

January 17, 2020

Barb Lieberoff, Mail Code #5
Re: Pond Creek Mine NPDES
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P. O. Box 19276
Springfield, IL 62794-9276

Sent via email to epa.publichearingcom@illinois.gov

Re: NPDES Permit No. IL0077666, Notice 7516c- Williamson Energy, LLC

Dear Ms. Lieberoff and other Illinois EPA officials;

The proposed permit plainly cannot be legally granted by the Illinois Environmental Protection Agency (IEPA) based on the current record. Further, any attempt to remedy the grossly defective draft permit and permit record with new documents or a revised permit cannot be allowed to result in a new permit being issued without re-noticing the revised permit and allowing a further public hearing based on a properly supported public notice and antidegradation analysis.

As shown at the public hearing held December 18, 2019, and confirmed by the comments and science submitted with this written comment including the attached comments of Dr. Matthew Baker (Ex. A) and Dr. JoAnn Burkholder (Ex. B), the permit would allow substantial harm to the environment and its issuance would violate numerous provisions of law.

Commenting Organizations

This letter includes the post-hearing comments of Prairie Rivers Network, Sierra Club and Southern Illinoisans Against Fracturing Our Environment (SAFE).

Prairie Rivers Network (PRN) works to protect water, heal land, and inspire change and their energy program works to reduce the impact of coal on rivers and groundwater across the state. PRN has 1200 members, including members who live near and use the Big Muddy River watershed and downstream areas for fishing, paddling, birdwatching, and other recreational activities. Amanda Pankau, staff member of Prairie Rivers Network, attended the hearing and gave testimony and asked clarifying questions.

Sierra Club has 100,000 members and supporters across Illinois who seek to restore and protect a clean and healthy environment for all residents of Illinois. Sierra Club members attended the hearing and gave testimony, including Lucia Amorelli, Jean Sellar, Jane Cogie, Connie Schmidt, Barbara McKasson, and Albert Ettinger. Our members are affected by pollutant discharges into Pond Creek, the Pond Creek tributary, the Big Muddy River and

downstream water bodies and would use these waters more frequently were they not affected by pollution from this facility and other sources. Our members are threatened by the proposed degradation of the Big Muddy, Pond Creek and other downstream and adjacent waters. Our members and others rely on clean waters in the Big Muddy watershed for activities including hunting, recreational fishing, commercial fishing, trapping, paddling, boating, birdwatching and other wildlife viewing.

Southern Illinoisans Against Fracturing Our Environment (SAFE) is an organization based in Southernmost Illinois and has members who live adjacent to the Big Muddy River, and who enjoy kayaking, canoeing, and birdwatching along the river. Members living next to the river experience issues with flooding of the Big Muddy with regularly occurring precipitation events as we did last weekend, January 11 when 4-5" pushed flood waters into the back yard of members' homes. Numerous SAFE members were present at the IEPA hearing on December 18, 2019, including Jan Thomas, Cameron Smith, Tabitha Tripp, and Tenney Naumer.

Legal Overview

The hearing and documents obtained through the Illinois Freedom of Information Act (FOIA) disclosed that the permit cannot be legally granted under 35 Ill. Adm. Code 302.102, 302.105, 304.105, 309.141(a) and (d), 309.143(a) and 309.146 because the draft permit as written does not ensure compliance with Illinois water standards or permitting rules and would violate at least the following applicable regulations:

- **35 Ill. Adm. Code 302.105(a)** (Tier 1 antidegradation) by allowing increased discharges of chloride, sulfate, total suspended solids and other pollutants that will adversely affect existing uses of the Big Muddy River and Pond Creek and other creeks in the area. Among the ways in which existing uses will be impacted will be through chemical and biological processes resulting from allowed discharges that will cause increased methyl mercury, increased phosphorus, increased cyanobacteria and decreased dissolved oxygen (DO) in the water column. Damage to existing uses may also occur through damage to creeks not receiving discharges from the mine but that may be affected in quality from reduced stream flow caused by groundwater moving downward to fill areas vacated by groundwater filling the mine.
- **35 Ill. Adm. Code 304.105, and 309.141(d) and 309.143** by increasing the levels of methyl mercury and phosphorus, decreasing DO levels, and causing violations of narrative standards in the Big Muddy. The Big Muddy is already listed as impaired by methyl mercury, low DO and TSS in the receiving segment and numerous downstream segments and as potentially impaired by phosphorus.
- **35 Ill. Adm. Code 302.105(c)** (Tier 2 antidegradation) by allowing new discharges to the Big Muddy River and Pond Creek that are not necessary to accommodate important social or economic development but, on the contrary, will harm social and economic development by further wedding the local economy to an industry without a long term future and a company likely to leave the community with a large environmental hazard

that will have to be cleaned up with public funds. Neighbors of the mine will continue to be harmed by the mining operations. Further, the mining of coal, to the extent it occurs and the coal is burned in China or elsewhere, will harm the local economy (and the world economy) by increasing the emission of greenhouse gases.

- **35 Ill. Adm. Code 302.105(a), 35 Ill. Adm. Code 304.105, and 309.141(d), 309.143, and 309.146** by allowing a mixing zone that (the misrepresentations made in the record by the applicant notwithstanding) will in fact result in violations of applicable water quality standards outside the mixing zone by allowing increased discharges subject to implementation of a complex dilution and monitoring formula by an applicant that has proven itself utterly incapable of complying with the limits and reporting requirements of its current relatively simple permit and by allowing a mixing zone in Pond Creek where no dilution is available.
- **35 Ill. Adm. Code 302.102(a), 302.105(a), 35 Ill. Adm. Code 304.105, and 309.141(d) and 309.143** by failing to protect mussels.
- **35 Ill. Adm. Code 146** by failing to require monitoring adequate to determine compliance with the complex dilution scheme contemplated by the permit.
- **35 Ill. Adm. Code 302.102, 302.105(a), 35 Ill. Adm. Code 304.105, and 309.141(d) and 309.143** because the reasonable potential test on which the public document relies was not properly performed at least with regard to mercury, copper, iron, nickel, and selenium. It appears that cadmium and manganese have also not been tested properly.
- **35 Ill. Adm. Code 302.102, 302.105(a), 35 Ill. Adm. Code 304.105, and 309.141(d) and 309.143** because the testing done for mercury was not done with sufficient sensitivity to determine whether there is a reasonable potential for the discharge to cause or contribute to violations of the applicable 12 ng/L water quality standard (35 Ill. Adm. Code 302.208(f)).¹

