



August 26, 2014

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

Regarding: Reissuance of NPDES Permit AL0079162, Shepherd Bend Mine

Dear Mr. Kelly,

The Cahaba River Society is a 501 (c) 3 non-profit river conservation group located in Birmingham, Alabama. Our mission is to restore and protect the Cahaba River watershed and its rich diversity of life. The diverse lives depending on the Cahaba include the 600,000 people and numerous businesses in the Birmingham Water Board service area relying on the River as a major source of drinking water as well as its internationally significant diversity of freshwater wildlife.

We have reviewed the March 10th, 2014 comment letter submitted to you by the Black Warrior Riverkeeper. We agree with and support those comments. We have also reviewed the July 8th, 2010 letter from Darryl Jones with the Birmingham Water Work (BWVB) to Glenda Dean and the BWVB's July 6th, 2010 letter to Dr. Randall Johnson of the Alabama Surface Mining Commission (ASMC) that raise significant concerns about the potential for the Shepherd Bend Mine to negatively impact the City of Birmingham's drinking water quality. We have also reviewed the draft AL0079162 permit, its Rationale page, and other documents available through The Alabama Department of Environmental Management's (ADEM's) eFile system.

ADEM should not reissue AL0079162 for the following reasons:

- The BWVB has raised concerns and questions that have not been addressed by ADEM or the permittee regarding:
 - Insufficient monitoring of water quality background conditions
 - Insufficient use of existing available water quality background information
 - The probability that discharges will cause or contribute to drinking water standards violations.
- The Black Warrior Riverkeeper illuminates severe shortcomings of the draft permit that must be addressed (more on this below)
- ADEM appears to assume perfect compliance with conditions and standards of the permit in assessing the permit's adequacy
- ADEM appears to rely on an inadequate discharge characterization sampling effort

We will expand on these points below.

We strongly urge ADEM to grant deference to the opinions articulated in the BWWB comments. It is difficult to overstate the importance of protecting the integrity of raw water supply water quality. The health of at least 200,000 BWWB customers could be affected by this permitting decision. Also, the potential economic burden for about 600,000 BWWB customers hangs in the balance. As the BWWB have commented, having to fund significantly enhanced drinking water treatment processes made necessary because the Shepherd Bend Mine has a permit that allows discharge of drinking water pollutants at a concentration that are in many cases 10-fold higher than Minimum Contaminant Levels allowed for drinking water should be thoughtfully considered. It is potentially dangerous for the health of BWWB customers and fundamentally unfair for Shepherd Bend, LLC to place that health and economic burden on those citizens. The concerns and opinions of the scientists and engineers at the BWWB deserve thoughtful consideration.

Here we repeat that we agree with the Black Warrior Riverkeeper's March 10th, 2014 comments regarding the shortcomings and inadequacies of the draft permit. From the lax discharge monitoring requirements, the inadequate sampling of discharge water quality, the breath-taking exemptions for the unreasonably limited number of parameters that do have minimal standards, to the failure to consider the compliance histories of the individuals involved and the failure of the permit to protect existing uses, this permit fails to measure up as one designed to both grant the permittee the privilege of discharging wastes to waters of the state and to protect the health of Alabama's citizens and their environment.

Among the shortcomings listed above, we will describe one in particular which addresses the validity of information submitted by the applicant. That information serves as the basis for the Discharge Characterization submitted in the application and is the basis for ADEM's determination of potential total pollutant loading and whether it is reasonable to expect the proposed discharges will impair existing uses. The Permit Rationale includes the following sentence from page 2:

Due to the fact that no outfall structures have been constructed at Shepherd Bend Mine, the applicant submitted data from Evergreen Mining, LLC's Red Star Mine (AL0076473), which is located directly east of Shepherd Bend Mine across Mulberry Fork.

On March 26, 2013 the applicant collected a single sample from Outfall 009-1 at the Red Star Mine, the analysis of which is apparently the sole basis for estimating discharge characteristics for all 29 of the Shepherd Bend Mine outfalls. The applicant represents that the sample is characteristic of "drainage from a coal surface mine"¹. While the sample is from an area that was previously subjected to surface mining, the area was not an active coal surface mine at the time the sample was collected. Unfortunately, this sample is used in subsequent calculations that erroneously estimate total pollutant discharge from the active coal surface mining proposed in the permit application.

