Attachment 3-Response to Public Comments on Permit Application Process

Commenter	Comment	Response
Earthjustice, May 2, 2022	I. MATERIAL DAMAGE	
	DEQ must withhold approval of any permit application unless and until the applicant affirmatively demonstrates and DEQ confirms based on record evidence that, among other things, the cumulative hydrologic impacts of all mining operations will not result in material damage outside the permit area. Mont. Code Ann. § 82-4-227(3); ARM 17.24.405(6)(c); *In re Bull Mountains*, No. BER 2013-07 SM (Mont. Bd. Envtl. Rev. Jan. 14, 2016).	DEQ has complied with Mont. Code Ann. § 82-4-227(3), ARM 17.24.405(6)(c), and *In re Bull Mountains*, No. BER 2013-07 SM.
	Here, DEQ appropriately determined in its eighth-round deficiency notice that the AM5 expansion would result in violations of water quality standards for electrical conductivity (EC) in Rosebud Creek. Ltr. from Robert Smith, DEQ, to Dicki Peterson, WRM (Aug. 13, 2021). Westmoreland apparently agreed with the analysis and accordingly amended its application to remove proposed strip-mining cuts in Richard Coulee. Ltr. from Dicki Peterson, WRM, to Robert Smith, DEQ (Oct. 6, 2021) ("WRM has removed Richard Coulee from this permit application per DEQ's request."). This change, however, which reduces the expansion by approximately 50%, necessitates significant changes to DEQ's draft environmental impact statement (DEIS) for the expansion. The purpose and need of the expansion was to extend the life of the mine to 2045, continue employment at the mine, and continue to fuel the Colstrip Power Plant. DEQ, DEIS Rosebud Mine Area B AM5 at S-2 (Sept. 2020). Immediate questions relevant to the public are: How much will this shorten operations at the mine? What is the plan for the apparent reduction in continued employment at the mine? Is there a transition plan, what does this mean for the power plant? Does this mean that WRM has accepted that mining operations will end sooner than 2045? Does WRM have a plan to address the negative economic consequences that are identified in the DEIS, such increased unemployment, decreased income, decreased population growth, and increased poverty? Does DEQ have a plan? Does WRM have any transition plans for its employees or the community? Has DEQ taken any action to help secure any of the tens of billions of dollars that the Interagency Working Group on Energy Communities has made available. *See* Interagency Working Group on Coal and Power Plant Communities and Economic Revitalization, https://energycommunities.gov/.	During the MSUMRA application review, DEQ determined that Richard Coulee mining would potentially cause material damage into Rosebud Creek (82-4-203(31), MCA). This determination was made after the publication of the Draft EIS, which had not carried forward the Lee Coulee Only alternative. DEQ received public comments on the Draft EIS that express concerns about material damage to Rosebud Creek. To address the public's concern and the application's deficiency, DEQ has chosen Alternative 3, the Lee Coulee Only Alternative is an action that was reasonably predictable as a logical outgrowth of the substantial public comment and the subsequent agency review provided by the MSUMRA process. Thank you for comment but these comments are out of the scope of comments on the acceptability determination under MSUMRA.
	DEQ also appropriately raised additional concerns in its ninth round deficiency letter about material damage from the remaining proposed mining operations in Lee Coulee. Ltr. from Robert Smith, DEQ, to Dicki Peterson, WRM (Dec. 6, 2021). WRM has not adequately responded to these concerns and has not affirmatively demonstrated that the cumulative hydrologic impacts will not result in material damage to the wet reach of Lee Coulee or the Lee Coulee Pond.	Lee Coulee Pond is within the proposed AM5 permit boundary and therefore changes to water quality or quantity in Lee Coulee Pond is not material damage (see CHIA Section 9.6.5, 82-4-203(32), MCA.). WRM presented a plan to mitigate mining effects to the wet reach outside of the permit boundary in the PHC. A well will be drilled to provide supplemental water to the wet reach (see Appendix O-1, PHC Addendum, Attachment F).
	Regarding the Lee Coulee pond (which DEQ refers to as Pond 311, but which appears to be Pond 305, *see* ABC PHC fig. 59), WRM acknowledges that salinity levels in the pond will increase as a result of AM5 mining, approximately 11% by WRM's calculation. App.	The ninth round of deficiencies refers to PO-311 separate from Lee Coulee Pond. The deficiency for PO-311 was related to showing the pond on a figure, which was added in the response to the deficiency (see Appendix O-1, PHC Addendum, Figure 05). The Lee

	O-1, Addendum to PHC, Attach. B at 3. Initially, the TDS figures used in WRM's analysis (*see id.* at 2) are inconsistent with the baseline data summarized in the PHC, which are substantially higher. *See* PHC tbl. 44. Regardless, the increased salinity values cited in the addendum indicate that the increase will exceed water quality standards for EC for Rosebud Creek tributaries. *See* ARM 17.30.670(4).	Coulee Pond deficiency refers to modeled TDS increases in the groundwater source to the pond. The TDS values used in WRM's mass balance calculations are based on data from the area of the analysis and the sources and rationale for using this data is included in Appendix O-1, Attachment B, Table B-1. PHC Table 44 includes all data from Rosebud Mine Areas A, B, and C. Lee Coulee Pond has been monitored since its creation at the end of Big Sky Area B mining, and it is sourced almost exclusively by groundwater. Conductivity has ranged from 292 to 1,800 mg/L (mean 1,509 mg/L). The only values below the Rosebud Creek tributary EC standard have occurred in winter and are likely representative of snowmelt.
	The same concern remains for the Lee Coulee wet reach. WRM admits that additional mining in Lee Coulee will increase the salt load in the Lee Coulee alluvium. *See* PHC Attach. U. Together with the existing salt load in the drainage, this will cause a substantial increase in salt concentrations in the alluvium. *Id.*; *see also* MDSL & OSM, FEIS Peabody Big Sky Mine—Area B at IV-15 (1989) (predicting 11% increase in salinity in Rosebud Creek alluvium from Big Sky Mine and early portions of Rosebud Mine) (Ex. 1); MDSL, Written Findings, Big Sky Mine Area B (1988) (same) (Ex. 2). The increased salinity will exceed water quality standards for EC for Rosebud Creek tributaries, like the wet reach of Lee Coulee. *See* ARM 17.30.670(4).	Premine water quality in Lee Coulee is discussed in the CHIA, Section 7.1.5. Cumulative impacts from AM5 to Lee Coulee are discussed in the CHIA, Section 9.6.5. Premine water quality exceeded the 500 µS/cm EC standard for tributaries to Rosebud Creek. Postmine water quality increase in conductivity from spoil groundwater flow will be prevented by mixing low conductivity water with baseflow Lee Coulee water, as described in the permit's PHC addendum Attachment F. The well water will offset water quality changes so that postmine spoil groundwater does not result in an increase in TDS or SAR in the Lee Coulee wet reach over natural conditions. Surface runoff from reclamation is predicted to have similar conductivity to premine runoff once vegetation is established and erosion is controlled to premine or lesser levels. As the comment states, the 1988 prediction of an 11% increase in salinity was for Rosebud Creek alluvium. Rosebud Creek alluvial groundwater does not interact with or contribute to surface water flow in the Lee Coulee wet reach.
	WRM resists this conclusion by arguing that the "wet reach" of Lee Coulee does not actually have surface flow—"[b]ased on the evaluations that were conducted, there is little support that baseflow sourced directly from the alluvium existed along the 'wet reach.'" App. O-1, Addendum to PHC, Attach. B at 4. WRM is attempting to rewrite the historical record to its advantage (which the company has attempted to do repeatedly), and it is mistaken. Numerous historical studies have documented intermittent "flow" in the wet reach in Lee Coulee. For example in the AM4 CHIA, DEQ wrote: Within Big Sky Area B, there is a wet reach confined within the permit area about 1.5 miles long that sustained small ponds, *flowing reaches*, and sub-irrigated rangeland before mining (Figure 6-3). The wet reach discontinues and the stream is again ephemeral before Lee Coulee exits the Big Sky Area B permit boundary. Lee Coulee extends from about one mile upstream of the Rosebud coal outcrop to near the McKay coal outcrop. The wet reach is an intermittent stream, but contains short reaches within it that may be perennial. This reach has been the focus of special studies to evaluate conditions within the reach both before mining and as mining approached the area. Mine reclamation included a plan to reproduce the wet reach.DEQ, CHIA AM4 at 8-2 (2015) (emphasis added) (Ex. 3). Similarly, in the FEIS for the Area B of the Big Sky Mine, MDSL and OSM wrote: No perennial streams occur within Area B. Limited data indicate Lee Coulee is an ephemeral stream with intermittent reaches. Ponds 1, 2, 3, and 4 (figure III-l) contain water much of the year (Peabody Coal Company 1987a) and are fed by both surface and ground water flows. The drainage area of Lee Coulee above its confluence with Rosebud	DEQ agrees that a section of Lee Coulee within the former Big Sky Mine Area B permit was intermittent prior to mining. See CHIA Section 7.1.5 for more detail on the intermittent nature of a section of Lee Coulee.