I. Tier 1 Antidegradation - Existing uses are not being Protected in Violation of 35 Ill. Adm. Code 302.105(a).

The discharger purports to be establishing a complex scheme to prevent violations of Illinois water quality standards outside the mixing zone for numerous pollutants, but the scheme for meeting the standard is unlikely to be implemented and the criteria are not protective of existing uses as to numerous pollutants. The segment of the Big Muddy where the proposed discharge will be located is designated as impaired for Aquatic Life, Fish Consumption and Primary Contact Recreation. However, fishing occurs in the Big Muddy and over ten thousand pounds of fish are caught from the river each year, according to IDNR data (Ex. I)

In particular, the permit is not protective of existing uses because the impact of the increased chloride, conductivity, sulfate, total suspended solids (TSS), copper, iron, manganese, and nickel has not been properly considered and the cumulative effect of the increased

¹ 415 ILCS 5/11 and the Illinois Pollution Control Board regulations require that IEPA “ensure” that every NPDES permit prevent discharges of pollutants that have a reasonable potential of violating any Illinois water quality standard. *Prairie Rivers Network v. Illinois PCB* 2016 IL App (1st) 150971 par. 26.

concentrations of all of these pollutants together has been totally ignored.² Further, the background levels of chloride have not been properly stated and the amount of acidity and other pollutants that will enter the waters is not being properly monitored.

The reality is that the permittee intends to continuously discharge at the maximum allowable flow rate in order to get rid of all the saline groundwater pouring into the mine. Their own report admits this.³ This is also shown through estimating how much discharge could have been received by the Big Muddy based on the historical flow record. The mine estimates that, currently, 2.7 million gallons per day of mine water will need to be pumped out, and this could increase up to 3.5 mgd.⁴ Assuming that the chloride concentrations reach levels similar to those seen at Sugar Camp mine, as is anticipated,⁵ the load that the Big Muddy could carry without violating the 500 mg/L chloride standard at the edge of the mixing zone would range from 1.8 to 4.7 mgd, based on historical flow records.⁶ On the low end of that range (drier years), when the Big Muddy could only take an average daily discharge of 1.8 mgd from the mine, the river would not have been able to assimilate the entire 2.7 mgd of mine waste without violating water quality standards (which, again, could increase to 3.5 mgd in the future). This means that the mine would be discharging at its limit the whole year. Even at the high flow end of this estimate, where the Big Muddy could supposedly assimilate 4.7 mgd, the mine would still be often be pumping near the limit. The flow limitations from the mixing equation, then, are not some theoretical maximum that the mine might hit. The mine will be operating at this limit nearly all the time when the infiltrating groundwater reaches anticipated levels.⁷

Continual discharge at maximum levels would raise the background chloride concentrations of the Big Muddy downstream to higher levels. A crude approximation, assuming the applicant can meet the limit of 500 mg/L Chloride in ¼ of the river for mixing, shows that the chloride levels in the river would increase as follows:

Background Concentration: 108 mg/L starting level

Mix with Sugar Camp: $0.25 * 500 \text{ mg/L} + 0.75 * 108 \text{ mg/L} = 206 \text{ mg/L}$

Mix with Pond Creek: $0.25 * 500 \text{ mg/L} + 0.75 * 206 \text{ mg/L} = 280 \text{ mg/L}$

² The limits of the testing and the sensitivity of the testing methods is such that increased loading of a number of other pollutants is probable.

³ Conceptual Diffuser Design: "The controlled low-flow periods have in the past extended for more than a year. The Mine cannot hold water for that long of a period. At the same time, the Mine cannot discharge the full amount of water that it needs to at the low flow condition. The solution is to discharge some water all of the time, increasing the discharge as conditions allow." page 6-1

⁴ Anti-degradation Assessment Pond Creek No. 1 Mine ((November 18, 2016) ("Anti-degradation Assessment") pg 16

⁵ Conceptual Diffuser Design page vii

⁶ Conceptual Diffuser Design page viii

⁷ Indeed, the diffuser design document states "The controlled low-flow periods have in the past extended for more than a year. The Mine cannot hold water for that long of a period. At the same time, the Mine cannot discharge the full amount of water that it needs to at the low flow condition. The solution is to discharge some water all of the time, increasing the discharge as conditions allow."

In other words, the entire Big Muddy downstream would be forced to sustain concentrations above the United States Environmental Protection Agency (U.S. EPA) recommended chronic chloride standard of 230 mg/L, which recent science shows is not adequate to protect aquatic life (see *infra*), and any additional downstream discharge of chloride would push the Big Muddy further beyond the current outdated and insufficiently stringent U.S. EPA recommended criteria.⁸

A. Increased loadings of chloride will harm existing uses.

The applicant purports that it will establish a complex scheme for prevention of violation of the Illinois 500 mg/L acute chloride standard. However, it appears that the permit applicant does not intend to monitor directly for chloride in either the discharge or the Big Muddy River but, rather, will be estimating chloride levels from conductivity data. Problems with the correlation are discussed in Section V below.

Considering just the direct effects of chloride alone, there are at least four fatal problems that preclude granting the permit under 302.105(a) and numerous other provisions of law.

First, the monitoring proposed is not properly spelled out or enforceable and the applicant intends to monitor conductivity rather than chloride directly. The levels of chloride present given a particular level of conductivity varies from place to place and time to time as was admitted by the Agency during the hearing. See also, Comment of Dr. Burkholder (Ex. B, p.6). Thus, the permit applicant has not presented any sound methodology for making a reasonable estimate of chloride levels with the equipment that it plans to use. Moreover, as will be discussed further in Section V below, it is apparent that this discharger, which has committed numerous permit violations as well as violations of reporting requirements, is utterly incapable of implementing the complex monitoring and discharging scheme it pretends that it will utilize.

Second, the available data indicates that for the Antidegradation Assessment the applicant and IEPA are using an estimate of the background level of chloride that is lower than that shown by the available data. The current antidegradation assessment prepared by the mine notes that the 90th percentile background level of Chloride is 30 mg/L,⁹ and the report states this number comes from Illinois EPA. An evaluation of available chloride data just upstream of the proposed discharge shows that a proper Antidegradation assessment would include an updated 90th percentile background for chloride. The last five years of water quality data from the Big Muddy at Plumfield (segment N-11) just north of the proposed discharge point show that the 90th percentile chloride concentration is greater than 103 mg/L. See also, Comment of Dr. Baker (Ex. A, p.3).

Further, the entire scheme assumes without evidence that all of the chloride discharged into the Big Muddy will flow downstream without any adverse impact and that no chloride will be stored

⁸ The U.S. EPA chronic water quality standard for chloride is contained in Ambient Water Quality Criteria for Chloride - 1988 EPA 440/5-88-001 (February 1988) available on the U.S. EPA website.

⁹ Antidegradation Analysis page 12 (pdf 13)

in groundwater, side channels, sediment or biota to re-emerge into the river at a later time when the applicant under its scheme may be discharging chloride at a higher rate than would be allowed. If a portion of the high chloride discharged during high-flow periods is still present in the system when flows decrease, violations of the 500 mg/L acute standard can be expected. See also Comment of Dr. Burkholder on the chemical interactions between the overlying water and stream sediments (Ex. B, p.5).