In fact, the drainage had previously been reclaimed and had been re-vegetated. We know this because on March 27, 2013, one day after the single discharge characterization sample was collected, the applicant submitted a Phase II Bond Release Request to the ASMC². That request was granted and includes the following text:

¹ See page 7 of 13, ADEM Form 315 11/12 m3 (page 63 of 80 of 34990_AL0079162_127_01-28-2014_DPER_ABN_TO_PERMITTEE in ADEM's eFile system). Attachment XVI Discharge Structure Description and Pollution Source under "Description of Origin of Pollutants" shows all discharges are (2) Discharge of drainage from a coal surface mine, and (9) Discharge of drainage from mine reclamation. We agree the "(9)" designation is correct, but we disagree with the "(2)" designation which is how these data are actually used by ADEM.

² See file 23161_AL0076473_127_07-13-2013_ASMC_GGG_ACTION-BOND_REL in ADEM's eFile system under Permit AL076473.

The vegetation cover is greater than 90% and consists of Bermuda, Fescue, Kobe and some clover. The land use is undeveloped, no current use. All drainage from this increment is controlled. All sediment basins for this permit are in increment #6. The highwall slips that were in this increment have now been repaired and I took pictures of the repairs. I recommend that this phase II bond release be granted for this increment pending hydrological approval.

...

*Danny Page
Inspector*

Thus the basis for estimating the quantity and quality of potential pollutant discharge from active surface coal mining is a 90% re-vegetated site. It should be clear that the concentration of various constituents found in samples from an active coal mine operation would be significantly different from those in a sample from a Phase II Reclamation site. Therefore the discharge characterization sample was not appropriate to characterize the water quality of 'coal mine discharges' as was represented by the applicant in the permit application information.

Moreover, a single water sample is statistically inadequate to serve as the basis for justifying the magnitude of the proposed mining activity. Using a single sample as the basis for discharge characterization estimates is scientifically unsupportable. I would add that using only one sample as an indicator of the absence of other potential pollutants like aluminum, arsenic, iron, manganese, strontium, total organic carbon, and zinc is even less defensible from a statistical perspective. Since that one sample appears to be the **only one** used by ADEM to make the determination that other potential pollutants were not present, this is a serious shortcoming of the draft permit.

Also, the applicant appears to have significantly underestimated the total daily flow from the 29 outfall locations due to unit conversion errors in Attachment XV of the application information³. The values for 'Flow (gpd)' appearing in the table are often significantly less than the measured 'Flow (cfs)' value. When flow in cubic feet per second are converted to 'gpd', the grand total for all the outfalls is 200,200 gpd less than the measured Flow in cfs. This will result in lower estimated total pollutant loading.

Mischaracterizing the land use for the drainage from which water samples used for discharge characterization studies and the reliance on a single water quality sample are significant shortcomings since both errors result in under estimation of total pollutant loading. Arithmetic errors further contribute to underestimating total pollutant loading. These errors are especially significant since estimates of total pollutant loading and even the choice of parameters for inclusion in the permit limitations and conditions have been predicated on this misinformation. Therefore, the draft permit is fatally flawed and should not be issued by ADEM.

Some of these significant weaknesses might have been mitigated if additional water quality information would show that corrected pollutant loadings could be accommodated. However, that outcome is unlikely since most information on the existing water quality conditions of the receiving waters suggests that additional pollutant loading from a mining operation would likely cause or contribute to violations of standards for some existing uses, particularly drinking water uses. The

³ Attachment XV is on page 63 of 80 in file 34990_AL0079162_127_01-28-2014_DPER_ABN_TO_PERMITTEE in ADEM's eFile system.

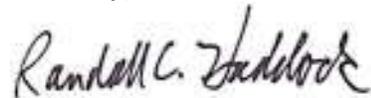
BWWB presented to ADEM⁴ significant water quality information which showed there is reasonable concern that mine discharges may cause exceedances of drinking water standards for aluminum, iron, manganese, strontium, total organic carbon, and zinc⁴.

Had ADEM considered this and other water quality information⁵ and still come to the conclusion it was appropriate to issue the permit, ADEM would be in a stronger position to finalize this permit. Unfortunately, it does not appear ADEM assessed all other information resources at hand, nor was ADEM sufficiently rigorous in unquestioningly accepting the applicants misinformation.

When all these factors are considered together, we do not see how ADEM can justifiably finalize the current Draft NPDES AL079162 permit.

Thank you for your thoughtful consideration of these comments.

Sincerely,



Randall C. Haddock, PhD
Field Director
Cahaba River Society

⁴ July 8, 2010 letter to Glenda Dean from Darryl Jones, Assistant General Manager, BWWB, which attached a July 6, 2010 letter to Dr. Randall Johnson, ASMC containing concerns and water quality information.

⁵ *Surface Water Quality Screening Assessment of the Cahaba and Black Warrior River Basins – 2002*. Aquatic Assessment Unit – Field Operations. Alabama Department of Environmental Management.