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November 10, 2017

Russell Kelly, Chief
Permits and Services Division
Alabama Department of Environmental Management
P. O. Box 301463
Montgomery, AL 36130-1463

Re: Narley Mine (NPDES Permit No. AL0075752) (Jefferson County)
Crescent Valley Mine (NPDES Permit No. AL0078751) (Walker County)
Carbon Hill Mine (NPDES Permit No. AL0079553) (Walker County)
Centennial No. 5 Mine (NPDES Permit No. AL0079936) (Walker County)
Gooden Creek Mine No. 2 (NPDES Permit No. AL0083364) (Winston County)

Via electronic mail only

Dear Mr. Kelly:

Thank you for the opportunity to provide comments on the Alabama Department of Environmental Management's ("ADEM") proposed issuance, reissuance and/or modification of the NPDES permits referenced above. We write on behalf of Black Warrior Riverkeeper ("Riverkeeper"), a nonprofit organization dedicated to protecting and restoring the Black Warrior River and its tributaries.

The proposed permit for Narley Mine authorizes the discharge of treated drainage from a dry preparation coal mining operation and associated areas, discharging to Locust Fork, Trouble Creek, an unnamed tributary to Crooked Creek, unnamed tributaries to Trouble Creek, unnamed tributaries to Whites Creek, and Whites Creek, all classified as Fish and Wildlife, in the Black Warrior River basin. The proposed permit for Crescent Valley Mine authorizes the discharge of treated drainage from a dry preparation coal mining operation and associated areas, discharging to Allen Creek, unnamed tributaries to Allen Creek, and Lost Creek, all classified as Fish and Wildlife, in the Black Warrior River basin. The proposed permit for Carbon Hill Mine authorizes the discharge of treated drainage from a dry and wet preparation coal mining operation and associated areas, discharging to Cranford Creek and unnamed tributaries to Cranford Creek, all classified as Fish and Wildlife, in the Black Warrior River basin. The proposed permit for Centennial No. 5 Mine authorizes the discharge of treated drainage from a dry preparation coal mining operation and associated areas, discharging to Mulberry Fork which is classified as Public Water Supply and Fish and Wildlife, and to an unnamed tributary to Mulberry Fork which is

classified as Fish and Wildlife, in the Black Warrior River basin. Finally, the proposed permit reissuance for Gooden Creek Mine No. 2 authorizes the discharge of treated drainage from a dry preparation coal mining operation and associated areas, discharging to Goodwin Creek and unnamed tributaries to Goodwin Creek, all classified as Fish and Wildlife, in the Black Warrior River basin.

In addition to surface mining, coal preparation will occur under the auspices of all of the advertised permits. Of note is the nature of coal preparation, a process which typically involves the crushing and storage of large qualities of coal and can require the use of chemicals. It is apparent that ADEM has failed to assess the possibility of chemical use at the preparation plants. If chemicals are used as part of preparation, it is critical that ADEM require monitoring for and limitation of any chemicals used (and/or their byproducts) to ensure that chemicals are not being discharged downstream.

ADEM's study of surface mining impacts in the Black Warrior River watershed confirms a clear relationship between mining, together with associated activities like coal preparation, storage, and transportation, with negative downstream water quality impacts. *See* discussion *infra* at pp. 7-8 of ADEM's *Assessment of Water Quality in Wadeable Streams near Surface Coal Mining Facilities in the Black Warrior River Basin in Alabama* (December 2013). In light of these known impacts, we continue to ask the Department to develop and implement a more robust permitting system for surface mining and associated activities that can better identify, limit, and even stop these acknowledged harms.

We specifically ask EPA to participate in this process and to bring new tools to the process as necessary. *See* discussion *infra* at pp. 2-4. We know that the Warrior Coal Field has locally elevated concentrations of mercury, as well as elevated levels of arsenic, molybdenum, selenium, copper and thallium. *See* Gold, Dielhaber and Hatch, *Modes of Occurrence of Other Trace Elements in Coals from the Warrior Field, Black Warrior Basin, Northwestern Alabama* (April 27, 2004). The presence of these and other toxic elements associated with coal mining in areas where local residents drink water, swim, recreate, and fish, and where rare and endangered aquatic species live make it imperative that NPDES permits for coal mining and associated activities in Alabama protect both human health and the environment.