Still further, it is clear that the Illinois 500 mg/L chloride standard is not protective of existing uses against chronic toxicity especially during warm weather. As was discussed by Professor David Soucek of the University of Illinois in IPCB 18-32, the entire record of which is incorporated by reference in opposition to this permit. A properly protective chronic standard adjusted to account for the water temperature and hardness factors that may be present during the proposed discharges would require prohibiting discharges that would cause chronic levels in the Big Muddy to exceed the levels indicated as safe by Dr. Soucek's studies and the studies on which he relied (Ex. C).

B. Impact of increased and high conductivity has not been assessed.

There is abundant scientific evidence to suggest that total conductivity itself is a parameter that may affect existing uses. See Comment of Dr. Baker (Ex. A, p.3). This was further documented in the Draft Field Based Methods for Developing Aquatic Life Criteria (U.S. EPA 2016) (Ex. D). Neither the applicant nor IEPA have apparently given any thought as to how increased conductivity might affect existing uses in Pond Creek or the Big Muddy River. The available evidence indicates that harm to existing uses will occur.

C. Increased chloride and sulfate will increase toxic mercury levels.

It is well established that the Big Muddy is already impaired by methyl-mercury pollution and that increased chloride in a water body will increase the level of mercury released from the sediments in a water body that will take toxic forms (methyl-mercury and others). See Illinois 303(d) list¹⁰; Comments of Dr. Burkholder (Ex. B, pp. 1-2); and Hearing Transcript (Barb McKasson at p.110-111). Accordingly, the permit would allow increased impairment of existing uses, harm public health and commercial fishing, as well as violate other provisions of Illinois Law to be discussed below.

Moreover, as discussed in Section III below, potential mercury levels in the discharge have not been tested using sufficiently sensitive methods or using a proper reasonable potential analysis.

¹⁰ Currently available at:
<https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/303d-list.aspx>

D. The effects of increased sulfate, TSS, copper, iron, cadmium, selenium, hydrogen sulfide, acidity, and nickel on existing uses have not been properly determined

No effort has been made to properly estimate the high levels of these pollutants that may occur in the discharge under the USEPA Technical Support Document EPA/505/2-90-001, PB91-127415 (March 1991)¹¹. The fact that the applicant has chosen to take very few samples is no excuse for not using the proper multipliers needed to determine the potential levels of those pollutants. See *Illinois EPA v. Illinois PCB*, 386 Ill. App. 3d 375, 387 (Ill. App. 2008).¹²

Further, the potential for the discharge to cause the creation of toxic hydrogen sulfide must be considered given the increase in sulfate that would be allowed in this permit. See Comment of Dr. Burkholder (Ex. B, p. 5). Still further, the increased toxicity in the mixing zone will have the effect of increasing biological oxygen demand and, thus, increasing the existing violation of the DO standard in violation of 302.105(a) and the other cited regulations that prohibit allowing a discharge that will cause or contribute to violations of state water quality standards. See also, 40 CFR 122.44(d) and Comment of Dr. Burkholder (Ex. B, p.4)

Still further, it appears that levels of extreme acidity may be found in the discharge as shown by the discharge monitoring report for Outfall 7 in September 2016, June 2017, December 2017, March 2018 for low pH, and at Outfall 8 in September 2016, June 2017, and December 2017 for low pH (Ex. F). The Big Muddy is already impaired by low pH. Given these problems with low pH discharges, we question why the Agency is permitting outfalls 006, 007 and 008 as acid mine drainage. IEPA cannot grant a permit unless the proposed discharge will not increase the existing pH impairment.

E. The cumulative effects of all the increased pollutants and the effects of existing low dissolved oxygen conditions and other stressors must be considered.

Any proper analysis of the potential effect of the proposed discharge would consider the cumulative effects of all of the pollutants and stresses that it is proposed to increase together and in the context of the fact that the Big Muddy River is already plagued by dissolved oxygen levels that regularly fall below applicable Illinois water quality standards. The proposed discharge is very likely to exacerbate the existing aquatic life impairment. See comment of Dr. Baker (Ex. A, p.3) and comment of Dr. Burkholder (Ex. B, p.6-7).

F. IEPA must consider the effects of the proposed discharges on Pond Creek and on other creeks in the vicinity of the mine.

¹¹ Currently available at: <https://www3.epa.gov/npdes/pubs/owm0264.pdf>

¹² IEPA in 2016 did a reasonable potential analysis of some of the outfalls based in each case on one sample (Ex. E). Reasonable potential was found at one or more outfalls for cadmium, copper, nickel, mercury, and silver. Cadmium was found at levels above the acute standard in numerous outfalls.

IEPA must also determine the potential effect of allowing this discharge on creeks in the area of the mine, the existing uses of which may be affected by drawdowns of groundwater and surface waters that may be connected to the saline aquifer the mine is now draining.

G. The permit makes no assessment of the effect of the discharge on mussels.

The permit and the antidegradation assessment make no attempt to address impacts to mussels or even assess if mussels are present in the area, despite clear direction that Illinois' antidegradation policy calls for the maintenance and protection of existing uses, including the prevention of a shift from pollution-sensitive to more pollution-tolerant community and the loss of species diversity (Section 302.105(a)(1)). Sensitive mussels have been shown to be killed in chloride/sulfate mixtures when sulfate is much lower than what would be allowed in the permit.¹³

¹³ Freshwater mussels are one of the most imperiled groups of organisms. Nearly 70 percent of these species are designated either as threatened, endangered or in decline (Williams, JD, ML Warren, KS Cummings, JL Harris, RJ Neves. 1993. Conservation status of freshwater mussels of the United States and Canada. Fisheries 18, 6-22.) Recent studies have shown that for some contaminants, freshwater mussel glochidia and juveniles are more sensitive than standard test organisms, leading to concerns that U.S.EPA chronic criteria, which are 230 mg/L, do not adequately protect freshwater mussels Wang, N., CD Ivey, RA Dorman, CG Ingersoll, J Steevens, EJ Hammer, CR Bauer, and DR Mount. 2018b. Acute toxicity of sodium chloride and potassium chloride to a unionid mussel (*Lampsilis siliquoidea*) in water exposures. Environmental Toxicology and Chemistry. First published: 19 June 2018, <https://doi.org/10.1002/etc.4206>. Wang, N., JL Kunz, RA Dorman, CG Ingersoll, JA Steevens, EJ Hammer, and CR Bauer. 2018a. Evaluation of chronic toxicity of sodium chloride or potassium chloride to a unionid mussel (*Lampsilis siliquoidea*) in water exposures using standard and refined toxicity testing methods. Environmental Toxicology and Chemistry. 21 Aug. 2018, <https://doi.org/10.1002/etc.4258>,

In Gillis, PL. 2011. Assessing the toxicity of sodium chloride to the glochidia of freshwater mussels: implications for salinization of surface waters. Environmental Pollution 159: 1702-108, it is pointed out that for glochidia, the end point for studies of acute chloride toxicity is not death, but loss of ability to attach to a host species, which is necessary for their survival, and renders them "effectively dead." In their study of acute chloride toxicity of Fatmucket, *Lampsilis siliquoidea*, juveniles and glochidia, Wang et al. (2018b) state that including their more recent mussel data in the toxicity database would "likely lower the [USEPA Water Quality Criteria 230 mg/L] and [Water Quality Standards] for [Chlorides]." Wang et al (2018a) made a similar statement in their study of the chronic chloride toxicity of the Fat Mucket, in which they state "inclusion of the data from the present study and recent publications to update the national chronic water quality criterion or Iowa chronic water quality standard would likely lower the criterion or standard."