	Creek is 20.6 square miles. Eventually, 3,238 acres or about 25 percent of the Lee Coulee drainage could be disturbed by mining activities from the existing Rosebud Area B Mine and the proposed Peabody Area B Mine. The proposed Peabody Mine alone would disturb 3,064 acres in the Lee Coulee drainage. In the upper portions of Lee Coulee, aquitards within the alluvium, overburden, and sub-McKay strata prevent most ground water from infiltrating into deeper strata. The ground water flows down to and laterally along the aquitards and appears at the surface in a 1.5 to 2.0 mile reach of Lee Coulee that remains wet much of the year. This 1.5-mile reach of stream is considered intermittent based on limited data. In lower Lee Coulee, the confining layers have been eroded away and the character of the rock changes. Water seeping downward does not encounter an aquitard, but flows into deeper strata, and does not reappear at the surface. 4 Thus, within the permit area, surface flows in the upper wet reach of Lee Coulee may persist into summer, while in the lower reach the stream may be dry. Maximum flow measured in Lee Coulee is 140 cubic feet per second (cfs) (Montana Department of State Lands 1986a). Flows in tributaries of Lee Coulee have ranged from to 25 cfs in Fossil Fork; to 18 cfs in Bad Bob Gulch; to 72 cfs in Schmidts Ditch; and to 60 cfs in Marmot Mound tributary (Peabody Coal Company 1987a) . Springs in the study area are shown on figure III-l and described in table III-3. Most of these springs flow from the overburden. The springs are used primarily by livestock and wildlife; several of them have been developed by excavating the area below the spring. Gumdrop Spring, P.P. Seep, Headwater Seep, and Richard Spring have been developed by excavating a small area below the spring or by diverting the spring into a stock tank. Little is known about Bailey Spring. Surface water flowing from springs located on side drainages generally does not reach Lee Coulee. In Lee Coulee, several ponds and dikes have been constructed. The lower dike was built in 1938 to water livestock. The livestock pond silted in, the stream cut a new channel around the dike, and this impoundment no longer stores substantial amounts of water. The upper dike and associated ditches were used to flood-irrigate a field in Lee Coulee. This gravity irrigation system was abandoned in the 1950s and the landowners have no plans to irrigate this field. No alluvial valley floors have been designated in Lee Coulee to its confluence with Rosebud Creek (Montana Department of State Lands 1987). Ponds 1, 2, 3, and 4 are located in the wet reach of Lee Coulee within the proposed disturbance area. The ponds intercept both surface water runoff from Lee Coulee and enough ground water flow to retain water through much of the summer. These ponds are used by both wildlife and livestock and are further discussed in the wildlife and aquatics sections of this EIS. Other water impoundments are delineated in figure III-l. MDSL, Written Findings, Big Sky Mine Area B at III-11 (1988). In its 1995 CHIA for an Area B expansion at the Rosebud Mine, MDSL again acknowledged intermittent flow in Lee Coulee: "Lee Coulee has a reach characterized by *intermittent flow* and ponds or a shallow depth to the water table of ~2 miles in length, resulting from discharge of saturated overburden, Rosebud, McKay and 5 alluvium along subcrops." MDSL, Written Findings for Area B Amendment and Revision Application, attach. 2 at 6 (Jan. 1995) (emphasis added) (Ex. 12). In the same document, MDLS added: "An intermittent/perennial wet reach also occurs in the mainstem Lee Coulee channel within the BSCC Area B permit area. Both of these *flowing stream reaches* appear to be related to groundwater discharges from adjacent overburden, coal and alluvial aquifers." *Id.* attach. 1 at pdf. 4 (emphasis added); *see also id.* at pdf. 3 ("In Lee	

	Coulee, both WECO Area B and BSCC Area B mining would similarly dewater intermittent flowing and ponded reaches during mining operations; drawdowns have already occurred in the Lee Coulee wet reach adjacent to BSCC Area B. Mining-induced dewatering of stream baseflow should taper-off as pits move farther away from the affected stream reach, and backfilled spoil material saturates. However, in Lee Coulee where BSCC has proposed to mine through the intermittent stream reach, special mitigations would be required to reconnect upgradient recharge to approximate premining streamflow conditions.”).	
	DEQ more recently recognized the “Big Coulee [Lee Coulee in the Big Sky Mine] has an intermittent stream reach where the flow has not reestablished because the water table has not yet recovered to the channel surface.” Pers. Comm. from DEQ to ERO (Nov. 5, 2015) (Ex. 4). It is thus clear that WRM is wrong, the wet reach has historically had intermittent surface flow sourced from groundwater, and increasing the salinity levels in this reach to levels that exceed water quality standards for EC is impermissible. ARM 17.30.670(4); ARM 17.24.405(6)(c), as is mining operations that will interfere with efforts to reclaim flow in this reach, which DEQ already recognizes as having largely failed. Pers. Comm. from DEQ to ERO (Nov. 5, 2015). (MDSL should never have permitted Peabody to strip-mine the perennial/intermittent reach of Lee Coulee in the first place, which was a patent violation of the buffer zone rule, ARM 17.24.651.)	DEQ does not consider Big Sky Area B reclamation and water replacement as “having largely failed” but rather considered it successful and has fully released all bond on the Big Sky Area B permit. DEQ does not retroactively evaluate past permitting decisions. The Big Sky Area B permit, subsequent revisions, and bond release were conducted according to the law in effect at the time and were subject to public comment and appeal when they were made.
	Nor has WRM demonstrated that additional mining in the upper reaches of East Fork Armells Creek (EFAC) will not cause material damage. The reach of EFAC beginning at the east end of the Rosebud Mine and continuing to the confluence with West Fork Armells Creek (WFAC) is impaired for salinity and nutrients. DEQ, Water Quality Standards Attainment Report at 31 (Ex. 5). DEQ in 2020 listed “coal mining” as an unconfirmed source of the excess salinity in EFAC. *Id.* at 34. WRM admits that its strip mine is contributing salinity to the alluvium, stating that a 13% increase is likely just from Areas A and B. PHC at 62. This is not a conservative estimate, but the lowest estimate that WRM was able to devise—in prior analyses the company’s consultant concluded that mining could increase salt levels by 25%, and in different scenarios based on different assumptions WRM’s consultant found that salinity could increase by as much as 67%. ABC PHC Addendum AM4 at 19 & tbl. 5 (July 23, 2014) (Ex. 5). All of 6 these estimates are substantial underestimates because they do not include salinity from Area C, AM5, Area D, Area E, or pit 6. Indeed, monitoring data indicate that the salinity levels in the EFAC alluvium already increase by approximately 25% from the up-gradient to immediately down-gradient reaches of the stream. PHC at 119. This reflects DEQ’s prior determination that a “40% increase in TDS in the alluvial aquifer observed upstream of Colstrip does in fact appear to be directly associated with mining activity.” Ltr. from Dan Erbes, DEQ, to Harv Gloe, OSM (Oct. 1, 1998) (Ex. 6).[1]It appears that one cause of the increased salinity is retention of storm water in settling ponds, which, via evaporation, concentrate salinity and evaporate fresh water that would otherwise flow downstream, while the more saline water infiltrates and migrates downstream via the alluvium. *Id.* Another certain cause is the long-time use of magnesium chloride on roads for dust control. PHC at 56. Because coal transportation operations are considered part of coal mining under MSUMRA, this chloride pollution may not be excluded from the material damage analysis. 30 U.S.C. §1291(28). While it is certain that “spoils groundwater contains substantially higher TDS concentrations than does groundwater in undisturbed Rosebud coal and overburden,” PHC at 116, the impacts of this increased salinity have been reduced by the general reversal of groundwater gradients, causing the	AM5 will not contribute spoil groundwater to EFAC. The only impacts from AM5 to EFAC are from surface runoff, which is controlled by sediment ponds. The effect of sediment control ponds on downstream water quality is complex. General impacts from sediment ponds are discussed in the CHIA, Section 9.6.2. The proposed AM5 mine expansion will remove existing instream stock ponds, such as PO-300, while simultaneously constructing new instream sediment control ponds on Lee Coulee. The 1998 Erbs memo speculated on possible causes of alluvial water quality changes in EFAC, but no definitive attribution could be made in the memo and no definitive attribution can be made today. The PHC in Section 3.2.4.4.5 summarizes water quality from ponds along EFAC (as measured by MPDES discharge water quality) vs baseline alluvial water quality and finds that pond water is about 700 mg/L lower in TDS, therefore the sediment ponds cannot be contributing “more saline water” to the alluvium. Magnesium chloride is no longer used for dust control on the mine in order to protect surface water and groundwater resources and therefore AM5 will not contribute additional chloride to drainages. Chloride is a very mobile ion but a relatively minor component of TDS.