EPA's Disparate Regulatory Treatment of Surface Mining in Alabama … Continues

As we have observed many times before, surface coal mining and associated activities impose terrific burdens on streams within the Black Warrior basin. We have asked numerous times, with no acknowledgement or response, that EPA apply its July 21, *2011 Final Guidance on Improving EPA Review of Appalachian Surface Coal Mining Operations* under the CWA, NEPA, and the Environmental Justice Executive Order ("Final Guidance") to surface coal mining operations in Alabama. Even though EPA R4 has repeatedly acknowledged that many of the same concerns which drove the development and implementation of the Final Guidance are applicable to surface mining here, to date EPA has failed to take necessary steps to implement the Final Guidance in Alabama. Will EPA apply the Final Guidance in Alabama? If so, when? If not, why?

The U.S. Circuit Court of Appeals for the District of Columbia ruled that the EPA was within its authority in issuing the Final Guidance, which is aimed at enhancing coordination between responsible federal agencies while reducing conductivity pollution from surface mining activities. *See Nat'l Mining Assoc., et al., v. McCarthy, et al.,* 758 F.3d 243 (D.C.Cir. 2014). If necessary, we again ask EPA to undertake any necessary field-based validation and/or studies (if in fact these studies are even required) to apply the Final Guidance in order to better protect the streams of Alabama, the citizens who use them, and the diverse array of aquatic life that calls them home.[1] Although EPA and the Corps have conspicuously excluded Alabama from the defined six-state "Appalachian region" in the past, EPA R4 has acknowledged for years that the same types of mining concerns identified in the defined "Appalachian region" are also at issue in Alabama. *See, e.g., December 17, 2010 EPA Letter to the U.S. Army Corps of Engineers in re: Swann's Crossing Mine (Tuscaloosa County, Alabama); February 23, 2011 EPA Letter to the U.S. Army Corps of Engineers in re: Reese's Branch Mine No. 2 (Walker County, Alabama); February 24, 2011 EPA Letter to the U.S. Army Corps of Engineers in re: Cedar Lake Mining (Blount County, Alabama).* While we shouldn't have to point out the obvious, Alabama is indeed part of the Appalachian region – the Appalachian Mountains extend well into Alabama and exist throughout the Warrior Coal Field.

In letters, written several years ago, EPA acknowledges that Alabama is "within the United States Geographical Survey Ecoregion 68f of the major Appalachian geographical province" and states that "[w]hile Alabama is not within the defined [Appalachian] region . . . EPA believes that these same types of concerns exist in Alabama both individually and cumulatively." Appalachian surface coal mining activities are harmful to streams no matter where it takes place and Alabama deserves the same protections from this practice that the EPA has afforded central Appalachia. To exclude Alabama from the ambit of the Final Guidance in these circumstances is not just a poor choice by EPA; it could also be construed as an arbitrary and capricious decision that lacks sound scientific basis and/or the appropriate consideration of the environment.

Given EPA's persistent failure to apply its guidance to Alabama, we call on ADEM to voluntarily adopt EPA's guidance while making permitting decisions in order to make the regulation of surface mining and associated activities in Alabama more consistent with the rest of the Appalachian region, especially in light of the similar harms and regulatory issues. *See, e.g.,* Hopkins, et al.,

[1] We question whether field validation studies are even necessary. According to EPA, "[r]ather than use toxicity test results, the adaptation uses field data to determine the loss of 5% of genera from streams. The method is applied to derive effect benchmarks for dissolved salts as measured by conductivity in Central Appalachian streams using data from *West Virginia and Kentucky*." *See* preface to *A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams*. Because Alabama, like Kentucky, is in Eco-region 68 we believe that if studies in West Virginia and Kentucky are adequate to support validation for the remaining four Central Appalachian states, they should be adequate to validate the studies for Alabama. If they are not, we would like to understand what scientific basis EPA relies upon to treat like states and ecoregions so differently.

Exploring the legacy effects of surface coal mining on stream chemistry (2013) (Study concludes that distinctions drawn between surface mining in West Virginia or Kentucky versus that in Ohio or Alabama makes little scientific sense: "Comparable to [mountaintop removal and valley fill] practices (see Bernhardt and Palmer, 2011), surface coal mining appears to have a strong legacy effect on stream chemistry . . . . Aquatic systems are highly sensitive to surface mining disturbances, and the negative effects on stream chemistry appear to persist over time, in spite of reclamation efforts"). *See also* ADEM's *Assessment of Water Quality in Wadeable Streams near Surface Coal Mining Facilities in the Black Warrior River Basin in Alabama* (December 2013) (Despite documented flaws in study plan methodology, data indicates that even after reclamation at "compliant" mines, Alabama surface mining has a significant adverse effect on instream water quality, even well after active mining has ended).

