



February 25, 2013

Mr. Chris Yde  
Coal Program Supervisor  
Industrial and Energy Minerals Bureau  
Montana Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

*By First-Class Mail and Electronic Mail to cyde@mt.gov*

**RE: Comments – Completeness of Application for Permit, Otter Creek Mine**

Dear Mr. Yde:

We submit these comments on behalf of the Montana Environmental Information Center (“MEIC”), National Wildlife Federation (“NWF”), and Sierra Club in connection with Otter Creek Coal, LLC’s (“OCC”) permit application for the Otter Creek Mine and the Montana Department of Environmental Quality’s (“DEQ”) December 14, 2012, completeness determination for that permit. MEIC, NWF, and Sierra Club have members that live in the vicinity of the proposed Otter Creek mine, some of whom stand to be directly affected by the environmental effects flowing from the mine’s development.

The purpose of this letter is to highlight application deficiencies that must be remedied before DEQ may deem the application administratively complete.<sup>1</sup> This letter also serves as a request for an informal conference pursuant to ARM 17.24.403 and a site visit to the mining area with DEQ staff, including a DEQ hydrologist, to gather more information on the issues described herein.<sup>2</sup> We will cooperate with the Department and OCC to determine a convenient time for the conference, and request that it be held in Lame Deer (so as to accommodate the interests and needs of Northern Cheyenne tribal members), or as an alternative, in Ashland (the proposed mine site).

**I. BACKGROUND**

OCC, a wholly owned subsidiary of St. Louis-based Arch Coal, proposes to develop a massive coal strip mine in the Otter Creek Valley of southeastern Montana. If developed, the Otter Creek mine would be one of the nation’s largest coal mines, as it contains at least 1.3

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<sup>1</sup> An administratively complete application is one that “the regulatory authority determines to contain information addressing each application requirement of the regulatory program and to contain all information necessary to initiate processing and public review.” 30 C.F.R. § 701.5.

<sup>2</sup> Conference attendees would include, in addition to interested persons identified by other conference attendees, MEIC, NWF and Sierra Club staff and members; their retained experts; and their retained legal representatives.

billion tons of coal. At peak production, the Otter Creek mine is projected to produce 33.2 million tons of coal each year. Norwest Corp., Montana Otter Creek State Coal Valuation, at 3-5; id. at Appendix C (Jan. 30, 2009), available at <http://dnrc.mt.gov/trust/MMB/ottercreek/2009/ValuationReport.pdf>. This level of mining would nearly double Montana's existing coal production.

The Otter Creek coal mine will cause direct, harmful effects to land, surface waters, groundwater, air quality, regional wildlife, and residents' livelihoods. "As ... coal is mined, almost all components of the present ecological system in the area, which have developed over a long period of time, are modified." Mont. Dep't of Env'l. Quality, Draft Environmental Impact Statement for the Absaloka Mine Crow Reservation South Extension Coal Lease Approval, Proposed Mine Development Plan, and Related Federal and State Permitting Actions, at 3-182 (Mar. 21, 2008) ("Absaloka EIS"), available at [deq.mt.gov/eis/Absaloka/Draft%20EIS%20Complete.pdf](http://deq.mt.gov/eis/Absaloka/Draft%20EIS%20Complete.pdf)). These effects will be more than temporary: DEQ has found that many substantial environmental consequences from coal mining endure even after a mine is reclaimed.

Montana requires coal mine applicants to provide DEQ with a permit application that details the expected scope of natural resource impacts, as well as plans to minimize those environmental consequences. For example, coal seams can serve as vital aquifers in semiarid regions such as eastern Montana. Strip mining results in complete removal of the coal aquifer and any overburden, id. at 3-66, destroying aquifer function, impacting hydrologically connected waters, and affecting regional flora and fauna (domestic/cultivated, and wild). Potential groundwater impacts of surface mining include "interruption of lateral recharge to the alluvium," id. at 3-71; replacement of "existing layers of sediment and rock in the area of coal removal ... by generally homogeneous, unconsolidated backfill material," id. at 3-72; the likely long-term, and perhaps permanent, lowering of "[p]ost-mining water levels in the backfill ... [as compared to] premining, steady-state levels in the undisturbed aquifers," id.; a "reduction in flow rate or physical removal" of springs in the mining area," id. at 3-75; and an increase in "the TDS concentration in the water resaturating the backfill ... [as compared to] the TDS concentration in groundwater from the overburden and coal seam aquifers prior to mining," id. at 3-73.

As the mining area is "reclaimed," the coal aquifer is replaced with backfilled overburden material. Id. While reclamation attempts to restore natural conditions, the landscape of the mined area is forever changed and aquifers are often permanently damaged. Id. at 3-8, 3-66, 4-17. This is evidenced by the fact that "[t]he number of acres receiving 100% final release (OSM Phase III/MT DEQ Phase IV) is small compared to the number of mined acres actually regraded, soiled and seeded." Casper Field Office, Indus. & Energy Minerals Bureau, Montana Dep't of Environmental Quality, OSM Reclamation and Enforcement: Annual Evaluation for the Regulatory Program 4 (2011) [hereinafter DEQ 2011 OSM Report]. Increased TDS and salinity degrade groundwater and impair its use for household and irrigation purposes. As DEQ has noted:

After mining and reclamation, groundwater discharges from the spoil aquifer ... alter the water quality of the down gradient aquifers. The overburden [is] highly fractured and the newly exposed particle surfaces ... contain leachable minerals and salts that dissolve in the invading

groundwater as the mine backfill resaturates and/or water from impoundments infiltrates. As water moves from the coal aquifer to the recently backfilled overburden, dissolved concentrations of sulfate, sodium, and bicarbonate ions [will] likely increase, raising the total dissolved solids (TDS) concentration of the backfill aquifer 50 to 200%.

