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State Water Control Board

EFFECT OF DISCHARGE OF CHLORIDE EFFLUENT AT SALTVILLE  
ON THE POSSIBLE DOWNSTREAM USES OF THE NORTH FORK  
OF HOLSTON RIVER

Introduction

This statement is intended to answer certain unjustified allegations that the chemical effluent discharged into the North Fork of Holston River at Saltville, Virginia, has harmed the lower part of the valley for a number of beneficial uses, including agriculture, industry, and various recreational uses. These charges simply are not based upon fact. Some of the specific charges that have been leveled at Mathieson are:

- (1) the high chloride waters downstream from Saltville have harmed livestock and game animals;
- (2) that the chlorides have caused mortar to disintegrate;
- (3) that the chemical nature of the water at Mendota has caused prospective industries to reject the area for possible industrial development;
- (4) that the high chloride waters have hurt crops;
- (5) that unsightly scums and deposits have ruined the appearance of the stream;
- (6) that the beauty and esthetic value of the stream for recreational purposes have been vitiated by the chemicals dumped into the river at Saltville; and
- (7) that the stream has been ruined for fishing.

In order to understand fully why these allegations are incorrect, certain factual information needs to be taken into account. In the arguments that follow, the exact source for the statements made is given. As will be readily apparent, the facts point to conclusions that disagree with the allegations made against Mathieson in the Abingdon hearings on August 20, 1953, or during the preliminary conference between representatives of the Water Control Board and the Company in Saltville on October 20, 1953.

Character and Configuration of North Fork  
Valley Below Saltville

Downstream from Saltville, the North Fork of Holston River follows a circuitous, meandering course through a narrow, deeply incised, rocky gorge all the way to the mouth of the stream just west of Kingsport, Tennessee, about 80 miles by way of the stream itself. Below Henrytown for a distance of 28.4 miles, to a point 5 miles below the crossing of U. S. Route 19 at Holston, the stream flows through a relatively inaccessible region with virtually no bottom lands. Slopes of 30 to 60 per cent prevail throughout this portion of the stream's valley (Glade Spring-212SE, Hayters Gap-212 SW, Brumley 205 SE, and Hansonville-205SW 7-½ minute topographic maps published by the United States Geological Survey) and the dominant soil types covering the steep rocky slopes above the stream are Class IV and Class V --- the naturally poorest soils in Washington County, Virginia. The very narrow silt loam deposits beside the stream are too narrow and restricted for extensive cultivation. In

this segment of the stream's course, the North Fork occupies the entire bottom of the valley. (See USDA-VPI Soil Map of Washington County, issued September, 1945). Five miles below Holston, there is a sloping terrace comprising about 350 acres on the north side of the river, which is crossed by several good streams (Brumley-205SE and Hansonville 205 SW quadrangles). The lower end of this good farm land is sufficiently raised above the river to prevent its being covered with spring floods. Downstream from this point for a distance of an additional 15.7 miles the river is virtually devoid of arable bottom lands to within a mile or so of Fleenor Pond (Mendota-206 NE and Wallace 209 NW topographic maps), where 150 to 200 acres of good bottom land--now being used for cultivation--- occurs along the river. Thus from Saltville to within a few miles of Mendota, Washington County, Virginia, the valley of the North Fork for a distance of 44.1 miles (more than half the way to Kingsport) contains only 550 acres of good bottom land, the rest being dominated by poor rocky soils resting on 30-60 per cent slopes. It is plain that Nature endowed this portion of the North Fork Valley with exceedingly limited agricultural resources. It is noteworthy that within this part of the river's course, where it is least accessible and least desirable for cultivation, the stream has recovered completely from the biological standpoint from the chloride effluents put into the stream at Saltville (Ross, unpublished memorandum, October, 1953).

From the railroad crossing near Mendota downstream for a distance along the North Fork of about 9 miles, the inside slopes of two compound meanders in the river offer the most extensive flat area for agricultural use and sites for possible industrial uses.

The total acreage of flat ground is approximately 500 acres, which is in three separate tracts. The classification of the soils on these well-drained bottoms is Class II and Class III (USDA-VPI Soil Map for Scott County, issued December, 1951; and USDA-VPI Soil Map for Washington County, issued September, 1945). These bottom lands are naturally protected by superior elevation from floods and they are directly accessible to numerous surface streams emptying into the river and also to springs. Bedrock conditions in the Mendota bottom lands are favorable for development of abundant supplies of potable ground water (Averitt, 1939, map).

