the changes in employment and income within the geographic area where workers or businesses are most affected by the action. The economic impact assessment in the Coal Lease EA evaluated the economic impacts to Musselshell County for different alternatives. However, this economic impact analysis was not a cost-benefit analysis, nor was it intended to quantify the social costs or benefits of fossil fuel development. Presenting the SCC cost estimates quantitatively, without a complete monetary cost-benefit analysis which includes the social benefits of energy production, would be misleading.

The agencies did not ignore the effects or costs of carbon emissions. Both the Coal Lease and the Federal Mining Plan EAs evaluated the climate change impacts of the proposed action in qualitative terms. The Federal Mining Plan EA quantified the estimated greenhouse gas

emissions that would result from an assumed production scenario. The total potential greenhouse gas emissions reported in the Federal Mining Plan EA is conservatively high because it is highly unlikely that production would reach 15 million tons per year or that 12 million tons of coal would be processed and sold for fuel. The Federal Mining Plan EA puts these estimated emissions in context with state and national emissions levels. It qualitatively describes the potential increases in GHG emissions on the environment using climate projections specific to Montana. This information is at a scale that is relevant and useful to the decision-maker and meets the requirements of NEPA. Additionally, this approach is consistent with the approach that federal courts have upheld when considering NEPA challenges to BLM federal coal leasing decisions. See *WildEarth Guardians v. Jewell*, 738 F.3d 298, 309 n.5 (D.C. Circuit 2013); *WildEarth Guardians v. BLM*, 8 F.Supp. 3d 17 (D.D.C. 2014).