



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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May 19, 2008

Ref: EPR-N

Mr. George Gover
Superintendent
Bureau of Indian Affairs
P.O. Box 69
Crow Agency, Montana 59022

Re: Absaloka Mine Crow Reservation South Extension
Coal Lease, DEIS CEQ # 20080092

Dear Mr. Gover:

In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C) and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Bureau of Indian Affairs' (BIA) Absaloka Mine Crow Reservation South Extension Coal Lease Approval Draft Environmental Impact Statement (DEIS). The project proponent, Westmoreland Resources Inc. (WRI) proposes to extend the Absaloka Mine south on to the Tract III coal lease and the South Extension Tract within the boundaries of the Crow Indian reservation. The proposed mine extension would allow WRI to continue mining at the current production rate of 6.5 to 7.0 million tons of coal per year until approximately 2021.

EPA asked for an extension of the comment period so that revised information regarding EPA's proposed National Pollutant Discharge System (NPDES) permit for the Absaloka Mine South Extension project would be available during the EIS public comment period. The DEIS published in March, 2008 included information for NPDES water discharge alternatives during the pre-mining and post-mining phases of the project. On April 2, 2008, EPA received a revised NPDES permit application from WRI which requested an NPDES permit for water discharges during the active mining phase in addition to the pre-mining and post-mining phases. EPA issued a public notice for public comment on the draft NPDES permit for water discharges associated with all phases of the project comment on May 2, 2008.

EPA will be sending two comment letters for this DEIS, because of the tight schedule for this project. This first comment letter includes most of our comments, except for the changes we are recommending to update the NPDES section, comments on greenhouse gas emissions, and our rating in accordance with EPA responsibilities for conducting independent review under the Clean Air Act Section 309. We do not anticipate that the NPDES changes will affect the environmental analysis in the DEIS. The main change would be the "design storm" for sediment control structures during the active mine phase. Runoff from active parts of the mine will be required to have sediment control structures that can accommodate a 10-year, 24-hour storm.

EPA's review of the DEIS identified some concerns associated with impacts to air quality, surface and groundwater quality, groundwater levels, alluvial groundwater flows, and wetlands along with the need to improve the disclosure of environmental impacts. Further discussion and more detailed comments and concerns regarding EPA's analysis of potential environmental impacts of the Absaloka Mine Crow Reservation South Extension Coal Lease Approval are included in the enclosure with this letter.

If you have any questions regarding our comments please contact Dana Allen at 303-312-6870, Steve Potts at 406-329-3313 or me at 303-312-6004.

Sincerely,

Original signed by DLA

Larry Svoboda
Director, NEPA Program
Office of Ecosystems Protection and Remediation

Enclosure

cc: Rick Stefanic, BIA
Greg Hallsten, Montana DEQ

EPA's Detailed Comments on the Absaloka Coal Mine, South Extension DEIS

Water Resources

1. The DEIS states that dissolved metals concentrations are typically low in the alluvial wells in Middle Fork Sarpy Creek and Sarpy Creek locations, although it is also stated that dissolved iron and manganese are above the SMCL levels (secondary drinking water standards) in every sample collected (page 3-56). The DEIS further states that the levels of potential contaminants such as nitrate, arsenic, selenium, barium, and trace metals (e.g., mercury, lead, chromium, copper, cadmium, zinc) are typically less than the analytical detection limits or are significantly below the MCLs (drinking water standards -- maximum contaminant levels) in all water samples that were collected in 2005 and 2006 from alluvial monitoring wells located within and adjacent to the South Extension development area.

Westmoreland Resources Inc. (WRI) sent Absaloka Mine water quality data to EPA NPDES permit staff in Denver that showed background water quality with elevated levels of some metals. For example, concentrations of aluminum, copper, iron, lead, manganese, zinc exceeded surface water quality standards. It is not clear to EPA where these samples were collected (i.e., Sarpy Creek, Middle Fork Sarpy Creek, or a tributary), and how representative the data may be of overall natural conditions in surface waters in the project area.

