

POTASSIUM CHLORIDE FROM CANADA

Determination of the Commission
in Investigation No. 751-TA-3
Under the Tariff Act of 1930,
Together With the Information
Obtained in the Investigation



USITC PUBLICATION 1137

APRIL 1981

UNITED STATES INTERNATIONAL TRADE COMMISSION

COMMISSIONERS

Bill Alberger, Chairman
Michael J. Calhoun, Vice Chairman
Catherine Bedell
Paula Stern

Kenneth R. Mason, Secretary to the Commission

Staff assigned:

Abigail Eltzroth

Jane Albrecht

James A. Emanuel

Shafik M. Youssef

John M. MacHatton, Supervisory Investigator

Address all communications to
Office of the Secretary
United States International Trade Commission
Washington, D.C. 20436

C O N T E N T S

	<u>Page</u>
Determination-----	1
Views of the Commission-----	3
Information obtained in the investigation:	
Introduction-----	A-1
Description and uses-----	A-2
Production process-----	A-3
U.S. tariff treatment-----	A-5
Nature and extent of LTFV sales-----	A-5
The petitioner-----	A-6
World potash reserves and production capacity-----	A-7
The U.S. industry-----	A-9
The Canadian industry-----	A-13
Saskatchewan Government's control of the potassium chloride industry--	A-17
Prorating-----	A-17
U.S. antitrust litigation-----	A-19
The reserves taxes-----	A-20
The Potash Corporation of Saskatchewan-----	A-21
Consideration of material injury or threat thereof-----	A-21
U.S. production, sales, and consumption-----	A-21
U.S. production capacity-----	A-25
U.S. producers' inventories-----	A-26
Employment-----	A-27
Capital expenditures-----	A-27
Financial experience of U.S. producers-----	A-28
Consideration of the causal relationship between LTFV imports and material injury or threat thereof:	
U.S. imports-----	A-29
Prices-----	A-31
Lost sales-----	A-44
Appendix A. The Commission's Federal Register notices-----	A-45
Appendix B. Freight rates and U.S. and Canadian producers' prices-----	A-49

Figures

1. Flow chart of the potassium chloride production process-----	A-4
2. Worldwide potash ore distribution-----	A-8
3. Potassium chloride: U.S. consumption, by States, 1979-----	A-12
4. Potash ore distribution in Saskatchewan-----	A-14
5. Potassium chloride: Canadian potassium chloride production, 1962-80--	A-16
6. Potassium chloride: U.S. consumption and producers' domestic sales, 1962-80-----	A-23
7. Potassium chloride: Indexes of U.S. producers' weighted average prices, 1960-80-----	A-32
8. Indexes of average prices paid by U.S. farmers for selected fertili- zers, Apr. 15 of 1968-76, and May 15 of 1977-79-----	A-34
9. Indexes of U.S. farmers' annual fertilizer expenses and cash receipts from crop marketings, 1961-79-----	A-35
10. Coarse grade potassium chloride: New Mexican and Saskatchewan pro- ducers prices f.o.b. mine, by months, July 1977-March 1981-----	A-37

CONTENTS

	<u>Page</u>
11. Potassium chloride: U.S. producers' transportation advantage over Canadian producers, by States, September 1980-----	A-38
12. Potassium chloride: Principal markets for U.S. producers' shipments, by States, 1979-----	A-39
13. Potassium chloride: Principal markets for U.S. imports from Canada, by States, 1979-----	A-40
14. Potassium chloride: U.S. imports for consumption from Canada, as a share of U.S. consumption, by States, 1979-----	A-41

Tables

1. Potassium chloride: U.S. consumption, by uses and by grades, 1979---	A-2
2. Potash: Production capacity, by principal producing countries, 1980 and 1985-----	A-7
3. Potassium chloride: U.S. producers' plant locations, type of operations, year production began, share of 1979 U.S. production, and parent firms-----	A-10
4. Potassium chloride: U.S. and Canadian producers, 1981-----	A-18
5. Potassium chloride: U.S. production, producers' sales, and apparent consumption, 1962-80-----	A-22
6. Potassium chloride: U.S. consumption, U.S. production, Canadian production, and Canadian exports to the United States, 1979, 1985, and 1990-----	A-25
7. Potassium chloride: U.S. production capacity, production, and capacity utilization, 1976-79, January-November 1979, and January-November 1980-----	A-26
8. Potassium chloride: U.S. producers' inventories, Dec. 31 of 1974-80-----	A-26
9. Average number of production and related workers engaged in the production of potassium chloride, hours worked, and wages received, 1976-79, January-November 1979, and January-November 1980-----	A-27
10. U.S. potassium chloride producers' capital expenditures, 1976-79, January-November 1979, and January-November 1980-----	A-28
11. Profit-and-loss experience of U.S. potassium chloride producers on their potassium chloride operations, 1977-79, January-November 1979, and January-November 1980-----	A-28
12. U.S. potassium chloride producers' fixed assets, net operating profits, and return on investment, Dec. 31 of 1977-79, Nov. 30, 1979, and Nov. 30, 1980-----	A-29
13. Potassium chloride: U.S. imports for consumption, by principal sources, 1970-80-----	A-30
14. Potassium chloride: U.S. imports for consumption from Texasgulf's operations in Canada, 1975-80-----	A-31

CONTENTS

	<u>Page</u>
15. Coarse-grade potassium chloride: Carlsbad, N. Mex., and Canadian producers' weighted average prices to small accounts f.o.b. mine, by size of customer, by quarters, January 1978-September 1980-----	A-43
16. Coarse-grade potassium chloride: Carlsbad, N. Mex., and Canadian producers' weighted average prices to national accounts f.o.b. mine, by quarters, January 1978-September 1980-----	A-44

Note.--Information which would disclose confidential operations of individual concerns may not be published and therefore has been deleted from this public report. Deletions are indicated by asterisks.

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

Investigation No. 751-TA-3

POTASSIUM CHLORIDE FROM CANADA

Determination

Based on the record developed in investigation No. 751-TA-3, the Commission determined, pursuant to section 751 of the Tariff Act of 1930, that an industry in the United States would not be materially injured, or threatened with material injury, by reason of imports of the merchandise covered by antidumping order, T.D. 69-265, on potassium chloride from Canada, if the order were to be modified or revoked.

Background

On December 11, 1980, the U.S. International Trade Commission instituted investigation No. 751-TA-3 under section 751 of the Tariff Act of 1930. Notice of the investigation was published in the Federal Register on December 17, 1980 (45 F.R. 83037). The purpose of the investigation was to determine whether an industry in the United States would be materially injured or would be threatened with material injury, if the antidumping finding concerning potassium chloride from Canada were revoked. ^{1/}

In November 1969, the Commission determined that an industry in the United States was being injured by reason of imports of potassium chloride from Canada that were being, or were likely to be, sold at less than fair value, within the meaning of the Antidumping Act, 1921. The Department of Treasury published a finding of dumping in the Federal Register on December 19, 1969 (34 F.R. 19905). On August 1, 1980, an application for review of the

^{1/} The statute also provides for review of whether the establishment of an industry in the United States would be materially retarded; however, that was not an issue in this case.

Commission's prior determination was filed with the Commission by Texasgulf Inc., the only Canadian producer of potassium chloride that remained subject to the antidumping finding. Each of the other producers of potassium chloride in Canada had been excluded from the antidumping order, after demonstrating that no less-than-fair-value sales had been made for at least two years, and after providing "assurances" that future sales would not be less than fair value.

No hearing was held in connection with this investigation. According to the Rules of Practice and Procedure, the Commission must render its determination within 120 days after institution, or in this case, by April 9, 1981.

In arriving at its determination, the Commission has given due consideration to the information provided by the administering authority, to all written submissions from interested parties, and to the information obtained by the Commission's staff from questionnaires, personal interviews, and other sources. All of the above have been placed in the administrative record of this investigation.

VIEWS OF THE COMMISSION

INTRODUCTION

On December 11, 1980, the U.S. International Trade Commission instituted investigation No. 751-TA-3, on potassium chloride 1/ from Canada, under section 751 of the Tariff Act of 1930, as amended. On the basis of the record developed in the investigation, the Commission has determined, pursuant to section 751, that an industry in the United States would not be materially injured, or would not be threatened with material injury, 2/ by reason of imports of potassium chloride from Canada, if T.D. 69-265, the antidumping order covering such imports, were to be modified or revoked.

The domestic industry has changed dramatically since 1969. 3/ The antidumping order on potassium chloride, entered in 1969, now covers only one producer, Texasgulf Inc. (Texasgulf); the administering authority has already revoked the order as to all other Canadian producers of potassium chloride. 4/ Moreover, no domestic producer opposed Texasgulf's petition for review of the order, and none sought a hearing or filed comments to air any concerns. 5/ In short, we are presented with an order that has outlived its usefulness.

1/ Potassium chloride is provided for in TSUS item 480.50.

2/ Since there are 8 domestic producers of potassium chloride, the prevention of establishment of a domestic industry is not an issue. Consequently, it is not reflected in the Commission's determination language and will not be discussed further in the specific context of this investigation.

3/ Commission Report, especially at A-9.

4/ For a list of the excluded firms, see the staff report to the Commission on investigation No. 751-TA-3, Potassium Chloride from Canada, at A-1 (Mar. 16, 1980) (hereinafter referred to as "Commission Report").

5/ All U.S. producers completed the Commission's questionnaires, but did not otherwise participate in the investigation.

This is the first case decided under the Commission's new rules governing section 751(b) investigations. 19 CFR § 207.45, 46 F.R. 18022 (Mar. 23, 1981). The new rules implement four major changes. First, they set forth procedures specifically applicable to section 751(b) investigations. 19 CFR § 207.45(b). The old rule had simply adopted the procedures set forth in subpart C for 120-day investigations. The new procedures clarify the fact that the Commission has two distinct determinations to make in every section 751(b) investigation. The Commission must initially determine whether the request shows changed circumstances sufficient to warrant the institution of a review investigation. 19 CFR § 207.45(b)(3). Upon publication in the Federal Register of the notice of institution of a section 751(b) investigation, the Commission proceeds to the determination of whether an industry in the United States would be materially injured, or would be threatened with material injury, or the establishment of an industry in the United States would be materially retarded, 6/ by reason of imports of the merchandise covered by the antidumping order if the order were to be modified or revoked. Id.; 19 CFR § 207.45(a). Second, the new 19 CFR § 207.45(a) states the focus of the investigation in the affirmative rather than the negative. The Commission is directed to determine if the requisite injury would result from revocation of an order, rather than to determine if such injury would not result. Third, the new rules enunciate a causation element. The Commission must determine that the requisite injury is "by reason of imports of the merchandise covered" by the order under review. 19 CFR § 207.45(a). Lastly, the new section

6/ See n. 2 on p. 3.

207.45(a) adds material injury to the threat of material injury and the material retardation of the establishment of a U.S. industry, as the bases for the determination concerning the modification or the revocation of an order.

Background

In August 1969, the Department of the Treasury determined that imports of potassium chloride from Canada were being sold at less than fair value (LTFV) within the meaning of the Antidumping Act, 1921. 7/ In November of that year, the U.S. Tariff Commission determined that an industry in the United States was being injured by reason of such imports. 8/ The Treasury Department subsequently published the dumping finding on potassium chloride from Canada (T.D. 69-265) in the Federal Register on December 19, 1969. 34 F.R. 19905. U.S. Borax & Chemical Co. alone was exempted from that finding. Texasgulf became subject to the order in 1970, when it began producing potassium chloride in Canada for exportation to the United States. Today, Texasgulf is the only Canadian producer that remains subject to the order. All other Canadian producers were excluded from the antidumping order, T.D. 69-265, after Treasury or Commerce 9/ determined that the sales of each firm had not been made at LTFV for at least 2 years, and after the appropriate agency received "assurances" from each firm that future sales of potassium chloride

7/ 19 U.S.C. § 160 (repealed by § 106 of the Trade Agreements Act of 1979).

8/ Under the Antidumping Act, 1921, the determination that the Commission was required to make was "whether an industry in the United States is being or is likely to be injured, or is prevented from being established, by reason of the importation of . . . [LTFV] merchandise into the United States."
19 U.S.C. § 160.

9/ Responsibility for the administration of the antidumping laws was transferred from Treasury to Commerce on Jan. 2, 1980, pursuant to Executive Order No. 12188 (Jan. 2, 1980).

to the United States would not be made at LTFV. 10/ See 19 CFR § 153.44 (1980); 19 CFR § 353.54 (1980).

On August 1, 1980, Texasgulf filed an application for review of the Commission's 1969 determination on the theory that no injury would result if the order were to be revoked. The Commission voted to institute a review investigation on December 11, 1980, covering all producers of potassium chloride from Canada that had not previously been excluded from the order. 45 F.R. 83037 (Dec. 17, 1980). 11/ As Texasgulf is the only producer so situated, imports of potassium chloride by Texasgulf are the only imports at issue in this investigation.