Id. at 3-73.

In addition to impacting water resources, coal mining at Otter Creek will degrade air quality from the use of heavy equipment; from the drilling, blasting, and transportation of the coal; and from fugitive dust from the mining site. Surface coal mining also impacts air quality by generating nitrogen oxide ( $\text{NO}_x$ ) emissions:

The primary direct source of emissions of  $\text{NO}_x$  from coal mining operations is tailpipe emissions from large mining equipment, railroad locomotive emissions,<sup>3</sup> and other vehicle traffic inside the mine permit area. Blasting that is done to remove the material overlying the coal (the overburden) can result in emissions of several products, including  $\text{NO}_2$ , as a result of the incomplete combustion of nitrogen-based explosives. When this occurs, gaseous, orange-colored clouds may be formed and they can drift or be blown off mine permit areas.

Id. at 3-43.

Irreparable harm to soils, wildlife, and cultural resources will also occur:

The characteristics of topsoil ... would be irreversibly changed. Soil formation processes, although continuing, would be irreversibly altered during mining-related activities. Newly formed soil material would be similar but not identical to that in the natural landscape. Direct and indirect wildlife deaths caused by mining operations or associated activity, albeit incidental, would be an irretrievable loss. Disturbance of all known historic and prehistoric cultural sites eligible for the NRHP would be mitigated. However, accidental destruction of presently unknown archeological or paleontological values would be irreversible.

Id. at 3-185.

All of these impacts will play out on a landscape that is home not just to abundant wildlife, but also to Montanans who have depended on the Otter Creek Valley for agricultural production and enjoyed hunting and recreating there for generations. In light of the undeniably

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<sup>3</sup> Arch Coal is a partner in the proposed Tongue River Railroad, which would likely be used to carry Otter Creek coal to Pacific Northwest terminals for export. The environmental impacts from that railroad and downstream effects from the transport and combustion of this coal are thus inextricably, albeit indirectly, connected to this permit application.

substantial harm of developing and operating a coal strip mine in the ecologically rich Otter Creek Valley, DEQ must ensure that required environmental protections are strictly followed. Indeed, in litigation filed by MEIC and Sierra Club challenging the Otter Creek coal lease, the State of Montana cited the Montana's Strip and Underground Mining Reclamation Act's (SUMRA) provisions as the primary means for minimizing or avoiding a wide range of environmental harms attendant to coal mining. Before OCC's permit may be deemed administratively complete, DEQ must require OCC to amend its mining permit application to provide a complete inventory of baseline environmental conditions and comprehensive plans to preserve those conditions to the extent possible.

## **II. THE APPLICATION MUST FULFILL THE SPECIAL APPLICATION REQUIREMENTS FOR COAL MINING OPERATIONS ON AREAS OR ADJACENT TO AREAS INCLUDING ALLUVIAL VALLEY FLOORS**

OCC "intends to conduct coal mining adjacent to the Otter Creek valley, a valley holding a stream in the semi-arid region of Eastern Montana." Otter Creek Mine Application Attachment ARM 17.24.325\_Otter Creek Mine.pdf (July 24, 2012). OCC has thus submitted to DEQ "information required under ARM 17.24.325(2)(a) to enable [DEQ] to make a determination as to the presence or absence of an alluvial valley floor (AVF)<sup>4</sup> in the adjacent reaches of Otter Creek at its tributary drainages." Baseline Report 325A: Alluvial Valley Floor Determination at 1. The information provided by OCC is insufficient to allow DEQ to make an AVF determination.

Pursuant to Montana law, DEQ "may not approve an application for a strip- or underground-coal-mining permit or major revision unless the application affirmatively demonstrates that ... the proposed ... mining operation would not

- interrupt, discontinue, or preclude farming on alluvial valley floors that are irrigated or naturally subirrigated ... or
- materially damage the quantity or quality of water in surface water or underground water systems that supply [alluvial] valley floors[.]"

MCA § 82-4-227(3)(b) (emphasis added). If an alluvial valley floor (AVF) is determined to be present, DEQ must then determine—before a permit may be issued—whether a statutory exception applies<sup>5</sup> or whether a series of required findings and can be made and compliance

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<sup>4</sup> An alluvial valley floor is defined as "the unconsolidated stream-laid deposits holding streams where water availability is sufficient for subirrigation or flood irrigation agricultural activities." MCA 82-4-203(3)(a).

<sup>5</sup> The two primary exceptions include "undeveloped rangelands that are not significant to farming" as well as farmland that is of "such small acreage as to be of negligible impact" on agricultural production. MCA § 82-4-227(b)(i); ARM § 17.24.325(3)(a)(ii).

measures demonstrated.<sup>6</sup> ARM § 17.24.325(3)(b), (f)(ii). If the exclusions do not apply and the DEQ cannot make these required findings: “(i) … mining is precluded on the proposed permit area and the permit thus denied, or (ii) … coal mining and reclamation operations are prohibited in all or parts of the affected area.” ARM § 17.24.325(3)(b). The AVF determination and the extent to which mining may be conducted in the target area are thus based upon the information provided by OCC in the application package. ARM § 17.24.325(c)-(f). Unless and until OCC provides all relevant information to DEQ, the Department cannot make an AVF determination the permit application remains administratively incomplete.

Given the importance of the AVF determination to both the existence and the permissible scope of the Otter Creek mine, it is imperative that OCC’s application contain all of the information necessary to inform DEQ’s analysis. This is particularly true since previous studies have indicated the likely existence of AVF in the proposed mine site area.<sup>7</sup> While the AVF Baseline Report submitted by Otter Creek Coal, LLC, provides some of information required by ARM 17.24.325, several deficiencies remain. The deficiencies listed below were identified by experts at Geo-Hydro, Inc. Their comments (attached to comments separately submitted by Northern Plains Resource Council and incorporated by reference here) provide a more thorough discussion of each of the identified issues.