Development of State Water Quality Standard and NPDES Permit Limitations for Conductivity

There are no State water quality standards for total dissolved solids (TDS), sulfate or conductivity; they are "monitor only" under Alabama NPDES permits for surface mining and associated activities. However, as early as August 2010, EPA appears to suggest that there is (or perhaps should be) a narrative and/or numeric water quality standard for conductivity:

> A Water Quality Standards Protection Plan (WQSPP), specific to the proposed mining activity, should be adopted before authorizing the final permit. The permit shall require that the WQSPP include [BMPs] that will ensure discharges from the mine's permitted outfalls do not cause or contribute to a violation of the State's narrative water quality standards, in particular [conductivity]. The specific content of the WQSPP should be tailored to the conditions of the proposed mine and should limit [conductivity] to below 500 µS/cm.

See, e.g., August 27, 2010 Letter from EPA R4 to Col. Steven Roemhildt (Shannon Mine) at 3.

In guidance, we note that EPA has recommended a conductivity benchmark of 300 - 500 µS/cm. for the Central Appalachian region. *See Final Guidance; see also A Field-Based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams*. Again, if EPA can validate these studies for other states in the Appalachian region, we think they should be validated for the state of Alabama. *See* discussion at pp. 2-3. <u>In light of the evolving science that the conductivity benchmark promotes the water quality necessary to protect aquatic organisms living in streams, we would like an update on what steps ADEM is taking to develop State water quality standards or permit limitations for conductivity</u>. *See generally A Field-based Aquatic Life Benchmark for Conductivity in Central Appalachian Streams*. We have asked this question in previous comment letters and await the Department's response.

Improper Allowance of Precipitation Exemption

ADEM acknowledges in the Narley Mine permit rationale that "[p]recipitation event discharge limitations are an alternate set of technology based limits afforded a facility under certain conditions, and *they do not apply automatically.*" *See Narley Mine* permit rationale at 1. In the Narley draft permit, ADEM appears to be automatically allowing the exemption in circumstances where it is plainly not authorized. According to the permit rationales, ADEM concludes that "it is the opinion of the Department that discharges with an allowable pH daily maximum of 9.0 s.u. will not adversely affect the instream pH based on the low discharge/stream flow ratio." *Id.* at 2. As we have stated in previous comments, *WQBELs are not eligible for alternate precipitation limits, whether for pH or metals.* The final NPDES permit for Narley Mine should clearly reflect, as ADEM has acknowledged, that WQBELs are not eligible for precipitation event exemptions. As stated by EPA R4:

> WQBELs are not eligible for alternate precipitation limits - The WQBELs included in the draft permit because a determination was made that the effluent could cause or contribute to a numeric water quality standard exceedance during a precipitation induced discharge. The draft permit did not apply the WQBELs during qualified storm events. Alternate limits are allowed during certain precipitation events for TBELs according to 40 C.F.R § 434.63; however, precipitation exemptions are not available for WQBELs because they are more stringent than the TBELs. Water quality standards are to be maintained at all times. Accordingly, the draft permit fails to ensure compliance with Alabama's water quality standards during the discharges from qualifying precipitation events. To adequately protect water quality the final permit should clarify that WQBELs are ineligible for alternate precipitation limits.

See December 11, 2013 E-mail (Global Met Coal AL0081931) from Kip Tyler, EPA Region 4 to Catherine McNeill, ADEM.

Reasonable Potential Analysis

EPA requires a Reasonable Potential Analysis (RPA) for each mine permit that includes background data for metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc), total phenols, and total cyanide levels in the receiving stream. We continue to be concerned about whether ADEM is requiring enough data from permit applicants to support statistically defensible calculations of appropriate permit limits. For example, the (stale) data for the Narley Mine was all gathered May 9, 2013. The data for Crescent Valley Mine was all gathered January 17, 2017. The (stale) data for Carbon Hill Mine was gathered March 1, 2013. The data for Centennial No. 5 Mine was all gathered March 15, 2017. Finally, the data for Gooden Creek Mine No. 2 was all gathered January 20, 2017. We believe that single samples from supposedly representative outfalls cannot reliably predict proper effluent concentrations. Similarly, background, instream concentrations based on samples from a single day cannot provide statistically significant representations of actual instream water quality. Also, the Department should require applicants to furnish recent data.

We urge you to require additional instream and effluent samples. Requiring more data inputs --- and more representative inputs--- for the RPA calculation will help ADEM better calculate permit limits and also more accurately project the instream conditions during and after mining. We discourage the use of in-pond samples (they are not representative) as well as older samples like those for Narley and Carbon Hill mines. We suggest that ADEM require multiple effluent samples during a fairly recent time period to ensure that the Department is working with statistically significant data.