On February 6, 1980, PPG Industries Canada Ltd., Kalium Division (Kalium), formally requested that the Commission expand the scope of the investigation to include all imports of potassium chloride from Canada. Kalium is a Canadian producer of potassium chloride that had previously been excluded from the antidumping order. Its petition was premised on the assumption that Canadian producers previously excluded from the purview of T.D. 69-265 after providing Treasury or Commerce with assurances, nonetheless, remained subject to the order. Kalium posited that the exclusion from the order "with assurances" was not a revocation, but rather a conditional revocation of the order. The Department of Commerce informed the Commission staff that Kalium's premise was not correct. Commerce considers the exclusion

10/ For a list of the excluded firms, see Commission Report at A-1.

11/ The Commission did not make a formal finding of "changed circumstances sufficient to warrant a review" at this time, as the old rule was in effect and did not require it. However, such a finding is implicit in the Commission's decision to institute the investigation.

of a company from an antidumping order, based on the absence of LTFV sales and pricing assurances, to be a revocation of the order as to that company, i.e., a partial revocation of the order. See 19 U.S.C. § 1675(c)(1980). In its view, the absence of LTFV sales and the assurances are preconditions for qualification for a revocation, and no more. Commerce does not distinguish between an exclusion with assurances and a revocation. 12/ In light of the information provided by Commerce, Kalium's arguments and concerns became moot. Accordingly, the Commission denied Kalium's request to expand the scope of the investigation. 46 F.R. 16158 (Mar. 11, 1981). Expressing concurrence with the Commission's decision, Kalium subsequently withdrew its objections to Texasgulf's request. 13/

During 1970-74, Treasury assessed dumping duties equivalent to 0.2 percent of the value of Texasgulf's imports of potassium chloride. 14/ Texasgulf paid these duties under protest. No dumping margins have been calculated for the period 1975 to the present, due to Texasgulf's challenge of a masterlist of price comparisons on which antidumping duties would have been based.

12/ The Department of Commerce explained its interpretation of the assurance agreements related to this investigation at a meeting on Feb. 13, 1981, attended by the Director of Compliance, International Trade Administration; a representative of the Office of the General Counsel, Import Administration (ITA), Department of Commerce; a representative of the Office of the General Counsel, U.S. International Trade Commission; and a representative of the Office of Investigations, U.S. International Trade Commission.

13/ Submission of PPG Industries Canada Ltd., Kalium Div. and PPG Industries, Inc. Modifying Their Views Which Were Presented on Feb. 6, 1981 in Response to the Commission's Federal Register Notice of Dec. 17, 1980 (45 Fed. Reg. 83037-38) (Mar. 4, 1981).

14/ For more detailed information on Texasgulf's history of antidumping duty assessment, see app. C to Texasgulf's petition; Commission Report at A-5, A-6.

On November 20, 1979, Texasgulf filed an application with Treasury for a revocation of the dumping order as to Texasgulf, based on the absence of LTFV sales for at least 2 years. The application was passed on to the Department of Commerce on January 2, 1980. To date, no action has been taken by Commerce on Texasgulf's petition, in part because of the difficulty of determining the accurate margin of dumping for Texasgulf's sales. ^{15/} Commerce plans to complete a review of all outstanding issues concerning Texasgulf's import prices of potassium chloride by December 31, 1981. Until then, additional information from Commerce on Texasgulf's dumping margins will not be available.

ANALYSIS

The Domestic Industry

Section 771(4)(A) of the Tariff Act of 1930, as amended, ^{16/} defines the term "industry" to mean the domestic producers of a "like product." Section 771(10), ^{17/} in turn, defines the term "like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with the articles subject to an investigation."

Potassium chloride, the imported product under review in this investigation, is a chemical compound that is extracted and purified from mineral deposits. It is refined into a number of grades, the major grades being granular, coarse, standard, soluble, and chemical. Texasgulf exports all major grades of potassium chloride from Canada to the United States. The

^{15/} Id.

^{16/} 19 U.S.C. § 1671(4)(A) (1980).

^{17/} 19 U.S.C. § 1671(10) (1980).

domestically-produced grades are identical to the comparable imported grades under investigation. 18/

Approximately 94 percent of the potassium chloride consumed in the United States is used as fertilizer. The remainder is used to make chemical compounds essential in the manufacture of glass, matches, soaps, medicines, detergents, insecticides, chinaware, solid rocket fuel, and animal feed. All grades except the chemical grade are used in fertilizer. The chemical grade is used to produce other chemicals that are used in the ceramics and chemicals industries. Small quantities of standard and soluble grades are used for industrial purposes.

As imported and domestic potassium chloride are in fact identical products, the Commission determines that the domestic product is like the import; thus, the appropriate domestic industry under consideration in this investigation consists of the domestic producers of potassium chloride. The industry consists of eight producers 19/ operating nine facilities in the United States. More than 80 percent of the U.S. production occurs in the Carlsbad, New Mexico area.

18/ In addition, Chairman Alberger and Commissioner Calhoun base their determinations of the like product on the following factors. Both imported and domestically-produced potassium chloride, regardless of grade, have the same chemical formula (a fact which is useful in comparing the characteristics of inorganic chemicals). Furthermore, during the years 1978-1980, not less than 95 percent of each year's imports of potassium chloride from Canada was used as fertilizer. During the same period, not less than 91 percent of each year's domestic production of potassium chloride was so used. Moreover, no evidence on the record warrants differentiating the like product on the basis of grade.

19/ For the names of the 8 producers, the type of each operation and the year that each began operation, See Commission Report, Table 3 at A-10.

Material Injury

Section 751(b) provides no explicit criteria for the analysis of the presence of material injury, or the threat thereof. However, analysis of the statute, the legislative history, past Commission practice and relevant international agreements 20/ suggests an appropriate basis for review. 21/ While there is no cross-reference to section 771(7) 22/ in section 751(b), the Commission has found that the factors enumerated in section 771(7) are relevant to the determination of injury under section 751(b) as well. 23/

Section 771(7) directs the Commission, when assessing material injury, to consider, among other factors, (1) the volume of imports of the merchandise which is the subject of the investigation; (2) the effect of imports of that merchandise on prices in the United States for like products; and (3) the impact of imports of such merchandise on domestic producers of like products.

The volume of imports.--Imports have accounted for an increasing share of U.S. consumption of potassium chloride. This share increased from 12 percent of consumption in 1962 to 81 percent in 1980. Imports from Canada accounted for more than 94 percent of total imports each year during 1970-80. Imports of potassium chloride from Canada, as a share of apparent U.S. consumption, have risen accordingly, from 56 percent in 1970 to 78 percent in 1980.

20/ The Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade (the Antidumping Code) and the Agreement on Interpretation and Application of Articles VI, XVI and XXIII of the General Agreement on Tariffs and Trade (the Subsidies Code) are implemented, in part, by sections of subtitles B and C of Title VII of the Tariff Act of 1930, as amended.

21/ See Electric Golf Cars From Poland, investigation No. AA1921-147A (Review) (1980), for a more thorough analysis of the appropriate basis for review.

22/ 19 U.S.C. § 1677(7) (1980).

23/ Electric Golf Cars From Poland, investigation No. AA1921-147A (Review) (1980).

Potash reserves are located in only 16 countries. Canada and the U.S.S.R. possess the largest potash reserves, accounting for 41 percent and 37 percent of all reserves, respectively. Reserves in the United States are dwarfed by comparison, accounting for only 0.4 percent of worldwide reserves. As the U.S. recoverable reserves continue to decrease in quantity and quality, the United States will be increasingly dependent upon imports, with or without the imposition of dumping duties.

Texasgulf accounted for less than 5 percent of total Canadian production during 1970-80. Its share of apparent U.S. consumption was correspondingly small. While Texasgulf's production in Canada is expected to increase slightly during the 1980's, its share of U.S. consumption will probably decrease as U.S. consumption continues to expand at a faster rate than that of Texasgulf's production.

Effect of Imports on Domestic Prices.--U.S. producers' prices of potassium chloride have increased rapidly since the Commission's 1969 injury determination. According to the U.S. Producer Price Index, 24/ using 1960 as the base year (1960 = 100), prices increased from 62 in 1969 to 99 in 1973. Prices jumped in 1974 to 129, and continued to dramatically increase until they reached 240 in 1980. The rise in prices in the early 1970's can be attributed, in part, to the 1969 antidumping order, and the subsequent imposition of base prices, production quotas and restrictive taxes by the Saskatchewan government. 25/ However, the dramatic increases seen in the last part of the decade were primarily due to the dramatic increase in world food

24/ Prepared by the U.S. Dept. of Labor, Bureau of Labor Statistics.

25/ Commission Report at A-17-A-21, A-33.

prices at that time. The price of fertilizer is in large part governed by the demand for and the price of crops; U.S. farmers' fertilizer expenses are related to their cash receipts from crop marketings. The massive world crop failure in the mid-1970's and the resultant food shortage forced a dramatic increase in the price of food, and created an increased worldwide demand for fertilizer. Since that time, demand for fertilizer has remained strong, and the price of potassium chloride has continued its upward spiral. During the past 3 years, prices increased by 71 percent.

As the share of U.S. consumption held by Canadian imports is so great (78 percent), the supply and price of potassium chloride from Canada have a large and increasing influence on the U.S. market and producers' prices. However, this influence has proved to be beneficial to U.S. producers, as the Saskatchewan government's regulation of the industry has kept the price of Canadian potassium chloride high. There is no reason to believe that the provincial government will change its policies regarding the potassium chloride industry if the antidumping order is revoked.

Furthermore, Texasgulf's imports, the only imports that are the subject of this review, represent but a nominal share of U.S. consumption. With such a small market share, Texasgulf does not have the ability to affect the overall market price of potassium chloride. Even if Texasgulf did set prices at LTFV, it would not be able to force other producers, domestic or foreign, to meet its prices. As Texasgulf's market share is delineated by the size of its reserves, and it has no other known reserves, it is highly unlikely that Texasgulf's position in the market will appreciably change.

The Commission collected data from all Canadian and U.S. producers on their f.o.b. prices of coarse-grade potassium chloride to both small accounts and national accounts. 26/ The prices of coarse-grade potassium chloride, which accounted for 39 percent of U.S. potassium chloride consumption in 1979, is representative of the prices of all potassium chloride grades. 27/ These data indicate that for each quarter from January 1978 to September 1980, the f.o.b. prices charged by all Canadian producers, including Texasgulf, were either lower than, or on the low end of, the range of prices charged by the U.S. producers located in Carlsbad, New Mexico.

When compared to the prices charged by other Canadian producers, the prices charged by Texasgulf were, in all but one instance, greater than or within the range of prices at which the other Canadian producers sold coarse grade potassium chloride.

The Commission's staff calculated that the weighted average cost of transportation of U.S.-produced potassium chloride to the U.S. producers' domestic customers is 15 percent lower than the weighted average cost of transportation of the Canadian product to the Canadian producers' U.S. customers. Accordingly, when the U.S. producers' transportation advantage is taken into consideration, the delivered prices of the Canadian product may actually be higher than the delivered price of the U.S. product. 28/

26/ Small accounts include U.S. customers which purchase less than 500 short tons of potassium chloride a year. National accounts include U.S. customers which purchase more than 15,000 short tons a year.

27/ The price fluctuations for all grades of potassium chloride parallel each other. The coarse grade was chosen as the representative sample because consumption of coarse grade is the largest.

28/ Commission Report at A-36-A-42.

The Impact of Imports on Domestic Producers.--Section 771(7)(c) of the Trade Agreements Act of 1979 instructs the Commission to examine, with respect to the impact of imports on the domestic industry, all relevant economic factors including, but not limited to, actual and potential decline in output, sales, market share, profits, productivity, return on investments, utilization of capacity, factors affecting domestic prices, and actual and negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment. The Commission received questionnaire responses on the above-mentioned factors from firms believed to account for all U.S. production and shipments of potassium chloride.

The level of U.S. production has not significantly changed since 1971, despite the declining quantity and quality of U.S. reserves. U.S. producers' shipments similarly have remained stable since 1971. U.S. producers' share of apparent U.S. consumption decreased from 37 percent to 19 percent during the period, reflecting the fact that U.S. consumption of potassium chloride increased by more than 50 percent during the period, from 4.3 million short tons of potassium oxide (K_2O) ^{29/} in 1971 to 6.5 million short tons K_2O in 1980. According to market experts, ^{30/} U.S. producers' share of consumption will continue to decrease in the 1980's as U.S. consumption continues to increase and the quantity and quality of U.S. reserves continue to decline. ^{31/}

^{29/} The potassium chloride industry commonly expresses the potassium content of potassium chloride in terms of potassium oxide, i.e., K_2O . Commercial potassium chloride is approximately 60 percent K_2O . Thus, 1,000 short tons of potassium chloride is equivalent to about 600 short tons of K_2O . This opinion will follow industry usage and express quantities of potassium chloride in terms of the K_2O equivalent.

^{30/} E.g., The Billings Group, Inc., North American Potash Demand 1985 and 1990 (Sept. 1980); Tennessee Valley Authority; Stanford Research Institute. See infra n. 35.

^{31/} See Commission Report at A-24.

