

ILLINOIS POLLUTION CONTROL BOARD
February 21, 1980

SAHARA COAL COMPANY, INC.,)
)
 Petitioner,)
)
 v. PCB 79-146
)
ENVIRONMENTAL PROTECTION AGENCY,)
)
 Respondent.)

OPINION AND ORDER OF THE BOARD (by Dr. Satchell):

This matter comes before the Board upon a petition and an amended petition for variance filed July 25 and October 24, 1979 by Sahara Coal Company, Inc. (Sahara). The petitions request a variance from Rule 605(a) of Chapter 4: Mine Related Pollution (Chapter 4). The requested variance would authorize discharges from the Sahara Mine No. 6, a surface coal mine, into waters which are in excess of water quality standards for sulfate and total dissolved solids (TDS) as provided by Rule 605(a). Sahara waived its right to a hearing. On August 28, 1979 the Environmental Protection Agency (Agency) recommended denial of the variance, but on November 27, 1979 filed an amended recommendation to grant the variance with conditions. The Board has received comments from Lucian Lewis and the City of Harrisburg.

Sahara Mine No. 6 is a surface coal mine located in Sections 19 through 30, T. 9 S., R. 5 E. and Sections 19 and 30, T. 9 S., R. 6 E., 3 PM, Saline County (Rec. 1). In the maps attached to the amended petition the mine appears to extend beyond this fourteen square mile area at several points. The City of Harrisburg is about one mile east of the mine. To the north is Bankston Fork and to the south is Pankey Branch. These streams flow east to join the Middle Fork of the Saline River just east of Harrisburg. The mine currently has fourteen discharges. Discharges 001 through 011 flow north into Bankston Fork, 014 flows south into Pankey Branch. Discharges 012 and 013 flow east into an unnamed ditch which runs just north of Harrisburg into the Middle Fork of the Saline River, between Bankston Fork and Pankey Branch.

Discharge 001 consists of open channel overflow from old final cut lake about one and one-half miles from the western edge of the mine. Discharge 002 is an overflow pipe from another

old final cut lake about two miles downstream from 001 on Bankston Fork. Discharges 003 through 011 are further downstream on Bankston Fork. These consist of surface runoff and pit pumpage from Sahara's active mine areas as do discharges 012 and 013 which are into the unnamed ditch. Discharge 014 consists of surface runoff only and is tributary to Pankey Branch (Rec. 3, Amended Rec. 3, Amended Petition 2).

The original petition did not identify the discharge points or fully identify the receiving streams. In its original recommendation the Agency relied on information contained in Sahara's discharge monitoring reports and pending NPDES permit renewal application. These contained unpermitted existing discharges and were inconsistent with respect to locations and receiving streams. Beyond these inconsistencies there were further errors eventually disclosed. The parties are now in agreement that the scheme set forth above represents the discharges.

Rule 605(a) of Chapter 4 provides that mine discharges shall not cause in the receiving stream violations of the water quality standards contained in Part II of Chapter 3: Water Pollution (Chapter 3). Rule 203(f) of Chapter 3 sets general use water quality standards which are applicable to the waters receiving Sahara's discharges. These Standards are 500 mg/l for sulfate and 1000 mg/l for TDS. Frequent violations of these standards occur in Bankston Fork and the Middle Fork of the Saline River below Bankston Fork (Rec. 7, Amended Rec. 5, Amended Petition, Ex. 2). These pleadings set forth averages of data taken at various times from 1974 through 1977. The following table sets forth averages taken at three points: Point A, Route 34 bridge over the Middle Fork, Saline River, three miles upstream from Harrisburg; Point B, Bankston Fork downstream from Sahara; and Point C, Middle Fork, Saline River, five miles downstream from Bankston Fork.

	<u>A</u>	<u>B</u>	<u>C</u>
TDS	1443 mg/l	2324 mg/l	1826 mg/l
Sulfate	253 mg/l	1287 mg/l	827 mg/l

The City of Harrisburg draws water for its public water supply from two side channel reservoirs located adjacent to the Middle Fork of the Saline River, downstream of Bankston Fork but upstream of the unnamed ditch and Pankey Branch. These reservoirs are

periodically filled with water from the River and hence potentially receive drainage from Sahara's discharges 001 through 011. According to the City of Harrisburg, when it is necessary to pump during periods of low flow, dams are constructed across Bankston Fork to prevent the flow of water from the mine from entering the river (Comment of September 13, 1979). The city constructs one dam and Sahara constructs a second upstream. Water is also released from a reservoir eight miles upstream (Rec. 9). The city feels that Sahara's operation is not detrimental to its water supply.

Sahara has requested that the Board take official notice of the economic impact study prepared for R76-7: The Economic Impact of Dissolved Solids Regulation upon the Coal Mining Industry, Illinois Institute for Environmental Quality, Doc. No. 77/28, November, 1977 (EcIS). That study notes that high TDS levels damage public water supplies by increasing the rate of corrosion. The study estimated that water of 2000 mg/l TDS would annually cause \$102,000 in damage to residential water users and \$1183 to industrial water users in Harrisburg, measured in 1977 dollars (EcIS 98, 101). The study notes that water in this range has an unpleasant taste and produces laxative effects for persons unaccustomed to it (EcIS 99, 100). Agricultural use is also limited at 2000 mg/l TDS (EcIS 92).

Sahara's discharges average around 3900 mg/l TDS and 2491 mg/l sulfate (Pet. 4). Pankey Branch, the unnamed ditch and Bankston Fork all have a 7-day, 10-year low flow of zero (Rec. 6). If these discharges occur during a period of zero flow, water quality violations will necessarily occur. However, all water leaving disturbed areas first goes through settling ponds which usually retain all of the discharge during dry periods. The major discharges occur during periods of high flow when there is dilution available in the receiving stream (Amended Pet. 5).