A study by the Great Lakes Environmental Center (GLEC) and the Illinois Natural History Survey (INHS) tested the acute toxicity of chloride to four freshwater invertebrate species including a species of fingernail clam, *Sphaerium simile*. GLEC and INHS found that "[f]ingernail clams are approximately 5.6 times more acutely sensitive to chloride at 50 and 200 mg/L total hardness than tubificid worms, and approximately 2.7 to 4.2 times more sensitive than the snail" USEPA. 2008. Final Draft Report. Acute toxicity of chloride to select freshwater invertebrates. Prepared for the USEPA by Great Lakes Environmental Center and Illinois Natural History Survey. 28 Oct. 2008.

(footnote continues on following page)

(footnote 13 continued) In terms of chronic long-term effects on invertebrate assemblages, in Wallace, AM and RG Biastoch. 2016. Detecting changes in the benthic invertebrate community in response to

Also see Comment of Dr. Burkholder (Ex. B, p.7). A 2012 study of mussels in the Big Muddy by the Illinois Natural History Survey (Ex. G) found their presence in nearly all of the nearby tributaries in the Big Muddy, which likely indicates that they are present in the main stem of the river (however, the main stem was too deep for the Survey staff to assess at the time of their study). If mussels are found, harming those mussels would be improper as a forbidden impact on existing uses (35 Ill. Adm. Code 302,105(a)(1)). Worse, this particular permit proposes a flow that will discharge and mix at the bottom of the river first, subjecting any mussel bed there to the highest of chloride concentrations.

The permit cannot be issued if the presence of mussels has not been assessed.

II. Tier 2 Antidegradation - The permit violates 35 Ill. Adm. Code 302.105(c) because the new discharges have not been shown to be necessary to accommodate important social and economic development and the record establishes that the new discharges would be socially and economically destructive.

The Anti-degradation Assessment filed by the applicant relies on a number of patently false statements regarding the need for and future of the coal industry and completely fails to consider anything but the alleged benefits of keeping the mine open. In fact, the benefits are extremely unlikely to be realized while the damage to be done to the environment and the local economy is deadly certain.

A. Workforce analysis ignores the applicant's financial perils.

The applicant's claims regarding future jobs and need for the coal are wildly inaccurate. There is no reason to believe the applicant will continue to operate for long, even if it receives this destructive permit. As explained at the hearing, stock prices of the applicant and related companies such as Foresight Energy have crashed. In 2019, eight major coal mining companies, including Murray Energy, filed for bankruptcy. The January 14, 2020, U.S. Energy Information Administration Short-Term Energy Outlook forecasts that coal production will reach a four-decade low in 2020, stating that coal-fired power plant retirements, electricity from lower cost natural gas and new renewables, and declining exports are expected.¹⁴ Indeed, the whole Southern Illinois coal industry is in a downward spiral. Recent analysis from the Institute for Energy Economics and Financial Analysis reports that "Illinois Basin's coal industry is entering a period of structural decline," and "within the next 20 years, virtually all of the U.S. coal-fired

increasing chloride in streams in Toronto, Canada. *Freshwater Science* 35(1): 353-63, it is found that in streams in Toronto, Canada, the macroinvertebrate community demonstrated the most taxa changes (declining frequency and abundance of taxa sensitive to chloride and increasing frequency and abundance of taxa tolerant of chloride) at a threshold of approximately 50 to 90 mg Cl-/L. The authors point out that this is below the Canadian Water Quality Guideline of 120 mg Cl-/L for chronic exposure and suggest that chloride may be having nonlethal effects on the benthic macroinvertebrate communities in the Toronto, Ontario region.

¹⁴ "SHORT-TERM ENERGY OUTLOOK," US Energy Information Administration, accessed on 1/14/20: <https://www.eia.gov/outlooks/steo/report/coal.php>

plants that currently buy the basin's coal will be either retired or little used, the result of an economic and technologically driven energy transition in the electric power industry that favors lower-cost and cleaner alternatives." (Ex. H)

The insinuation in the Do Not Mine alternative that Illinois power plants are reliant on Illinois coal is false, as few power plants in Illinois actually burn Illinois coal, and most Illinois coal is shipped out of state. The absurd idea that 4.7 million American homes would go dark without this mine is untrue, and ignores the reality that coal is more expensive than other generation sources and that Illinois is a huge exporter of energy - so we have some to spare. What is proposed here, then, is to sacrifice the Illinois environment and economy, produce more toxic coal ash, and pump more CO₂ and other co-pollutants into the atmosphere so that foreign countries can buy cheaper coal with which to pollute the atmosphere.

While the claimed benefits are illusory and, to the extent they exist, may continue for only a certain window of time, the probable social and economic results of granting this permit can leave massive public costs and have clearly damaging impacts to the long-term social and economic well-being of the area. These costs have not been taken into account.

Workers will continue to face uncertainty over employment and benefits. The United Mine Workers of America website is following the Murray Energy bankruptcy proceedings and has posted that existing employment agreements can be changed by who owns the mine after bankruptcy proceedings. While Mr. Murray exited his company as CEO, having paid himself \$14 million in 2019 before declaring bankruptcy, mine workers face an unknown future regarding their employment, health and retirement benefits. There is every reason to believe miners will be cheated, as were miners at the Blackjewel Mine, where the miners, in an act of protest, had to resort to blockading a train carrying coal,¹⁵ and similar protests have begun in Kentucky against Quest Energy.¹⁶ The miners at Blackjewel eventually got their pay, but only after taking organized action against the company. Regarding health benefits, in November, 2019, Murray Energy owed \$155 million to the Black Lung Trust fund, but was offering to pay only \$1.1 million.¹⁷

Williamson Energy LLC, a subsidiary of Foresight Energy GP LLC, has 80% holdings by Murray and 20% from the Cline Group. Foresight stocks are 6 cents a share as of January 15, 2020. Murray Energy announced Chapter 11 Bankruptcy on October 29, 2019, claiming \$2.7 billion in