The first deficiency in Otter Creek Coal, LLC’s application pertains to subirrigation. Montana regulations require that an applicant submit to DEQ “documentation that areas identified in this subsection are, or are not, subirrigated, based on ground water monitoring data, representative water quality, soil moisture measurements, and measurements of rooting depth, soil mottling, and water requirements of vegetation[.]” ARM 15.24.325(2)(a)(iv). Such data must be “appropriate” and adapted to “site-specific conditions.” Id. 15.24.325(2)(a). The wells upon which OCC relies were not appropriate for the site-specific conditions. Specifically, the wells upon which OCC relies for its groundwater data were inappropriately constructed for the purposes of collecting the data outlined in ARM 15.24.325(2)(a)(iv) (i.e., they were too deep). See GeoHydro Comments, at 1. DEQ cannot make an informed AVF determination based on the data provided; this portion of the application thus remains incomplete. Otter Creek Coal, LLC must collect and submit data from a series of properly-constructed wells in the project area to fulfill the requirements of ARM 15.24.325(2)(a)(iv).

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<sup>6</sup> These findings and demonstrations include: the preservation, throughout the mining and reclamation processes, of essential hydrological functions of AVFs falling *outside* the permit area; the reestablishment, throughout the mining and reclamation processes, of essential hydrological functions of AVFs *within* the affected area; and the reestablishment of pre-mining levels of agricultural utility and AVF productivity (ARM § 17.24.801); that the mining operations will not “interrupt, discontinue, or preclude farming” on an AVF,<sup>6</sup> or “cause material damage to the quality or quantity of water in surface or underground water systems that supply” AVFs (ARM § 17.24.802); that an adequate environmental monitoring system will be installed, maintained, and operated on the AVF throughout the mining and reclamation process (ARM § 17.24.804); and that “significance of impact” and “material damage” determinations are made in accordance with ARM § 17.24.805-806.

<sup>7</sup> See, e.g., Mike R. Cannon, Effects of potential surface coal mining on dissolved solids in Otter Creek and in the Otter Creek alluvial aquifer, southeastern Montana, USGS Water-Resources Investigations Report: 85-4206 (1985); Neal E. McClymonds, Potential Effects of Surface Coal Mining on the Hydrology of the West Otter Area, Ashland and Birney-Broadus Coal Fields, Southeastern Montana, USGS Water-Resources Investigations Report 84-4087 (1984).

Otter Creek Coal, LLC's submission of photographs under ARM 15.24.325(2)(a)(vi) is also incomplete. This regulation requires an Applicant to submit "analysis of a series of aerial photographs, including color infrared imagery flown at a time of year to show any late summer and fall differences between upland and valley floor vegetative growth and of a scale adequate for reconnaissance identification of areas that may be alluvial valley floors." ARM 15.24.325(2)(a)(vi). Contrary to this regulatory direction to submit "a series of aerial photographs," OCC submitted only one photograph. Experts GeoHydro, Inc. note that the one infrared aerial photograph submitted "clearly shows enhanced vegetative growth along Otter Creek on the AVF during September 2011, an appropriate time of year to identify subirrigation in support of agriculture." GeoHydro, Inc. Comments, at 2. Given the likelihood that AVFs exist in the project area, and given the significance of an AVF determination for mining operations, OCC must provide additional aerial photographs (enough to constitute an appropriate "series" for the project site) so that DEQ can make an informed AVF determination. Until OCC submits an adequate series of aerial photographs pursuant to ARM 15.24.325(2)(a)(vi), the application is administratively incomplete. Further, if an AVF is present, the information provided by OCC does not demonstrate the feasibility of full and complete reclamation of AVF structure and function. Such information is also required for administrative completeness.

### **III. THE APPLICATION MUST PROVIDE ALL DATA NECESSARY TO EVALUATE BASELINE CONDITIONS, AND PROBABLE AND CUMULATIVE HYDROLOGIC CONSEQUENCES, OF MINING**

OCC's application lacks requisite information regarding the hydrologic consequences of developing the Otter Creek coal mine. OCC must include environmental resources information on "all hydrologic and geologic data necessary ... to evaluate the probable hydrologic consequences<sup>8</sup> ... of mining" the proposed mine plan area and adjacent areas. ARM 17.24.304(1)(e). This hydrologic analysis must include, inter alia, a determination of the impact the proposed mining operation will have on "acidity, total suspended and dissolved solids, and other important water quality parameters of local impact[.]" ARM 17.24.314(3)(b)(iv)(B). OCC's application lacks data on the expected total dissolved solids concentration in spoil water. GeoHydro, Inc. Comments, at 2-3. OCC admits that its application does not yet include this required information, and this information must be provided to the Department before the application can be deemed administratively complete. See id.

### **IV. THE APPLICATION MUST DEMONSTRATE THAT THE OTTER CREEK MINE WILL MEET ALL FEDERAL, STATE, LOCAL, AND TRIBAL AIR QUALITY REQUIREMENTS**

The permit application also is deficient with respect to SUMRA's requirements for documentation that OCC will protect air quality. The applicant's failure to demonstrate that it will meet air quality requirements is significant because coal mines emit substantial volumes of

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<sup>8</sup> "Probable hydrologic consequences" are "the projected results of proposed strip or underground mining operations that may reasonably be expected to alter, interrupt, or otherwise affect the hydrologic balance. The consequences may include, but are not limited to, effects on stream channel conditions and the aquatic habitat on the permit area and adjacent areas." ARM 17.24.301(93).

particulate matter and gases including methane ( $\text{CH}_4$ ), sulfur dioxide ( $\text{SO}_2$ ), oxides of nitrogen ( $\text{NO}_x$ ), and carbon monoxide (CO). Particulate matter, sulfur dioxide, and  $\text{NO}_x$  are the primary pollutants leading to visibility impairment. Methane is a greenhouse gas twenty times more potent than carbon dioxide at trapping heat in the atmosphere, and has the potential to substantially influence warming in the short term.