We observe that until October 2010 when the Department revamped its coal mining permits, ADEM and industry asserted that what surface mines discharged was essentially stormwater and should be permitted as such. When ADEM began to require monitoring of other pollutants and toxic substances associated with coal mining, subsequent Forms 2C and DMRs began to show the presence (sometimes in significant levels) of many pollutants not typically associated with stormwater but present in wastewater discharges from coal mining and associated activities. ADEM similarly believed in the past that calculating the RPA assuming background levels of "0" was sufficiently accurate and protective in making permitting decisions. But as the Department has begun to require instream sampling by permittees, those results demonstrate that in many places background assumptions of "0" are simply not accurate. We now urge ADEM to take another significant step which is absolutely necessary to write protective permits: look at other water quality data and require a statistically significant set of samples to calculate the RPA in order to make the calculation statistically reliable and properly predictive.

We are glad to see that the Department has reviewed "available data" from ALAWADR in order to better evaluate the data submitted by the permittees. However, we ask that ADEM state in the permit rationale the actual data reviewed from this database and include that data in its permit calculations. We continue to emphasize that, in order to accurately predict instream conditions, ADEM needs to search through not just its own water quality data, but also seek out additional data from other sources such as STORET or require the permittees to collect a statistically significant series of data points and report average concentrations of the relevant parameters.

ADEM's failure to require or consider sufficient data to substantiate accurate Forms 2C for the proposed permits can potentially undermine the draft WQBELs. The Fourth Circuit Court of Appeals acknowledged the critical importance of accurate Form 2C information to coal mine permitting. *See Southern Appalachian Mtn. Stewards, et al. v. A & G Coal Corp.,* App. No. 13-2050 (4th Cir. July 11, 2014). "The effectiveness of the permitting process is heavily dependent on permit holder compliance with the CWA's monitoring and reporting requirements." Slip Op. at 10 (citation omitted). "[T]he Clean Water Act and its implementing regulations focus on the information that the permit applicant must gather and provide to the permitting agency, so that it can make a fully informed decision to issue the requested permit." *Id.* at 10. Because the disclosures on the permit application form the basis for drafting a permit protective of water quality, determining their accuracy and *reliability* must be paramount.

Pollution Abatement and Prevention Plan

While there are generic BMP and SPCC plans in some of the draft permits, there are no site-specific Pollution Abatement and Prevention plans ("PAP plan") in the ADEM permit files, only preliminary checklists. We therefore assume that ADEM did not review PAP plans for these facilities. Absent PAP plans, there is no meaningful way to determine the total impact of the discharges from the sites on the water quality of the receiving waters. *See Warner Golden Affidavit* (*Black Warrior Riverkeeper, Inc. v. ADEM, EMC Docket No. 09-04*). The PAP plan is intended to be:

> a site-specific, detailed document which explains the measures that a mining operation will employ to minimize its impacts on water quality resulting from precipitation driven runoff. Pursuant to ADEM regulations and good engineering practices, PAP plans typically include an explanation of the design of sediment ponds at the site and diagrams of this design for all ponds, plans to minimize impacts from mining on nearby streams, plans to minimize sediment and other pollutants' release from haul roads, and plans to minimize the effect of non-point source pollution from the mining operation.

Id. ADEM could not have determined that PAP plans for these sites were adequate to provide for the protection of water quality because apparently no PAP plans were submitted with the permit applications. In the absence of such reviews, ADEM could not possibly have determined that discharges from these facilities would not impair water quality or cause a violation of water quality standards. *Id.* ADEM's reliance on the ASMC, which does not have primacy on issues related to water quality, to review PAP plans is wrong, and in our opinion illegal. Furthermore, the PAP plans submitted to the ASMC are generally submitted piecemeal, segment by segment, do not reflect the cumulative water quality implications of the mine as a whole, and generally consist of boilerplate specifications rather than site-specific blueprints for actual, on-the-ground pollution controls.

We also note that ADEM has included new language in NPDES permits for coal mining and associated activities beginning December 2013 about the role of permittee engineers. That language provides that:

> [i]n accordance with ADEM Admin. Code r. 335-6-3-.07 the design professional engineer, as evidenced by their seal and/or signature on the application, has accepted full responsibility for the effectiveness of the waste treatment facility to treat the Permittee's effluent to meet NPDES permit limitations and requirements, and to fully comply with Alabama's water quality standards, when such treatment facilities are properly operated.