Although U.S. production capacity has followed a general pattern of decline since 1966, it increased slightly between January 1976 and November 1980. The increase is due to the expansion and modernization of existing potassium chloride facilities, not the result of the development of new reserves. No new mines have been opened in the United States since 1965, as no new commercially exploitable deposits have been discovered. Market experts predict that U.S. production this decade will decrease to one-half its current level, because of the declining quality of domestic ore and because of the decreasing quantity of recoverable reserves. 32/

Utilization of productive capacity remained above 90 percent from January 1976 to November 1980, and three producers reported that their plants were running at 100 percent of capacity during the period. 33/

U.S. producers' yearend inventories of potassium chloride decreased irregularly from 542,000 short tons K_2O in 1975 to 205,000 short tons K_2O in 1980. Inventories as a share of U.S. producers' shipments decreased from 30.7 percent in 1975 to 10.3 percent in 1980. The decrease indicates that U.S. producers have been able to rapidly turn over the bulk of their production.

The average number of production and related workers engaged in the production of potassium chloride in the United States increased steadily from 2,305 in 1976 to 2,558 in January-November 1980, an increase of 11.0 percent. The number of hours worked by such workers showed a similar increase, and the

32/ Commission Report at A-25, A-26. For a partial list of experts relied upon, see n. 30.

33/ Commission Report at A-25.

workers' wages increased from an average of \$6.77 per hour in 1976 to \$9.60 per hour in January-November, 1980.

U.S. producers of potassium chloride reported substantial and increasing profits on their potassium chloride operations. Net operating profits increased from \$21.8 million in 1977 to \$37.9 million in 1979, an increase of 74 percent. Profits increased again, by 88 percent, from \$33.8 million in January-November, 1979, to \$63.4 million during the corresponding period in 1980. The ratio of net operating profit to net sales increased from 13.0 percent in 1977 to 24.5 percent during January-November, 1980. The ratio of net operating profit to book value of fixed assets showed a similar trend, increasing from 13.5 percent in 1977 to 35.8 percent during January-November, 1980. The dramatic rise in U.S. producers' profits can be attributed to the sharp increase in potassium chloride prices.

All U.S. producers were requested to supply the Commission with information concerning lost sales or price reductions to meet competition from imports of potassium chloride produced by Texasgulf in Canada. No U.S. producer reported any instance of lost sales or price reductions.

Threat of Material Injury

U.S. production and market share are expected to decline during the 1980's, 34/ primarily due to the decreasing quality and quantity of recoverable reserves in the United States.

There are also a number of considerations which diminish the threat of material injury by reason of imports which may be sold at LTFV in the future.

34/ The Billings Group, Inc., North American Potash Demand 1985 and 1990 (Sept. 1980).

U.S. consumption of the product, according to the The Billings Group, Inc. (Billings), 35/ will increase by 22 percent, from 7.4 million short tons K_2O in 1979 to 8.9 million short tons K_2O by 1990. Billings also projects that production by Texasgulf in Canada will increase from 308,000 short tons K_2O in 1979 to 373,000 short tons K_2O in 1990. Assuming that all the potassium chloride produced by Texasgulf in Canada is shipped to the United States, imports from Texasgulf would account for only 4.2 percent of U.S. consumption of potassium chloride in 1990. In the meantime, imports from all Canadian producers are projected by Billings to increase from 74 percent of apparent U.S. consumption in 1979 to 90 percent by 1990. 36/

Texasgulf will have little incentive to sell potassium chloride at LTFV. During the 1980's, faced with a small and declining share of the expanding U.S. market, the company will most likely be a price follower rather than a price leader.

CONCLUSION

After considering the above information, we determine that an industry in the United States would not be materially injured, nor threatened with material injury, by reason of imports of potassium chloride from Canada covered by the antidumping order if the order were to be modified or revoked.

35/ The Billings Group, Inc., is an economic consulting firm that specializes in market analysis for major North American potash producers.

36/ The Commission does not mean to imply by use of the data for 1990 that this year has any special significance. The Commission simply finds that the data indicates that not only is threat not imminent, but that it does not appear likely for some time to come.

INFORMATION OBTAINED IN THE INVESTIGATION

Introduction

On December 11, 1980, the U.S. International Trade Commission instituted review investigation No. 751-TA-3 under section 751 of the Tariff Act of 1930. Notice of the Commission's investigation was published in the Federal Register of December 17, 1980 (45 F.R. 83037). 1/ The purpose of the investigation is to determine whether an industry in the United States would be materially injured, or would be threatened with material injury, or the establishment of an industry in the United States would be materially retarded, by reason of imports of potassium chloride from Canada if the antidumping order were revoked.

In November 1969 the Commission determined that an industry in the United States was being injured by reason of imports of potassium chloride from Canada that were being, or were likely to be, sold at less than fair value (LTFV) within the meaning of the Antidumping Act, 1921. Sales by U.S. Borax & Chemical Co. were excluded from the Treasury's determination of LTFV sales in August 1969. The Department of the Treasury published a finding of dumping in the Federal Register of December 19, 1969. The following companies were subsequently excluded from the outstanding dumping finding after Treasury determined that sales of these firms had not been at LTFV and it received assurances from each firm that future sales of potassium chloride to the United States would not be made at LTFV. In 1974: CF Industries, Inc.; International Minerals & Chemical Corp.; Kalium Chemicals, Ltd.; Potash Co. of America; and Potash Co. of Canada. In 1976: Brockville Chemical Industries, Ltd.; Cominco, Ltd.; Hudson Bay Mining & Smelting Co., Ltd.; and Swift Canadian Co., Ltd. In 1977: AMAX Potash, Ltd., and Duval Corp. of Canada. In 1980: Central Canada Potash Co., Ltd., and Potash Corporation of Saskatchewan. Texasgulf Inc. is the only Canadian producer of potassium chloride that has not been excluded from the dumping finding.

On August 1, 1980, an application for review of the Commission's 1969 determination was filed with the Commission by Texasgulf Inc. On February 6, 1981, counsel for Kalium Chemicals, Ltd., a division of PPG Industries Canada, Ltd., and a Canadian producer of potassium chloride excluded from the dumping finding, requested that the Commission expand the scope of the investigation to include all potassium chloride from Canada, including that produced by firms excluded from the finding. Kalium alleged that a Commission determination in favor of Texasgulf would be unfair to those companies excluded from the earlier finding on the basis of price assurances which would remain in effect regardless of the outcome of the Commission's investigation. On March 3, 1981, the Commission rejected this request, notice of which was published in the Federal Register of March 11, 1981 (46 F.R. 16158). 1/

No hearing was held in connection with this investigation. The briefing and vote were held on March 23, 1981. In accordance with its rules, the Commission must render its decision within 120 days after institution of the investigation, or in this case, by April 9, 1981.

1/ A copy of the Commission's notices related to this investigation is presented in app. A.

Description and Uses

Potassium chloride, also known as muriate of potash, is the chief source of potassium fertilizer applied to fields in the United States. Approximately 94 percent of the potassium chloride consumed in the United States is used in fertilizer, and the rest is used to make chemical compounds essential to the manufacture of glass, matches, soaps, medicines, detergents, insecticides, chinaware, solid rocket fuel, and animal feed.

Potash refers to a number of potassium salts used as fertilizers. Potassium chloride, the product under investigation, accounts for approximately 97 percent of all potash fertilizers consumed in the United States and worldwide. For chloride-sensitive crops, a sulfate of potash (either potassium sulfate or potassium magnesium sulfate) is used.

Potassium is one of the three key chemical elements used to promote plant growth; the other two are nitrogen and phosphorus. Potassium aids in the synthesis of starch and sugar, stiffens straw in cereal grains, promotes root growth, and enables the plant to better withstand disease and adverse conditions of climate. About 85 percent of the potassium applied to fields in the United States is in the form of potash; the remainder of the potassium nutrient is added to the soil in the form of cereal straw and manure.

Potassium chloride is produced in a number of grades. The major grades and their uses are shown in table 1.

Table 1.--Potassium chloride: U.S. consumption, by uses and by grades, 1979

(In percent)			
Grade	Agricultural use	Industrial use	Total
Granular-----	30.7	-	30.7
Coarse-----	38.7	-	38.7
Standard-----	16.8	1.9	18.7
Soluble-----	8.2	1.9	10.1
Chemical-----	0	1.8	1.8
Total-----	94.4	5.6	100.0

Source: Derived from statistics published by the Potash & Phosphate Institute.

The granular, coarse, and standard grades are approximately 95 percent pure and may contain a minute amount of iron, which gives the product a pink tint. These grades, which differ from one another only in particle size, are suitable for blending with other solid fertilizers for application to the fields. To insure a homogeneous mixture of solid fertilizer, particles of nearly equal sizes must be blended together. These three grades are not used in liquid fertilizers because the trace of iron-bearing clay in the product tends to clog the farm machinery used to spray the fields. However, a fourth grade, the soluble grade, is approximately 98 percent pure, contains less iron clays, and is consequently suitable for use in liquid fertilizer. The chemical

grade of potassium chloride is even more highly refined; it is used in the manufacture of chemicals for use primarily in the chemical and ceramic industries. In addition, small quantities of standard and soluble grades of potassium chloride are used for industrial purposes.

Texasgulf exports all grades of potassium chloride from Canada to the United States; the U.S.-produced grades are identical to the imported grades under investigation.

The industry commonly expresses the potassium content of potassium chloride in terms of K_2O (potassium oxide). Commercial potassium chloride is generally about 60 percent K_2O . Thus, 1,000 short tons of potassium chloride product is the equivalent of 600 short tons K_2O . This report will follow industry usage and express quantities of potassium chloride in terms of the K_2O equivalent.

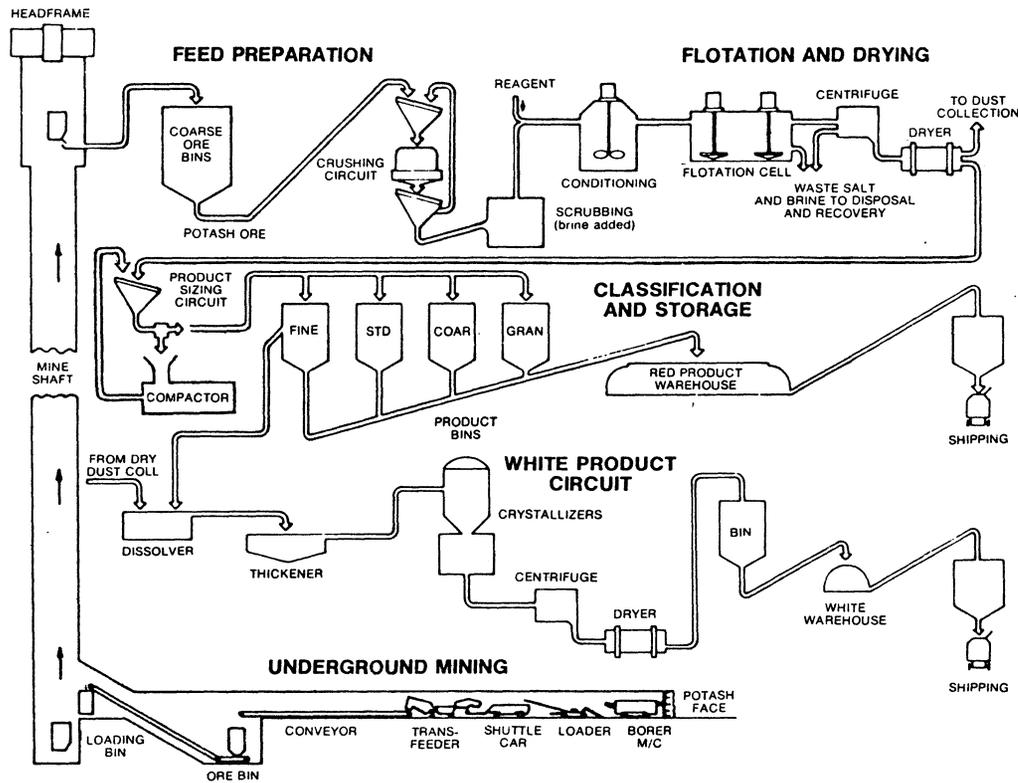
Production Process

Most potassium chloride in North America exists in underground deposits; 84 percent is exploited by conventional shaft-mining techniques. Solution mining, another method of extracting potassium chloride from bedded deposits, is especially suited to deposits which are 4,000 feet or more underground or which are too irregular to make shaft mining economical. In this method, water is injected through wells into the deposit to dissolve the salts, and a brine solution containing potassium chloride is withdrawn from nearby wells. Two mines in North America, one owned by Kalium in Saskatchewan and the other owned by Texasgulf in Utah, are operated through this technique. These mines accounted for * * * percent of North American production in 1980.

A third production method, extraction from surface and subsurface brines, is used in the United States at the Bonneville salt flats in Utah and in Searles Lake in California. The two U.S. companies which produce potassium chloride by this method accounted for * * * percent of North American production in 1980.

After recovery, all ore is processed into marketable grades of potassium chloride at mine site. The process involves several steps which may include evaporation of brines, flotation, and solution and crystallization. The product is dried and sized and is then ready for sale. Figure 1 illustrates the production process utilized by Texasgulf in Canada.

Figure 1.--Flow chart of the potassium chloride production process.



Source: Texasgulf Inc.

U.S. Tariff Treatment

Imports of potassium chloride are classified in item 480.50 of the Tariff Schedules of the United States. These imports have been duty free since 1930.