Contrary to DEQ regulation, OCC has failed to set forth in its permit application “a description of steps to be taken to comply with the requirements of the Clean Air Act … and other applicable air … quality laws and regulations and health and safety standards.” ARM 17.24.308(1)(e). Instead, the permit text simply cross references the Air Pollution Control Plan. This plan, separately required by ARM 17.24.311(1), relates solely to practices to control the mine’s fugitive dust emissions. Specifically, Air Pollution Control Plans for larger-scale mines must include, at a minimum:

- (a) an air quality monitoring program to provide sufficient data to evaluate the effectiveness of the fugitive dust control practices proposed under (b) to comply with federal and state air quality standards; and
- (b) a plan for fugitive dust control practices as required by ARM 17.24.761.

ARM 17.24.311(1). The fugitive dust control plan must ensure compliance with federal and state air quality standards, id. 17.24.761, and require “stabiliz[ation] and protect[ion] of all surface areas, including spoil piles, to effectively control air pollution,” MCA § 82-4-231 (10) (m).

Thus while the Air Pollution Control Plan included in the application as Exhibit 311A addresses mine emissions related to fugitive dust, it does not address other Clean Air Act requirements applicable to the Otter Creek coal mine. These include, but are not limited to: National Ambient Air Quality Standards, 42 U.S.C. §§ 7408-7410; National Emission Standards for Hazardous Air Pollutants, 42 U.S.C. § 7412; and greenhouse gas reporting requirements, 40 C.F.R. Part 98. Moreover, the mine is adjacent to the Northern Cheyenne federal Class I airshed—an area singled out by the federal Clean Air Act and the Clean Air Act of Montana for special air quality and visibility protection. See ARM 17.8.806(6). Accordingly, the Otter Creek mine cannot obtain an air quality permit without first demonstrating “that emissions of particulate matter and sulfur dioxide will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area.” 42 U.S.C. § 7475(d)(2)(C)(i); see id. § 7473 (allowable pollution increases for class I areas). DEQ must require OCC to submit a revised application that describes how the Otter Creek mine will comply with these Clean Air Act requirements.

Further, even with respect to fugitive dust, the Air Pollution Control Plan is inadequate. Fugitive dust is a significant source of particulate pollution from coal mines, arising from loading, crushing, and handling of coal; from exposed soil surfaces and coal piles; and from heavy equipment and truck traffic on unpaved roads. OCC’s “plan” to address these emissions is a bullet point list in section 2.0, including “[m]inimizing to the extent possible exposed soil

areas;” “[u]se of chemical dust control products to stabilize access and haul road surfaces;” “[e]nclosure of crushers and transfer points;” and “[c]overing of conveyor belts.” Although all such enumerated actions are no doubt important dust-control measures, the plan lacks essential detail regarding how such measures will be employed and whether such measures are enforceable requirements or merely aspirational management practices.

The Air Pollution Control Plan also fails to describe “an air quality monitoring program to provide sufficient data to evaluate the effectiveness of the fugitive dust control practices.” ARM 17.24.311(1)(a). Instead, the plan merely states that “[m]onitoring of air quality will be conducted to the extent required under the terms of the air quality permit.” Deferring essential details about fugitive-dust monitoring to the air-permitting stage is improper, and renders the requirement to include an Air Pollution Control Plan in the coal-mine permit application a nullity. DEQ must require OCC to comply with ARM 17.24.311(1)(a) by proposing a fugitive dust monitoring plan sufficient to evaluate the effectiveness of dust-control measures.

The Operations Plan also fails to describe “steps to be taken to comply with … other applicable air … quality laws.” ARM 17.24.308(1)(e). Here, the Operations Plan cross-references Permit Section 303(1)(t), which in turn states that “[a] list of all other licenses and permits needed by OCC to conduct the proposed mining is included as Exhibit 303J–Licenses and Permits.” By any measure, a list of required permits is not a description of steps to be taken to comply with state air quality laws. DEQ must require OCC to comply with ARM 17.24.308(1)(e) by setting forth an actual plan for compliance.

## **V. THE APPLICATION MUST INCLUDE A DETAILED TIMETABLE FOR EACH MAJOR STEP IN THE RECLAMATION PLAN, AND A SUFFICIENTLY PROTECTIVE POSTMINING DRAINAGE BASIN RECLAMATION PLAN**

Coal mining companies’ reclamation record in Montana is dismal. As noted above, very few acres receive final (MT DEQ Phase IV) bond release. DEQ 2011 OSM Report at 4. It is thus imperative that DEQ require OCC to provide a detailed and complete reclamation plan prior to a determination that the applicant’s application is administratively complete. The plan submitted to date is inadequate.

Like other elements of the mining permit application, OCC’s reclamation plan lacks the detail and support necessary to allow DEQ to review its adequacy, and therefore must be returned to OCC for more information. ARM 17.24.313(1)(b) requires the reclamation plan included with a mining permit application to include “a detailed timetable for the estimated completion of each major step in the reclamation plan.” Rather than providing such a detailed timetable, OCC’s reclamation plan states: “[d]ue to the concurrent nature of mining and reclamation operations, it is not practical to project a meaningful detailed timetable for the estimated completion of each major step in the reclamation plan. Once mining has progressed to a point where the graded area is available for reclamation, soil placement and revegetation will be initiated, and will continue concurrently with mining through the life of the mine plan.” This is unacceptable. OCC points to concurrent reclamation requirements as a reason for omitting the requisite timetable from its reclamation plan, but if DEQ were to accept this justification, it would render ARM 17.24.313(1)(b) meaningless. Coal mining and reclamation activities are

always concurrent, and indeed, must be under Mont. Code Ann. § 82-4-234. This fact alone does not excuse OCC's lack of planning. OCC must make a good faith effort to establish a detailed reclamation timetable to provide notice to regulators and the public—particularly affected surface owners—of OCC's plans to restore mined areas. Such a timetable is essential to DEQ's determination of whether OCC's reclamation strategy is adequate.