	EFAC alluvium to lose water to spoils instead of gain water from the Rosebud Coal, some of the spoils have recovered to the point where they are now discharging their polluted water to the alluvium, which will only worsen the existing salinity impairment of EFAC. AM5 will only worsen the situation. Because the total salinity load to the creek is a factor of the amount of the basin that is strip-mined, additional mining will only further increase salinity concentrations. *See* WET, Add. to PHC Area F (June 2018) (Ex. 7). Increasing this concentration of salinity and extending [1]While there is no question that salinity increase substantially downstream of the mine, it is not at all clear what the source of this increase is. In the past, WRM has attempted to point the finger at the leaking ash ponds of the Colstrip Power or the sewage treatment plant for Colstrip. However, MDSL has previously suggested the opposite, based on studies commissioned by the plant's consultants: "MPC's plant process water ponds and effluent holding ponds (fly ash ponds) have very high dissolved solids concentrations (e.g. ranging from about 5,000 to 50,000 mg/L TDS; MPC 1994). However, seepage from ponds at the plant site into EFAC alluvium is estimated to be small compared to alluvial flow above Colstrip (estimated at 340 gpm) and therefore significantly diluted (Hydrometrics 1993)."MDSL, Written Findings for Area B Amendment and Revision Application, attach. 1 at pdf. 6. The sewage treatment plant has also been ruled out as a source of salinity. *Id.*("Effluent from Colstrip's sewage treatment plant is apparently lower in dissolved solids than adjacent EFAC water, presumably due to its Yellowstone River source."). It appears that one cause of the increased salinity is retention of storm water in settling ponds, which, via evaporation, concentrate salinity and evaporate fresh water that would otherwise flow downstream, while the more saline water infiltrates and migrates downstream via the alluvium. *Id.* Another certain cause is the long-time use of magnesium chloride on roads for dust control. PHC at 56. Because coal transportation operations are considered part of coal mining under MSUMRA, this chloride pollution may not be excluded from the material damage analysis. 30 U.S.C. § 1291(28). While it is certain that "spoils groundwater contains substantially higher TDS concentrations than does groundwater in undisturbed Rosebud coal and overburden," PHC at 116, the impacts of this increased salinity have been reduced by the general reversal of groundwater gradients, causing the EFAC alluvium to lose water to spoils instead of gain water from the Rosebud Coal, some of the spoils have recovered to the point where they are now discharging their polluted water to the alluvium, which will only worsen the existing salinity impairment of EFAC. AM5 will only worsen the situation. Because the total salinity load to the creek is a factor of the amount of the basin that is strip-mined, additional mining will only further increase salinity concentrations. *See* WET, Add. to PHC Area F (June 2018) (Ex. 7). Increasing this concentration of salinity and extending the duration of conditions that already exceed water quality standards constitutes material damage. *See MEIC v. DEQ*, No. DV 19-34 (Mont. 16th Jud. Dist. Ct. Oct. 28, 2021).	
	The same concerns exist with respect to nutrient pollution. EFAC is also impaired for excessive nutrients, as measured by total nitrogen, nitrate/nitrite, and phosphorous. DEQ, Water Quality Standards Attainment Record at 34 (2021). While DEQ has been fast to attribute the cause of this pollution to non-point sources, like agriculture, it is clear that mine spoils risk worsening this impairment	AM5 will not contribute spoil groundwater to EFAC and therefore there is no possibility of residual blasting agents in spoil from AM5 migrating to EFAC. The locations of these high nitrate-nitrite concentrations are inside the permit boundary within older mine areas, and modern blasting methods are designed to eliminate partial combustion. There is no impairment listing for Lee Coulee.

	as well. Numerous exceedances of the human health standard of 10 mg/L have been detected in spoils wells through the Rosebud Mine, including in Areas A, B, D, and E. PHC tbl. 41. One sample of 351 mg/L was measured in an alluvial well. *Id.* at 125. WRM acknowledges that these nitrate/nitrite concentrations "could possibly be due to dissolved residuals from ammonium-nitrate explosives used in blasting coal and overburden." *Id.*; *see also* AM4 CHIA at 9-26. In Figure 9-17, samples above the human health limit of 10 mg/L are shown as dark red. Many of the highest values have been detected downstream of active mining and in areas actively used by livestock. Recent samples (2000 - 2013) with the highest nitrate concentrations near mining activities were found in the Spring Creek drainage downstream from Rosebud Mine Area D. EFAC between Rosebud Mine Area A and B had high nitrate concentrations in the 1980's through middle 1990's. This is coincident with the time that mining was active adjacent to the drainage. The drainage bottom is also actively used and historically used by cattle. Most of the high concentrations in surface water have been below the nitrate-nitrite human health limit of 10 mg/L.	There is no TMDL for upper or lower EFAC (MT42K002_170 or MT42K002_110). A TMDL will identify all significant sources, the magnitude of contributions from source categories, develop numeric targets, and determine the amount of reduction needed to satisfy the TMDL. MSUMRA does not have the authority to create or implement a TMDL.
	AM4 CHIA at 9-26. Use of the drainage for cattle grazing in the area of the mine is currently almost non-existent, as the ranchers who previously operated on this reach of the stream (including some of the largest operations in the state) have all left and, given, the extensive destruction of water resources in the area, there is no real prospect that anyone will ranch this area again in the foreseeable future. The current surface water quality standard for nitrogen is 1.3 mg/L, less than a tenth of the levels that have been repeatedly documented in the spoils. As mining has moved away from the alluvium and groundwater flows have been from the alluvium to the spoils, nitrate from spoils has appeared to be less of a problem in EFAC (because the alluvium is losing water to the spoils, not vice-versa). *Id.* fig. 9-17. However, as groundwater levels rebound in the spoils and spoils water begins to flow back into the alluvium, the impacts of nitrate could be substantial. DEQ must require WRM to further analyze these impacts to demonstrate that material damage will not result. DEQ itself must analyze these impacts to assure that it takes a hard look at the environmental consequences of the proposed action under MEPA.	Groundwater from AM5 will not migrate to EFAC. The referenced nitrogen standard of 1.3 mg/L is for total nitrogen in wadable streams as defined in DEQ-12A. Nitrate + nitrite concentrations in spoil wells are rare and localized and no widespread nitrogen contamination in spoil is indicated by monitoring. The locations of these high nitrate-nitrite concentrations are inside the permit boundary within older mine areas, and modern blasting methods are designed to eliminate partial combustion. No persistent high concentrations of nitrate-nitrite have been detected in spoil wells in areas mined after the 1980's, demonstrating that modern blasting methods are effective in controlling release of residual nitrogen to groundwater.
	DEQ must also analyze the cumulative impacts of mining in AM5, the Rosebud Mine, and Area F on the main stem of EFAC. As OSM staff have previously noted it is unheard of for an agency to not analyze the impacts of all mine areas in its CHIA. Area F Meeting Notes (July 28, 2016) (Ex. 8); OSM Comment Tracking (Ex. 9). As noted, Area F will contribute at least 240 tons of salts annually to the main stem of Armells Creek. WET, Add. to PHC Area F (June 2018). DEQ's own calculations of the salinity load are even higher. *See* DEQ, Excel Spread Sheet T-Tests (Ex. 10). Mining in EFAC will contribute even greater amounts of salts, given the substantially larger surface area of the basin disturbed by mining. WET, Add. to PHC Area F (June 2018); AM4 CHIA.	Area F does not contribute groundwater or surface water to EFAC and is excluded from the analysis of cumulative impacts from AM5. Premine and postmine groundwater movement in the AM5 expansion area will move towards Rosebud Creek (but not affect it) and not EFAC. The only impacts to EFAC are from surface water runoff from reclamation and haul roads used to access the AM5 area. These are discussed in the CHIA Section 9.6. The value of 240 tons per year is not supported by the cited reference to the Area F PHC Addendum. The Area F PHC Addendum calculated a mass of TDS from Area F of 225.5 tons per year (see Table A-3). The referenced spreadsheet from DEQ contains no "calculations of the salinity load", but rather contains t-tests conducted on paired pre-

	These increases of salinity are statistically significant at 95%-99% confidence intervals, based on DEQ's own analyses. There is no question that pollution from these operations may interact. ARM 17.24.301(32) (cumulative impact area). DEQ must establish a cumulative impact area that includes all operations at the Rosebud and Big Sky Mines.	and post-mining TDS concentration dataset for various alluvial aquifers. Commenter also cites the Area F PHC Addendum and Area B AM4 CHIA to support the statement "Mining in EFAC will contribute even greater amounts of salts, given the substantially larger surface area of the basin disturbed by mining." However, neither of these sources support that conclusion. Because spoil from AM5 mining does not contribute any TDS to EFAC, there can be no interaction with any TDS from Area F and WFAC, regardless of whether WFAC increases are significant or not.
	Nor has WRM demonstrated that the cumulative hydrologic impacts of all mining will not cause material damage to Rosebud Creek. As DEQ noted in its Round 8 deficiency notice, Rosebud Creek is already experiencing exceedances of EC standards. *See, e.g.*, DEQ AM4 CHIA at 9-15 ("Figure 9-5 shows that most water quality samples collected since 1980 on Rosebud Creek near Lee Coulee have exceeded the water quality standard for specific conductance defined in ARM 17.30.670."). Synoptic studies have identified substantial increases in salinity in Rosebud Creek at the confluence of streams where coal strip-mining has occurred, such as Pony Creek and Cow Creek. Lambing & Ferreira, Variability in Base Streamflow and Water Quality of Streams and Springs in Otter and Rosebud Creek Basins, Southeastern Montana, USGS Report 85-4302 (1986) (Ex. 13): > An estimated concentration of about 5,800 mg/L at site R-16 indicates that the largest increase in dissolved-solids concentration occurred between sites R-14 and R-16 in 1983. Pony Creek (site R-15) discharges into Rosebud Creek in this reach and, in 1983, had a specific conductance of 5,200 µS/cm (microsiemens per centimeter at 25° Celsius), indicating large dissolved- solids concentrations in the ground water of this area. This concept is supported by the large dissolved-solids concentration (7,390 mg/L) measured in Cow Creek (site RT-13), which is the next upstream tributary of Rosebud Creek. Both Pony Creek and Cow Creek originate near a surface coal mine in the vicinity of Colstrip. This large increase does not necessarily indicate a direct relation to coal-mining activities, because available pre- mining data are insufficient for conclusive interpretation. Unfortunately, neither specific conductance nor dissolved-solids measurements were made in 1977 and 1978 to identify changes with time in water-quality conditions near the mouths of Pony and Cow Creeks and at side R-16.	Commenter cites Lambing & Ferreira (1986), which did report higher TDS downstream from Cow Creek in 1983, and mining had occurred in the Cow Creek drainage prior to that date, but the report does not attribute the high concentrations of TDS observed to mining, rather concluding "it is probable that the large concentrations measured in 1983 are the result of very small streamflow in Rosebud Creek." This is typical expected conditions during drought such as occurred in the early 1980s as water sourced from runoff of recent precipitation is lower in TDS than water sourced from groundwater in the Tongue River Member. As the cited source explains: "The source of this increase in dissolved-solids concentration presumably is inflow derived from the Tongue River Member." Lambing & Ferreira reported conditions of "no flow" in monitoring sites both upstream and downstream from the sites where high TDS was measured and minimal flow at those sites (0.01-0.04 ft3/s). Evaporation of slow moving to stagnant surface water such as occurs in low gradient streams in dry years also serves to concentrate TDS, likely contributing to the high TDS concentrations observed in these locations in 1983. Mining did not start in Pony Creek until 1987, a year after the publication of USGS Report 85-4302.
	Id. DEQ subsequently identified increased salinity in Rosebud Creek downstream of Lee Coulee in the AM4 CHIA. DEQ AM4 CHIA at 9-15 ("Two stations on Rosebud Creek upstream (BURCXS) and downstream (BUSGS) of Lee Coulee were used to determine if hydrologic impacts to Lee Coulee could be detected in Rosebud Creek. TDS is shown in Figure 9-5 as a general indicator of changes in water quality. In general, the variation in TDS between the two stations is usually less than 100 mg/L, and the station downstream of Lee Coulee recorded higher TDS than the station upstream of the creek. Flow measurements were taken on the same day at	No attribution to source of TDS load was made in the AM4 CHIA and the data cannot be used for source attribution. The data indicated a potential losing reach which may indicate that surface water is being lost to infiltration to groundwater. Lambing & Ferreira (1986) also found a losing reach in this general area (station R-8). The study noted also in this general area that there was an increase in TDS at the same time the overall reach was losing. This study was done prior to the first mining in the Lee Coulee drainage in 1989, thus the increases in TDS cannot be due to mining. Rosebud Creek is not listed as impaired for SC or SAR. The CHIA Table 9-5 shows that none of the 88