¹⁵ "Blackjewel Coal Miners to Get Millions in Back Pay After Train Blockade" New York Times, 1/17/20, <https://www.nytimes.com/2019/10/24/us/blackjewel-coal-miners.html>

¹⁶ Kentucky miners block coal train in protest for pay," NBC News, 1/15/20 <https://www.nbcnews.com/news/us-news/kentucky-miners-block-coal-train-protest-pay-n1116096>

¹⁷ "Black Lung Trust Fund Likely Burdened by Murray Bankruptcy," WFPL, 11/20/19, <https://wfpl.org/black-lung-trust-fund-likely-burdened-by-murray-bankruptcy/>

debt and more than \$8 billion in actual or potential liabilities including worker pensions and health care.¹⁸

In December, 2019, Congress passed the American Miners Act as part of federal spending legislation approved before year end to avoid a government shut-down. The Act will put pension and healthcare costs for approximately 120,000 union mine workers under federal payment via funds taken out of the Abandoned Mine Lands (AML) reclamation fund. The fund was intended to pay for environmental degradation and hazards left in the 200 years of coal mining across the United States before U.S. laws were established but now will be used in large part to pay for miner pensions and healthcare with the result that the Illinois taxpayer can be expected to pay the clean up cost of the mines.¹⁹

The trajectory of the coal industry is clear. As of November 2019, 48% of the Fortune 500 and 63% of the Fortune 100 are vowing to cut their greenhouse gases by increasing their use of green energy and improving their energy efficiencies.²⁰ BlackRock, the world's largest money manager with \$7 trillion in assets, announced it will make sustainability and climate risks key tenets of its investing strategy and exit investments in thermal coal, along with other actions²¹

B. Flooding

The negative economic effects of discharge on flooding in Big Muddy must also be weighed on the scale. While a demonstration has been attempted to show that the increased discharges to be caused by the proposal would not be large, even small increases cannot be discarded as insignificant when there are already flooding problems that will be increased. Obviously, nearly every individual source of floodwater can claim that, considered in isolation, it is insignificant. It is in the very nature of flooding that it is the result of large numbers of small factors that collectively lead to disaster. See Galloway Report on 1993 Flood (Ex. J, p.94). Due to climate change, it is already a given that "extreme weather events will become more frequent and intense,"²² including the frequency of flooding.²³

¹⁸ "Coal Producer Murray Energy Files for Bankruptcy," The Columbus Dispatch, 10/29/19

<https://www.dispatch.com/business/20191029/coal-producer-murray-energy-files-for-bankruptcy>

¹⁹ See also, Macey, Joshua and Salovaara, Jackson, Bankruptcy as Bailout, Stanford Law Review, Vol 71, p. 879 (April 2019) available at

<https://review.law.stanford.edu/wp-content/uploads/sites/3/2019/04/Macey-Salovaara-71-Stan.-L.-Rev.-879.pdf>

²⁰ "Bankruptcy of Coal Giant Murray Energy Is a Turning Point for Renewable Power," Forbes, 11/3/19

<https://www.forbes.com/sites/kensilverstein/2019/11/03/murray-energys-bankruptcy-dovetails-with-the-rise-of-tesla-and-new-energy/>

²¹ "BlackRock Makes Climate Change Central to Its Investment Strategy," Washington Post, 1/14/20

<https://www.washingtonpost.com/business/2020/01/14/blackrock-letter-climate-change/>

²² United States Global Change Research Program, "Fourth National Climate Assessment Volume I"

(2017). See also United States Global Change Research Program, "Fourth National Climate Assessment Volume II" (2018).

²³ "Changing climate is likely to increase the frequency of floods in Illinois. Over the last half century, average annual precipitation in most of the Midwest has increased by 5 to 10 percent. But rainfall during

Further, increased salinity and other pollutants in Big Muddy floodwaters will increase damage done by flooding to farm fields, golf courses, and other facilities that are flooded.

C. Climate Change

Mining and burning coal pursuant to the proposed permit would itself be destructive of the environment and economy because coal extracted from this mine will cause increased emissions of climate-warming greenhouse gases. “Transformations in the energy sector—including the displacement of coal by natural gas and increased deployment of renewable energy—along with policy actions at the national, regional, state, and local levels are reducing greenhouse gas emissions in the United States.”²⁴

We are in a climate change emergency. The earth has warmed by 1°C from 1901, the warmest in modern civilization, and warming is projected to reach 1.5°C between 2030-2050 under all best case scenarios.²⁵ “[H]uman activities, especially emissions of greenhouse gases, are the dominant cause” of record-breaking, climate-related weather extremes in recent years.²⁶ Catastrophic climate change will occur if global warming exceeds 1.5°C, yet to stay under 1.5°C warming, greenhouse gas emissions must be reduced 45% from 2010 levels by 2030, and reach net zero by 2050. With current global emissions, earth currently is on track to reach 3°C global warming by 2100.

With most of Illinois at 1°F warming as of 2016,²⁷ permitting the Pond Creek mine not only would be unconscionable, it would go against Illinois law and policy. The Illinois Constitution provides as a state public policy the duty of each person “to provide and maintain a healthful environment for the benefit of this and future generations.”²⁸ Illinois further provides individual rights to a “healthful environment” and individual enforcement “against any party, governmental or private.”²⁹

the four wettest days of the year has increased about 35 percent, and the amount of water flowing in most streams during the worst flood of the year has increased by more than 20 percent. During the next century, spring rainfall and average precipitation are likely to increase, and severe rainstorms are likely to intensify. Each of these factors will tend to further increase the risk of flooding.” United States Environmental Protection Agency, “[What climate change means for Illinois](#)” (Aug. 2016).

²⁴ United States Global Change Research Program, “[Summary Findings, Fourth National Climate Assessment Volume II](#)” at Section 4 (2018).

²⁵ Intergovernmental Panel on Climate Change, “Special Report on Global Warming of 1.5 °C” (2018).

²⁶ United States Global Change Research Program, “[Fourth National Climate Assessment Volume I](#)” (2017). See *also* United States Global Change Research Program, “[Fourth National Climate Assessment Volume II](#)” (2018).

²⁷ United States Environmental Protection Agency, [What climate change means for Illinois](#) (2016). See *also* [Fourth National Climate Assessment Volume II](#) at [Chapter 21: Midwest](#) (2018).

²⁸ Illinois Constitution Article XI.

²⁹ Illinois Constitution Article XI.

Supporting a stable and sustainable economy requires good stewardship of the environment. Absent unprecedented efforts, climate change will increase losses in infrastructure and property, and slow economic growth.³⁰ Any temporary economic growth would be outweighed irrevocably by short- and long-term climate change consequences.