Nature and Extent of LTFV Sales

Texasgulf began exporting potassium chloride from Canada to the United States in 1970, several months after Treasury's 1969 dumping determination. Texasgulf is the only Canadian producer of potassium chloride which has not been excluded from the determination. This firm's dealings with Treasury prior to January 1, 1980, and with Commerce thereafter concerning its sales of potassium chloride are described below.

In 1975 Treasury determined that potassium chloride produced by Texasgulf in Canada and imported into the United States during 1970-73 was being sold at LTFV. 1/ A similar determination was made in 1976 with respect to imports in 1974. For coarse-grade potassium chloride this determination was based upon a comparison of Texasgulf's home-market sales price and its export price to the United States. For other grades a comparison was made between the home-market price of other Canadian producers and Texasgulf's export price to the United States. In early 1979 Texasgulf paid the assessed dumping duties and filed protests concerning a large portion of these duties; no action has been taken on the protests. The dumping duties, as assessed, account for less than 0.2 percent of the value of Texasgulf's exports of the product to the United States during the period.

A list of price comparisons on Texasgulf's potassium chloride sales for the period January 1975-June 1978 was circulated by Treasury in May 1979. Liquidation of entries under this list was suspended on November 15, 1979.

On November 20, 1979, Texasgulf filed with Treasury an application to modify the dumping finding on the basis that Texasgulf had made no sales at LTFV during July 1977-June 1979. This application was passed on to Commerce on January 1, 1980. On January 15, Texasgulf received a questionnaire from Commerce covering the period July 1, 1978-December 31, 1979. Texasgulf responded on March 10, 1980. To date no action has been taken by Commerce on Texasgulf's application to modify the dumping finding.

Commerce assumed the responsibility for the assessment of antidumping duties on January 1, 1980, and Texasgulf and Commerce have begun discussions concerning, among other issues, the extent to which the latest list should be based on home-market values of coarse-grade potassium chloride or upon third-country sales by Canpotex Ltd., a Canadian marketing association of five Canadian producers, of which Texasgulf is a member. 2/ No dumping duties have been assessed for the period January 1975 to the present.

1/ This section on LTFV sales is based upon information contained in Texasgulf's petition.

2/ Canpotex was established with Provincial government sponsorship to handle overseas sales of potash from Saskatchewan.

Commerce has advised the Commission's staff that it will try to resolve all the outstanding issues between Texasgulf and itself by the end of December 1981 and will try to make its final assessment of dumping duties at that time. Information on dumping margins from 1970 to the present will not be available until then.

The Petitioner

Texasgulf, a large diversified Texas corporation headquartered in Stamford, Conn., produces potassium chloride in the United States and Canada. In 1964 Texasgulf began operating a mine in Moab, Utah, with conventional underground methods. Because of the irregularities of the bedded deposits, the room-and-pillar production technique proved to be uneconomical. Thus, in mid-1970 Texasgulf suspended production, flooded the mine with water from the Colorado River, and converted it to a solution mine with solar evaporation ponds. Recovery of potassium chloride resumed in March 1972. The Moab mine produced * * * short tons K_2O of potassium chloride in 1979, accounting for * * * percent of U.S. production.

In 1969 Texasgulf acquired a 40-percent interest in the Allan Potash Mine, a conventional underground mine located in Allan, Saskatchewan. Texasgulf began exporting potassium chloride from the Allan mine to the United States in 1970. In 1977 the owners of the Allan mine (Texasgulf, 40 percent; U.S. Borax, 40 percent; and Swift Canadian Co., Ltd., 20 percent) and the government-owned Potash Corporation of Saskatchewan (PCS) held negotiations concerning the acquisition of the mine under the Provincial Potash Development Act of 1976, which authorized PCS to buy or expropriate some or all of the potash mines in the Province. In January 1978 Texasgulf's partners in the Allan mine agreed to sell their 60-percent share to PCS; Texasgulf declined to sell its share.

The Allan mine was designed to produce 900,000 tons K_2O of potassium chloride a year; however, because of the production ceilings imposed by the Saskatchewan government from 1970 to mid-1974, the maximum rate of production permitted at Allan ranged from 48.5 percent to 68.0 percent of rated capacity. Effective capacity of the mine is currently 720,000 tons K_2O , and improvements are planned to expand production to its rated capacity of 900,000 tons K_2O . In 1979 Texasgulf's share of the production at Allan totaled * * * short tons K_2O , the equivalent of * * * percent of total Canadian production of potassium chloride.

Texasgulf ships potassium chloride by rail from Moab to domestic fertilizer mixers and blenders and through Pacific and gulf coast ports to New Zealand, Australia, and Central and South America. Some potassium chloride from Moab is sold for animal feed. Shipments from Allan go by rail to U.S. and Canadian fertilizer mixers and blenders and from the port of Vancouver, British Columbia, to Japan, Korea, Brazil, Europe, and elsewhere through Canpotex Ltd. Sales of the product to the United States are not handled through Canpotex. Texasgulf owns or leases 17 railcars for shipment of potash from Moab, and 199 railcars for shipment from Allan.

World Potash Reserves and Production Capacity

Potash reserves are located in only 16 countries. According to Industrial Minerals & Rocks, published by American Institute of Mining, Metallurgical, & Petroleum Engineers, Inc., in 1975, Canada and the U.S.S.R. possess the largest potash reserves in the world, accounting for 41 percent and 37 percent of all reserves, respectively. Reserves in the United States are dwarfed by comparison, accounting for only 0.4 percent of worldwide reserves (fig. 2). In its questionnaire sent to all U.S. producers of potassium chloride, the Commission requested information concerning reserves of potassium chloride. All but one producer submitted usable information. According to these data, U.S. recoverable reserves declined from 105 million short tons K₂O on January 1, 1976, to 87 million short tons K₂O on January 1, 1980, representing a decrease of 17 percent.

In 1980, according to the Tennessee Valley Authority, the countries with the largest capacity to produce potash were the U.S.S.R., accounting for 31 percent of total capacity; Canada, with 26 percent; East Germany, with 11 percent; and West Germany, with 10 percent. The United States, the fifth largest producing country, accounted for 8 percent of total capacity (table 2).

According to the Tennessee Valley Authority, world capacity to produce potassium chloride will increase from 35 million short tons K₂O in 1980 to 46 million short tons in 1985, representing an increase of 34 percent in 5 years. Seventy-five percent of the increase in production capacity will be in the U.S.S.R. and Canada. Jordan, a new producer, and Israel will account for 21 percent of the increase.

Table 2.--Potash: 1/ Production capacity, by principal producing countries, 1980 and 1985

Country	Production capacity		Share of capacity <u>2/</u>		Cumulative share of capacity <u>2/</u>	
	1980	1985	1980	1985	1980	1985
	Million short tons K ₂ O		Percent			
U.S.S.R-----	10.7	15.6	30.8	33.6	30.8	33.6
Canada-----	8.9	12.7	25.6	27.4	56.4	61.0
East German-----	3.7	3.8	10.7	8.2	67.1	69.2
West Germany-----	3.3	3.3	9.5	7.1	76.6	76.3
United States-----	2.9	2.9	8.4	6.3	85.0	82.6
France-----	2.4	2.4	6.9	5.1	91.9	87.7
All other <u>3/</u> -----	2.8	5.8	8.1	12.3	100.0	100.0
Total-----	34.7	46.4	100.0	100.0	-	-

1/ All potash, 97 percent of which is potassium chloride.

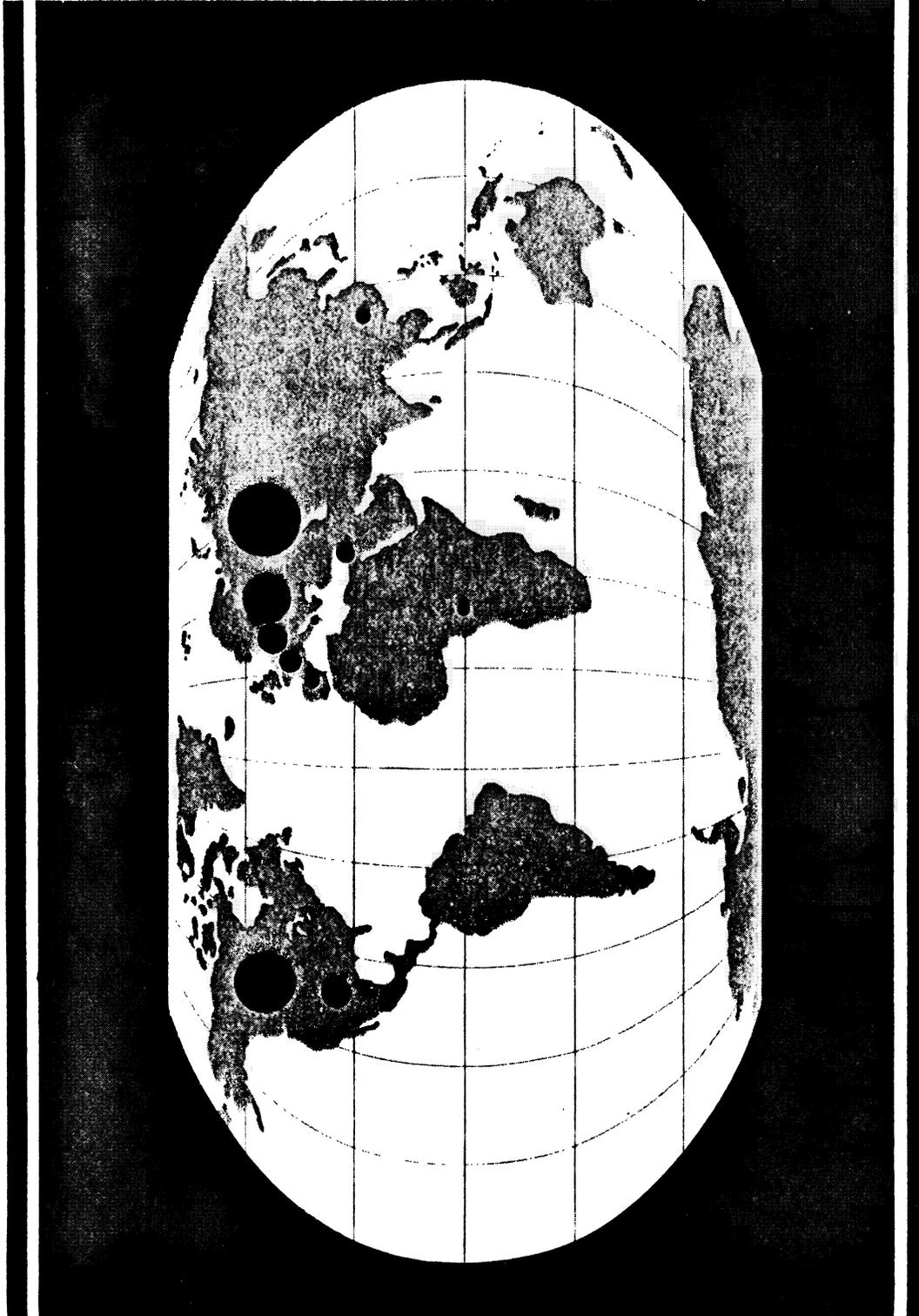
2/ From the unrounded figures.

3/ Israel, Spain, Jordan, China, the United Kingdom, Italy, and Chile.

Source: Tennessee Valley Authority.

Note.--Because of rounding, figures may not add to the totals shown.

Figure 2.--Worldwide potash ore distribution.



Source: The U.S. Bureau of Mines.

The U.S. Industry

Production of potassium chloride in the United States began during World War I, when the interruption of supplies from Europe led to shortages and high prices. Initial U.S. production began in 1917 with the processing of subsurface brines at Searles Lake in California. It was not until the opening of two mines in New Mexico in the 1930's, however, that the United States became independent of foreign sources, which at that time were controlled by a cartel of German and French producers. The processing of brine into potassium chloride began in Wendover, Utah, in 1933; another mine was opened in New Mexico in 1940. These five plants produced 99 percent of U.S. potash production in 1941. Several cement manufacturers began producing potash as a byproduct prior to World War II, and this minor source continued until 1970. After World War II four more mines were opened in New Mexico, the last of which opened in 1965.

The United States was the world's leading producer of potash from 1955 to 1967, when the lead was taken by the U.S.S.R. The United States remained self-sufficient in potash until 1962, when increasing production in Canada, in which U.S. producers participated, started to supply ever-growing quantities to the expanding U.S. market.

The U.S. potassium chloride industry comprises eight firms, which operate nine facilities: six in New Mexico, two in Utah, and one in California. These producers are listed in table 3. More than 80 percent of U.S. production of potassium chloride is from bedded deposits in New Mexico.

Duval Corp. ceased extracting potassium chloride from its Carlsbad, N. Mex., mine in May 1978. According to the Stanford Research Institute, the company produced about 110,000 short tons K_2O in 1975, accounting for about 5 percent of U.S. production in that year. In a letter to the Commission, counsel for Duval stated that the company ceased production of potassium chloride "for the single reason of depleted reserves." Duval's mine in Saskatchewan was sold to the Potash Corporation of Saskatchewan in October 1976.

National Potash Co. owns two mines near Carlsbad, N. Mex. The company mined lower grade reserves in its Lea County, N. Mex., mine between 1957 and 1968, when the mine was closed because of high production costs and low market prices. Mining at that location resumed in mid-1974. In 1976 the reserves in the company's other mine, located in Eddy County, N. Mex., were exhausted, and the firm ceased production there.