This language incorporates the requirements of Ala. Admin. Code r. 335-6-3-.07, which is intended to supply evidence that the permittee's professional engineer accepts full responsibility for the waste

treatment facility if properly operated. We commend the Department for including this language in the permit rationales and for making the permittees' engineers specifically responsible for the efficacy of the facilities' wastewater treatment.

However, we want to reiterate that such language cannot absolve ADEM of its independent responsibility under regulation to review submitted plans and designs or to likewise ensure that wastewater treatment facilities perform adequately. Just as the Department cannot abdicate responsibilities to review the PAP Plan, ADEM cannot disclaim legal obligations for review of waste treatment facilities. *See* Ala. Code § 22-22-9(g). It is the *duty* of the Department:

> to receive and examine applications, plans, specifications and other data and to issue permits for the discharge of pollutants, industrial wastes entering directly or through a municipal or private treatment facility, and other wastes into the waters of the state, stipulating in each permit the conditions under which such discharge may be permitted.

See id. It is the responsibility of the Department as well as individual permittees, to ensure that the wastewater facility designs submitted will protect water quality. While engineers must assume responsibility for these facilities on behalf of permittees, pursuant to legal mandate ADEM must assume responsibility for these facilities on behalf of the citizens of Alabama.

Applicable Monitoring Requirements

Under the terms of the NPDES permits at issue, the permittees are allowed to sample more frequently than required by the permits as long as they report all of the additional information on their DMRs (Part I.B.1.c. of the permits) and the sample collection and measurement actions are representative of the discharge (Part I.B.5. of the permits). We understand that this allows the permittees the opportunity to show that an elevated sample result on one day of sampling may not be a chronic occurrence and may not be representative of the average monthly concentration of the pollutant.

However, if this is the case, we point out that a sample *within* permit limits on one day of sampling may not be a chronic occurrence and may also not be representative of the average monthly concentration of the pollutant. In other words, we believe that the better protocol for mining permits (absent unusual circumstances) is for sampling intervals to be chosen and consistently adhered to in order to calculate the monthly average permit limitations. To do otherwise, ADEM is creating circumstances that allow a permittee to selectively sample in order to manipulate outcomes and meet permit limits – even if those outcomes are not representative of the discharge over time.

In-Stream Monitoring

Over seven years ago, EPA observed that "[d]espite the amount of data Alabama has collected for CWA Section 303(d) listing purposes, there is a scarcity of information available to EPA specifically pertaining to in-stream water quality in coal mining areas" and that "much remains to be done in assessing waters in areas of active coal mining in Alabama." EPA October 1, 2010 Comment Letter at p. 2. Coal mining activities rank as the second largest source of impairment for stream miles in our state. EPA October 1, 2010 Comment Letter at p. 2 *(citing Table 2-7 of ADEM's 2010 Integrated Water Quality Monitoring and Assessment 305(b) Report).* Most coal mines discharge to rivers and streams yet remarkably "77% of Alabama's rivers and streams have not been assessed for water quality purposes." *Id.*

Can ADEM update this figure? What percentage of Alabama's waterbodies have been assessed for water quality purposes? We continue to ask that ADEM do more to ensure that the Department (and the public) have adequate water quality data in areas of concentrated coal mining. We call on ADEM to establish more active trend or reference water quality monitoring stations in Jefferson, Walker, and Tuscaloosa counties, which are the most heavily coal-mined counties in Alabama.

Does ADEM plan a follow up to its flawed *Assessment of Water Quality in Wadeable Streams near Surface Coal Mining Facilities in the Black Warrior River Basin in Alabama* (December 2013) ("the Assessment")? Instead of being the robust, independent and scientific study that this issue deserves, a review of the study plan and data indicate that the Assessment was fatally flawed from its inception and poorly executed thereafter. We ask the Department to seek funding for a more accurate and scientific approach that will afford ADEM and the public with a true picture of the impacts of surface mining and related activities.

We have pointed out the numerous problems with the study in the past. First, ADEM's deliberate choice of an eco-reference stream influenced by clear-cut areas and coalbed methane operations is problematic and appears to be designed to skew the reference streams and "stack the deck" for a finding of "no impact." Second, instead of being a study of "active" surface mines as the study plan plainly states, at least half of the samples were actually taken from streams at *reclaimed* mines --- and one data set is actually from an *underground* mine. Third, the results of ADEM's data may be skewed because they chose to focus on only "compliant" mines. Fourth, there is apparently little or no quality control, as some of the data cannot be mass balanced; simple calculations are in error and understate potential impacts; and additional sampling took place well after the study was supposed to be concluded. Despite these carefully documented flaws the only conclusion one can draw from this data is that surface mining, even after reclamation, has a severe and pervasive adverse effect on downstream water quality.