These data seem inconsistent with the above referenced DEIS statements that the levels of trace metals are below the analytical detection limits. Lead, copper, and zinc are of particular concern. The FEIS should provide further information and discussion regarding the potential for elevated levels of metals to be present in surface waters in the project area, as well as in mine drainage and/or stormwater runoff from the mine. For example from the discussion in the DEIS, it appears that there is long-term water quality data for Sarpy Creek. This information could be summarized or graphed to present long-term water quality trends from the mine. The extent to which the proposed sedimentation treatment systems would remove metals from mine drainage and stormwater runoff should also be discussed. Data on the hardness levels in project area surface waters should also be provided, because water quality criteria for metals are dependent on hardness.

2. In Westmoreland's application to discharge mine drainage from the active mining area, data were provided which showed exceedances of EPA's Quality Criteria for Water (EPA 440/5-86-001, May 1, 1986) for aluminum, copper, lead, and zinc. These data were provided in the "total" fraction and EPA's criteria are for metals in the "dissolved" fraction. The FEIS should include a discussion regarding whether potential toxicity could result from these metals and how these data can be interpreted when concerning total metal concentrations and dissolved metals concentrations given background and receiving water pH and hardness.
3. The first paragraph on page 3-101 should note that the State of Montana is scheduled to develop a Total Maximum Daily Load (TMDL) for nutrients in Sarpy Creek during the life of

the propose mine extension. The results of the TMDL will need to be incorporated into EPA's and the State of Montana's NPDES permits.

4. The third paragraph on page 3-101 should be revised to include a summary of monitoring data for nitrogen compounds (nitrate, nitrite, ammonia and total Kjeldahl nitrogen). Nitrogen compounds are frequently found downstream or in the ground water at mines with large areas of blasting using ANFO (ammonium nitrate/fuel oil).
5. The DEIS acknowledges that up to a 30 percent reduction in the groundwater flow through the Middle Fork Sarpy Creek alluvial aquifer may occur due to mining (page 3-71). The life of mine drawdown is projected to be no more than five feet at a distance of about 1,200 feet east of the South Extension boundary, and that maximum drawdown in the overburden is projected to be about 40 feet in the area immediately east of the eastern most pit, and the maximum drawdown directly south of the South Extension development area is about 10 to 20 feet (page 3-68). EPA is concerned about reductions in alluvial groundwater flows to the Middle Fork Sarpy Creek. For example, please clarify whether the estimated 30 percent reduction in groundwater flow through the Middle Fork alluvial aquifer is based on anticipated loss of all lateral recharge to the alluvial aquifer. Additional information should be added to the FEIS to explain the recharge to the alluvial aquifer.

Groundwater recharge may be important since the DEIS states that drawdown prediction figures illustrate that the areal extent of drawdown in both the overburden and coal aquifers due to pit dewatering would be limited to a maximum distance of no more than ½ mile from the pits (page 4-33). However, if drawdown occurs as much as ½ mile from the mine pit, it would appear to us that an increase in the proposed 250 to 300 foot riparian buffer on the Middle Fork Sarpy Creek may lessen the reduction in alluvial groundwater flow. However, EPA understands that the reduction in alluvial groundwater flow would occur regardless of riparian buffer width. The relationship between riparian buffer width and the extent of alluvial groundwater drawdown remains unclear to EPA, as it appears that increasing the riparian buffer beyond 250-300 feet would lessen the potential drawdown (i.e., if drawdown occurs up to ½ mile from the mine pit). The FEIS should provide further discussion regarding relationships between riparian buffer width and reduction in alluvial groundwater flows. EPA also recommends that the riparian buffer zone be flagged in the field to better assure that mine equipment operators respect buffer zone boundaries.

6. EPA is concerned about the long-term groundwater drawdowns that would result from coal mining. The DEIS states that water levels in affected aquifers would remain depressed below pre-mining levels for a long period of time, perhaps even permanently (page 3-72). In addition, the DEIS indicates that groundwater impacts from coal bed natural gas (CBNG) development and surface coal mining would be additive in nature, and that addition of CBNG development would extend the area experiencing drawdown to the east of the mining area (page 4-34). After CBNG development and coal mining projects are completed, it will take longer for groundwater levels to recover due to the overlapping drawdown impacts caused by the dewatering and de-pressuring of the coal aquifer by both operations (page 4-35). This additive effect of potential future CBNG development along with and coal mining in regard

to groundwater drawdowns increases concerns about reductions in groundwater levels and any adverse impacts to flows in Middle Fork Sarpy Creek.