The reclamation plan also omits key information regarding reclamation of the post-mining drainage basin to ensure the protection of the hydrologic balance, as required by ARM 17.24.313(e). Exhibit 313D to the application describes the drainage patterns of reclaimed areas, or the post-mine topography. Although the Exhibit claims that post-mine topography will "closely reflect pre-mine drainage basin characteristics," the Exhibit does not explain how pre-mining characteristics were determined. Most troublingly, Exhibit 313D states that: "There are no channels that contain critical hydrologic, ecologic or land use functions such as alluvial valley floors, wetlands, steep erosive upland drainages, drainages named on USGS topographic maps, or intermittent or perennial streams." However, unless and until DEQ makes a formal determination that alluvial valley floors or other critical hydrologic functions are absent from the mining area and adjacent areas, such a conclusory assertion must be rejected.

Further, Exhibit 313D states that "[d]etailed drainage designs for any channel that contains critical hydrologic, ecologic or land use functions will be prepared upon approval of the [post-mine topography], if such a channel has been identified during the review process, and prior to grading of the subject drainage." This deferral of key planning once again highlights the need for DEQ to make an alluvial valley floor determination before determining the completeness of OCC's mining application. After such a determination is made, DEQ may judge whether OCC has provided sufficient information to allow for a judgment of the adequacy of OCC's reclamation strategy.

The reclamation plan asserts that Exhibit 313D—the postmining drainage basin reclamation plan—meets the performance standards in ARM 17.24.634. However, this assertion falls short of the regulatory requirement to include "a discussion of how, within drainage basins" such performance standards will be met. ARM 17.24.313(e)(ii). Likewise, Exhibit 313D simply parrots the standards contained within ARM 17.24.634, and claims that they will be met. This is inadequate. The applicable performance standards include, for example, requirements that reclaimed drainage basins "allow the drainage channel to remain in dynamic equilibrium with the drainage basin system without the use of artificial structural controls unless approved by the department;" and "provide separation of flow between adjacent drainages and safely pass the runoff from a six-hour precipitation event with a 100-year recurrence interval, or larger event as specified by the department[.]" ARM 17.24.634(1)(d), (e). OCC has failed to provide any detail regarding how these, and other, standards will be met. DEQ must require OCC to submit this additional information before deeming the application administratively complete.

## **VI. THE APPLICATION MUST INCLUDE THE RESULTS OF A SUFFICIENTLY COMPREHENSIVE BASELINE WILDLIFE SURVEY AND SUFFICIENTLY DETAILED WILDLIFE PROTECTION AND ENHANCEMENT PLAN**

Eastern Montana teems with wildlife. The vicinity of the proposed Otter Creek mine is a mecca for hunters: pronghorn (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), white-tailed deer (*O. virginianus*), elk (*Cervus canadensis*), and game birds abound. Anglers flock to the region's lakes and stream to catch rainbow trout (*Oncorhynchus mykiss*) and brown trout (*Salmo trutta*). These and other area species are of great import to Montana; they help support regional economies and strengthen Montanans' independent, self-sufficient, outdoors-oriented lifestyle. OCC's permit application represents the state's only opportunity to garner commitments from OCC to protect the wildlife in the Otter Creek area, and it is thus imperative that DEQ obtain from OCC both a proper characterization of the regional wildlife, and a wildlife plan sufficiently protective of these wildlife resources. OCC's current application fails on both counts.

### **A. *Wildlife Survey***

As part of its application, OCC is required to provide the results of a wildlife survey in narrative form. ARM 17.24.304(1)(j). The scope and depth of the information required by the survey must be determined in consultation with DEQ and state and federal wildlife agencies and requires, at a minimum, the following:

- (i) a listing of all fish and wildlife species;
- (ii) population density estimates of each species insofar as practicable;
- (iii) a description of season or seasons of use and habitat use by each species along with a description of habitats of unusually high value for fish and wildlife such as important streams, wetlands, riparian areas, cliffs supporting raptors, areas offering special shelter or protection, migration routes, reproduction or wintering areas, and other habitats identified through agency consultation as requiring special protection under state or federal law;
- (iv) a wildlife habitat map for the entire wildlife survey area including habitat types that are discussed in (c), and ARM 17.24.751(2)(f) and (g); and
- (v) coverage of the proposed permit area plus an area around it. The extent of the total area to be surveyed must be determined through consultation with the department and must be large enough to include those species whose home ranges extend beyond the permit boundary[.]

Id. While OCC provides a lengthy narrative in its permit application, the information provided is, in many respects, deficient. For example, of all the species known to occur in the project area and/or recorded during its baseline surveys, OCC provides population density estimates

only for mule deer. See Baseline Report 304K—Fish and Wildlife Resources of the Otter Creek Mine Area 2010-2011, at 47. OCC repeatedly justifies the omission of density data by noting that “population characteristics (size and density, age and sex ratios, fawn recruitment, etc.) are dynamic and may fluctuate considerably from year to year[.]” Id. Yet to the extent such a blanket statement is true, it would be across the board and obviate the need for any operator to consider population density in any circumstance. Rather than allowing OCC to excuse away the need for population density determinations, DEQ should either require the production of population density estimates for each species in the Otter Creek project area or explain why such data collection is, per the language of the regulation, impracticable.