Below the extensive flat south of Silica, Washington County, the river again enters a narrow intrenched rocky gorge possessed with only very narrow bottoms and dominated by fourth and fifth class soils (USDA-VPI Soil Map for Scott County, issued December, 1951). This general condition in the stream valley persists all the way to the state line (a distance of 22 miles) and on to the confluence of the North and South Forks at Kingsport, Tennessee, about 5 miles along the river below the state line. (See Hilton-197 NW, Gate City-188 NE, Kingsport-188 SE, and Church Hill-188 SW topographic quadrangle maps)

Except for the localized and relatively restricted strip along the river in the vicinity of Mendota, the valley of the North Fork has been determined by soil scientists to be naturally poor for cultivation and to be dominated by Fourth and Fifth Class Soils. The topographic maps of the entire course of Holston River below Saltville show that the North Fork flows in a narrow, relatively inaccessible, sparsely populated region with only the area at Mendota favored by rail facilities and sufficiently extensive bottom lands to be possible industrial sites.

Although nowhere along the North Fork is there sufficient water during low stages of the river to supply the larger heavy types of industry, such as steel mills, paper mills, or other chemical plants, the water requirements for any other industry can be met readily by utilizing the abundant surface tributaries, numerous springs, or the ground-water resources of the area. The natural calcium carbonate (nonchloride) hardness of all the waters of the Holston drainage system is about 120 parts per million (TVA, 1945, p. 47) which makes the waters of the Holston unfit for: (1) boiler feed water, (2) brewing, (3) ice manufacture, (4) paper pulp manufacture, (5) steel mills, (6) sugar manufacture, (7) rayon manufacture, and (8) electroplating (California SWPCB Publication No. 3, pp. 126-151). Except for these industries whose water requirements are qualitatively rigid, the water requirements for a possible plant located at Mendota could be easily satisfied. In addition, the North Fork classed as a Class II stream so far as organic pollution is concerned is quite good enough to stand the introduction of considerable organic waste without rendering the stream excessively polluted, such as the South Fork of Holston River is a Kingsport, Tennessee.

It is true that the North Fork of Holston River is unsuitable for domestic water supply because of its chloride content, but the character and configuration of the valley which does not lend itself at all for development of towns and cities has predetermined the strict limitations of use of this valley for rural living. All the towns within access to the North Fork, such as Mendota, Gate City, and Weber City, have adequate water supplies from wells and springs which require no treatment other than disinfection. Utilization of the North Fork of Holston River for domestic purposes is a completely

irrelevant issue when all the possible needs of this section of southwestern Virginia are supplied by ground water (TVA, 1945, p. 29)

Does The Salinity Of The North Fork Contaminate The  
Bordering Lands For Agricultural Use?

If the bottoms lands, narrow and restricted as they are along the North Fork of Holston River below Saltville, were contaminated by chlorides or other substances turned into the river by Mathieson, this should be readily discernible from the condition of the land itself. The obvious fact is that the bottom lands constitute the very best, indeed, the only good crop land along the North Fork below Saltville. When these bottoms are partially flooded, the river is at its minimum parts-per-million content of chlorides (TVA, 1948, p. 62-65; TVA, 1945, pp. 47-48). During such high water stages of the river, the chloride content does not get above 500 parts per million. This maximum concentration during flood times is far below the threshold of salinity for farm crops, as determined by Cole (1949), Magistad (1941), W. P. Kelley and others (1939), and the Australian government (1950). These studies by leading investigators in the field show that less than 1,000 PPM of chlorides have no effect upon any types of farm plants, including all the salt-sensitive types. Experimentation has shown that water with up to 3,150 PPM of chlorides mixed with other salts will grow tomatoes, cabbages, and many other farm plants rich in water. Such high-chloride water has been used for irrigation purposes in several different parts of the world without adverse effects. Contrary to

opinion of many, a permanent stream like the North Fork is augmented in flow by ingress of ground water all along its course, so that no seepage of high-chloride water out and under the farm lands from the river is possible. Therefore, except during temporary floods, when the chloride concentrations are far too low to damage any farm plants, the river is nowise directly or indirectly in contact with crops growing on the bottom land. A review of the soil maps of Washington and Scott counties will show that most of the land directly bordering the river throughout the 80-mile course below Saltville is too high to ever come in contact with the river.