Most potassium chloride produced in the United States and Canada is shipped from the mine sites by rail to bulk fertilizer blenders and farmers' cooperatives in the U.S. farming regions. North American producers own or rent large fleets of railcars devoted to its transport. Until recently, chronic shortages of rail freight cars during the spring planting season, when the bulk of potassium chloride is consumed, had hampered the ability of the producers to supply the market efficiently. This problem has been alleviated by increased purchases and storage by customers during the off-season, and by the acquisition of additional rolling stock by the producers and major customers.

Table 3.--Potassium chloride: U.S. producers' plant locations, type of operations, year production began, share of 1979 U.S. production, and parent firms 1/

Firm and location	Type of operation	Year production began	Share of 1979 U.S. production	Parent
			Percent	
Kerr-McGee Chemical Corp., Carlsbad, N. Mex. Trona, Calif.	Shaft mine Brine wells	1965 1917	***	Kerr-McGee Corp.
AMAX Chemical Corp., Carlsbad, N. Mex.	Shaft mine	1952	***	AMAX, Inc.
Potash Co. of America, Carlsbad, N. Mex.	-----do-----	1934	***	Ideal Basic Industries, Inc.
National Potash Co., Carlsbad, N. Mex.	-----do-----	<u>2/</u> 1957	***	Freeport Minerals Co.
Mississippi Chemical Corp., Carlsbad, N. Mex.	-----do-----	1931	***	
Texasgulf Inc., Moab, Utah	Solution mine	1964	***	
International Minerals & Chemical Corp., Carlsbad, N. Mex.	Shaft mine	1940	***	
Kaiser Aluminum & Chemical Corp., Wendover, Utah	Near-surface brines	1933	***	Kaiser Industries Corp.

1/ 1 mine owned by Duval Corp. opened in 1951 and closed in May 1978.

2/ 1 of its 2 mines closed in 1976.

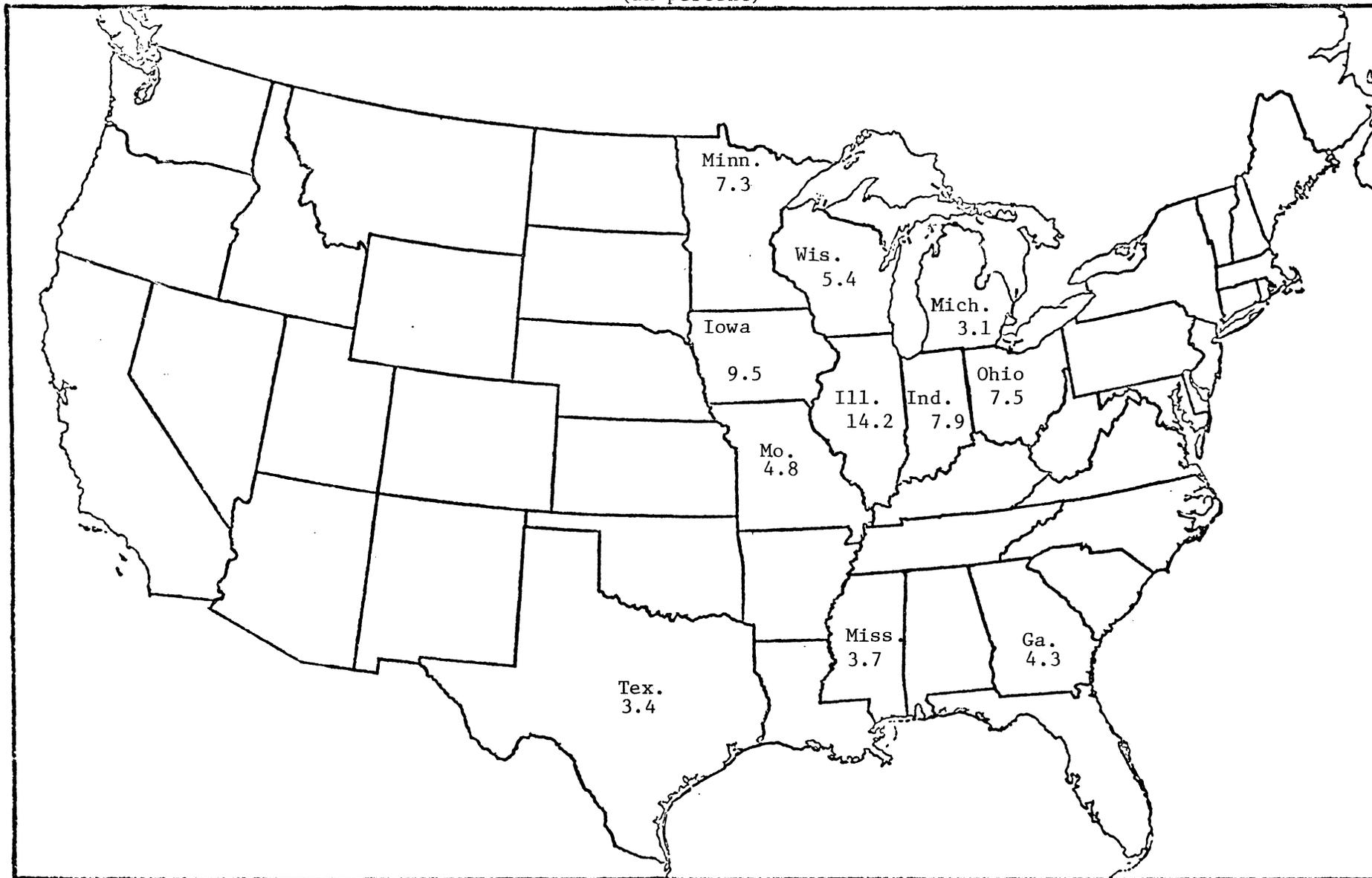
Source: Compiled from information submitted in response to questionnaires of the U.S. International Trade Commission and the U.S. Bureau of Mines.

Eight mid-Western farming States account for 60 percent of U.S. consumption of potassium chloride, as shown in figure 3 and in the following tabulation:

<u>State</u>	<u>Share of consumption (percent)</u>
Illinois-----	14
Iowa-----	10
Indiana-----	8
Ohio-----	8
Minnesota-----	7
Wisconsin-----	5
Missouri-----	5
Michigan-----	3
Total-----	60

Figure 3.--Potassium chloride: U.S. consumption, by States, 1979.

(In percent)



A-12

Source: Potash & Phosphate Institute.

The Canadian Industry

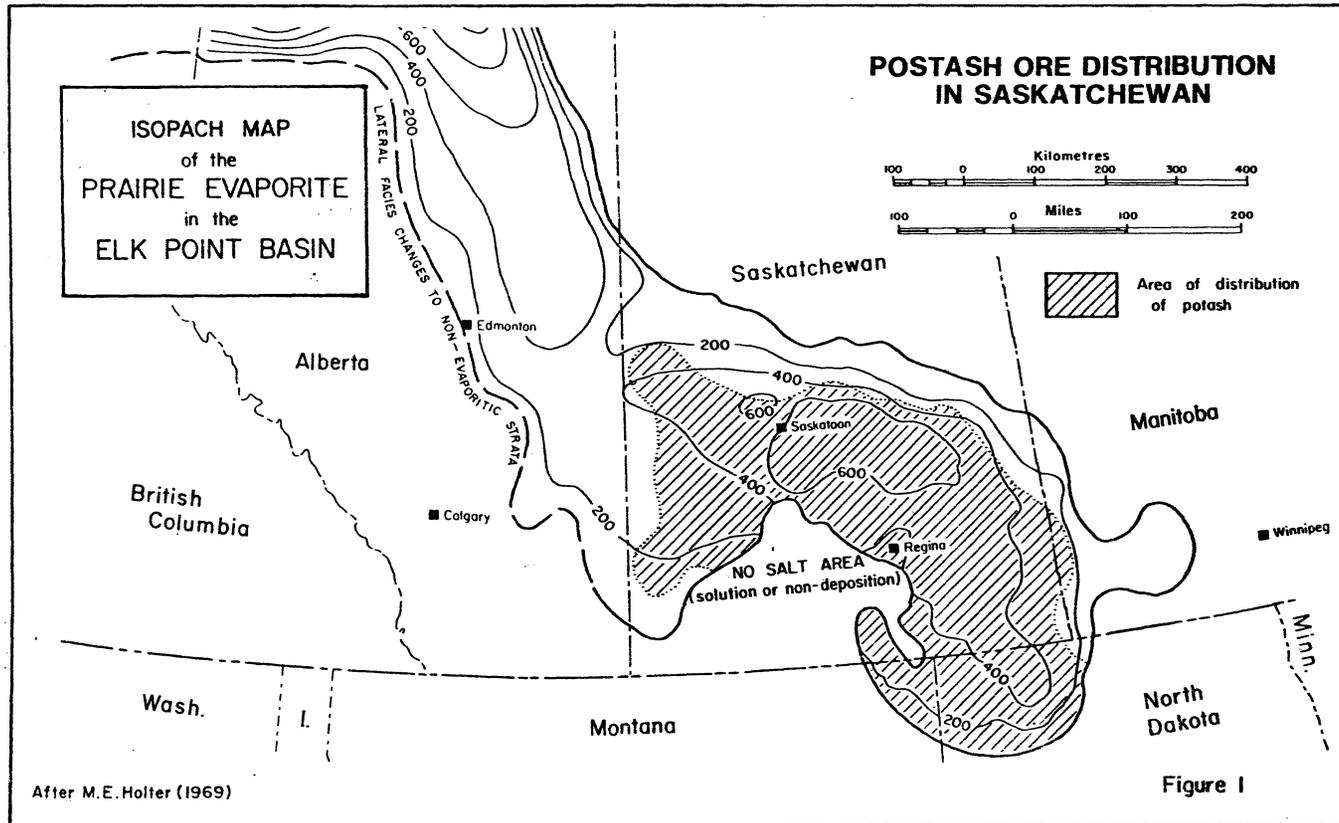
Potassium chloride was first discovered in Canada during oil drilling in the Province of Saskatchewan during World War II. Exploration in the late 1940's outlined the rich and extensive deposits that underlie most of southern Saskatchewan (fig. 4). Attempts during the 1950's at solution mining and conventional shaft mining failed, the latter because of flooding in the shaft. Potash Co. of America mined potassium chloride in Saskatchewan during a 1-year period beginning in 1958, but production was temporarily terminated in 1959 because of water seepage into the shaft. International Minerals & Chemical Corp. was the first firm to successfully overcome the water-associated shaft-sinking problems. Its K1 mine, located in the eastern part of the Province near Esterhazy, has been in operation since 1962. In 1964 Kalium Chemicals began operation of the world's first successful solution mine near Regina, Saskatchewan, where potash beds are 5,200 feet beneath the surface. Potash Co. of America resumed operation in 1965, and the remainder of the Saskatchewan potash production facilities came on stream between 1968 and 1970, as shown in the following tabulation:

	<u>Number of mines</u> <u>opened in Saskatchewan</u>
1958-----	1
1962-----	1
1964-----	1
1968-----	2
1969-----	4
1970-----	1

Canada became the second largest world producer in 1968, the same year that the U.S.S.R. became the world's leading producer.

Bed thicknesses of the Saskatchewan deposits range between 7 and 15 feet, and are very homogeneous, facilitating highly mechanized operations. The K₂O content in Saskatchewan is high, ranging between 20 and 30 percent. In comparison, the Carlsbad reserves are 4 feet thick, with a K₂O content of 14 percent.

Figure 4.--Potash ore distribution in Saskatchewan.



A-14

Source: Texasgulf Inc.