D. Economic impacts on neighbors and land of long wall mining at site

The Pond Creek mine is a longwall mine. This is a highly automated and high extraction form of coal mining, taking out nearly the entire coal seam, with room and pillar mining done only for access corridors to the longwall panels. Once the longwall equipment is removed, the ground subsides unevenly, often by the depth of the coal seam that was removed. This has permanent, earthquake-like impacts on the ground surface in the land permitted for mining, referred to as the shadow area. The original Williamson Energy application to IDNR for this mine stated on page 280 that, “High extraction mining in the proposed shadow area can be expected to cause considerable surface subsidence.” What were once flat farm fields may become uneven and drainage systems farmers have worked decades to improve often have to be replaced. Local property owners face dewatering of their ponds, private wells, or flooding in areas that previously were not a problem due to the geologic changes from the longwall void underground and surface land subsidence. Surface stream flow can be disrupted. While the mines are to restore what is economically and technologically feasible, it is highly questionable that the full impacts on neighbors and area lands and water resources will ever be returned to pre-mining condition. Homes undermined by the mine have been torn down and while some will be rebuilt, family life is disrupted and property owners face years ahead where the ground can still settle and shift. The emotional and health toll imposed on residents is never factored in. One example of subsidence damage is the destruction of the company’s own groundwater wells, as noted in their groundwater monitoring reports.

Local residents have repeatedly tried to appeal to state agencies for enforcement of regulations regarding air quality, water concerns, and noise problems at the Pond Creek Mine. Illinois Pollution Control Board case PCB 2007-145 went on from 2007 to 2014 and the death of one of the petitioners (Ex. K). Concerns in this case are very similar to PCB case 2007-135 in which a local resident details the daily coal dust, noise, loss of right to enjoy one’s own property and safety concerns in living next to Pond Creek Mine (Ex. L). Loss of property value and long-term harm from longwall mining are not calculated. Long-wall subsided lands can have prompt surface subsidence but residual movement can continue for years. The original mine permit had longwall indicated for 4,630 acres and Revision 2 to the original IDNR Permit 375 added 7,000 more acres that can be subsided by longwall extraction.

The 229.78 acres under consideration for approval in this draft NPDES will enable the Pond Creek Mine to continue to use the centuries old management method of a surface coal slurry

³⁰ See United States Global Change Research Program, [“Summary Findings, Fourth National Climate Assessment Volume II”](#) at Section 2 (2018).

impoundment Refuse Disposal Area (RDA) for waste water from mining including washing coal. Land that was once productive farmland and wetlands has been covered by a monstrous high hazard dam impoundment that will be approximately 190 feet high and over 400 acres in size. The area covered by this slurry refuse disposal cannot be used by future generations for farming or building, and will contain heavy metals and pollutants that can leach into the area watershed for generations to come. Outfalls 009 and 009ES will allow the mine to add more discharges to Pond Creek. The proximity of this expansion to the unnamed Pond Creek tributary at Outfall 009ES shows the eastern wall for the RDA running approximately parallel to the course of this drainage. This mine has a history with IDNR of RDA wall collapse.

The mine has not supplied any explanation for what the extraction of millions of gallons a day of groundwater withdrawn in their mining operations may do to the surrounding area. It is not known if sinkholes or other hazards could occur. Not only is the mine causing this huge disruption in groundwater, it can take advantage of public water resources that at times have been rationed by area communities. Both the Pond Creek Mine and the Sugar Camp Mine have an agreement through a third party for use of Rend Lake water in the "Rend Lake Water Supply Withdrawal Agreement between the State of Illinois, Adena Resources, LLC and Akin Water District, September 21, 2007 and Amendment Number One, August 14, 2009," (Ex. S) with up to 6.5 million gallons total per day allowed. Pond Creek Mine could use up to 2.2 mgd of Rend Lake public water.

E. Inadequate Alternatives Analysis

Finally, there has been a completely inadequate consideration of treatment alternatives - costs are not fully quantified. We are asked to just take the company's word that doing the better thing is too expensive.³¹ We are provided with rough estimates of what the applicant thinks more advanced treatment would cost but no idea of the profits that might be made from the mine against which to weigh such costs.

The applicant's summary rejection of better treatment certainly cannot be accepted by IEPA given that other coal mines are actually using wastewater treatment methods that the applicant claims cannot be used, in operating mines in West Virginia and Poland. See "Case history on the reduction of chlorides from mine water" (Ex. T); See also Leatherwood Creek Report (Ex. U) and "Treatment and disposal of saline wastewater from coal mines in Poland" (Ex. V).

III. Mixing Zone Rules - The proposed discharge violates numerous provisions of the rule concerning mixing zone rules 35 III. Adm. Code 132.102

³¹ A new document regarding consideration of alternatives was apparently given to the Agency only days before the hearing. The public certainly has not had time to analyze this study and its dubious conclusion that nothing can be done to treat the mine's wastewater other than letting most of the solids settle and then piping it to Pond Creek or the Big Muddy.

A mixing zone may not, of course, be allowed when the water quality standard for the constituent in question is already violated in the receiving water (35 Ill. Adm. Code 132.102(b)(9)). Here, it appears that the discharge may cause a violation of that rule in numerous ways:

A. Mercury in the Big Muddy

The testing of mercury in the discharge is not adequate to determine whether the discharge will directly increase the bioavailable toxic form of mercury level due to the insensitive testing method and the failure to allow for variability as required by the U.S. EPA TSD which has been recognized by the Illinois PCB. However, it is clear, as explained above, that the discharge of chloride and sulfate will increase the level of bioavailable methyl mercury and other toxic form of mercury and, thus, violate 35 Ill. Adm. Code 132.102(b)(9) as well as other rules that preclude causing increased violations of water quality standards.

B. Acidity in the Big Muddy

It appears that the permit will allow decreased pH in a water body already listed as impaired by low pH, given inadequate monitoring and violations at Outfall 7 in September 2016, June 2017, December 2017, March 2018 for low pH, and violations at Outfall 8 in September 2016, June 2017, and December 2017 for low pH. See US EPA DMR Report (Ex. F) and Echo Report (Ex. R).

C. Total suspended solids and biochemical oxygen demand in the Big Muddy

As explained above, the permit will allow an increased loading of Total Suspended Solids (TSS), and the discharge would lead to an increase in biological oxygen demand (BOD) with the effect that the existing violations of the TSS and Dissolved Oxygen standards will be exacerbated in further violation of 35 Ill. Adm. Code 132.102(b)(9). See also Comment of Dr. Burkholder.

D. Mussel presence in the Big Muddy

As noted earlier in Section I, if mussel beds are found at the discharge location, the proposed mixing zone would not be allowed (**35 Ill. Adm. Code 302.102(b)(4)**). However, the applicant has made no effort to assess for mussels at the discharge location, while the mixing zone itself would impact the bottom of the river most severely. There is reason to believe mussels may be present at this location in the Big Muddy due to the presence of mussel in the major tributaries (Ex. G).³²

³² As explained above, because mussels are not protected by the 500 mg/L standard, they will also be harmed well outside the supposed mixing zone.