Sahara presented with its Amended Petition a study of water quality in Bankston Fork prepared by Dr. William C. Hood (Study). This study showed that the water in Bankston Fork contains the same level of TDS and sulfate above and below Sahara's operation so that Sahara is not causing a significant change in the concentration (Study 1). The study concluded that Sahara's contribution was of better overall quality than the flow from upstream (Study 16). However, Rule 605(a) specifically covers the case of a water quality violation caused by the cumulative effect of more than one source. Furthermore, the Sahara discharge is contributing to water quality violations in the Middle Fork of the Saline River. It is true that a discharge which has a lower concentration than the

receiving stream tends to bring the stream closer to the water quality standard if the stream is in violation. However, the discharge increases the flow and also the mass loading of the pollutant. Where the receiving stream subsequently mixes with a stream which meets the water quality standard prior to mixing, the discharge will tend to worsen the water quality violation whenever the discharge concentration is greater than the water quality standard even though it is less than the concentration in the receiving water. Although Sahara's discharge may reduce the TDS and sulfate concentration in Bankston Fork, it is increasing the concentration in the River.

On August 23, 1979 the Board received from a Lucian Lewis a letter dated August 17, 1979, objecting to the requested variance. In an Order entered January 10, 1980 the Board held that a hearing was not required under Procedural Rule 407(a)(2) because the objection was not timely filed and because it complained of "deposits of coal dust which come down the creek in the form of suspended solid and settle out on our cropland and into our drainage ditch." A hearing would be pointless since the variance would not authorize these discharges. The Board will, however, request the Agency to provide written notice to the Lewises of any permit applications, appeals or variance requests by Sahara within two years of the date of this Order.

The Agency agrees with Petitioner that it is not presently technically feasible or economically reasonable for Petitioner to maintain its discharges at a level mandated by Rule 605(a) of Chapter 4. However, Petitioner alleges that these discharges have existed at these levels, or worse, for many years. Furthermore, progress is being made toward eventual resolution of the problem of coal mine discharges causing TDS and related water quality violations, as will be discussed below. The Board therefore finds that requiring immediate compliance with Rule 605(a) would result in an arbitrary and unreasonable hardship to Sahara. The Board will adopt the interim limitations recommended by the Agency: 3830 mg/l TDS and 2300 mg/l sulfate.

On December 13, 1979 the Board proposed to adopt a new Chapter 4 in R76-20 and R77-10. The proposal would retain Rule 605(a) in its present form as new Rule 605. The Board has also proposed to adopt Rule 605.1 which would authorize the Agency to temporarily permit discharges which tend to cause TDS and sulfate

water quality violations upon a showing, among other things, that the permittee is employing various good mining practices, other than end-of-pipe treatment, to reduce the levels of these parameters in the discharge. The Agency and the Mine Related Pollution Task Force, a joint industry-government group, have prepared a Code of Good Operating Practices to guide permittees in achieving this end. A copy is attached to the Recommendation as Exhibit 10. The Board will require Sahara to submit to the Agency a plan outlining steps it intends to take to reduce its TDS and sulfate discharge levels. Sahara will be required to promptly apply for a permit modification under Rule 605.1 when and if that rule is adopted by the Board. The variance will expire whenever the Agency takes final action on the Rule 605.1 permit application but not later than July 1, 1981, the expiration date of Proposed Rule 605.1. At the hearings on the Chapter 4 revisions, the Agency indicated that those mines which cannot meet the Rule 605.1 criteria will have to request a variance from the Board (Hearing of July 31, 1979, p. 80). This variance will thus be made compatible with that interpretation.

The Agency requests also that the Board order Sahara to apply for a new Chapter 4 permit reflecting the additional discharge points which are not authorized by the present permit. However, under the proposed Chapter 4 Sahara will be exempt from the state permit requirement as an NPDES permit holder. Sahara has corrected its pending NPDES application (Amended Petition 2). Although Sahara may be subject to an enforcement action under the present rules, the Board will not condition the variance on application for a permit which may be unnecessary in a few months.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

Petitioner Sahara Coal Company, Inc., is granted a variance from Rule 605(a) of Chapter 4: Mine Related Pollution, as it applies to total dissolved solids and sulfate, subject to the following conditions:

1. Petitioner shall not cause or contribute to water quality violations in streams in excess of the following levels:

TDS	3830 mg/l
Sulfate	2300 mg/l

2. Within ninety days of the date of this Order, Petitioner shall submit to the Agency a detailed plan of steps it intends to take to reduce its TDS and sulfate discharge levels.
3. Within ninety days of the adoption of a Final Order in R76-20 and R77-10, Petitioner shall make application for a permit under Proposed Rule 605.1, provided that rule is adopted in the Final Order.
4. This variance will expire on July 1, 1981 or upon a final Agency action on the Rule 605.1 permit application referred to above, whichever occurs first.
5. Within forty-five days of the date of this Order, Petitioner shall execute and forward to the Illinois Environmental Protection Agency, Variance Section, 2200 Churchill Road, Springfield, Illinois 62706, a Certification of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of the Certificate shall be as follows:

CERTIFICATION

I, (We), _____, having read and fully understanding the Order in PCB 79-146, hereby accept that Order and agree to be bound by all of its terms and conditions.

SIGNED _____


TITLE _____

DATE _____

6. The Agency, pursuant to Rule 914 of Chapter 3: Water Pollution, shall modify the NPDES permit consistent with the conditions set forth in this Order.

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 21st day of February, 1980 by a vote of 4-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board