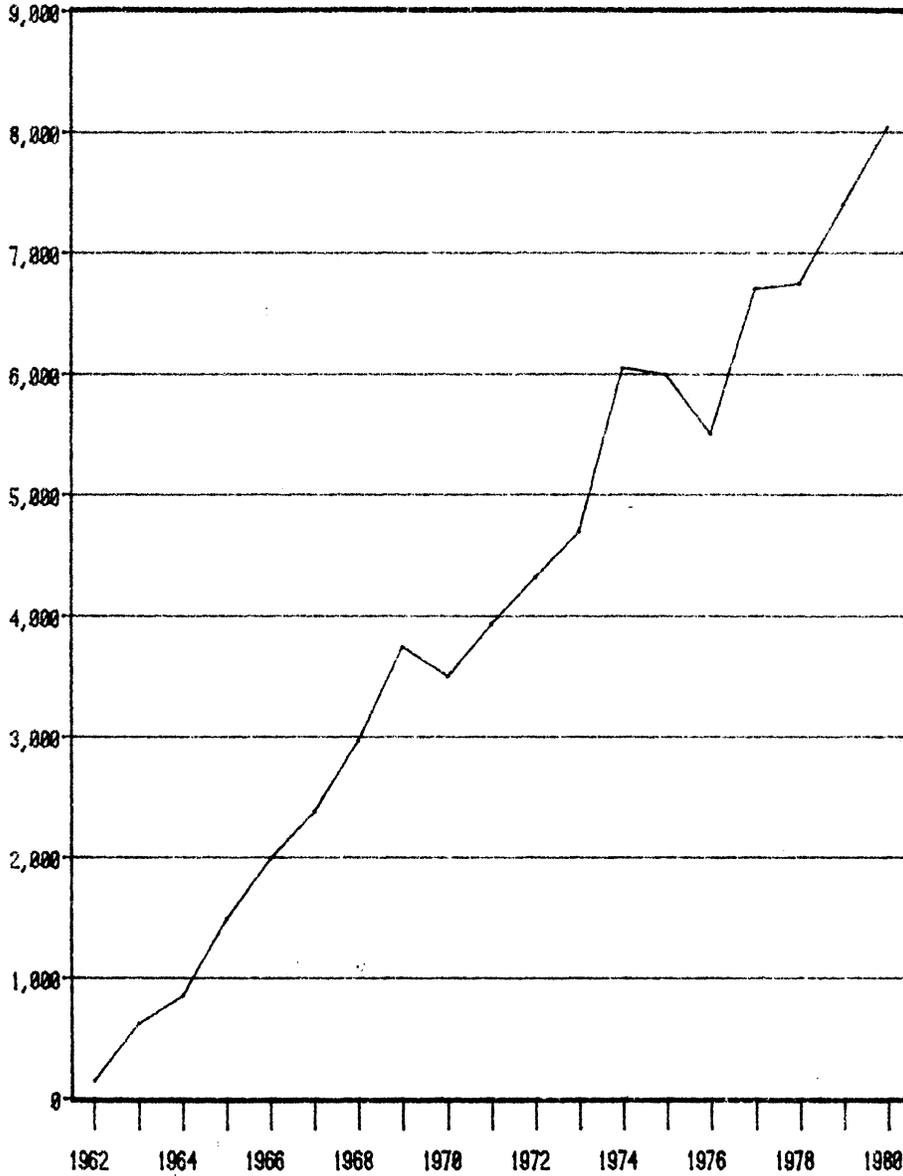
Production of potassium chloride in Canada increased rapidly from 150,000 short tons K_2O in 1962, the year the first successful mine opened, to 3.7 million short tons in 1969, the year of the Commission's affirmative injury determination. Since then, only one additional mine has been opened. However, statistics from the Stanford Research Institute and the Potash & Phosphate Institute ^{1/} show that production has more than doubled, increasing from 3.7 million short tons K_2O in 1969 to 8.0 million short tons in 1980, as shown in figure 5 and in the following tabulation.

	<u>Canadian potassium chloride production</u> <u>(1,000 short tons K_2O)</u>
1962-----	150
1963-----	627
1964-----	858
1965-----	1,491
1966-----	1,990
1967-----	2,383
1968-----	2,971
1969-----	3,748
1970-----	3,498
1971-----	3,938
1972-----	4,329
1973-----	4,698
1974-----	6,058
1975-----	5,992
1976-----	5,507
1977-----	6,712
1978-----	6,750
1979-----	7,402
1980-----	8,047

^{1/} A trade organization located in Atlanta, Ga., which represents the North American potash and phosphate industry.

Figure 5.--Potassium chloride: Canadian production, 1962-80.

1,000 short tons K₂O



Source: Potash & Phosphate Institute and copyright permission granted by Stanford Research Institute.

Canadian capacity to produce potassium chloride is projected by the Tennessee Valley Authority to increase from 8.9 million short tons K₂O in 1980 to 12.7 million short tons in 1985, or by 43 percent. The Potash Corporation of Saskatchewan will account for 50 percent of the expansion. In addition, each of two private companies has announced plans to open a mine in the Province of New Brunswick by 1983. These mines will have an estimated annual capacity of 1.2 million short tons K₂O, accounting for 32 percent of the expansion of the Canadian industry.

Of the 12 potassium chloride producers in North America, 5 have operations in both Canada and the United States. Each producer and its share of North American production are shown in table 4.

Saskatchewan Government's Control of the Potassium Chloride Industry

In 1970 the Saskatchewan government instituted production controls on potassium chloride, and since then it has enacted additional legislation to control the potassium chloride industry. Because Saskatchewan supplied 78 percent of the potassium chloride consumed in the United States in 1980, these controls have a significant impact on the U.S. potash market. The major control programs are described in detail below.

Prorating 1/

In the summer and early fall of 1969, partly in reaction to the U.S. antidumping proceedings and the threat of protective tariffs, Premier Thatcher of Saskatchewan called together representatives of the producers and announced that the Province was instituting controls on the production and prices of potassium chloride in order to raise prices. The Premier was concerned, however, that the Carlsbad producers would sell potassium chloride at a price below the Saskatchewan base price and increase production. There was a possibility that without the cooperation of the U.S. producers, the Canadian producers might end up in a worse position than before. Thus, the Premier held meetings with the Carlsbad producers and representatives from the government of New Mexico to receive assurances that the U.S. producers would not take undue advantage of the Canadian potassium chloride control system. Some U.S. producers, according to the court findings, did give such assurances.

The controls, known as the proration system, were in effect from 1970 to mid-1974. During the period, the Saskatchewan government permitted potassium chloride production to increase from 42 percent of rated capacity in 1970 to 73 percent in 1974, as shown in the following tabulation:

1/ The information presented in this section is largely based upon Judge Marshall's opinion in the criminal antitrust suit United States v. AMAX Inc., et al. U.S. District Court, Northern District of Illinois, Eastern Division. No. 76 CR 783. Dated May 6, 1977.

Table 4.--Potassium chloride: U.S. and Canadian producers, 1981

Firm	Ownership		Share of 1979 U.S. and Canadian production Percent	U.S. operations	Canadian operations
	U.S.	Canadian			
Potash Corp. of Saskatchewan		X	***	-	5 potassium chloride properties in Saskatchewan including 3 mines, a share of another mine, and reserves.
International Minerals & Chemical Corp.	X		***	Mine in Carlsbad, N. Mex.	2 mines in Saskatchewan.
Potash Co. of America	X		***	-----do-----	Mine in Saskatchewan. Mine in New Brunswick to open in 1983.
Kalium Chemicals, Ltd.	X		***	-----do-----	Mine in Saskatchewan.
Noranda Mines Ltd.		X	***	Reserves in N. Mex.	Do.
Kerr-McGee Corp.	X		***	Mine in Hobbs, N. Mex.; Brines in Trona, Calif.	-
Cominco		X	***	-	Do.
AMAX, Inc.	X		***	Mine in Carlsbad, N. Mex.	Reserves in Saskatchewan.
Texasgulf Inc.	X		***	Mine in Moab, Utah	Mine in Saskatchewan; 40 percent share.
National Potash Co.	X		***	Mine in Carlsbad, N. Mex.	-
Mississippi Chemical Corp.	X		***	-----do-----	-
Kaiser Industries Corp.	X		***	Brines in Wendover, Utah	-
Duval Corp.	X		-	Mine Carlsbad, N. Mex.; closed in 1978.	Mine in Saskatchewan; sold in 1976.
CF Industries, Inc.	X		-	A large U.S. buyer of potassium chloride.	Mine in Saskatchewan; 49 percent share, sold in 1978.

1/ Less than 0.5 percent.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Capacity utilization
(percent)

1970-----	42
1971-----	47
1972-----	52
1973-----	56
1974-----	73

The quotas and price controls were lifted in mid-1974 because of sharply increased demand for fertilizer and higher fertilizer prices that followed worldwide crop failures.

U.S. antitrust litigation

As a result of the actions by the Saskatchewan government to control the North American potassium chloride market through the prorationing system and the support of this system by certain U.S. producers, the U.S. Government and other parties filed antitrust suits against several U.S. producers. In 1977, five U.S. producers--AMAX, Duval, International Minerals & Chemical, National Potash, and Potash Co. of America--were found not guilty of criminal charges filed by the Justice Department in the U.S. district court in Chicago, Ill., of conspiring to fix prices of domestic potassium chloride, to limit the production of domestic potassium chloride, to restrict the exportation of domestic potassium chloride, and to restrict the importation of potassium chloride. Another U.S. producer and various New Mexican and Saskatchewan government officials were named as unindicted coconspirators in this proceeding. A companion civil suit filed by Justice against the same producers was subsequently dismissed in June 1977 following a motion by the Federal Government.

The judge in these cases found that Premier Thatcher did receive assurances from some U.S. producers that they would not increase production or invest in new production facilities in the United States. However, the judge ruled that the U.S. producers were not engaging in an illegal conspiracy to limit production. He concluded that the assurances were merely statements of the economic fact that the decrease in quantity and quality of U.S. reserves prevented any expansion by the Carlsbad producers. In addition, the judge ruled that it was not surprising that when Saskatchewan limited its production and established a floor price substantially in excess of the prevailing market price, the price of the remainder of production in North America would move up to meet the floor price.

The States of Illinois, Connecticut, and Minnesota and 30 other potassium chloride users had, meanwhile, filed class-action civil suits, mostly in the same Illinois court, seeking treble damages for the high prices paid for potassium chloride during prorationing. The parties being sued were Texasgulf and Kerr-McGee and the five producers charged in the Federal suits. Following dismissal of the Federal Government's suits, a settlement was reached in August 1977 between the defendants and those plaintiffs that had purchased potassium chloride directly from the producers. The settlement was approximately \$3 million.

In November 1977 another antitrust suit was filed in Albuquerque, N. Mex., by Montreal Trading, Ltd. (a Canadian potassium chloride buyer), charging seven U.S. potassium chloride producers with conspiring to monopolize the potassium chloride market. In the summer of 1979 the jury in this case found in favor of all the defendants.

The reserves taxes

To help implement the Saskatchewan government's policy of sharing the benefits of its mineral resources with the people, a Provincial reserves tax was placed on potash production effective July 1, 1974. The reserves tax was determined by a complicated formula that included the size of the mine and the ore reserves, the grade of the ore, and the market price of potash. This tax was in addition to a prorationing fee which had been imposed in 1972 and the original royalty fee, which equaled 2.5 percent of the value of potash produced.

The Canadian Government declared in 1974 that these Provincial taxes and royalties were nondeductible for Federal income tax purposes. As a result of this tax structure, the Saskatchewan potassium chloride producers reported heavy losses. Texasgulf, for example, in its 10-K forms filed with the Securities & Exchange Commission, stated that during the 3-year period ending December 1978, the Canadian Federal taxes and various taxes imposed by the Saskatchewan government totaled 145 percent of pretax income, not including prorationing fees. In all, Texasgulf reportedly lost \$4.5 million on its Canadian potash operations during this period. The Central Canada Potash Co., Ltd., similarly reported that while it earned \$12 million before taxes during July 1, 1977-June 30, 1978, the company reflected a loss of \$10 million after the payment of \$22 million in potash reserves, Provincial, and Canadian Federal taxes. ^{1/} The experience of other Canadian producers is similar.

In June 1975, 11 Saskatchewan companies filed suit against the Saskatchewan government in the Saskatchewan Court of Queen's Bench challenging the constitutionality of the potash reserves tax and seeking refund of the amounts paid. A similar suit was filed in October of that year by 10 producers contesting the validity of the Province's proration fee and seeking recovery of the fees paid. In a third suit filed in the same court in June 1976, nine producers challenged the constitutionality of the reserves tax and the prorationing tax on the basis that they were royalty payments and, therefore, represented breaches of the original contracts made between the producers and the Saskatchewan government when the individual companies first began to produce potash in Canada.

On October 24, 1979, the potash producers in Saskatchewan and the Saskatchewan government signed a Potash Resource Payment Agreement. At the time of settlement, 5 of the 11 companies that participated in the original suit in 1975 had been acquired by the Potash Corporation of Saskatchewan. This agreement, effective July 1, 1979 and running for 5 years, established a new structure for taxes, royalties, rents, and other payments due to the Saskatchewan government. In exchange, the producers agreed to drop their suits challenging the reserve and other taxes. In addition, the producers

^{1/} CF Industries, Inc., Annual Report, 1978, p. 24.

paid all back taxes and fees for the period prior to June 30, 1979. Texasgulf reports that under the new agreement the overall tax rate, including Canadian Federal taxes, will be between 70 and 75 percent of income.

The Potash Corporation of Saskatchewan

In its latest action to control the Province's potassium chloride industry, the Saskatchewan Government established a Provincial crown corporation, the Potash Corporation of Saskatchewan, on February 4, 1975. In January 1976 the Saskatchewan government enacted legislation authorizing the company to purchase or expropriate some or all of the potash-producing facilities in the Province. By yearend 1978, PCS had obtained the potash properties of four companies and a 60-percent interest in the Allan mine, the other 40 percent of which is owned by Texasgulf. This company is now the largest producer of potassium chloride in North America. According to its 10-year plan announced in the fall of 1979, the company plans to spend \$2.5 billion to expand the effective production capacity of its properties from 2.3 million short tons K_2O in 1979 to 7.5 million short tons K_2O in 1989, or by 226 percent. The company has not announced intentions to make any further purchases of potash properties.

Exports of potassium chloride by PCS to the United States accounted for approximately * * * percent of Canadian exports to the United States and * * * percent of U.S. consumption in 1980. The company's share of U.S. consumption is expected to increase as U.S. consumption increases.