Is the Salinity of the River Below Saltville Harmful  
To Farm and Game Animals?

No animal will imbibe saline water if fresher water is also available, and in the presence of a host of inflowing tributaries crossing virtually every farm, livestock and game animals have sufficient choice of water to minimize the importance of this question. However, from the mouth of Tumbling Creek on down the river, the salinity of the North Fork is always well below 5,000 parts per million, and farm animals could drink the river water without harmful effects. The isolated, rocky nature of the gorge of the river down to and even five miles below the crossing of U. S. Route 19 at Holston, nearly 30 miles below Saltville precludes ready access of livestock to the river anyway, and below Holston the water even if used steadily would have no adverse effect. The threshold concentrations of calcium chloride and sodium chloride for various farm animals are,

according to McKee and others (1952, p. 154):

<u>Animal</u>	<u>PPM</u>
Poultry	2860
Pigs	4290
Horses	6435
Dairy Cattle	7150
Beef Cattle	10000
Adult Dry Sheep	12,900

More than 10,000 parts per million of chlorides are necessary to affect lactation in sheep. Milk cows can imbibe freely of chloride waters up to over 7,000 parts per million without affecting their milk supply. The maximum chloride salinity that livestock can safely imbibe for short periods is somewhere between 15,000 and 17,000 parts per million according to McKee and his associates (California SWPCB Publication No. 3, pp. 147-148). Heller (1932, 1933) has shown that lactation and reproduction --- the two metabolic processes most sensitive to chlorides in water --- are unaffected in farm animals consuming water about 7,000 parts per million of chlorides. In the arid West, where much saline water has to be used for long periods, in the absence of better water, Tobiska (1951) reports that 2,500 parts per million of chlorides produced no adverse effects. A thorough search of the literature on the effects of chloride salinity of farm animals indicates that the people in the valley of the North Fork of Holston River need have no misgivings about their livestock drinking river water. Both organic pollution and salinity are far below levels that might be harmful in the river above the mouth of Big Moccasin Creek, but below that point the heavy pollution contributed by the latter tributary would make it risky for livestock to drink from the river.

Effect of Plant Effluents Upon Fish and Other  
Aquatic Life

By far the most frequently employed measuring stick for determination of the degree of pollution in a given stream is the variety and abundance of aquatic life it supports. The most vociferous complaint against Mathieson, which so far has been raised, centers around the alleged decline in the fish population as a result of the high concentration of plant effluents in the stream, particularly during the summer months when the river is at low stage of discharge. As is well known, the North Fork has been for many years a popular stream for anglers from Holston downstream to the mouth of Big Moccasin Creek. The allegations that the fishing has declined in this section of southwest Virginia, are without foundation (Ross, 1953).

At Mendota, Virginia, where complaints have arisen in certain quarters, Dr. Ross's survey showed, so far as fish and other aquatic life is concerned, the North Fork has fully recovered from introduction of chloride effluents at Saltville. Fortunately the historical record on abundance and variety of fishes in the North Holston gives much additional weight to Dr. Ross's findings. The eminent biologists of the 19th Century, Edwin Drinker Cope (1867) and David Starr Jordan (1877), collected and evaluated the fish fauna of the North Fork below Saltville. Both these studies were made before Mathieson started operation in 1895. Recently, Dr. Ross found that the North Fork a little distance upstream from Mendota now contains the same fauna

as it did in 1867 and 1877. Admittedly, the variety of fish in the North Fork is less than in the Middle and South Forks, but this condition prevailed also when Cope and Jordan surveyed the life of Holston waters. This somewhat sparser fauna is interpreted as a possible result of perennial contamination of the North Fork by saline springs issuing into the stream in the vicinity of Saltville, far back in history, even before the advent of human settlement. Dr. Ross's study of the North Holston a few miles above Saltville, beyond any pollution contributed by the operations at Saltville, shows that the river at Mendota contains the same fauna as found above the point of chloride pollution. Dr. Ross's findings offer a significant and clear answer to the "fish stories" about the lush and rewarding fishing of former times and the present supposed decline in numbers of fish. Neither actually prevailed. The same, rather sparse fauna has been there in the same relative abundance for at least 86 years. Part of the striking significance of Dr. Ross's findings lies in the fact that the study was made in the midst of a prolonged drouth and low-water stage practically equal in severity to the record-setting low of late 1930. Obviously if conditions now present in the river at Mendota and vicinity, during a time when the chloride concentration has remained abnormally high as a consequence of a prolonged period of low flow, have not been sufficiently harmful to alter the traditional fish fauna in this general area, then there is no basis for regarding Mathieson's disposal of effluents into the North Fork as having harmed the fish life of the stream in that section of the river from Holston to the mouth of Big Moccasin Creek. Obviously the bottom fauna of insects and other invertebrates and the plant life

in the stream must thrive sufficiently to support the recorded fish population.