	the two stations from 1989 to 1993, and these measurements indicate that Rosebud Creek may be a losing reach around the confluence with Lee Coulee. Using the flow measurements in conjunction with water quality samples, a total dissolved solids load was calculated for these two monitoring stations. The salt load reveals that Rosebud Creek gains salt between these two monitoring points."). The evidence thus seems to indicate that coal mining is already affecting salt levels in Rosebud Creek, which already exceed water quality standards for EC and may exceed standards for sodium adsorption ration (SAR), raising significant concerns for people who irrigate with Rosebud Creek water downstream of the tributaries impacted by mining.	postmine water quality samples analyzed in the CHIA were above the ARM 17.30.670 max SAR limit for Rosebud Creek.
	There is little question that additional mining in AM5, when considered together with the cumulative impacts of all mining at the Rosebud Mine and Big Sky Mine, will either increase the concentration or duration of salinity in Rosebud Creek. The starting point for this analysis is MDSL's analysis of Area B of the Big Sky Mine in 1989 which concluded that mining from the Big Sky Mine and portions of the Rosebud Mine would cause an approximately 11% increase in salinity in the Rosebud Creek alluvium. MDSL & OSM, FEIS Peabody Big Sky Mine—Area B at IV-15, app. 5 (1989). The same document concluded that salinity in surface water in Rosebud Creek would increase by 3.4 percent. *Id.* at V-8. Substantially more mining has occurred since this time, so using this same analysis would result in an even greater increase in salinity in Rosebud Creek in light of additional mining at Rosebud in the past 30 years, including Areas A, B, C, D, E, and Pit 6, as well as the additional mining at Big Sky. Given the existing conditions in Rosebud Creek this additional salinity will result in material damage. This does not change if one uses the analysis of WRM's consultant, who concludes that salinity from Rosebud Areas B, D, E, and Pit 6, and Big Sky Mine Area A and B will contribute approximately 170 tons per year of salinity to Rosebud Creek. PHC attach. U. This analysis is almost certainly a significant underestimate because it does not include Area C of the Rosebud Mine, or discharges to Rosebud from the sub-McKay from the Big Sky Mine. It is also hard to believe that the substantially greater area of mining in Rosebud and Big Sky that will contribute salinity to Rosebud Creek will, collectively, cause a smaller load of salinity than the much small Area F of the Rosebud Mine (which WRM's consultant concluded would contribute 240 tons annually). This concern is enhanced by reports that the ground water model used by WRM's consultant is designed in a way that will under predict impacts of mining. Hertzman Consulting, LLC, Draft Review of Groundwater Model Rosebud Mine Area F (Nov. 13, 2012) (Ex. 11). Even accepting WRM's assertion that the additional tons of salinity from AM5 will not increase the concentration of salinity in Rosebud Creek, simply adding more salt to a stream that exceeds water quality standards for salinity is material damage. *MEIC v. DEQ*, No. DV 19-34 (Mont. 16th Jud. Dist. Ct. Oct. 28, 2021).	While DEQ considered MDSL's prior analysis for Area B of the Big Sky Mine, DEQ did not replicate that analysis' methodology because newer information and methods are available. The 1988 Big Sky Area B permit application, written findings, and FEIS were based on the state of science and data available in 1988, whereas the AM5 permit application and DEQ's evaluation thereof are based on the current state of science and over 30 years of additional data. For example, the Big Sky Area B permit application impact analysis used an assumed postmine TDS value of 4,245 mg/L for spoil (Commenter Ex. 14: Big Sky Area B PHC, Appendix 17-1 at p. 17-23), whereas data collected from spoil monitoring wells after mining showed that the actual TDS was 3,646 mg/L (AM5 PHC, Appendix O, Attachment U, Table 2S), and the hydraulic conductivity used in the Big Sky calculation (1.25 ft/d) is inexplicably substantially higher than the geometric mean hydraulic conductivity values measured for the Rosebud Coal (0.817 ft/d) and overburden (0.29 ft/d) (Big Sky Area B PHC, Appendix 17-1, Table 17-4 at p. 17-5), and hydraulic conductivities reported from the Rosebud Mine for the overburden (0.015 ft/d), Rosebud Coal (0.12 ft/d), and spoil (0.3 ft/d) (see CHIA Table 7-5). Because some of the input values for the 1988 Big Sky analysis are now known to be incorrect, the new analyses conducted by W.E.T. and DEQ for AM5 is more accurate and reliable. Using an outdated method based on outdated data would not comply with ARM 17.24.302(1) and (2). Area C does not lie in the groundwater basin of Rosebud Creek or contribute and groundwater to that basin. The analysis for AM5 does not consider transport through the sub-McKay, however, the AM5 analyses by W.E.T. and DEQ do include the mass output from spoil from all of Big Sky Area B as shown in the AM5 PHC Attachment U Figure 5S. The difference in the two analyses is that in 1988 Big Sky assumed the mass from the western half of Big Sky was transported to Rosebud Creek through the sub-McKay, while W.E.T. and DEQ for AM5 assumed this mass would be transported to Rosebud Creek through the Lee Coulee alluvium. In the end this difference is immaterial, as both methods assume no loss of mass during transport (i.e. all mass which exists the spoil reaches Rosebud Creek). Area F could contribute more mass from spoil than the greater area of mining in the Rosebud Creek basin. First, the value of 240 tons per year is unattributed and incorrect. The Area F PHC Addendum calculated a mass of TDS from Area F of 226 tons per year. Second, a greater mass from Area F is not unexpected or unusual when all factors included in the calculations are considered. The mass derived from spoil is not based on the areal extent of the mine area (i.e. number of acres) but rather is a factor of the cross-

		sectional area of the aquifer (thickness times width), the groundwater gradient, and the difference in concentration between the pre-mining groundwater and the spoil groundwater. The postmining spoil TDS estimate used for Area F of 8,650 mg/L (Area F, PHC Addendum, Table A-2), compared to measured spoil TDS concentrations used in the analyses for AM5 which ranged from 2,526 mg/L to 5,037 mg/L (AM5 PHC, Attachment U, Table 2S). This higher TDS value is a result of the differences in overburden geochemistry between the eastern portion of the Rosebud Mine area and Area F to the west, and also because the Area F value is a conservative (i.e. high end of the likely range) prediction whereas the values for the AM5 analyses area based on actual measured spoil concentrations. The much higher value used for Area F causes a much higher calculated mass leaving the spoil per unit of cross-sectional area, which more than offsets the smaller cross-sectional area in Area F. Commenter cites to a 2012 draft review of the groundwater model to criticize its validity, however the groundwater model has been revised multiple times since 2012 so this review is no longer valid. The current model (described in Appendix I-A and Appendix I-B) provides a reasonably accurate predictive tool for evaluating water quantity (both water levels and groundwater flows) in the vicinity of the Rosebud Mine.
	Nor has WRM demonstrated that material damage will not occur in unmined areas of the Rosebud Coal and interburden outside of the permit area. The unmined portions of the Rosebud Coal aquifer outside of Richard Coulee appear to be Class II groundwater or better. *See* PHC attach. N, fig. 3; DEQ, AM4 CHIA at 8-11 ("Based on specific conductivity, Rosebud coal groundwater at the Rosebud Mine is Class I, Class II and Class III, with most samples falling into Class II. At Big Sky Area B, Rosebud coal groundwater is Class II and Class III."). In fact, earlier studies have indicated that Rosebud Coal groundwater may even be Class I. Big Sky Mine, PHC TAB 17, tbl. 17-8a (1992) (Ex. 14). Salinity will increase up to 200% in spoils, changing the groundwater to Class III. PHC at 142. In addition, groundwater in the interburden between the Rosebud and McKay coal seams is classified as Class I groundwater. PHC tbl. 44. After mining when the spoils become saturated, groundwater will flow away from the spoils aquifer to the south and the east, including toward Richard Coulee and unmined portions of the Rosebud Coal between Area B and Areas A and B of the Big Sky Mine. WET, App. I- B Groundwater Model Area B Amendment 5, fig. IB-14 (Mar. 2022). This will certainly affect water quality in the unmined portions of the Rosebud Coal outside the permit area in the area between the Rosebud and Big Sky Mine and to the south of the mines. It also threatens the higher water quality in the interburden. WRM acknowledges that spoils water will migrate into the "thin interburden." PHC at 144. Given the greater volume of water in the spoils aquifer and the substantially worse water quality (Class III compared to Class I in the interburden), there is substantial danger that spoils will pollute the interburden, causing material damage. In order to take a hard look at this issue and in order to demonstrate that material damage will not occur WRM must conduct a mixing analysis to determine what impact migration of spoils water will have on water in the Rosebud Coal and interburden outside the permit area. *In re Bull Mountains*, No. BER 2013-07 SM. If that mixing analysis demonstrates that a change in water classification will occur, then the proposed expansion may not be approved. *See* DEQ, Area F CHIA at 75 ("The information submitted as part of the application does not affirmatively	DEQ evaluated baseline water quality for the Rosebud Coal in the cumulative hydrologic impact area in the CHIA Section 7.2.4. Baseline Rosebud Coal groundwater falls into the Class I, Class II, and Class III ranges. CHIA Figure 7-10 shows the baseline median conductivity in Rosebud Coal wells immediately downgradient from AM5 is in the Class II range. Commenter misinterprets Table 17-8a from the Big Sky Mine Area B PHC. As this table's title states, the data contained in the table are a "flow weighted mean" calculation. As such the values reported for each aquifer represent the portion of the mean contributed by that aquifer (note that on each line the values for the four aquifers add up to the weighted mean of undisturbed aquifers), not the concentration of that parameter in that aquifer. Additionally, specific conductance (the parameter used to define groundwater class) is not included in this table. Because of these reasons, no conclusions regarding groundwater class can be made from this table. While the 1988 Van Voast paper cited in the PHC at 142 described a range of increases in TDS in spoil from 50% to 200%, the evaluation in the PHC based on additional data collected after 1988 showed that the typical increase in TDS in spoil at the Rosebud Mine has been 100%. DEQ evaluated baseline water quality for the interburden in the cumulative hydrologic impact area in the CHIA Section 7.2.5. Baseline interburden groundwater falls into the Class I, Class II, and Class III ranges, with Class III being most common. CHIA Figure 7-10 shows the baseline median conductivity in interburden wells immediately downgradient from AM5 is in the Class III range. Commenter mischaracterizes PHC Table 44, which does not show the interburden is "classified as Class I water" but rather shows that the interburden conductivity falls within the Class I, Class II, and Class III ranges, with both the average and median falling in the Class II range. The differences between the conductivity values presented for the interburden in the PHC and the CHIA is due to the scope of data used in each document. The PHC is limited to only data from Areas A, B, and C of the Rosebud Mine, whereas the CHIA also includes data from Area D, Area E, Pit 6, and Big Sky Areas A and B.