For example, according to the Assessment, toxicity was indicated at 50% of the outfalls (2 of 4) that ADEM studied. Arsenic exceeded human health water quality criteria in 5 out of 36 (14%) samples downstream of coal mines. Overall, there were significant increases in Conductivity and TDS downstream versus upstream; in addition, there were also significant increases in concentrations of some metals at some downstream locations. Both nitrogen and sulfate concentrations increase significantly downstream of mined areas. And arsenic was elevated in sediment at 3 out of 6 (50%) locations downstream of mine outfalls.

Despite these flaws, one obvious takeaway from the study is that surface mining activities continue to exert a pronounced and pervasive negative influence on water quality well after reclamation is complete. In what way has ADEM applied this knowledge or the data gathered from this study in order to ensure that NPDES permits issued to coal mines address these negative effects on downstream water quality?

Daily Flow Monitoring

The draft permit should be revised to require daily flow monitoring as recommended by EPA. To get an accurate picture of just how often coal mines discharge, the Department must require daily flow monitoring at all active outfalls, which will also help ADEM assess the true impact of mining on Alabama's streams and rivers. The surface impoundments should already be equipped with flow monitoring devices. Asking one employee to check and record the flow volumes daily can be carried out at minimal expense to the permittee, yet provide ADEM and the public with a wealth of information.

The Department has responded in previous permit comments that "flow monitoring requirements mimic the other sampling requirements so that the Department may calculate mass pollutant loading rates of the discharge(s) when necessary." That is not the point of our request; we know that ADEM requires flow monitoring in conjunction with bi-monthly monitoring. We are asking the Department to adopt our recommendation, which has also been suggested by the EPA, to require *daily* flow monitoring so that ADEM (and the public) can know how often these mines are discharging and at what volumes, rather than rely on inaccurate expectations and/or assumptions. The entire basis for ADEM's permit calculations is that discharges from surface coal mines and associated activities are precipitation-driven and do not occur absent rain events. It is essential that ADEM once-and-for-all drop this ridiculous assertion, as it is commonly known that many sediment basins are built in existing streams that flow year-round and that many discharges are pumped discharges – due to groundwater and/or rainwater being pumped out of working pits at surface mines and groundwater being pumped out of underground mines, which often comingles with rainwater in drainages, streams, and sediment ponds. In the case of Narley Mine, we commend ADEM for acknowledging that several outfalls are fed by pumped water and adjusting the permit accordingly. Unfortunately, we have seen far too many cases where permittees fail to disclose the likelihood of pumped discharges, and both ADEM and permittees fail to acknowledge that spring fed sediment ponds (which are numerous throughout the Black Warrior River watershed)

may discharge continuously. Requiring daily flow monitoring would correct this oversight and allow ADEM to issue future permits based on actual conditions rather than assumptions.

Permit Rationale Statement, 303(d) Streams

In the permit rationale statements, ADEM concludes that "[f]ull compliance with permit terms and conditions is expected to be protective of instream water quality and ensure consistency with applicable State instream water quality standards for the receiving streams." However, as stated previously, with so little instream monitoring performed in Alabama's areas of concentrated coal mining, how can ADEM reliably know what instream water quality actually is, much less that the permit terms and conditions which will maintain that quality?

Several of the mines authorize the discharge of treated drainage into impaired waters![2] By issuing NPDES permits to discharge sediment and other pollutants into waterways where levels for these parameters already exceed water quality standards, ADEM is violating both the intent and purpose of the CWA. *Under the CWA, when a new source seeks to obtain a permit for a discharge of pollutants to a stream segment already exceeding its water quality standards for that pollutant, no permit may be issued.* ADEM's authorization of these new discharges (39 new outfalls at Narley Mine, which will discharge either to tributaries of the impaired Locust Fork, or immediately downstream of the impaired segment, as well as numerous, as yet unconstructed, outfalls at Crescent Valley and Carbon Hill mines) to impaired waters are a clear violation of the CWA. 40 C.F.R. 122.4(i) prohibits issuance of an NPDES permit to a new source or a new discharge if that treated discharge will cause or contribute to a violation of applicable State water quality standards in the receiving water. It is our firm belief that ADEM should not permit the discharge of pollutants to streams that are impaired for those particular pollutants unless the Department has established a TMDL, and implemented appropriate reductions of pollutant concentrations at all permitted facilities discharging within and upstream of the impaired area.