EPA recommends the FEIS explore potential mitigation measures to compensate for long-term, and maybe even permanent, adverse effect to groundwater levels (loss of springs EPA recommends the lead agencies consider requiring WRI to provide water developments to compensate for decreased groundwater levels and loss of springs that occur due to mining.

7. EPA is concerned about the projected increased levels of salinity and dissolved solids in groundwater likely to occur as a result of coal mining. The DEIS states that the Total Dissolved Solids (TDS) concentrations in the water re-saturating the backfill after mining is generally higher than TDS concentration in groundwater from the overburden and coal seam aquifers prior to mining due to availability of highly soluble salts in overburden sediments (page 3-73). In BLM's regional study of the cumulative impacts of coal mining in the Powder River Basin, the median concentrations of dissolved solids and sulfates were found to be higher in water from backfill aquifers than in water from either the Wasatch Formation overburden or the Wyodak coal aquifer. The DEIS stated that these elevated concentrations result from blasting and movement of the overburden materials that exposes more surface area to water, increasing dissolution of soluble materials, particularly from the overburden materials that were situated above the saturated zone in the pre-mining environment (page 4-33).

While a significant variability in natural TDS levels in groundwater appears to exist, the average TDS concentration in coal monitoring wells collected from the Rosebud and McKay seams was stated to be 1,606 mg/l (page 3-61). The potential post-mining groundwater quality at the Absaloka Mine has been predicted by modeling and by evaluating backfill water quality to range from 2,600 to 2,900 mg/l (page 3-74). This analysis, therefore, appears to predict an increase of approximately 1,000 mg/l in TDS levels from pre-mining conditions.

Wetlands

8. We appreciate the inclusion in the DEIS of figures (maps) showing the locations of wetlands in the proposed area of mining disturbance based on USFWS wetlands inventory mapping (Figures 3-14 to 3-17d). It appears that most wetlands lie within the proposed 500-600 foot riparian corridor for the Middle Fork Sarpy Creek, and thus, would not be disturbed during mining. However, some palustrine emergent seasonally flooded (PEMC) and temporarily flooded wetlands (PEMA) appear to be shown outside this riparian corridor on unnamed tributaries to Middle Fork Sarpy Creek (Figure 3-14).

It appears that any wetlands outside the 500-600 foot riparian corridor for the Middle Fork Sarpy Creek will likely be impacted during mining. The DEIS, however, only appears to identify 0.9 acres of wetlands along the Middle Fork Sarpy Creek riparian corridor that may be disturbed during dragline crossings over the channel, as the extent of overall wetland impacts from the proposed Tract III and South Extension mining (page 3-120).

For purposes of clarity, we ask that the FEIS discuss the PEMC and PEMA wetlands on unnamed tributaries to Middle Fork Sarpy Creek that are located outside the 500-600 foot riparian corridor for the Middle Fork Sarpy Creek and that may be impacted during mining. It is important that all pre-mining wetland areas impacted during mining be quantified to better assure that post-mining reclamation will re-establish adequate wetlands during post-mine reclamation to achieve no net loss of wetlands. All wetlands that may be impacted by mining, including those outside the riparian corridor, should be quantified and disclosed.

9. The FEIS should also disclose that WRI will need to need to obtain a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers for the discharge of dredged and fill material into waters of the United States. Mining activities such as the dragline crossings of the Middle Fork of Sarpy Creek would need to be covered under a national or individual 404 permit if they result in the discharge of dredged or fill material into waters of the United States.