	demonstrate that the proposed mineplan will not result in material damage to Rosebud Coal groundwater outside the permit boundary. Therefore, as required by ARM 17.24.405(6)(c) and in accordance with ARM 17.24.405(4), DEQ does not approve the mine passes proposed in T2N, R38E, Section 12 north of the natural gas pipeline corridor (FD-27, FD-30, FD-35, FD-41, FD-45, FD-48, FD-51, FD-54, FD-57, FD-60, and FD-62) as shown in Figure 9-5.”).	As described in the CHIA Sections 9.7.5 and 9.7.6 water quality impacts are anticipated in the Rosebud Coal and interburden immediately downgradient from the AM5 mine spoils. However, these areas are inside the mine permit boundary thus will not result in material damage (see 82-4-203(32), MCA). Because of the flow paths of groundwater and the location of the Rosebud Coal and interburden outcrops water quality impacts from AM5 mining are not anticipated to extend beyond the permit boundary. Commenters reference to the Area F CHIA is not an analogous situation, as at Area F mining and spoil were located immediately adjacent to the permit boundary, whereas at AM5 mining and spoil is located over one-mile upgradient from the permit boundary.
	RECLAMATION	
	DEQ must withhold approval of a permit application unless and until the “applicant has demonstrated reclamation can be accomplished.” ARM 17.24.405(6)(a). Reclamation includes reclamation of impacts to water resources. *Id.* 17.24.1116(6)(d); *see also* DEQ, Power Point Presentation for Rosebud Mine Area B AM5 Environmental Impact Statement at 27 (Nov. 10, 2020) (recognizing the reclamation includes “phase IV” reclamation of impacts to water resources). Here, existing and historic mining is already “causing violation of RC [Rosebud Creek] EC [electrical conductivity] standard without AM5.” DEQ, Teams Chat Logs: Hydro Chat (Dec. 12, 2020) (Ex. 16). As a result, DEQ acknowledges that Phase IV reclamation in Area D is not possible. *Id.* The same analysis applies to AM5, precluding a determination that can be accomplished.	ARM 17.24.1116(6)(d) describes the conditions necessary for Phase IV bond release, which includes “(iii) with respect to the hydrologic balance, disturbance has been minimized and offsite material damage has been prevented in accordance with the Act, the rules, and the approved permit.” Reclamation is defined in MSUMRA as “backfilling, subsidence stabilization, water control, grading, highwall reduction, topsoiling, planting, revegetation, and other work conducted on lands affected by strip mining or underground mining under a plan approved by the department to make those lands capable of supporting the uses that those lands were capable of supporting prior to any mining or to higher or better uses.” 82-4-203(44), MCA. Protection of the hydrologic balance and reclamation are two separate requirements of MSUMRA (see ARM 17.24.313 and ARM 17.24.314). The Power Point in Commenters’ Ex. 16 does not state “reclamation includes ‘phase IV’ reclamation of impacts to water resources” but rather states “Phase IV: ensures the restoration of the hydrologic balance.” Commenter also mischaracterizes the quote from Teams chat logs in their Ex. 16. Commenter selectively excluded the first portion of this statement “Just realized **<u>if</u>** I find that current + historic mining is causing violation of the RC EC standard without AM5, Area D is never getting Phase 4 bond release for the part that drains to RC” (emphasis added). As is clear from the use of “if”, this quote makes no conclusion or acknowledgment as to whether Area D is causing any violations of water quality standards, or whether a Phase IV bond release application would be approved, but rather is speculation on a hypothetical. Evaluation of compliance of previous mining areas with water quality standards which came into effect after they were permitted will be evaluated by DEQ at the time any applications for such bond releases are reviewed. Additionally, based on DEQ’s 2020 Water Quality Standards Attainment Report Rosebud Creek (Assessment Unit MT42A001_012) is not listed as impaired due to specific conductance or any other parameter due to mining.
	In addition, there is no indication that reclamation of sage brush steppe habitat can be accomplished at this mine. The operator of the Spring Creek Mine has admitted that they have not had success getting shrubs to grow on mined land. DEQ, Use of Reclaimed Mine Lands 2012 Regulatory Performance Agreement Special Topic (June 2012) (Ex. 17); *see also* Statement of Clait Braun, Ph.D. (Sept. 2019) (Ex. 18). There is no indication that any sage brush habitat has been restored at any coal mine in Montana. This important because before large scale mining in the Colstrip Area, it was recognized to be sage grouse habitat. Mont. Dep’t of Health and Envtl. Sciences, EIS for the Proposed Montana Power Company Electrical Generating Plant at Colstrip, Montana at A-16 (1973) (Ex. 19). The problems with reclamation will only be exacerbated by the impacts of climate change, which are predicted to	Sagebrush Steppe habitats are not included in the reclamation plan for AM5. This community was not recorded in pre-mine areas and is thus not a post-mine target for reclamation. (Table 313-2b) Numerous sagebrush vegetation types are included, but not a sagebrush steppe community. Application SL18, for phase II and III bond release, was approved by DEQ on February 8, 2022. This application documents woody plant density exceeding the technical standard in every year sampled for the bond release, demonstrating that sagebrush community reclamation can be accomplished. Spring Creek Mine’s reclamation success is not an indicator of WMR’s ability to succeed, as these are two different mine operations, owned by different operators, occurring in different parts of the state. Spring Creek’s bond release application SL8, approved in

	cause substantial increases in air temperature and evaporative deficits and decreases in snow-water equivalent and soil water storage. USGS, Summary of Treasure County, Montana (Dec. 2016) (Ex. 20).	2015, documented sagebrush establishment exceeding the standards on 407 phase III acres of wildlife habitat. As there are numerous instances of phase III bond release for sagebrush communities being approved, the Commenter's statement, and subsequently Clait Braun's (Commenter Ex 17), that sage brush habitat has not been reclaimed is inaccurate. The success of these applications demonstrates that there are not problems with reclamation. The state action before DEQ is to review and to make a decision on Westmoreland Rosebud's surface-mine operating permit application under MSUMRA, Section 82-4-221 et seq., MCA. DEQ was not granted the authority to consider climate change in these statutes. These comments regarding climate change are outside of the scope of the MSUMRA Acceptability Determination.
	BUFFER ZONE RULE (1) No land within 100 feet of a perennial stream or intermittent stream or a stream reach with a biological community determined according to (3) may be disturbed by strip or underground mining operations, nor may the stream itself be disturbed, except as approved in accordance with ARM 17.24.634 through 17.24.637 and 17.24.751, upon finding by the department that: (a) the original stream function will be restored in accordance with ARM 17.24.634 and 17.24.751; and (b) during and after the mining, the water quantity and quality and other environmental resources of the stream and the lands within 100 feet of the stream will not be adversely affected. (2) Any area not to be disturbed must be designated a buffer zone and marked as specified in ARM 17.24.524. (3) A stream with a biological community is determined by the existence in the stream of an assemblage of two or more species of fish, amphibians, arthropods or mollusk that are: (a) adapted to flowing water for all or part of their life cycle; (b) dependent upon a flowing water habitat; (c) reproducing or can reasonably be expected to reproduce in the water body where they are found; and (d) these species must be longer than two millimeters at some stage of their life cycle spent in the flowing water habitat. *Id.* Here, the reach of Lee Coulee at wetland 4-2/2 is fed by groundwater and is therefore an intermittent to perennial reach, and not an ephemeral reach. DEQ itself has recognized that stream reaches that are fed by spring water are not ephemeral but intermittent to perennial. DEQ, Rosebud Area F FEIS at 211, 511 (Nov. 2018) (Ex. 23); DEQ, AM4 CHIA at 8-2 to 8-3 ("In the context of MSUMRA … some monitored segments of EFAC, Stocker Creek, and Lee Coulee have had enough continuous flow to classify small reaches of the stream as intermittent per ARM 17.24.301(61)."). As such, WRM may not strip mine this intermittent reach of Lee Coulee.	Pond PO-300 and the associated wetland 4-2/2 are discussed in the CHIA, Section 7.1.5. There is no indication that this wetland is in a reach that warrants a buffer zone as described in ARM 17.24.651. There is no alluvium mapped in this segment of upper Lee Coulee, and the seeps likely originate from local isolated overburden units. Water has not been observed to flow out of the pond, and the lack of hydrophytic vegetation below the dam embankment indicates that water does not routinely flow out of the stock pond. The biologic community does not meet the definition of a stream reach with a biological community adapted to flowing water as defined in ARM 17.24.651(3).