Consideration of Material Injury or Threat Thereof

During the course of its investigation, the Commission sent questionnaires to all nine U.S. producers of potassium chloride. All but one producer, Duval Corp., which closed its potassium chloride mine in 1978, completed the questionnaires. Two firms were not able to supply employment, profit-and-loss, and capital expenditure data for their operations on potassium chloride. One producer, International Minerals & Chemical, reported these data for all its U.S. potash operations, including those on sulfates of potash. Since that firm's operations on sulfates of potash are closely related to its operations on potassium chloride, these data have been aggregated with other producers' questionnaire data on potassium chloride. Another firm, Kerr-McGee, produces small quantities of potassium chloride at Searles Lake, Calif., in a plant which produces several products from a single process. The most important product from the Searles Lake operation is soda ash. Kerr-McGee was unable to supply the Commission with employment, profit-and-loss, and capital expenditure data for its Searles Lake potassium chloride operations.

U.S. production, sales, and consumption

U.S. production of potassium chloride increased from 2.2 million short tons K_2O in 1962 to a record high of 2.9 million short tons in 1966; it then declined irregularly to 2.0 million short tons in 1971, representing a decrease of 31 percent (table 5 and fig. 6). U.S. production has remained

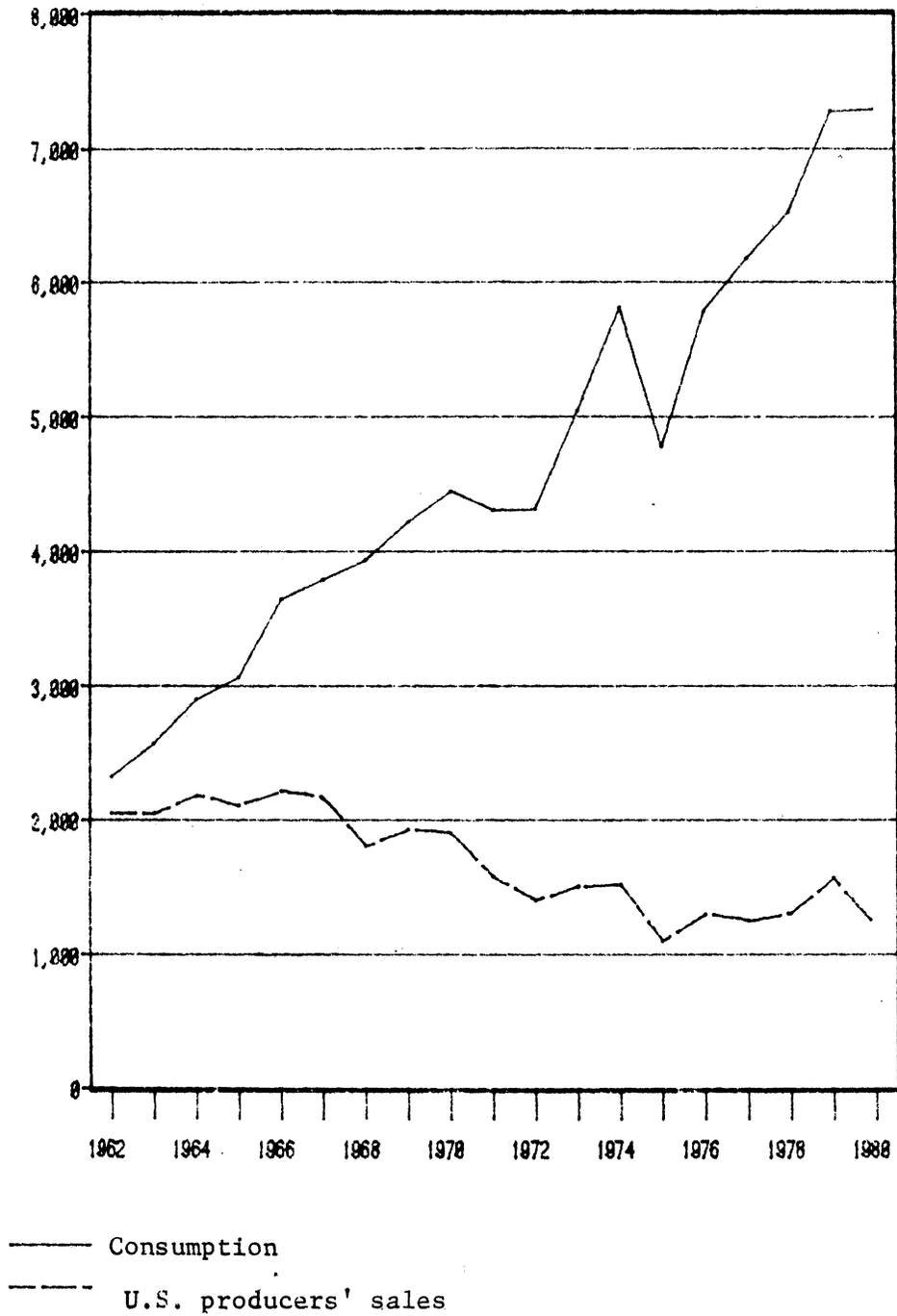
Table 5.--Potassium chloride: U.S. production, producers' sales,
and apparent consumption, 1962-80

Year	Production	Producers' sales			Apparent consumption	Domestic sales as a share of consumption
		Domestic	Export	Total		
-----1,000 short tons K2O-----						Percent
1962-----	2,222	2,050	434	2,484	2,328	88
1963-----	2,609	2,048	436	2,484	2,574	80
1964-----	2,593	2,185	536	2,721	2,903	75
1965-----	2,770	2,105	485	2,590	3,073	68
1966-----	2,938	2,217	555	2,772	3,649	61
1967-----	2,929	2,165	604	2,769	3,792	57
1968-----	2,282	1,806	643	2,449	3,940	46
1969-----	2,241	1,930	620	2,550	4,227	46
1970-----	2,199	1,901	476	2,377	4,455	43
1971-----	2,038	1,577	453	2,030	4,306	37
1972-----	2,136	1,407	680	2,087	4,320	33
1973-----	2,085	1,509	776	2,285	5,048	30
1974-----	2,170	1,527	635	2,162	5,814	26
1975-----	2,143	1,102	666	1,768	4,781	23
1976-----	2,051	1,304	809	2,113	5,789	23
1977-----	2,019	1,254	859	2,113	6,177	20
1978-----	2,045	1,311	763	2,074	6,530	20
1979-----	2,018	1,569	597	2,166	7,280	22
1980-----	2,025	1,210	775	1,985	6,517	19

Source: Data for 1962-73, copyright permission granted by Stanford Research Institute; production and sales data for, 1974-80 Potash & Phosphate Institute.

Figure 6.--Potassium chloride: U.S. consumption and producers' domestic sales, 1962-80.

1,000 short tons K₂O



Source: Based on data in table 5.

static since then. The decrease can be attributed to the decline in the quantity and quality of U.S. reserves. The K₂O content of mined ore in Carlsbad decreased from 18.1 percent in 1968 to 14.2 percent in 1980. U.S. producers' total sales of potassium chloride followed a similar trend, increasing from 2.5 million short tons K₂O in 1962 to a high of 2.8 million short tons in 1966, decreasing to 2.0 million short tons in 1971, and neither increasing nor decreasing since then.

During 1962-79, U.S. consumption of potassium chloride more than tripled, rising from 2.3 million short tons K₂O to 7.3 million short tons; it decreased to 6.5 million short tons in 1980. U.S. producers' domestic sales as a share of apparent U.S. consumption decreased from 88 percent in 1962 to 19 percent in 1980.

According to a report prepared for the U.S. Bureau of Mines by The Billings Group, Inc., 1/ North American Potash Demand, 1985 and 1990, U.S. consumption of potassium chloride will increase from 7.4 million short tons K₂O in 1979 to 8.9 million short tons in 1990, or by 22 percent (table 6). Billings projects that U.S. production will decrease by 48 percent during the same period, from 2.0 million short tons K₂O in 1979 to 1.1 million short tons in 1990. The report attributes this decrease to the continuing decline in the quantity and quality of U.S. reserves. Canadian production, meanwhile, is projected to increase by 90 percent during this period, and imports from Canada, as a share of U.S. consumption of potassium chloride, are forecast to increase from 74 percent in 1979 to 90 percent by 1990.

According to the Bureau of Mines, the United States enjoys a freight advantage over Canada in the overseas potassium chloride markets. A significant share of U.S.-produced potassium chloride is exported from west coast and gulf coast ports to Central and South America, New Zealand, and Japan. The share of U.S.-produced potassium chloride entering the export market ranged from 28 percent to 41 percent of U.S. sales during 1974-80, as shown in the following tabulation:

	<u>U.S. exports as a share of sales</u> (percent)
1974-----	29
1975-----	38
1976-----	38
1977-----	41
1978-----	37
1979-----	28
1980-----	39

1/ The Billings Group, Inc., is an economic consulting firm that specializes in market analysis for major North American potash producers.

Table 6.--Potassium chloride: U.S. consumption, U.S. production, Canadian production, and Canadian exports to the United States, 1979, 1985, and 1990

Item	1979	1985	1990
U.S. consumption-----1,000 short tons K20--:	7,351	7,728	8,947
U.S. production-----do-----:	2,018	<u>1/</u>	1,052
U.S. production as a share of consumption			
percent--:	27	-	12
Canadian production-----1,000 short tons K20--:	7,522	10,872	14,330
Texasgulf production-----do-----:	308	373	373
Texasgulf production as a share of Canadian			
production-----percent--:	4.1	3.4	2.6
Canadian exports to the United States			
1,000 short tons K20--:	5,435	6,421	8,047
Canadian exports as a share of U.S. consump-			
tion-----percent--:	74	83	90

1/ Not available.

Source: Derived from data presented by The Billings Group, Inc., in North American Potash Demand, 1985 and 1990 for the U.S. Bureau of Mines, September 1980.

Note.--Because of different data-gathering techniques, 1979 data presented in this table may vary slightly from data presented elsewhere in this report.

U.S. production capacity

U.S. potassium chloride production capacity increased steadily from 2.1 million short tons K₂O in 1976 to 2.2 million short tons in 1979, representing an increase of 5.5 percent. Production capacity further increased by 3.8 percent from 2.0 million short tons K₂O during January-November 1979 to 2.1 million short tons during the corresponding period of 1980 (table 7). Capacity increased during the period as a result of expansion and modernization of existing potassium chloride facilities; no new mines have been opened in the United States since 1965. Several U.S. producers have explored the potassium chloride deposits in North Dakota and elsewhere in the United States; however, the deposits are too deep or irregular to be mined economically. Fertilizer experts in and out of the Government predict that U.S. production capacity will decrease in the long run.

U.S. producers of potassium chloride operate their production facilities 24 hours a day, 7 days a week. Utilization of U.S. productive capacity remained above 90 percent during January 1976-November 1980; three producers reported that their plants were run at 100 percent capacity during the entire period.

Table 7.--Potassium chloride: U.S. production capacity, production, and capacity utilization, 1976-79, January-November 1979, and January-November 1980

Period	Capacity	Production	Capacity utilization
	-----1,000 short tons K ₂ O-----		Percent
1976-----	2,097	2,012	96
1977-----	2,102	1,949	93
1978-----	2,194	2,091	95
1979-----	2,213	2,063	93
January-November--			
1979-----	2,031	1,873	92
1980-----	2,109	1,903	90

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Note.--Production data collected by the U.S. International Trade Commission may vary from data collected from other sources because the Commission adjusted some of the data that were reported by fiscal rather than by calendar year.

U.S. producers' inventories

U.S. producers' yearend inventories of potassium chloride, as reported by the Potash & Phosphate Institute, increased from 177,000 short tons K₂O in 1974 to 542,000 short tons in 1975, decreased steadily to 195,000 short tons in 1979, and then increased to 205,000 short tons in 1980. Inventories increased from the equivalent of 8.2 percent of U.S. producers' shipments in 1974 to 30.7 percent in 1975, decreased to 9.0 percent in 1979, and increased to 10.3 percent in 1980, as shown in table 8.

Table 8.--Potassium chloride: U.S. producers' yearend inventories, Dec. 31 of 1974-80

Dec. 31--	Quantity	Ratio of inventories to U.S. producers' shipments
	1,000 short tons K ₂ O	Percent
1974-----	177	8.2
1975-----	542	30.7
1976-----	443	21.0
1977-----	432	20.4
1978-----	371	17.9
1979-----	195	9.0
1980-----	205	10.3

Source: Potash & Phosphate Institute.

Employment

The average number of production and related workers engaged in the production of potassium chloride in the United States increased steadily from 2,305 in 1976 to 2,558 in January-November 1980, representing an increase of 11.0 percent. Hours worked by such workers increased from 4.8 million in 1976 to 5.1 million in 1979, or by 6.8 percent. The number of hours worked further increased by 2.5 percent from 4.8 million during January-November 1979 to 4.9 million during the corresponding period of 1980. Workers engaged in the production of potassium chloride are largely union members; their average hourly wages increased from \$6.77 in 1976 to \$9.60 during January-November 1980. However, when adjusted for inflation, such wages actually showed a slight decrease (table 9).