In addition, OCC notes that while “three tracts … could ultimately be developed for the Otter Creek Mine,” only Tract 2 was included in the primary wildlife study area. Id. at 4. Ground access was unavailable for Tracts 1 and 3, and access to Tract 2 was impeded in the winter/spring 2010-2011. Id. at 1, 4. To the extent this permit would enable mining beyond Tract 2, DEQ must ensure that adequate baseline information on wildlife is collected and provided for all other potentially-impacted Tracts. Likewise, DEQ should ensure that the additional field work conducted in winter/spring 2011-2012 adequately compensates for the 2010-2011 data shortfall.

In addition, to the extent the baseline wildlife inventory is incomplete, it precludes a determination of whether the directly impacted or adjacent lands have “special, exceptional, critical, or unique characteristics” or is otherwise unsuitable for mining. Pursuant to Montana law,

[t]he department may not approve the application for a prospecting, strip-mining, or underground-mining permit when the area of land described in the application includes land that has special, exceptional, critical, or unique characteristics or when mining or prospecting on that area would adversely affect the use, enjoyment, or fundamental character of neighboring land that has special, exceptional, critical, or unique characteristics.

MCA 82-4-227(2). Land may be designated as special, exceptional, critical, or unique for reasons of

- (a) biological productivity, the loss of which would jeopardize certain species of wildlife or domestic stock;
- (b) ecological fragility, in the sense that the land, once adversely affected, could not return to its former ecological role in the reasonably foreseeable future; [or]
- (c) ecological importance, in the sense that the particular land has such a strong influence on the total ecosystem of which it is a part that even temporary effects felt by it could precipitate a systemwide reaction of unpredictable scope or dimensions[.]

Id. In a similar vein, the department may not approve a coal mining operation on lands designated unsuitable for strip or underground coal mining, or within an area under review for an

unsuitability determination. Id. 82-4-227(9). An area may be designated as unsuitable for mining if the mining operation will “affect fragile … lands in which these operations could result in significant damage to important … scientific … and esthetic values and natural systems” or “affect renewable resource lands in which these operations could result in a substantial loss or reduction of long-range productivity … of food … products[.]” MCA 82-4-228(2)(ii)-(iii). Fragile lands are defined as

geographic areas containing natural, scientific or aesthetic resources, or ecologic relationships that could be damaged or be destroyed by strip or underground coal mining operations. Examples of fragile lands include valuable habitats for fish or wildlife, critical habitats for endangered or threatened species of animals or plants, … environmental corridors containing a concentration of ecologic and aesthetic features, and areas of recreational value due to high environmental quality, and appropriate buffer zones adjacent to the boundaries of areas where strip or underground coal mining operations are prohibited[.]

ARM 17.24.1141. Unless and until OCC submits a complete baseline wildlife survey that (1) covers the entire potential mined area and adjacent areas, (2) adequately accounts for seasonality of use, and (3) enables a determination of whether the mined or adjacent lands have “special, exceptional, critical, or unique characteristics” or are otherwise unsuitable for mining, the application is administratively incomplete.

*b. Wildlife Plan*

The information collected as part of the wildlife survey discussed supra informs the wildlife protection and enhancement plan required under ARM 17.24.304(1)(j). In contrast to the lengthy wildlife narrative, however, OCC’s Fish and Wildlife Plan is sparse—only 7 pages compared to the hundreds of pages in the baseline survey—and lacks the requisite degree of regulatory specificity. For example, the regulations require that the plan provide “a description of how the plan will minimize disturbances and adverse impacts on fish, wildlife, and related environmental values during mining and reclamation operations” and “how the applicant will utilize impact control measures, management techniques, and annual monitoring methods to protect” fish and wildlife species—not merely conclusory and unenforceable statements that it will do so. ARM 17.24.312(1)(a), (d) (emphasis added). OCC’s Fish and Wildlife Plan repeatedly falls short of these requirements. For example, the Plan states that “haul and access roads are located and will be operated to avoid or minimize impacts to … fish and wildlife species” without describing how such roads will be sited and operated to achieve these goals. OCC Fish and Wildlife Plan, at 3-4. Likewise, OCC states that “the Otter Creek Mine will design and construct fences, overland conveyors, and other structures to permit passage of large mammals” without describing, with any specificity, how such design and construction will permit such passage. Fence design and construction are particularly important for species like pronghorn, which are known to avoid perceived obstructions such as roads and fences and are quite sensitive to development within migration corridors.<sup>9</sup> The conclusory statements proffered

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<sup>9</sup> Hall Sawyer et al., *Mule Deer and Pronghorn Migration in Western Wyoming*, 33 WILDLIFE SOC’Y BULL. 1266, 1272 (2005); MARK HEBBLEWHITE, A LITERATURE REVIEW OF THE EFFECTS OF ENERGY DEVELOPMENT ON UNGULATES: IMPLICATIONS FOR CENTRAL AND EASTERN MONTANA 44, 48 (2008).

by OCC are insufficient for the purposes of administrative completeness. DEQ should require that OCC flesh out its Fish and Wildlife Plan to comply with the letter and spirit of the relevant regulations.

## **VII. THE APPLICATION MUST INCLUDE INFORMATION ON ALL POTENTIALLY IMPACTED ARCHAEOLOGICAL, HISTORICAL, ETHNOLOGICAL AND CULTURAL RESOURCES**

The Otter Creek area, including the area encompassed by the Otter Creek coal lease tracts and adjacent lands, has been occupied for thousands of years. Tribes that historically occupied the area and tribes that have a cultural relationship to the sites in the area include, but are not limited to, Crow, Northern Cheyenne, Arapahoe and numerous Sioux bands including the Oglala, Brule, Yankton, Minniconjou, Hunkpapa and Sans Arc Lakota. In addition, all of the Fort Laramie Treaty Tribes have cultural resources in the region. Because of its long history of human use and occupation, the area contains hundreds, if not thousands, of Native American historic and cultural sites and artifacts, burial sites, and locations that are important to the continuing traditional and religious practices of tribes and individuals.