E. Iron in the Big Muddy

The proposed permit limit for total Iron (3 mg/L daily average, 6 mg/L daily max) has not been shown to meet the applicable water quality standard of 1 mg/L dissolved iron. The Antidegradation Analysis offers no rationale for why the dissolved portion of the total iron would not be above the water quality standard of 1 mg/L. The Big Muddy is impaired for iron, as noted in the public notice. The permittee should not be granted a mixing zone to meet iron limits when the Big Muddy is already impaired for iron.

F. IEPA may not allow increased chloride or TSS loading to Pond Creek

Pond Creek has no dilution capacity for at least chloride, TSS and low DO. As noted in the public notice, Pond Creek is impaired for chlorides. Further, the mine's own reports indicate that the chloride standard has been frequently violated by their discharge from Outfall 007 into Pond Creek (Ex. F). Direct samples of the creek itself found chloride levels well above 500 mg/L, both in May of 2019 (Ex. M, p.6) and August of 2019 (Ex. P, p.3). Therefore, a mixing zone cannot be permitted as is proposed in Special Condition 14 for Outfall 009 (35 Ill. Adm. Code 302.102(b)(9)). Still further, given that IEPA lists Pond Creek as also impaired by "cause unknown" in its 303(d) report, it should not be allowing any increased discharge of a pollutant into Pond Creek that may be part of the unknown cause of the impairment.

IV. The proposed permit does not ensure compliance with other Illinois water quality standards in violation of 35 Ill. Adm. Code 302.210, 304.105, and 309.141(d) and 309.143

As discussed above, the permit does not ensure that the discharge will not cause or contribute to the violation of Illinois water quality standards because, in addition to violating the regulations regarding antidegradation and mixing zones, the permit fails to ensure that the discharge will not cause or contribute to violations of the standards regarding:

- **Mercury** - because (i) the sensitivity of the testing to determine reasonable assurance of meeting the 12 ng/L human health standard is inadequate and (ii) the effect of chloride and sulfate pollution on levels of methyl mercury and other toxic forms of mercury has not been considered.
- **Chloride** - because (i) the complex scheme to prevent violation of the 500 mg/L acute standard is not described in detail, ignores the danger of chloride and cannot be implemented by this applicant and (ii) Pond Creek has no dilution capacity.
- **Conductivity and TSS** - because the permit allows discharges that may cause or contribute to violations of the other toxic substances criteria (35 Ill. Adm. Code 302.210).
- **Copper, iron and nickel** - because the reasonable potential has not been properly calculated using the U.S. EPA Technical Support Document.
- **Dissolved Oxygen** - because the impact of the discharge in raising Biochemical Oxygen Demand levels in the mixing zone and outside the mixing zone has not been considered.

- **pH** - because of the failure to review the applicants discharging monitoring reports showing the potential for a very acidic discharge. See report from Outfall 7 on discharge of pH of 3.3 on Mar. 31, 2018 (Ex. N) and US EPA DMR report (Ex. F) on discharge from Outfall 7 in September 2016, June 2017, December 2017, March 2018 for low pH, and at Outfall 8 in September 2016, June 2017, and December 2017 for low pH.
- **Cadmium** - It is clear that there are high levels of cadmium coming from the mine (Ex. E). The company reports that it found only low levels of cadmium in its very limited monitoring of what it now dubiously claims will be water representative of the discharge. (Anti-degradation Assessment Table 2-1 Water Holding Cell Data) This conclusion, which is hard to credit given the data earlier considered by the Agency, must be treated with great caution by IEPA and only be accepted after independent verification to assure the discharge will not cause or contribute to a violation of the cadmium standard. Cadmium is limited at Outfalls 001 through 007 but should be limited at all outfalls given the very limited testing, the history of this applicant's non-compliance, and the uncertainties caused by lack of knowledge regarding future operations.

V. The Proposed Permit, in violation of 35 Ill. Adm. Code 309.146, does not require adequate or feasible monitoring to determine compliance.

A. Complex Monitoring Scheme - The permit proposes a complex monitoring scheme for compliance at Outfall 009 and Outfall 011, then requires insufficient monitoring to achieve it.

Monitoring and reporting must be adequate to track compliance with all conditions under 35 Ill. Adm. Code 309.146 but the monitoring proposed in the permit completely fails to do so.

Regarding the chloride monitoring scheme proposed for both Outfall 009 into Pond Creek and Outfall 011 into the Big Muddy, the proposed permit limits the applicant's discharge based on a mixing equation, but fails to identify how all the inputs to that mixing equation will be monitored, how often that monitoring will occur, how they will be reported, and how often reporting will occur. To evaluate the mixing equation, the discharger needs to continuously monitor the flow and concentrations upstream in the Big Muddy as well as the flow and concentration of their effluent. Yet the permit contains no requirements whatsoever for monitoring the flow or concentration of the effluent, and gives no clarity on how the concentration of chloride in the effluent will be measured (correlation or otherwise).

Even if the monitoring scheme was clear, the reporting is insufficient for IEPA or the public to evaluate whether the mixing equation is being met. There is no daily reporting of upstream conductivity, upstream flow, effluent conductivity, or effluent flow. There is a continuous downstream monitor of chloride, but relying on a single sensor downstream does not guarantee

that discharge has not been in violation of limits. The inputs to the mixing equation should all be monitored, and the reporting should be at least daily, if not hourly³³.

The permit specifies the location of the downstream monitor such that it minimizes protections. It requires that the downstream monitor be placed in “a sufficient distance downstream of the associated outfall to ensure that complete mixing has occurred.” This seems like an unwarranted gift to the permit applicant, essentially granting them as much mixing as they want. Instead, the permit should require that the downstream monitor be placed as close to the edge of the mixing zone as possible, so we know that Illinois waters are being protected and that the mixing zone is as small as possible (35 Ill. Adm. Code 302.102(b)(12)).

Lastly, the permit allows the permittee to reduce or eliminate monitoring requirements, clear error given that the antidegradation assessment explicitly identifies that the groundwater seeping into the mine is likely to significantly increase in chloride concentration (and associated pollutants). The permit should anticipate an increase in the amount and toxicity of the discharge, never allow an elimination of monitoring, and explicitly require an increase in monitoring.