	CLIMATE CHANGE	
	As noted, climate change will have significant impacts on water resources in the permit area, which will affect stream flow in all area streams and in so doing concentrate pollutants. *See* USGS, Summary of Treasure County, Montana (Dec. 2016). Climate change in Montana further threatens to harm the impact of all Montanans:	The state action before DEQ is to review and to make a decision on Westmoreland Rosebud's surface-mine operating permit application under MSUMRA, Section 82-4-221 et seq., MCA. DEQ was not granted the authority to consider climate change in these statutes. These comments regarding climate change are outside of the scope of the MSUMRA Acceptability Determination. Under MEPA, DEQ's analysis may not include a review of actual or potential impacts beyond Montana's borders. It may not include actual or potential impacts that are regional, national, or global in nature such as impacts that may result from climate change. Section 75-1-201(2)(a), MCA.
	Three aspects of projected climate change are of greatest concern for human health in Montana: 1) increased summer temperatures and periods of extreme heat, with many days over 90oF (32oC); 2) reduced air quality from smoke, as wildfires will increase in size and frequency in the coming decades; and 3) more unexpected climate-related weather events (i.e., *climate surprises*), including rapid spring snowmelt and flooding, severe summer drought, and more extreme storms. [*high agreement, robust evidence*]	See the response above regarding climate change.
	The most vulnerable individuals to the combined effects of heat, smoke, and climate surprises will be those with existing chronic physical and mental health conditions, as well as individuals who are very young, very old, or pregnant. Montana's at-risk populations include those exposed to prolonged heat and smoke, living in poverty, having limited access to health services, and/or lacking adequate health insurance. [*high agreement, robust evidence*]	See the response above regarding climate change.
	Projected increased summer temperatures and wildfire occurrence will worsen heat- and smoke-related health problems such as respiratory and cardiopulmonary illness, and these potential problems are of most immediate concern. [*high agreement, robust evidence*]	See the response above regarding climate change.
	Earlier snowmelt, more intense precipitation events, and projected increases in floods will endanger lives and lead to more gastrointestinal disease due to contaminated water supplies, as well as increased opportunities for other water-borne, food-borne, and mold-related diseases. [*high agreement, moderate evidence*]	See the response above regarding climate change.
	Increased summer drought will likely increase cases of West Nile virus in Montana, but the impact of climate change on	See the response above regarding climate change.

	other vector-borne diseases is less clear. [*high agreement, moderate evidence*]	
	Longer growing seasons, warmer temperatures and elevated carbon dioxide (CO2) levels are leading to increased pollen levels, worsening allergies and asthma. [*high agreement, moderate evidence*]	See the response above regarding climate change.
	Summer drought poses challenges to local agriculture, resulting in decreased food availability and nutritional quality, and to the safety and availability of public and private water supplies, especially for individuals and communities relying on surface water and shallow groundwater. [*high agreement, robust evidence*]	See the response above regarding climate change.
	Climate changes, acting alone or in combination, are reducing the availability of wild game, fish, and many subsistence, ceremonial, and medicinal plants, which threatens food security, community health, and cultural well-being, particularly for tribal communities. [*high agreement, moderate evidence*]	See the response above regarding climate change.
	Increased stress and increased mental illness are under recognized but serious health consequences of climate change. [*high agreement, robust evidence*].	See the response above regarding climate change.
	Adams et al., Montana Climate Assessment, Climate Change and Human Health in Montana (Jan. 2021) (Ex. 21). These impacts threaten Montanans fundamental right to a clean and healthful environment and implicate DEQ's responsibility to protect this right. Mont. Const. art. II, § 3, art. IX, § 1. DEQ is complicit in harming the health and violating the rights of all Montanans by continuing to permit unabated coal strip-mining and coal combustion in this state. DEQ must disclose these impacts in its CHIA and its EIS for this proposed mine expansion. DEQ must also deny this mine expansion, which is inconsistent with the fundamental rights of all Montanans.	See the response above regarding climate change.
	COAL CONSERVATION	
	An application for coal mining must include a coal conservation plan to assure that all minable and marketable coal is mined. ARM 17.24.322. If any minable or marketable coal is omitted, the applicant must explain why the coal is omitted. *Id.* The mining plan appears to omit marketable coal in the northeastern portion of the area in sections 14 and 24. PHC fig. 5; Coal Conservation Plan Ex. M. WRM has provided no explanation for why this	The northeastern portion of sections 14 and 24 contain federal coal that is not minable because of Federal executive action. On January 17, 2016, the federal government introduced a moratorium on all new leasing for federal coal. The AM5 application was originally submitted to DEQ on February 17, 2017. WRM therefore could not have pursued a lease for the coal—as there was a federal moratorium in place—making the coal unminable. The moratorium was publicly available and public knowledge, therefore the fact that the coal was unminable did not require explanation.

	coal is not otherwise mineable and marketable. The coal is not of inferior quality nor is the stripping ratio too high. Coal Conservation Plan Ex. M. In fact, given the removal of the coal in Richard Coulee, it would appear that WRM would need additional coal reserves to meet its obligations. There is no indication that the coal in sections 14 and 24 is of poorer quality or that the overburden is any greater than other coal in Area B. Maps of the coal in these sections show that the seam is virtually the same as in section 23. The only difference is that this appears to be federal coal, which WRM has failed to seek to lease. Area B AM5 Ex. L2; Coal Conservation Plan Ex. M. But this is not a valid basis for failing to include this coal in the proposed amendment. WRM may not gerrymander its permit application to avoid mineable and marketable federal coal simply because it seeks to evade federal oversight. *See* Email from Daniel Munoz, WRM, to Michael Barnes (Jan. 8, 2016) ("On Area G, (Area B Extension South), we are looking at submitting the application as a Permit Amendment/Extension to the Area B Permit. WECo and the DEQ feel that this approach (because there will be NO Federal Coal in this application), will help with the approval time frame for this area.") (Ex. 22).	If the federal moratorium were withdrawn, and the coal were to become minable, then Westmoreland would have the opportunity to lease the coal and, at that time, submit an application proposing to add those areas of coal into the mine plan pursuant to ARM 17.24.401.
	ADDITIONAL PROBLEMS	
	WRM's PHC and Addendum suffer from the following additional problems that must also be corrected:	
	• The PHC asserts that Area F is hydrologically isolated from Area B, PHC at 9, but DEQ's own analysis demonstrates that salinity pollution from both areas will interact to an extremely demanding 99% confidence level. *See* DEQ, Excel Spread Sheet T-Tests (when test is corrected to make it a one-tailed test, p is less than .01). Moreover, additional monitoring could demonstrate the expected change to an even more demanding confidence level.	The proposed Area B AM5 mining lies exclusively in the Rosebud Creek groundwater basin (see CHIA Figure 7-12) thus will not contribute TDS to the Armells Creek drainage. The t-tests presented in the referenced spreadsheet were correctly evaluated using a two-tailed procedure and show that increases in TDS downstream from Area F were insignificant (thus could not "interact" with any TDS from other mining areas. Because the t-tests rely on a baseline (pre-mining) dataset for comparison, no "additional monitoring" is possible downgradient from Area F as Area F mining has commenced.
	• The PHC relies on EFAC flow data from 1975 to 1995, PHC at 22, which is now nearly 30 years old and stale. Elsewhere the PHC discusses flow data from EFAC through 2008, *id.* at 23, which is also outdated and in need of updating, especially in light of the worsening impacts of climate change. At one point the PHC refers to the condition of EFAC in 2013, nearly a decade ago, as the "current condition." *Id.* at 45. This data and analysis must be updated.	The PHC includes data up to 2017, the year when the AM5 application was submitted to DEQ for review. WRM has continued to collect baseline data in the AM5 application throughout the review process. The PHC considers data from a variety of sources including the Rosebud Mine, Big Sky Mine, and USGS. The 1975 to 1995 data is specifically and only for a USGS station (06294995) on Armells Creek near Forsyth. This station was discontinued by the USGS in 1995. The 2008 data referred to in the comments is a specific reference to the time range when a paper recorder was used (see PHC page 23 and PHC Figure 26). Surface water flow recorders were exchanged for digital recorders in 2011, and the 2011 to 2017 data range is shown in PHC Figure 27 and 28 and mentioned in the second paragraph on page 23 of the PHC.
	The PHC suggests that EFAC may not be intermittent between Areas B and C, *id.* at 28, however, DEQ itself has recently confirmed that	The July 2, 2018, letter from DEQ to OSM (commenter's Ex. 24) states "While it is not disputed that small reaches of intermittent flow have occurred at times in the locations mentioned, it is