ADEM's own website proclaims that the 303(d) List is a "list of waterbodies in Alabama that *do not fully support their designated uses* based on a review of water quality data and information." The fact that bodies of water like the Locust Fork and Lost Creek do not fully support their designated uses means that they are in current, ongoing violation of water quality standards. ADEM Admin. Code 335-6-6-.04 Prohibited Discharges states "[a]n NPDES permit shall not be issued to a person proposing any of the following discharges: … (i) A discharge from the construction of a new source or the construction of a new discharger, if the discharge from its construction will cause or contribute to a violation of water quality standards." Both of the proposed mines will discharge the very pollutant for which these streams are impaired (siltation), thereby contributing to the ongoing violations of water quality standards identified in Alabama's 2016 CWA §303(d) List and are therefore prohibited by state law.

[2] Narley Mine will discharge to tributaries of a segment of the Locust Fork that is listed for nutrients and siltation; both Crescent Valley and Carbon Hill mines will discharge upstream of Lost Creek, which is listed for siltation;

The draft permits for Narley, Crescent Valley and Carbon Hill mines authorize the discharge of TSS during all phases of mining and Settleable Solids (SS) during precipitation events and post-mining. Siltation refers to the increased concentration of suspended solids, or accumulation of settleable solids, which can form bottom deposits. These solids will inevitably accumulate in the Locust Fork (Narley) and Lost Creek (Crescent Valley and Carbon Hill) as a result of their authorized discharge at the mines.

The Department has calculated permit limits for TSS at all three mines based upon the 90th percentile ecoregional reference for Ecoregion 68 (or 68f), stating that "[t]he Department believes limiting the TSS to the 90th percentile … provides reasonable assurance that the pollutants will not be present in the discharge at levels of concern and/or the facility will not discharge pollutants at levels that will cause or contribute to a violation of applicable State water quality standards …." "Beliefs" and "reasonable assurances" are no substitute for science and an actual TMDL. It is our firm belief that ADEM should not permit the discharge of pollutants at all to streams that are impaired for those particular pollutants unless the Department has established a TMDL and knows that the increased discharges of a pollutant will not violate water quality standards

In allowing additional discharges of sediment to impaired streams, ADEM is effectively limiting its ability to protect these waterbodies from additional siltation, and guaranteeing that these impaired waterbodies remain impaired – as opposed to the appropriate goal under the Clean Water Act of achieving a return to compliance with water quality standards. ADEM's use of the Ecoregional Reference Reach Monitoring Program to approximate a load which the Department believes will not violate water quality standards is no substitute for the development of TMDLs. Unless and until ADEM develops TMDLs and can allocate loads with the certainty that they will not violate water quality standards, the Department should not permit discharges like these one that will contribute to ongoing impairments.

Presence of Sensitive Species

What makes the addition of more sediment to these waters even more disturbing is the known presence of the Threatened flattened musk turtle (FMT) and the Candidate (and pending proposed Endangered) Black Warrior waterdog in the Locust Fork (Narley) and Lost Creek (Crescent Valley and Carbon Hill). The preferred habitat for both the turtle and the waterdog is free-flowing streams with good water quality, rocky substrate, and a good mix of downed trees and leaf litter. The Locust Fork and Lost Creek are among the few remaining homes to the turtle and the waterdog, which share nearly identical habitat. Historically, strip mining for coal, habitat alterations, and water quality impacts have eliminated or severely impacted both the FMT and the Black Warrior waterdog. We are not confident that the perfunctory surveys performed as a part of the ASMC permit application process are adequate to evaluate either the presence of the turtle or the waterdog --- nor do they properly examine the potential effect of the mine on the survival and recovery of these rare species.

In 1981, U.S. Fish and Wildlife Service contracted with Dr. Robert H. Mount, Auburn University, to determine the status of the flattened musk turtle. In his report, Dr. Mount concluded that the single greatest threat to the turtle is siltation, and he placed the major blame for siltation on surface coal mining. *See* Ernst, Cox and Marion, *The Distribution and Status of the Flattened Musk Turtle*, *Tulane Studies in Zoology and Botany, Volume 27, Number 1* at p. 2. Part of ADEM's rationalization for permitting increased discharges at sites like Narley, Crescent Valley and Carbon Hill mines is the stated belief that compliance with permit limitations will be sufficiently protective of water quality. Given the number of current and past mines in the area, that confidence is surely misplaced. That confidence also fails to account for the precipitation event limitation exemptions, which effectively throw permit limitations out the window during the very large rain events, which we expect to cause contributions of vast amounts of sediment to the receiving streams.