Air Quality

10. The BIA presented near-field modeling results for project specific criteria pollutants utilizing AERMOD and referenced the PRB 2005 Coal Review for the cumulative and visibility impacts. Tables 4-4 through 4-6 disclose potential cumulative impacts referenced from the Task 3A Report for the Powder River Basin Coal Review -- Cumulative Air Quality Effects. Potential cumulative impacts exceeded significance thresholds for the following:

- a) The 24-hour National Ambient Air Quality Standards (NAAQS) for particulate matter as PM10 is 150 $\mu\text{g}/\text{m}^3$. As described in the PRB Coal Review Cumulative Air Quality Impacts report for Base Year 2002, the maximum cumulative PM10 was predicted to be 175.8 $\mu\text{g}/\text{m}^3$, for 2010 Lower Development Scenario 200 $\mu\text{g}/\text{m}^3$ and for 2010 Upper Development Scenario 247.7 $\mu\text{g}/\text{m}^3$.

- b) Modeled increment impacts for the Prevention of Significant Deterioration (PSD) regulations in Class I areas were shown to be over the PSD threshold at the Northern Cheyenne Indian Reservation for SO₂ and PM10. For Washakie Wilderness Area and Wind Cave National Park, for PM10. For Class II areas, impacts were over the PM10 threshold for the Crow Indian Reservation.

- c) A significant number of increased Days of Visibility Impairment (greater than 10%) were modeled at several Class I areas even under the 2010 Lower Development scenario near the project, including 5 days at Northern Cheyenne Indian Reservation, 15 days at Theodore Roosevelt and 6 days at Northern Absaroka Wilderness Area.

Table 2-4 (page 2-33) states visibility impacts were 199 or more days with a change of 1.0 dv or greater at three Class I areas. EPA recommends that the FEIS clarify that these modeled impacts are for baseline conditions (2002), and three out of 17 Class I areas and seven out of 18 sensitive Class II areas in the vicinity of the Powder River Basin have visibility impacts greater than 199 days.

d. The Acid Neutralizing Capacity of sensitive lakes shows a predicted impact exceeding the significance threshold at the Cloud Peak Wilderness under the 2010 Lower Development Scenario. Under the same Scenario to the impact at Cloud Peak, an impact at the Bridger Wilderness Area also is predicted.

EPA understands the Bureau of Land Management (BLM) has committed to carry out additional detailed modeling for the Powder River Basin (PRB) Coal Review (2008). If the additional modeling becomes available, EPA recommends incorporating the revised modeling into the Absaloka FEIS. The Absaloka Mine extension is within 10 miles of the Class I Northern Cheyenne Indian Reservation, which receives significant adverse impacts from the many energy development projects in the area, as shown in the PRB Coal Review's cumulative effects analysis from coal mines within Montana. EPA believes that the control measures specified under Section 3.4.2.3 provide a significant level of point source and fugitive dust control. To further ensure impacts to the Class I areas are minimized, additional measures should be added in the FEIS for the Absaloka mine, such as those implemented at the PRB mines in Wyoming that fall under the State of Wyoming's Natural Event Action Plan (<http://deq.state.wy.us/AQD/NEAP.asp>)

11. EPA recommends that the discussions of visibility impairment be expanded to clarify the relative contribution of the Absaloka mine to cumulative air quality conditions, especially on the Northern Cheyenne Indian Reservation. For example, the Absaloka mine is a relatively small mine when compared to other mines in the immediate area; and in particular, when compared to the coal mines located near Gillette, Wyoming. Also the cumulative air impacts discussion on page 4-26, mentions that the coal mines mainly emit PM10 and the majority of impacts are in the "near-field". The FEIS should clarify what ranges of distances are typically considered to be "near field"? The FEIS should also explain more clearly, that emissions from the Absaloka mine are already included in the baseline for cumulative air impacts and the increase in days of visibility impairment from 5 to 10 days of visibility impairment predicted for 2010 are based on increased emissions from energy development activities other than the Absaloka mine
12. EPA recommends that the Absaloka Mine resume monitoring air quality to ensure compliance with the NAAQS PM10 24-hour standard and to measure project specific impacts to the Northern Cheyenne Class I airshed. We recommend that the monitoring site be located in the southeast corner of the proposed project boundary, in a publicly accessible area.
13. On page 3-24, middle of first paragraph of Section 3.4.1.1, the current list of pollutants with NAAQS should be updated to include PM2.5. "These ~~six~~ seven pollutants are carbon monoxide particulate matter (PM10 and PM2.5) . . ."
14. Table 3-4 "Assumed Background Air Pollutant Concentrations", presents carbon monoxide, nitrogen dioxide and sulfur dioxide background concentrations that were referenced from the MDEQ Modeling Guidance document. However, the DEIS does not present background data on ozone. EPA recommends that ozone background data be added to the FEIS.