	this reach is at least intermittent. Ltr. from DEQ to OSM (July 2, 2018) ("Intermittent flow has been observed in EFAC in Section 15, and immediately upstream in Section 16 since 2015."). Indeed, the only pre-mine analyses that exists for Armells Creek demonstrate that both EFAC and WFAC were perennial prior to mining. C.E. Dobbin, USGS, The Forsyth Coalfield at 5 (1923) ("Its West Fork extends southwestward about 18 miles and its East Fork southeastward about 16 miles and thence westward about 14 miles. The main creek and both forks contain flowing water the year round.") (Ex. 25).	inconclusive from the available data if these intermittent flow conditions are typical for those reaches or are only present during generally wetter climatic conditions." "Based on the foregoing, the WEG Complaint's contentions that Upper EFAC is or was an intermittent-to-perennial stream fed by groundwater constitute a demonstrably incorrect mischaracterization of the facts, which MTDEQ is constrained to reject." OSM agreed that DEQ demonstrated a rational basis for concluding that the Rosebud Mine had not dewatered EFAC and had not caused material damage to a creek outside the permit area. As stated in commenter's Ex. 24, alluvial water levels had declined to below the stream's thalweg before mining occurred near the creek leading to the conclusion presented in this exhibit and in the AM4 CHIA that mining did not reduce baseflow in Section 15 of EFAC. Surface water was observed in this reach by DEQ inspectors in 2016, and alluvial water levels confirmed that this surface water was groundwater fed baseflow. Sufficient water was found in the reach in recent years to perform aquatic life surveys for multiple sequential years. There is no evidence that premine upper EFAC, including the EFAC segment in Section 15, met the conditions of an intermittent reach nor that mining caused material damage to this reach. Mining in AM5 will not affect alluvial groundwater levels in EFAC. EFAC surface water quality in Section 15 will be protected through the use of sediment control ponds while the haul and ramp roads through Rosebud Area B are in operation.
	• The PHC continues to advance its theory that precipitation somehow causes salt levels in the alluvium to increase. *E.g.*, PHC at 59. WRM fails, however, to provide any scientific support for this hypothesis aside from an email correspondence from 2015. *Id.* If the theory has any legs, WRM should have been able to find some real support in the past seven years. As it is, the theory is simply not logical. If relatively clean rainwater causes salt levels to increase when water levels increase, then what mechanism causes it? Similarly, when water levels decline in the alluvium, what mechanism causes the water to become less salty? If WRM is not able to answer these basic questions, it should not be permitted to advance this non-scientific hypothesis.	The applicable document for the AM5 decision is the AM5 CHIA, not the AM4 CHIA. The AM4 CHIA, (commenter's Ex. 3) describes in detail how large precipitation years, such as 2011, can cause water level and water quality changes in alluvial wells and cites wells that show these changes that are unaffected by mining and is in agreement with statements made on page 59 of the PHC. Page 59 of the PHC does provide evidence from 15 alluvial wells which show an increase in water levels and TDS in 2011.
	• WRM's continued insistence that drought rather than strip-mining caused the dewatering of EFAC in section 15, PHC at 81, continues to be sleight of hand. If not for strip-mining causing water levels to plummet, there is no question that the stream segment would have recovered much more quickly. Also, notably, WRM's consultant reached the opposite conclusion in his PHC for Area B AM4, as did DEQ's CHIA for AM4.	Mining in AM5 will not affect alluvial groundwater levels in EFAC. See response to a similar comment above which addresses the nature of EFAC within T1N R40E, Section 15.
	• The PHC suggests that prior to human interventions, such as ponds, water levels would have been lower and the "channels would tend to be flashier," PHC at 83, is not supported. It is highly likely that prior to European arrival in what is now Montana, these streams had beaver dams on them that retained water and raised the water table. As noted, the first study of EFAC found that the stream had flowing	The Dobbin (1929) reference (Commenter's Ex. 25) states that "the main creek and both forks contain flowing water year-round". The word "contain" does not imply that the entirety of the creek had flowing water, and the referenced text does not state exactly where along the 30 miles of EFAC and 18 miles of WFAC flowing water was found. No water quality or water quantity data was presented in the text. The next statement is a list of large named tributaries that were all found to be dry.

	water all year round. C.E. Dobbin, USGS, The Forsyth Coalfield at 5 (1923).	The text also states that "Practically all these streams [large tributaries of Rosebud Creek including Miller Coulee, Lee Coulee, and Richard Coulee] have shallow pools of water here and there along their courses in the dry season, and for short distances there may be a slight surface flow of water." This statement further corroborates the fact that prior to mining in the Rosebud Creek and EFAC drainages, water resources were similar to what was measured and recorded by the mines in the 1970s and 1980s as part of the premine baseline data: mostly ephemeral drainages with occasional shallow pools of non-flowing water and low-flowing springs.
	• WRM discounts the chance of spoils water with high arsenic concentrations impacting alluvial water on the basis that no similar exceedances have been detected in the alluvium. PHC at 124. But this analysis is meaningless because presently the spoils groundwater is not moving toward the alluvium.	Based on decades of monitoring of spoil groundwater at the Rosebud and Big Sky mines, spoil groundwater in the Colstrip area does not typically contain high arsenic concentrations. As shown in CHIA Figure 9-14, concentrations of arsenic in spoil are similar to those in all other aquifers both before and after mining. Commenter is incorrect that "spoils groundwater is not moving towards the alluvium." In many locations, including portions of Rosebud Mine Area A and Area C, and all of Rosebud Mine Area D, Area E, and the Big Sky Mine Area A and Area B water levels in spoil have recovered sufficiently to restore the premining flow direction towards downgradient alluvium of several creeks, including Stocker Creek, East Fork Armells Creek, Pony Creek, Cow Creek, Miller Coulee, and Lee Coulee. See PHC Figure 69 for the current potentiometric surface map in the Rosebud Coal and spoil. The PHC discussion on page 124 refers specifically to spoil well WS-203, which as shown in PHC Table 41, is the only spoil well to have repeatedly exceeded the water quality standard for arsenic. Water levels have been concurrently monitored in WS-203 and WA-210 since 2016, and water levels in WA-210 have been consistently lower than water levels in WS-203, confirming that the PHC is correct to state that WA-210 is downgradient from WS-203 and to assume that groundwater would flow from spoil to the alluvium in this area.
	• Further, because DEQ has recognized that WRM is already contributing to material damage—violations of water quality standards—in Rosebud Creek due to pollution from Area D, among other locations, DEQ is precluded from issuing the permit.	DEQ has not recognized that WRM is contributing to material damage. The commenters are presumed to be referencing the ARM 17.30.670 EC/SAR standards for Rosebud Creek and the groundwater models showing spoil groundwater will eventually move off the permit to the Rosebud Creek alluvium and into Rosebud Creek itself as baseflow. Mining in Rosebud Area D was approved in 1986 before the enactment of ARM 17.30.670. Evaluation of compliance of previous mining areas with water quality standards which came into effect after they were permitted will be evaluated by DEQ at the time any applications for such bond releases are reviewed. Cumulative impacts to Rosebud Creek from coal mining including Area D and AM5 are discussed in the CHIA in Section 9.6.9 and in the CHIA Appendix A.
	Conservation Groups hereby include and incorporate by reference their prior comments on the AM5 expansion. Ltr. from WELC to DEQ (Nov. 23, 2020) (Ex. 26); Ltr. from WELC to DEQ (Jan. 6, 2021) (Ex. 27); Ltr. from WELC to DEQ (July 19, 2017) (Ex. 28).	These comments were associated with completeness, and were/are captured throughout the deficiency process, EIS and Written Findings (which includes the CHIA).
	• WRM does not include all violations from the Rosebud and Absaloka mine in the past three years in the permit application, which must also be corrected. *See* Application 17.24.303(1)(n). WRM's operation at the Absaloka mine was cited for significant non-compliance in 2019 for failure to report monitoring information and for exceeding monthly pollution limits for aluminum, which together constitute 62 days of violation. EPA, ECHO, Westmoreland Absaloka Mining LLC (Ex. 29). WRM's operation at the Absaloka mine is also currently in violation of the Clean Water Act for monitoring violation, improper	Violations were updated at the beginning of the application and will be updated during the renewal process. All violations that would affect a permitting decision are captured in the applicant violator system (AVS). DEQ conducts a screening on the AVS prior to making any permitting decision. See Written Findings for further information.

	lab analysis, lack of flow measurement devices, failure to submit monitoring report, and incorrect reporting. EPA, ECHO, Westmoreland Absaloka Mining LLC (Ex. 30). This includes 101 late or missing DMR measurements, constituting 101 violations. *Id.* The Rosebud mine has been no better. DEQ has issued 10 letters of violation and warning letters to WRM since 2017. EPA, ECHO, Rosebud Mine, Colstrip, MT 59323 (Ex. 31). This includes current violation status for missing monitoring reports and repeated violations of suspended solids limitations since 2020, including monthly violations. *Id.* Since 2017, WRM has had 67 days of violation of effluent limits at the Rosebud Mine. *Id.* Since 2019, the Absaloka mine has 62 days of violations under the CWA. *See graph below*. Not only does this demonstrate that WRM is in current violation of environmental protection laws, Mont. Code Ann. § 82-4-227(11), it also provides evidence—in the form of hundreds of days of violation and missing monitoring measurements—of a pattern of environmental violations warranting denial of any further permit approvals. *Id.* § 82-4-227(12). This concern is underscored by DEQ's recognition that WRM is currently contributing to material damage, in the form of violations of water quality standards, in Rosebud Creek. *See supra*.	
	CONCLUSION	
	In short, at present WRM's AM5 application is not complete and DEQ must withhold approval of the application. At present, DEQ should require WRM to update its application and DEQ should update and recirculate its DEIS for further comment. Even if WRM's application were complete, the evidence demonstrates that DEQ should withhold approval of the permit. Should you have any questions about these comments, please do not hesitate to contact us.	As required by ARM 17.24.401(6) DEQ determined the application to be administratively complete on May 24, 2017, and again on February 21, 2021, due to an ownership and control change. DEQ then determined the application to be acceptable as required by ARM 17.24.404(3) on April 12, 2022. Lastly, as required by ARM 17.24.405(1) the department shall prepare written findings approving or denying an application filed in pursuant to ARM 17.24.401(1) in whole or in part no later than 45 days from the date of acceptability determination except as provided by 75-1-208(4)(b), MCA. Thank you for your comment regarding the DEIS, but this comment is out of the scope of comments on the acceptability determination under MSUMRA.
Atchison, April 28, 2022	Dear MT DEQ Coal Mining Section: Please see attached two (2) Letters of Support or Public Comment for the AM5 Permit Expansion Request before you from Westmoreland Rosebud Mining, LLC. The two Letters are from the City of Colstrip and Southeastern Montana Development Corporation (SEMDC). I had trouble sending these via the DEQ Link thus I am using regular email. Thank you for the opportunity to comment on this most important issue. Jim Atchison SEMDC 748-2990	Thank you for your comment.