Effect Of Chloride Effluents On Beauty And  
Esthetic Value of The Stream

Much equivocation could be developed over these considerations. During normal flow, the North Fork is a beautiful stream between Hayters Gap and its mouth near Kingsport, Tennessee. During low water stages, the North Fork loses much of its attractiveness. The water has a tendency to pond, and there are ugly dried out bottoms that definitely look better under water. Compared to the Middle Fork of the Holston, the North Fork exhibits a very close resemblance, and it would be impossible to measure or evaluate beauty and esthetic value as seen by one person and to rate his impressions against those of another. If the stream is good enough for the fish, it ought to satisfy the angler.

Effect Of Chloride Salinity Of The North Fork Upon  
Suitability Of The Stream As A Receiver For  
Additional Industrial Waste

It has been argued that the North Fork of Holston River is so polluted as to be unable to support any other industries along its course. This simply is not the case. AS Scott and Jones (TVA, 1945, pp. 41-42, Fig. 2) have shown, the North Fork is a Class II stream sofar as organic pollution is concerned. It is sufficiently pure to exert a strong beneficiating influence upon the grossly polluted

Is this true?  
(?)

waters of the South Fork below Kingsport, Tennessee. Quite obviously then, the North Fork could tolerate considerable organic pollution above its mouth. The wastes that would be contributed by most types of industries, other than chemical plants, would be of an organic nature, and the studies of the Tennessee Valley Authority indicate plainly that the North Fork could tolerate additional organic wastes without becoming grossly polluted.

Effect of Chlorides of the North Fork Upon The  
Combined Holston Below Kingsport, Tennessee

In the preliminary hearings in Saltville on October 20, 1953, representatives of the Water Control Board stated that the high concentrations of chlorides in the North Fork ruined the stream for industrial use not only above Kingsport but also below Kingsport. This summary has already shown how Nature disfavored practically all of the North Fork below Saltville for industrial use, save near Mendota where a few plant sites could be developed. Furthermore, it has been shown that near Mendota there are ample supplies of potable water in tributary streams and in the ground that are more than required for all the industrial development that the terrain would allow.

Below Kingsport, Scott and Jones (TVA, 1945, fig. 2) show the superior size of the grossly polluted South Fork to be sufficient to keep the combined river in Class IV condition all the way to Cherokee Reservoir in spite of the dilution afforded the grossly polluted South Fork by the cleaner water from the North Fork. The chloride content in the combined river, greatly reduced by the larger South Fork, is far below the "300 parts per million of chloride" which the representatives

of the Water Control Board cited on October 20 in Saltville as the limit that industry could stand. During the middle of the drouth and low-water stage on the North Fork and combined Holston River that prevailed in 1953, the chloride content of the former just above its confluence with the South Fork, near Kingsport, was 691 parts per million. The chloride content of the combined Holston was only 78 parts per million at Church Hill, Tennessee, 11.5 miles downstream from the mouth of the North Fork. As measured near the head of Cherokee Lake at Cherokee Marina Dock below Rogersville (40 miles downstream from Church Hill), the chloride content in September, 1953, was only 35 parts per million, which is in line with the average for the upper end of the lake, as is evident from published TVA figures.

Based on all the pertinent analyses and stream flows that have been published, the combined Holston from Kingsport to the head of Cherokee Lake is sufficiently low in chlorides to be tolerable for domestic purposes and for almost any industrial use which could tolerate water as high in natural carbonate hardness as prevails in the combined Holston (about 80 parts per million of carbonate). The chances of industry utilizing the waters of the holston between Kingsport and the head of Cherokee Lake are remote, not because of prohibitively high chlorides which simply are not present but because of the remoteness of the possibility of measurable improvement in the organically polluted state of the South Fork at Kingsport.