The Plan of Study for cultural resources for the Otter Creek Mine was provided to members of the Northern Cheyenne Tribe several hours before public comments for the Notice of Application were due on February 25, 2013. Redacted versions of the cultural resource reports are still being withheld. Given the fact that the undersigned were unable to review either the Plan of Study or the cultural resources reports prior to the due date for public comments, it is impossible to comment on their adequacy. The undersigned thus question the thoroughness of the cultural resource surveys and note that DEQ must ensure the reports provide all information required by law and regulation before the application can be deemed administratively complete. Several general comments on cultural resources that must be considered by DEQ follow, and the undersigned request additional time to review and comment on the cultural resources reports once they are released to the public.

### *A. Historic and Cultural Resource Data*

Under Montana law, coal mine permit applications must include a listing, location, description, and map of all archaeological, historical, ethnological and cultural resources and values—including Sites listed on, eligible for, or potentially eligible for the national register of historic places—within the proposed mine plan and adjacent area. ARM 17.24.304(1)(b); 17.24.305(1)(h)). Unless the applicant consulted with Tribal Historic Preservation Officers (or other qualified tribal officials) of all potentially impacted tribes regarding tribal historic and cultural resources located in the permit area and adjacent lands, the permit information pertaining to historic and cultural resources<sup>10</sup> is incomplete.<sup>11</sup>

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<sup>10</sup> Baseline Reports 304A1-4, Baseline Report 304B, Map 6.

<sup>11</sup> Cultural Resource information has properly been withheld from public review as confidential, so there is no way for the public to adequately determine whether this element of the application is complete.

*B. Special, Exceptional, Critical, or Unique Characteristics*

Montana law requires that permit applications include data showing whether the permit area and the surrounding land possesses special, exceptional, critical, or unique characteristics, including lands with scenic, historic, archaeological, topographic, geologic, ethnologic, scientific, cultural, or recreational significance. ARM 17.24.304(1)(d); MCA 82-4-227(2)(d). The statute notes that “particular attention should be paid to the inadequate preservation previously accorded Plains Indian history and culture.” MCA 82-4-227(2)(d).

The permit application states: “There is no evidence that the permit area possesses special, exceptional, critical, or unique characteristics as defined in 82-4-227, MCA, nor does the surrounding land possess special, exceptional, critical or unique characteristics that would be adversely affected by mining.” Cover Letter for 17.24.304 Baseline Report.

This conclusion is inconsistent with the fact that the Otter Creek valley contains a high concentration of tribal historic and cultural sites and resources. These sites hold scenic, historic, archaeological, ethnologic, scientific and cultural significance to tribes and the general population. See MCA 82-4-227(2)(d). Under the statute, these resources are entitled to special consideration in deciding whether an area has “special, exceptional, critical, or unique characteristics,” and should be afforded the highest level of protection from harmful impacts. *Id.*

*C. Mitigating Impacts to Historic and Cultural Resources*

The mining plan of operations must describe the measures to be used to minimize or prevent adverse impacts to historic places and other significant cultural resources, the timing and tracking of these measures relative to the disturbance schedule, and how the applicant will obtain approval of the department and other agencies. ARM 17.24.318.

The permit application states: “There are no public parks or historic places that may be adversely affected by the proposed operations. Exhibit 318A—Cultural Resources Mitigation, describes the measures to be used to mitigate permanent removal of cultural sites identified within the permit area, the timing and tracking of these measures relative to the disturbance schedule, and how the approval of the department and other agencies will be obtained as required in ARM 17.24.1131.” Permit Application at 17.24.318(1). As stated above, we disagree with the applicant’s assessment that there are no historic places that will be affected by the proposed operations. “Historic resources” are not limited to those properties listed on the National Register of Historic Places. Further, we note that the applicant has not submitted a Cultural Resources Mitigation Plan. Until the applicant does so, the permit is not administratively complete.

**VIII. THE APPLICATION MUST PROVIDE ALL REQUIRED LEGAL, FINANCIAL, COMPLIANCE, AND RELATED INFORMATION**

Under Montana law, an applicant for a coal mine must provide information in its application concerning ownership control and outstanding violations and fines. This information helps to ensure that coal mine operators act in good faith and that violators are not rewarded with

new permits until past violations are remedied. OCC's current application fails to provide complete applicant violator information, as required under MCA 82.4.222 and ARM 17.24.303. Complete disclosure of such information is particularly critical for this application given that OCC is a wholly owned subsidiary of Arch Coal, Inc., a company with a history of violations and fines at mines it owns or controls. Unless and until OCC provides such information in full, the application is administratively incomplete.

There are multiple shortcomings in Arch Coal's application as it pertains to applicant identification and violation, and each of these shortcomings renders the application administratively incomplete. First, OCC fails to fully disclose the information required under ARM 17.24.303(1)(g), which demands, "for each person who owns or controls the applicant ...

- (i) the person's name, address, social security number, and employer identification number;
- (ii) the person's ownership or control relationship to the applicant, including percentage of ownership and location in organizational structure;
- (iii) the title of the person's position, date position was assumed, and, when submitted under ARM 17.24.413(4), date of departure from the position;
- (iv) each additional name and identifying number [emphasis added], including employer identification number, federal or state permit number, and mine safety and health administration number with date of issuance, under which the person owns or controls, or previously owned or controlled, a coal mining and reclamation operation in the United States within the five years preceding the date of the application; and
- (v) the application number or other identifier of, and the regulatory authority for, any other pending coal mining operation permit application filed by the person in any state in the United States."