Nance, April 28, 2022	Jay Nance 67 Ucross Lane Birney, Mt 59012 Coal Mining Section Mining Bureau DEQ PO Box 200901-0901 Dear Coal Mining Section, I am writing to show my support for the Westmorland Rosebud Mining AM5 permit expansion. I am a 78 year old rancher and have live here my entire life. I was on the board of directors of Tongue River Electric Coop as well a VP of Montana Associated Utilities in Great Falls at a time of Colstrip's beginning in the production of power.. I have spoken in favor of all four of the plants when they were being permitted. I have been in favor of coal development and it's conversion to electricity since it's inception. We currently have a war on fossil fuel. It turns out to be a war with ourselves. We have shot ourselves in the foot. Perhaps both feet. Perhaps a day will come when we can convert everything to renewable energy but it certainly is not now. We need secure baseline power production which operates during a dark windless night. Other reasons to support the decision is to remember that Colstrip with it's plants and mine, is next to the Northern Cheyanne Reservation which has I think more then seventy percent below poverty. Colstrip has lifted many and I hope many more to come. They have few good jobs to pick and choose from. 2 Also the current-world geo-political situation requires some thought. Dictators have been given resources to conduct murder on folks they wish to rule because of our unwillingness to employ a all of the above energy policy. I believe there are national security issues with any decisions regarding energy development. Lastly those of us in farming and ranching are not the least bit interested in acquiring our power from a more fashionable more expensive source. We need all the help we can get and cannot stand huge power price increases. We produce food here and it's already expensive. There are many more reasons to support this expansion but I will leave them to others. Lets not not deliver Colstrip to the cancel culture. Sincerely Jay Nance	Thank you for your comment.

Schwarz, April 28 ,2022	Jeff Schwarz Modern Machinery 101 International Way Missoula, Montana 59808 April 28, 2022 Coal Mining Section Mining Bureau Department of Environmental Quality PO Box 200901 Helena, MT 59620-0901 Dear Coal Mining Section: I am writing this letter to show our support for the upcoming decision on Westmoreland Rosebud Mining's AM5 permit expansion. Modern Machinery has a rich history in the State of Montana. With headquarters in Missoula and branch operations in Billings and Columbia Falls our employees have been supporting Westmoreland Rosebud Mining operations, along with other coal mining operators, for many years. Coal has helped to carry weight of the State of Montana's economy for many years, with AM5 this can continue long into the future. Along with the economic benefits, this decision will ensure that coal production is available to provide reliable, low-cost energy to the Northwest Region. When making your final decision please don't count coal out of the mix, we need to have all types of energy in today's market, but we need it to be as steadfast as coal power has always been. Sincerely, Jeff Schwarz - President	Thank you for your comment.
Pontius, April 29 ,2022	I would strongly urge you to approve the Westmoreland Colstrip mine expansion. The Colstrip mine and power plants are vital to our national security. The two are tied at the hip. They can't exist without each other, and the Western power grid can't be sustained without them. Coal is a vital part of the Montana economy. The tax dollars that the mine generates for the state, county, city, and school districts is irreplaceable. A Montana State University study concluded that every job in the coal industry created seven more jobs in the Montana economy. Western Energy has a proven track record of mining coal responsibly. Their reclamation efforts are award winning. There is no reason to believe that they won't continue to act in an environmentally responsible fashion. Their reclamation is some of the most productive agricultural land in our area. Out of state radical environmental groups may oppose this expansion. The people who live near the expansion support it. Do the right thing. Endorse the expansion of the Western Energy coal mine. Robert Pontius	Thank you for your comment.
April 29, 2022	Please allow the expansion of the Rosebud mine. Westmoreland has been a great community partner to the community and the state. Westmoreland is also a major employer for high paying jobs in the state.	Thank you for your comment.

Dunn, April 29 ,2022	To Whom It May Concern, I am writing to comment on the Rosebud Mine Expansion. I am in favor of the mine expansion. I am a resident of Colstrip. I know firsthand what a good neighbor Westmoreland has been to our community. They provide good paying jobs to hard working women and men. Our state is full of natural resources and coal is one of those. We have been shown in Texas and California what happens when you don't have reliable, dependable and affordable energy. Please don't let that happen to Montana. I ask you to please grant a permit expansion to Westmoreland for the Rosebud Mine expansion. Thank You, Patricia Dunn 2535 Chisholm Dr Colstrip MT 59323	Thank you for your comment.
Miller, April 29, 2022	Dear DEQ Coal: I am writing in support of Westmoreland's AMS Permit. Coal has been shown recently to be very important to our country for not only electricity and heating but for national security. Now as the war in Ukraine rages on we're seeing how important coal is to Europe. Coal has been a cornerstone for our state for decades. Every legislative session our lawmakers fight over who gets a slice of the coal tax pie, while simultaneously working to shut it down. Makes no sense. We need coal. Give Westmoreland the go-ahead they need. It is critical for the community of Colstrip, as well as Rosebud County. But it is also critical for our state. Most of the dollars spent in Montana have some coal dust on them. Let's use this valuable resource and help provide reliable, cost efficient electricity. Thank you, Rebecca Miller PO Box 2341 Colstrip, MT 59323	Thank you for your comment.
Custer, April 30, 2022	Dear DEQ Coal Mining Section I am sending this email to let you know I am in support of the Westmoreland Mining permit application. We need to keep our mining operation running to supply coal to the plant site in Colstrip. The mine hires our local workers and continues to do award winning work on reclamation. Thank you for letting me comment. Respectfully requested, Geraldine Custer Representative House District 39	Thank you for your comment.

Frank, April 29, 2022	We need reliable energy. Coal has always been reliable for our power plants and the electrical grid. Montana has the largest amounts of coal reserves in the US. The expansion at the Rosebud mine will help meet our energy demands. Also keep Colstrip MT viable in the future. Westmoreland has always been a staunch supporter of Montana and it's communities. The Unites States needs to be ENERGY INDEPENDENT from China, Russia and other countries that don't have our best interests. We can not take our energy for granted, we need to be proactive! Sincerely, Cathy Frank Community member for 38 years Montanan all my life Colstrip Mt Sent from my iPhone	Thank you for your comment.
Phillips, April 29, 2022	Dear Coal Mining Section, Please find the attached support letter from Tractor and Equipment Co. regarding Westmoreland Rosebud Mining, LLC Amendment AM5 Acceptability Determination. We appreciate the opportunity for public comment on this important determination. Regards, Ryan Phillips Mining General Manager N C Machinery / Tractor & Equipment Work: (425) 466 - 2297 Mobile: (309) 264 - 1377 RPhillips@NCMachinery.com	Thank you for your comment.

Schwend, April 29, 2022	Coal Mining Section Mining Bureau Department of Environmental Quality PO Box 200901 Helena, MT 59620-0901 Dear Coal Mining Section: The purpose of this letter is to show Montana Coal Councils' support for the upcoming decision on Westmoreland Rosebud Mining's AM5 permit expansion. Throughout the nation and world, we consume power more than ever; not including coal in this mix will be detrimental to our energy security. Montana has the largest amounts of coal reserves in the United States and is some of the cleanest burning and an economic driver for the state of Montana. The expansion Westmoreland is trying to obtain will help ensure we meet these energy demands and continue to fund many essential programs across the state. Coal has helped carry the weight of the State of Montana's economy for many years; with AM5, this can continue long into the future. Since creating the Montana Coal Severance Tax, Montana has received nearly 2.4 billion dollars from our coal producers. This money continues to help fund things like parks, arts, state libraries, highways, and much more. The 2.4 billion dollars does not include dollars collected from gross proceed taxes, resource indemnity trust tax, property tax, federal tax, personal income tax, or royalties. Along with the economic benefits, this decision will ensure that coal production is available to provide reliable, low-cost energy to the Northwest Region. Over the last few years, we have learned that energy security can not be taken for granted after witnessing what has happened in California and Texas. We must continue to protect the most vulnerable people and be able to provide a reliable, abundant, low-cost fuel source to keep the power on in peak load times. Coal has been that solution and should continue to be in the future. Westmoreland has been a cornerstone in America's energy sector and as a producer in Montana, played a significant role in our energy security and the sates economic benefits for many years. Not only that, but they have proven themselves repeatedly with environmental stewardship and community support, and provided safe, high-paying jobs for so many. The Rosebud Mine has been recognized with a long list of federal, state, and industry environmental and safety awards over its decades of reliable operations. The great work by those at Rosebud will continue with the approval of the AM5 expansion. Please support the Westmoreland Rosebud Mining's AM5 permit expansion Sincerely, Molly Schwend Executive Director 2 mschwend@montanacoalcouncil.org Cell (406)490-4618	Thank you for your comment.