As the TVA reports show, Cherokee Lake "tends to iron out fluctuations in mineral concentrations that normally result from low flows, flood flows, intermittent industrial pollution, etc." (TVA, 1948, pp. 13-14).

Below Cherokee Dam, water of uniform quality and physical appearance is used by industries and as a source of domestic water. The truth of the situation is that above Cherokee Lake, the gross organic pollution completely overshadows the relatively low salinity and is the chief deterrent to industrial utilization of the Holston River. The effect of the chlorides in Cherokee Lake and below is further reduced, and this large reservoir serves to iron out the highs and lows of chloride introduction arising from normal stream variations. With these situations in mind, there is no case against Mathieson for excessive pollution of the combined Holston with chlorides.

Regulation of Discharge Of Effluent at Saltville and  
Its Effect Upon The Quality Of Water Downstream

During the Saltville conference, the representatives of the Water Control Board stated that in their opinion the Mathieson Chemical Company was not making the most efficient use of its impoundment facilities for regulating and controlling the chlorides in the river below the plant. It was stated that by drawing down the pond level more during the wetter months of January through April of each year, greater storage would be available for retention of more effluent during the low water stages of the river that generally prevail in August through November. Their analysis of the Company's facilities lead them to believe, and they so stated, that greater discharge from the muck pond during high discharges of the river would allow sufficient effluent to be impounded to reduce the maximum chlorides in the river just below the plant to 5,000 parts per million on a monthly maximum average with no peak concentrations exceeding 5,500 parts of chloride per million.

This conclusion was reached on the premise that the storage capacity of the muck pond is at least 650 acre-feet. However, the fact is that the shape and configuration of the floor of the pond and the peculiar fluidity of the milk of lime settlement in the pond prevent the Company from evacuating the impounded water during the wetter months when the river is high and could tolerate release of more chlorides. Experience has taught plant personnel how fast the pond can be lowered without undue increase in pond turbidity and consequent release of milk of lime from the muck pond. Ingress of storm runoff from the mountain slopes above the pond also stirs up the pond and increases turbidity. These conditions are limiting factors governing the wise and proper maximum rate of release of fluids from the muck pond, which the personnel at Mathieson's Saltville Plant have taken into consideration in the past and which they feel they should continue to consider. Release of turbid water from the muck pond would surely cause trouble and would lead to objectionable sedimentation and consequent deterioration of bottom conditions necessary for aquatic plants and animals. If the suggestion of the representatives of the Water Control Board were followed, complaints would surely develop about the increased sedimentation and turbidity in the river below the plant. The Water Control Board representatives admit that the maximum capacity of the muck pond would not allow the 5,500 PPM maximum peaks to be adhered to during 20- or 30-- or 40-year drouths, such as the one experienced in August, September, and October, 1953. It is to the Company's own interest as well as for the welfare of the stream as a whole to subtract as much impounded fluid from the muck pond during the rainy months as is practicable, and the Company if for no other reason than protection of its own interests can be expected to keep the level of impoundment as low as possible. Mathieson does not

intend to initiate deposition of the lime ooze or sediment downstream from Saltville by excessive release of turbid effluent from the muck pond in order just to keep the pond level low.

The present muck pond, occupying the only feasible site for an impounding area for the Saltville operations of Mathieson, was not dug out of loose soil but was created by walling off a rock-paved, somewhat terraced area at the foot of a mountain. The river itself for a distance of 3,400 feet was relocated in order to give the maximum possible area to the settling basin. The contour of the bottom of the pond is so terraced that rapid drawdown of the water level would make the pond very turbid. The gradual settling out and eventual sedimentation of the milk of lime precipitate requires a year or more to move down finally into the lowest part of the floor of the pond. This process cannot be hurried. The Company does the best it can to create as much storage as possible for the drier months. The suggestion advanced by the representatives of the Water Control Board are theoretically sound, but they presuppose existence of an ideal impounding basin with vertical sides and a reasonably smooth flat floor whose water level certainly could be lowered without deflocculation of the milk of lime precipitate.