To make this monitoring scheme more feasible, the permit should, at a minimum:

- ❑ Require Williamson Energy to create a Quality Assurance Project Plan for the chloride monitoring scheme and give the public an opportunity to comment on the plan.
- ❑ Require Williamson Energy to report enough information to evaluate whether the mixing equation is being met. This means monitoring the effluent flow rate and concentration as well as the upstream flow rate and concentration in real time, and reporting that data back to the public. At a minimum, whenever these values are measured and flow in the pipe should be adjusted, it should be reported, at least daily.
- ❑ Make it clear how the chloride in the effluent is being monitored. If that monitoring is to be a correlation to conductivity, the effluent and the receiving waters will need correlations developed based on years of data and allowing for variability because it is clear that wide swings in conductivity occur in the Big Muddy (Ex. O).
- ❑ Identify whether the result of the mixing equation or the downstream measurement of chloride, or both, are the regulated constraint for chloride concentrations.
- ❑ Require a plan for validating the correlation of conductivity to chloride, and stipulate that the correlation has to be sufficiently developed for use, and reviewed by the public, before the permit is granted or the permittee can begin discharging. Conductivity should always be reported with chloride when using the correlation.
- ❑ Specify the location of the downstream monitoring to be as close to the estimated boundary of the mixing zone as possible.
- ❑ Require accurate monitoring of all of the constituents of the discharge using methods sufficiently sensitive to detect any violations of numeric or narrative water quality standards.

³³ The reporting would not need to be in real time (ie. the public does not need real time access), but the reported data should be hourly.

- ❑ Clearly identify a maximum discharge limit for the pipe.

B. History of Violations and Failure to Monitor Properly - Because the permit applicant has already shown itself incapable of compliance with its existing relatively simple permit through numerous permit violations and failures to report, detailed independent monitoring is necessary.

“In granting permits, the Agency may impose reasonable conditions specifically related to the applicant’s past compliance history with this Act as necessary to correct, detect, or prevent noncompliance.” 415 ILCS 5/39(a) Here, there is no reason to believe the permit applicant can comply with the proposed permit and any permit granted by the Agency would have to subject to strict terms necessary to detect or prevent noncompliance.

The Williamson Energy’s inability to properly report discharge is demonstrated by an August 2019 Inspection Report memo by Illinois EPA inspector Brian Rodely (Ex. P). The report notes that “DMR’s appear to have been submitted with no discharge reported during non-precipitation events despite the daily influent of approximately 2.7 million gallons of underground mine water. The water mass balance of influent water and discharged water does not appear consistent.” Further, the inspection notes “Analysis not conducted of discharges, inadequate frequency of sampling, and invalid/ unrepresentative sample as required by permit.” Additionally, the Illinois Attorney General took action against the mine in Illinois Pollution Control Board Case PCB 2019-085 (Ex. Q). The case was regarding a 2016 IEPA Emergency Response Unit inspection citing black, tar-like material in an unnamed tributary of Pond Creek. It was settled in June of 2019. Continued concerns are clear from the Inspection Report memo that states a near-by property owner commented the IEPA should take samples on a weekend when dark gob water is released when the mine knows it will not be caught.

While self-monitoring is norm in NPDES permit, it would be irresponsible to rely on self-monitoring in this case, given the mine’s history of reporting issues and especially with the complex monitoring scheme proposed in this permit. Were this permit to be granted, a third-party should be used to monitor the chloride in the Big Muddy, such as the United State Geological Survey and independent monitoring should be required at the discharge points to the Big Muddy and Pond Creek.

The permit applicant is a frequent violator of their current NPDES permit. In June 2019, ECHO reports (Ex. R) show that the mine violated its effluent limits for chloride and sulfate at Outfall 002. This also occurred in 2017. In 2018 it violated its chloride and sulfate limits at Outfall 006. It violated its pH limit at Outfalls 007 and 008 in three quarters in 2017 and 2018. The mine received a letter of violation from IEPA in August 2016.

C. Correlation curves must be established and included in the permit rather than waiting to develop them after the permit is issued and the dataset used as the basis, and the supporting statistics, should be provided to the public.

The permit proposes monitoring chloride concentrations by establishing a correlation to conductivity, but offers no guidance on how this correlation is established or whether the Agency needs to approve the correlation. If the permittee begins discharging before the correlation is established, it is impossible for the Agency to evaluate compliance. The correlation needs to be part of the permit. That way both the Agency and the public have the opportunity to review the correlation. This is especially important because chloride is not the only chemical constituent which can change conductivity, and the Big Muddy already has a wide variability in conductivity (Ex. O) so the correlation will never be very accurate and will be tricky to establish.

Conclusion

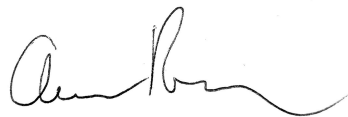
The permit as proposed is plainly illegal and must be denied.

Moreover, even a vastly improved permit cannot properly be issued without re-noticing the permit and giving the public a fair chance to review the improvements and determine whether they cure the many fatal flaws in the draft. No permit can legally be issued without such fundamental alterations that the changes would necessarily be beyond a logical outgrowth of the totally deficient record on which the draft was based. See, 35 Ill. Adm. Code 309.120. Given that the antidegradation analysis, the reasonable potential analysis, the data collection, and the monitoring have not been set forth in sufficient detail to allow the public a reasonable chance to gauge the effects of the permit; and given the fact that all of the data from this discharger are suspect, a new draft permit should only be issued after the appropriate studies are done by IEPA itself; any data supplied by the permit applicant are shown to have been collected with solid QA/QC; and a revised record is created for public comment.

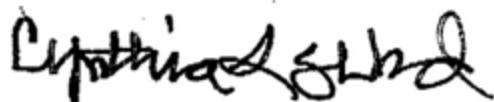
We look forward to continuing to work with the Agency to protect water quality.



Albert Ettinger
Counsel for Sierra Club



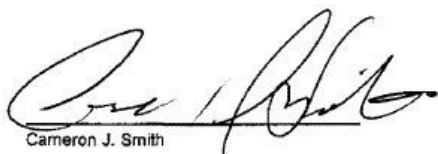
Andrew Rehn
Water Resources Engineer
Prairie Rivers Network



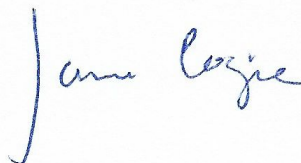
Cynthia Skrukrud, PhD
Clean Water Program Director
Sierra Club, Illinois Chapter



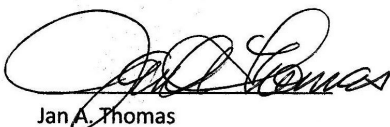
Amanda Pankau
Energy Campaign Coordinator
Prairie Rivers Network


Cameron J. Smith

Cameron J. Smith
Treasurer of SAFE &
Property owner in Murphysboro, IL



Jane Cogie
Chair
Shawnee Group, Sierra Club Illinois


Jan A. Thomas

Jan A. Thomas
Steering Committee of SAFE



Sabrina Hardenbergh
Shawnee Group Sierra Club newsletter
editor
SAFE member

Cc: Steve Jann, Region 5 U.S. EPA