Waterdog habitat is similar to that of the flattened musk turtle and water quality degradation is the primary threat to its continued existence; Bailey (2000, pp. 19-20) considered water quality degradation to be the primary reason for the extirpation of this species over much of its historical range in the Upper Black Warrior system. Surface mining represents a threat to the biological integrity of streams in the Black Warrior basin and has undoubtedly affected the distribution of the waterdog in the past (Bailey 1995, p.10). The FWS proposed listing the Black Warrior waterdog as endangered in 2016. 81 Fed. Reg. 69500 (October 6, 2016). The Service assigned the waterdog a listing priority number of 2, which indicates the amphibian is a species with threats that are both imminent and high in magnitude. *Id.* at 69500.

In addition, eight more species listed as threatened and endangered under the Endangered Species Act, including the Cahaba shiner, Alabama moccasinshell, dark pigtoe, orange-nacre mucket, plicate rocksnail, triangular kidneyshell, ovate clubshell, and upland combshell occur near the Narley Mine site, and designated critical habitat for six species occurs in the Locust Fork downstream of the project area. Like the FMT and waterdog, all of these species are known to be negatively and profoundly affected by the impacts of surface coal mining,

To date, we have never seen ADEM deny a coal mining permit application where the mine proposes a discharge to impaired waters or critical habitat area. The anti-degradation analysis or permit rationale is *always* written to authorize the new discharge. No matter what the impairment or how many threatened and endangered species may be harmed, the permit is *always* deemed to be protective. The presence of fragile species which depend upon water quality for their survival is ignored. It is long past time for ADEM to meaningfully consider the impacts of discharges to impaired waters using data, not unfounded opinions or bare conclusions, especially where impacts to sensitive species are involved. These three proposed NPDES mining permits will continue to authorize further degradation of water quality and endangered species habitat and therefore should be denied.

Drinking Water

As noted in the permit rationale for the Centennial Resources No. 5 Mine (p.1), the proposed discharges would enter waters designated for use as Public Water Supply (PWS). In fact, those discharges would enter the Mulberry Fork just a few miles upstream of the Birmingham Water Works Board's (BWWB) Mulberry Fork drinking water pumping station (Mulberry Intake), which serves a population of approximately 200,000 people per day in the greater Birmingham area. As we, and BWWB, have noted in previous comment letters and numerous legal filings, the water quality near the intake has already been severely impacted by coal mining upstream in the Mulberry Fork watershed and is nearing a tipping point that could trigger the necessity for additional treatment of source water prior to distribution to customers. The original issuance of the permit for the (formerly Reed Minerals) No. 5 mine was ill-considered and clearly demonstrated ADEM's deference to industry at the cost of the health and safety of the citizens of Alabama. Without re-litigating all of the reasons that allowing the discharge of polluted coal mine wastewater into a primary drinking water source for hundreds of thousands of people is a terrible idea, we urge ADEM to not make the same mistake again. Take a stance, for once, to protect Alabama's citizens by denying the reissuance of the permit for Mine No. 5. Given the magnitude of importance of this permit re-issuance, *we request a public hearing on Centennial Resource No. 5 Mine* on behalf of the Mulberry Fork and all who live on it, all who utilize it for fishing, swimming, and recreation, and the hundreds of thousands of people who use the water, which is treated and provided by the Birmingham Water Works Board, every day for drinking, bathing, cooking, gardening, etc.

Conclusion

In order to ensure that ADEM's NPDES permits for coal mining and associated activities do not cause or contribute to violations of water quality standards, the Department must begin relying on comprehensive data from instream monitoring and statistically relevant sampling so that all permits are premised upon sound, scientific data. ADEM must develop and require more extensive and specific monitoring requirements for surface water, groundwater, and aquatic biota during mining. We note that EPA's recent guidance sets forth specific parameters for monitoring in CWA permits of water quality and biological conditions in streams below surface mining operations. We support stricter permit limits for contaminants of concern, many of which endanger not just aquatic life, but all life. As EPA rightly observes, the environmental legacy of mining operations is far-reaching; recent studies "point to new environmental and health challenges that were largely unknown even ten years ago." *EPA Guidance* at p. 3. In order to meet these new challenges, ADEM must not only write better, more protective permits for coal mining operations --- the Department must consider whether operations like these can be permitted without violating Alabama's water quality standards.

Thank you for your consideration of our comments. Please do not hesitate to contact us if you have any questions or if you require any additional information. We look forward to receiving a

response to our comments from the Department, as well as notice of the Department's final permit decision.

For the River,

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