Certainly, during the exhausting drouth period of August to October, 1953, the Company has already demonstrated that chloride concentrations of up to 10, 000 parts per million at Saltville have no appreciably adverse effects upon the river from Holston down through Mendota, and thence on down to Cherokee Lake. During such prolonged low-discharge stages

of the North Fork, the impounding facilities at Saltville would not be great enough to allow adherence to the arbitrary figure of 5,000 parts per million on a monthly average maximum of chloride in Holston's North Fork just below Saltville, without suspending production. The present low-water stage of the North Fork for all practical purposes equals the record minimum discharge witnessed during the fall of 1930. The river was as low on October 25 as it has been anytime during the past 23 years. During these very protracted low-water conditions, the Company's pollution of the North Fork has understandably risen and now results in chloride concentrations in the river just below Henrytown bridge of about 9,500 parts per million. While this very situation has been in effect the Company has surveyed the chemical quality of the river from North Holston village several miles above Saltville down to Cherokee Lake, and this survey has determined that the present high chloride content in the North Fork has not been reflected by correspondingly high chloride concentrations in the combined Holston River below Kingsport. At Church Hill, the present chloride concentration is only 78 parts per million ---- which is substantially lower than the concentrations of chloride recorded at Church Hill during low water stages of other years (TVA, 1948, p. 63); and the concentration of chlorides at the head of Cherokee Lake (Cherokee Marina Dock) was only 35 parts per million in September, 1953, which is much lower than recorded concentrations of chloride on Cherokee Lake near Morristown, Tennessee, considerably downstream from Cherokee Marina Dock (TVA, 1948, p. 64) during comparable low-water stages.

Furthermore, during the present low-water period when these determinations were made, Dr. Ross's survey of Holston River in

parts of Scott and Washington counties shows the normal biological conditions to prevail in the very sections of the North Fork alleged to have been ruined by the plant's discharge of effluent farther upstream. All the evidence of a specific and precise nature that has sofar been presented signifies plainly enough that when the Company's discharge of effluent raises the chlorides in the river near Saltville to 9,500 parts per million maximum, or thereabout, fish still thrive in the North Fork at Mendota. The water is not harmful to livestock, and conditions in the combined Holston and in Cherokee Lake are virtually unchanged from normal, sofar as chloride pollution is concerned.

The Company believes that with these specific data in mind the Water Control Board will agree that the complaints against Mathieson are unjustified. Moreover, the Company believes that the requirements which Mr. Paessler and his associates have intimated they want to impose upon the Saltville operations of Mathieson are based upon: (1) lack of correct knowledge about the contour and discharge characteristics of the muck pond, which affect the rate at which the level of the impounded effluent can be lowered during high-water stages of the river; (2) a mistaken impression that the river during the 1953 low-water stage was in bad condition and suffering from gross chemical pollution; and (3) belief that the chemical discharges into the North Fork, rather than unfavorable terrain and poor soils, have retarded agricultural and business enterprise along the lower North Fork and also in the combined Holston River below Kingsport. To impose upon Mathieson's Saltville operations an arbitrary and unjustified restrictions in the maximum amount of chlorides that should be discharged into the river at any time, which Mr. Paessler and his associates have stated is their intention to recommend to the Water

Control Board, would be to go far beyond what is reasonable and practical. The Mathieson Chemical Corporation has ample justification to be proud of its efficiency and constant alertness to the potential dangers of excessive pollution of the North Fork of Holston River. It is unfortunate that so much antagonism has been stirred up by a small but vociferous group who quite obviously do not have their facts straight.

In the Saltville conference of October 20, 1953, Mr. Paessler and his associates indicated that they would not consider as pertinent to the current issues any information comparing Mathieson's handling of its chloride effluent with that discharged at other comparable chemical plants in the United States. Such comparisons, if made, would shed considerable favorable light upon Mathieson's expensive and effective set-up for handling plant effluents at Saltville.

Mathieson's Saltville plant operates on the only known deposit of salt in the entire inland area of the southeastern United States, and hence other similar plants in this vast region can hardly be expected to develop. Production of ammonia-soda products from raw salt always has meant and always will mean disposal of waste chloride solution from which the chlorine or chloride cannot be recovered by any feasible method. As long as Mathieson operates at Saltville, chlorides will have to be emptied into the river after drawing off turbid milk of lime sediment. There will be from time to time protracted low-water stages that will tax the Company's resources for prolonged continuous cumulative impoundment of chloride effluent. Until such time as specific data can be and are submitted in support of charges and intimations that the North Fork is deteriorating as a result of the plant's pollution, the Mathieson Chemical Company asks the Board for permission to continue its present practices in dealing with the disposal of chloride effluents at its Saltville operations.