Rather than utilizing modeled data for background concentrations, for project specific impacts, measured data should be included wherever possible. EPA is aware that monitoring data is relatively sparse in this area of Montana; however, sites located in Wyoming at the Thunder Basin National Grassland or at Spring Creek and Decker mines should be used for background data as these data do represent accurately measured data for the area.

15. In Table 3-4, the Primary/Secondary NAAQS for Ozone is now 75 ppb (147 ug/m³). The 1-hour O₃ NAAQS is now only applicable for special Early Action Compact areas. Please update this information in the FEIS.
16. Table 3-4 presents PM₁₀ summary data from the South Extension site. This data was collected during 2006. According to footnote 1 of Table 3-6, PM₁₀ Data were "adjusted" due to forest fires located near the facility. Under the EPA Natural Events Policy and the new Exceptional Event Rule (40 CFR parts 50 and 51, March 22, 2007) Montana DEQ and EPA Region 8 should have received data documentation packages substantiating that measured PM₁₀ data were affected by a Natural Event. If the data package was acceptable, then the data would be concurred on, excusing this data from future regulatory review. EPA is aware that fires occurred during this period in this part of Montana; however, we are unsure that the concurrence procedure was followed. The FEIS should explain in detail the monitoring dates and data that were excused. Additionally, the FEIS should include a description of MDEQ or EPA concurrence in order to excuse the measured maximum PM₁₀ concentrations for 2006.
17. EPA recommends that the FEIS disclose that emissions from coal combustion have been identified as a significant source of atmospheric mercury. EPA's website at <http://www.epa.gov/mercury/report.htm> has several reports summarizing the environmental impacts of mercury, primarily bioaccumulation in the aquatic food web. Concentrations of mercury emitted as a result of combustion vary depending on the chemistry of coal deposits and the type of air pollution controls. For purposes of the DEIS, we recommend including any existing information on mercury emissions from power plants currently burning coal from the mine. If coal ash analysis data including mercury is available, EPA recommends that that information also be included in the FEIS.

Environmental Justice

18. EPA recommends that additional information be added to the Environmental Justice (EJ) section. For example, we have enclosed a map of the area around the Absaloka coal mine showing low income and minority populations, tribal boundaries, facilities with environmental permits or reporting requirements. The addition of this type of map to the EJ section would help pull together the narrative analysis to support the DEIS conclusion that there are no disproportionate impacts on minority, low income and tribal populations

The EJ section includes some broad statements about the lack of disproportionate impacts to EJ communities; however, it lacks specific information to support the conclusion that there

are no disproportionate impacts on minority, low-income and Tribal populations. We recommend that BIA specifically describe the impacts on these populations, including human health, social and economic effects.

We note that many other sections of the DEIS are pertinent to the Environmental Justice analysis. For example, the air quality sections 3.4 and 4.2.3 address cumulative visibility and PM10 impacts. Similarly, the analyses of groundwater drawdown, transportation and hunting practices are other areas in the DEIS that are particularly relevant to the EJ analysis. One way to ensure that readers are aware of these other EJ related analyses in the EIS is to include references to them in the EJ section.

Coordination with EPA's NPDES Permit

19. EPA understands BIA has agreed to act as lead federal agency for purposes of the Endangered Species Act (ESA) and National Historic Preservation Act (NHPA) for the Absaloka Mine project. EPA will comply with applicable NHPA and ESA provisions with regard to our NPDES permitting action. To assist EPA in completing our administrative record, could you please send a letter to EPA confirming BIA's status as lead agency for purposes of NHPA and ESA compliance and forward to EPA, copies of correspondence on the Section 7 consultation with the Fish and Wildlife Service. Similarly, could you please forward correspondence regarding the review by BIA and the appropriate State Historic Preservation Officer and Tribal Historic Preservation Officers and/or the National Advisory Council.

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