OCC's application fails to provide the required identifying information for other subsidiaries of or entities currently or previously owned or controlled by Arch Coal that have conducted "a coal mining and reclamation operation in the United States within the five years preceding the date of the application." ARM 17.24.303(1)(g). Until OCC provides the information required by ARM 17.24.303(1)(g) in full, the application is administratively incomplete.

The regulations further provide that applications must contain "for any coal mining operation owned or controlled by either the applicant or by any person who owns or controls the applicant, the operation's:

- (i) name; address; identifying numbers, including employer identification numbers, federal or state permit number, and mine safety and health administration number; date of issuance of the mine safety and health administration number; and the regulatory authority; and
- (ii) ownership or control relationship to the applicant, including percentage of ownership and location in organizational structure."

ARM 17.24.303(1)(i). The information provided by OCC in response to these requirements is insufficient; instead of responding to the specific requirements of ARM 17.24.303(1)(i), OCC instead responds to the information required by ARM 17.24.303(1)(j) (regarding the mine's Mine Safety and Health Administration (MSHA) identification number). OCC must provide the information required by ARM 17.24.303(1)(i)—and provide this information for all mines owned or controlled by Arch Coal—before DEQ may deem the application administratively complete.

The application is also administratively incomplete insofar as it does not contain complete information on violations. ARM 17.24.303 (1)(m) requires that permit applications contain:

a certified statement of whether the applicant, operator, any subsidiary, affiliate, or persons controlled by or under common control with the applicant or operator, is in compliance with 82-4-251, MCA, and, if known, whether any officer, partner, director, or any individual owning of record or beneficially, alone or with associates, ten percent or more of any class of stock of the applicant is subject to any of the provisions of 82-4-251, MCA, and whether any of the foregoing parties or persons have ever had a strip mining or underground mining license or permit issued by any other state or federal agency revoked or have ever forfeited a strip mining or underground mining bond or a security deposited in lieu of a bond and, if so, a detailed explanation of the facts involved in each case must be attached including:

- (i) identification number and date of issuance of the permit and, when applicable, date and amount of bond or similar security;
- (ii) identification of the authority that suspended or revoked a permit or forfeited a bond and the stated reasons for that action;
- (iii) the current status of the permit, bond, or similar security involved;
- (iv) the date, location, and type of any administrative or judicial proceedings initiated concerning the suspension, revocation, or forfeiture; and
- (v) the current status of these proceedings.

ARM 17.24.303(1)(m). While Exhibit 303(E) of OCC's application states that neither Arch Coal nor OCC have had a strip mining or related license or permit revoked by any other state or federal agency, or had a bond revoked, that Exhibit 303(E) fails to certify whether any entities under Arch's control have ever suffered such a revocation or forfeiture. OCC's application thus fails to fulfill the requirements of ARM 17.24.303(1)(m), and must be deemed administratively incomplete. Furthermore, if indeed one or more permits or bonds held by Arch owned- or controlled-entities have been revoked or forfeited, the application must provide a detailed explanation of the facts involved in each case, pursuant to ARM 17.24.303 (1)(m). Until such information can be ascertained, and if required, provided, the application is administratively incomplete.

Finally, the permit application is administratively incomplete because it does not demonstrate that OCC has provided all the information required under ARM 17.24.303(1)(n). ARM 17.24.303 (1)(n) requires that strip mine permit applications include:

for any violation of a provision of 30 USC 1201, et seq., or of any law, rule, or regulation of the United States, or of any state law, rule, or regulations enacted pursuant to federal law, rules, or regulations pertaining to air or water environmental protection incurred in connection with any coal mining operation, a list of all violation notices received by the applicant during the three-year period preceding the application date, and a list of all unabated cessation orders and unabated air and water quality violation notices received prior to the date of the application by any coal mining and reclamation operation owned or controlled by either the applicant or by any person who owns or controls the applicant. For each violation notice or cessation order reported, the list must include the following information, as applicable:

- (i) any identifying numbers for the operation, including the federal or state permit number and mine safety and health administration number, the dates of issuance of the violation notice and mine safety and health administration number, the name of the person to whom the violation notice was issued, and the name of the issuing regulatory authority, department, or agency;
- (ii) a brief description of the violation alleged in the notice;
- (iii) the date, location, and type of any administrative or judicial proceeding initiated concerning the violation, including, but not limited to, proceedings initiated by any person identified in this section to obtain administrative or judicial review of the violation;
- (iv) the current status of the proceedings and of the violation notice; and
- (v) the actions, if any, taken by the person identified in this section to abate the violation.

In response to these requirements, OCC provides in its application Exhibit 303(F)–Three-Year List of Violations. This spreadsheet lists violations and cessation orders by approximately 25 mining companies that appear to be entities that apparently are or were under common control or ownership with Arch Coal. At the same time, it is unclear whether this information is complete because, as described supra, OCC failed to list Arch-owned or –controlled mines and mining operations as required by the regulations, and the spreadsheet itself provides no explanation for or description of the named entities. The information provided thus does not adequately fulfill the requirements of ARM 17.24.303 (1)(n)(i). In addition, the spreadsheet lacks adequate descriptions of violations or cessation orders; fails to discuss the circumstances under which most of the violations listed were abated, terminated, or vacated; and neglects information explaining abatement actions leading to vacation or termination, as required by ARM 17.24.303 (1)(n)(ii)-(v). Until OCC remedies these deficiencies, DEQ must deem the application administratively incomplete.

## **IX. CONCLUSION**

The MEIC, NWF, and Sierra Club respectfully urge the DEQ to deem the Otter Creek Mine permit administratively incomplete until the applicant has fully addressed the issues described above and in the attached expert report. We look forward to participating in the public

review process for the permit under both the Montana Strip and Underground Mine Reclamation Act and the Montana Environmental Policy Act.

Most sincerely,

A handwritten signature in black ink, appearing to read "Kristin Carden".

Kristin Carden

/s/ Jenny Harbine