Table 9.--Average number of production and related workers engaged in the production of potassium chloride, hours worked, and wages received, 1976-79, January-November 1979, and January-November 1980

Period	Average number of workers	Hours worked	Average wages received	Average wages received in constant 1977 dollars 1/
		Thousands	Per hour	Per hour
1976-----	2,305	4,811	\$6.77	\$7.18
1977-----	2,369	4,920	7.32	7.32
1978-----	2,404	5,022	8.06	7.48
1979-----	2,449	5,138	8.80	7.25
January-November--				
1979-----	2,453	4,820	8.71	7.18
1980-----	2,558	4,941	9.60	6.94

1/ The deflators used were 1976--1.061; 1977--1.000; 1978--0.928; 1979--0.824; 1980--0.723.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Capital expenditures

From January 1976 to November 1980, capital expenditures of U.S. potassium chloride producers amounted to \$93 million (table 10). All the expenditures involved the modernization and expansion of existing production facilities. The expansion programs of * * * and * * * accounted for 50 percent of the total.

Table 10.--U.S. potassium chloride producers' capital expenditures, 1976-79, January-November 1979, and January-November 1980

(In thousands of dollars)

Period	Land or land improvements	Building or leasehold improvements	Machinery, equipment, and fixtures	Total
1976-----	119	309	18,289	18,717
1977-----	990	4,705	15,963	21,658
1978-----	14	291	10,806	11,111
1979-----	847	1,465	18,767	21,079
January-November--				
1979-----	779	1,398	17,568	19,745
1980-----	489	296	19,803	20,588

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Financial experience of U.S. producers

U.S. producers' net operating profit before taxes on their potassium chloride operations increased steadily from \$21.8 million in 1977 to \$37.9 million in 1979, or by 74 percent. Such profit increased a further 88 percent from \$33.8 million in January-November 1979 to \$63.4 million during the corresponding period of 1980. The ratio of net operating profit to net sales decreased slightly from 13.0 percent in 1977 to 12.7 percent in 1978, a year of weak fertilizer sales worldwide. The ratio subsequently increased to 16.5 percent in 1979 and to 24.5 percent during January-November 1980 (table 11).

Table 11.--Profit-and-loss experience of U.S. potassium chloride producers on their potassium chloride operations, 1977-79, January-November 1979, and January-November 1980

Period	Net sales and intra-company transfers	Cost of goods sold	Gross profit	General, selling, and administrative expenses	Net operating profit	Ratio of net profit to net sales
	Million dollars					Percent
1977-----	167.8	133.8	33.9	12.1	21.8	13.0
1978-----	178.5	144.0	34.5	11.8	22.7	12.7
1979-----	229.4	177.8	51.6	13.7	37.9	16.5
Jan.-Nov.--						
1979-----	212.0	165.6	46.4	12.5	33.8	15.9
1980-----	259.1	181.9	77.1	13.8	63.4	24.5

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Note.--Because of rounding, figures may not result in the differences shown.

The increase in U.S. producers' profitability can be attributed to the increase in prices, which outpaced the increase in the cost of production and other operating expenses. In addition, questionnaire responses showed that two firms experienced a decline in unit cost of production during January 1977 to November 1980; these producers also had substantial capital expenditures during the period.

U.S. producers' fixed assets used in the production of potassium chloride increased from \$300 million on December 31, 1977, to \$345 million on November 30, 1980. A large share of these assets were in place in the 1960's; as a result, nearly 50 percent of the assets have been depreciated. The ability of firms to utilize their assets to generate profit can be measured by the ratio for return on investment. This ratio, based on book value of fixed assets, increased from 13.5 percent in 1977 to 35.8 percent during January-November 1980 (table 12). If the original cost or replacement value of fixed assets had been used as the basis for such comparison, the ratio would have been much lower.

Table 12.--U.S. potassium chloride producers' fixed assets, net operating profit, and return on investment, Dec. 31 of 1977-79, Nov. 30, 1979, and Nov. 30, 1980

Item	Dec. 31--			Nov. 30--	
	1977	1978	1979	1979	1980
Fixed assets:					
Original cost---million dollars--:	299.7	306.9	325.6	326.8	345.0
Share depreciated-----percent--:	46	47	48	48	49
Book value-----million dollars--:	161.6	161.6	168.7	169.1	177.1
Net operating profit-----do-----:	21.8	22.7	37.9	33.8	63.4
Return on investment <u>1/</u> ---percent--:	13.5	14.0	22.5	20.0	35.8

1/ Ratio of net operating profit to book value.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Consideration of the Causal Relationship Between LTFV Imports and Material Injury or Threat Thereof

U.S. imports

U.S. imports of potassium chloride from all sources increased from 2.6 million short tons K₂O in 1970 to 5.6 million short tons in 1979, or by 118 percent. Imports subsequently decreased by 4 percent to 5.3 million short tons in 1980. Imports of potassium chloride from Canada accounted for at least 94 percent of total imports in each year during 1970-80; such imports more than doubled during the period, increasing from 2.5 million short tons K₂O to 5.1 million short tons (table 13). Despite the fact that the U.S.S.R.

Table 13.--Potassium chloride: U.S. imports for consumption, by principal sources, 1970-80

Source	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Quantity (1,000 short tons K ₂ O)											
Canada	2,482	2,664	2,782	3,485	4,195	3,572	4,368	4,729	4,749	5,309	5,054
Israel	44	57	106	26	52	49	56	135	220	182	206
All other	28	8	25	28	41	58	61	59	65	74	84
Total	2,554	2,729	2,913	3,539	4,288	3,679	4,485	4,923	5,034	5,565	5,344
Percent of total quantity											
Canada	97	98	96	98	98	97	97	96	94	95	95
Israel	2	2	4	1	1	1	1	3	4	3	4
All other	1	1/	1	1	1	2	2	1	2	2	2
Total	100	100	100	100	100	100	100	100	100	100	100
Value (million dollars)											
Canada	86	103	106	135	222	237	323	345	359	482	588
Israel	2	3	6	1	3	5	4	8	18	21	32
All other	1	2/	2	1	3	6	5	4	5	7	9
Total	89	106	114	138	229	248	332	358	382	510	629
1/ Less than 0.5 percent.											
2/ Less than \$500,000.											

Source: Estimated from official statistics of the U.S. Department of Commerce. The staff of the U.S. International Trade Commission expressed potassium chloride in terms of K₂O by multiplying the quantity imported by 0.6.

Note.--Because of rounding, figures may not add to the totals shown.

is the world's largest producer of potassium chloride, it supplies no U.S. imports.

Imports have accounted for an increasing share of U.S. potassium chloride consumption, rising from 12 percent of consumption in 1962 to 81 percent in 1980. Analysts at the Bureau of Mines and The Billings Group, Inc., expect that the United States will remain dependent upon potassium chloride imports.

Imports of potassium chloride from Texasgulf, the only Canadian producer still subject to the antidumping order, * * *, when they accounted for * * * percent of total imports. They * * *. Such imports as a share of apparent U.S. consumption * * * (table 14).

Table 14.--Potassium chloride: U.S. imports for consumption from Texasgulf's operations in Canada, 1975-80

Year	Quantity	Share of	Share of apparent
	1,000 short	total imports	U.S. consumption
	tons K20	-----Percent-----	
1975-----	***	***	***
1976-----	***	***	***
1977-----	***	***	***
1978-----	***	***	***
1979-----	***	***	***
1980-----	***	***	***

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission, data provided by counsel for Texasgulf, official statistics of the U.S. Department of Commerce, and Potash & Phosphate Institute.

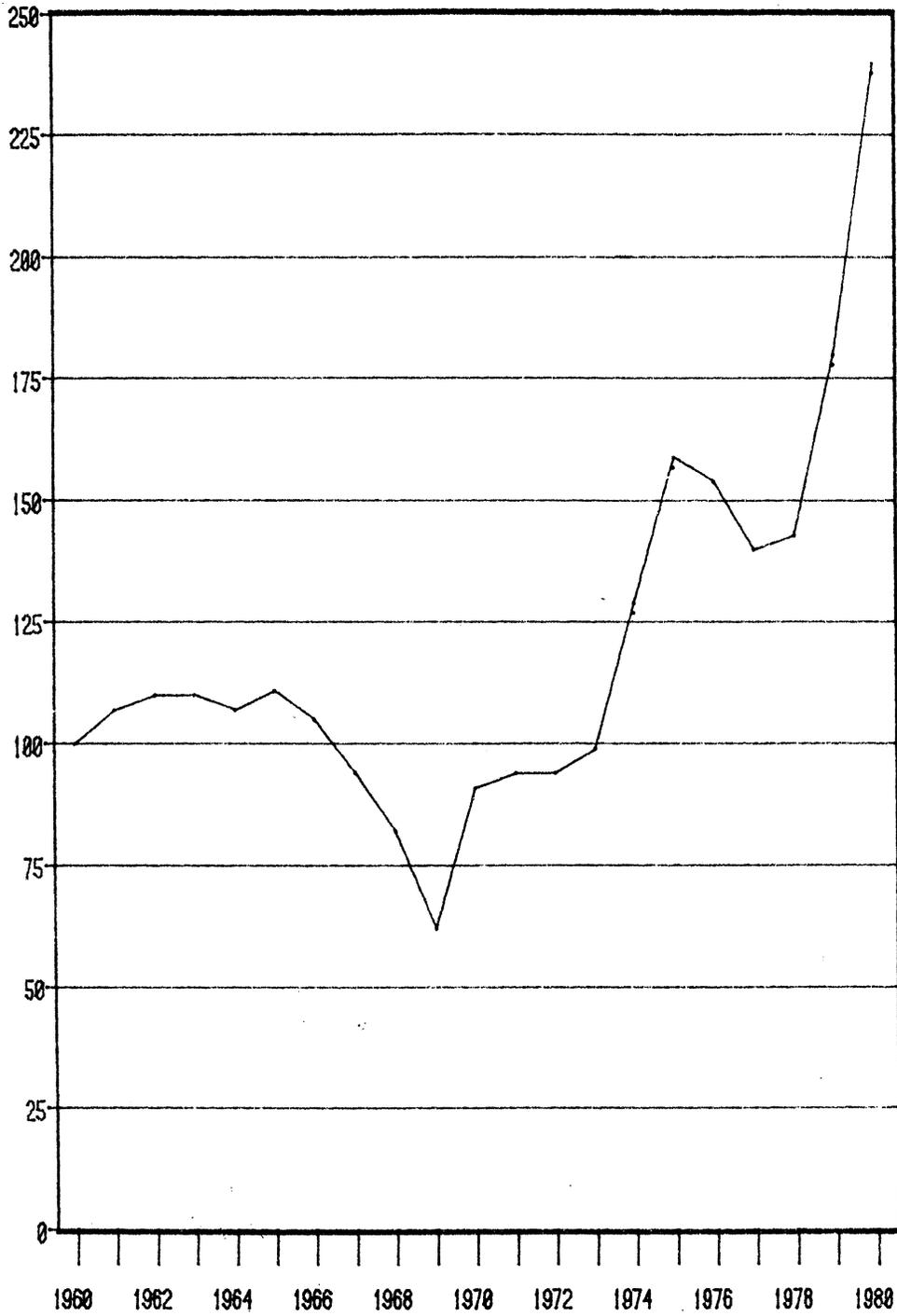
While Texasgulf's production in Canada is expected to increase slightly during the 1980's, its share of U.S. consumption will probably decrease throughout the 1980's as U.S. consumption continues to expand.

Prices

The U.S. Bureau of Labor Statistics Producer Price Index of a weighted average of spot and contract f.o.b. prices taken from periodic surveys of U.S. potassium chloride producers is presented in figure 7 and in the following tabulation (1960=100):

Figure 7.--Potassium chloride: Indexes of U.S. producers' weighted average prices, 1960-80.

1960=100



Source: U.S. Bureau of Labor Statistics.

1960-----	100	:	1970-----	91
1961-----	107	:	1971-----	94
1962-----	110	:	1972-----	94
1963-----	110	:	1973-----	99
1964-----	107	:	1974-----	129
		:		
1965-----	111	:	1975-----	159
1966-----	105	:	1976-----	154
1967-----	94	:	1977-----	140
1968-----	82	:	1978-----	143
1969-----	62	:	1979-----	180
		:	1980-----	240

The index decreased steadily from 111 in 1965 to 62 in 1969, the year of the Commission's affirmative injury determination. With the issuance of the dumping order and the imposition of controls by the Saskatchewan government, prices increased sharply in 1970. Massive world crop failures in the mid-1970's led to increased demand for fertilizer, and prices of potassium chloride jumped in 1975. During the past 3 years, demand for potash remained strong, and prices increased by 71 percent from 1977 to 1980.

The ability of crops to absorb potassium is closely related to the availability of other plant nutrients. Farmers have found that optimal yields can be obtained when, on the average, 27 percent of the fertilizer applied is in the form of potash, 25 percent is in the form of phosphorus, and 48 percent is in the form of nitrogen. Generally, nitrogen, phosphorus, and potassium are applied once a year; some farmers have found it convenient to buy these three fertilizers preblended, enabling them to apply all plant nutrients at one time. During the 1970's such mixtures accounted for more than 50 percent of the potash applied to fields in the United States. Since all three fertilizers are usually applied in fixed ratios which vary little from year to year, the trend in the prices of these fertilizers is similar, as shown in figure 8.

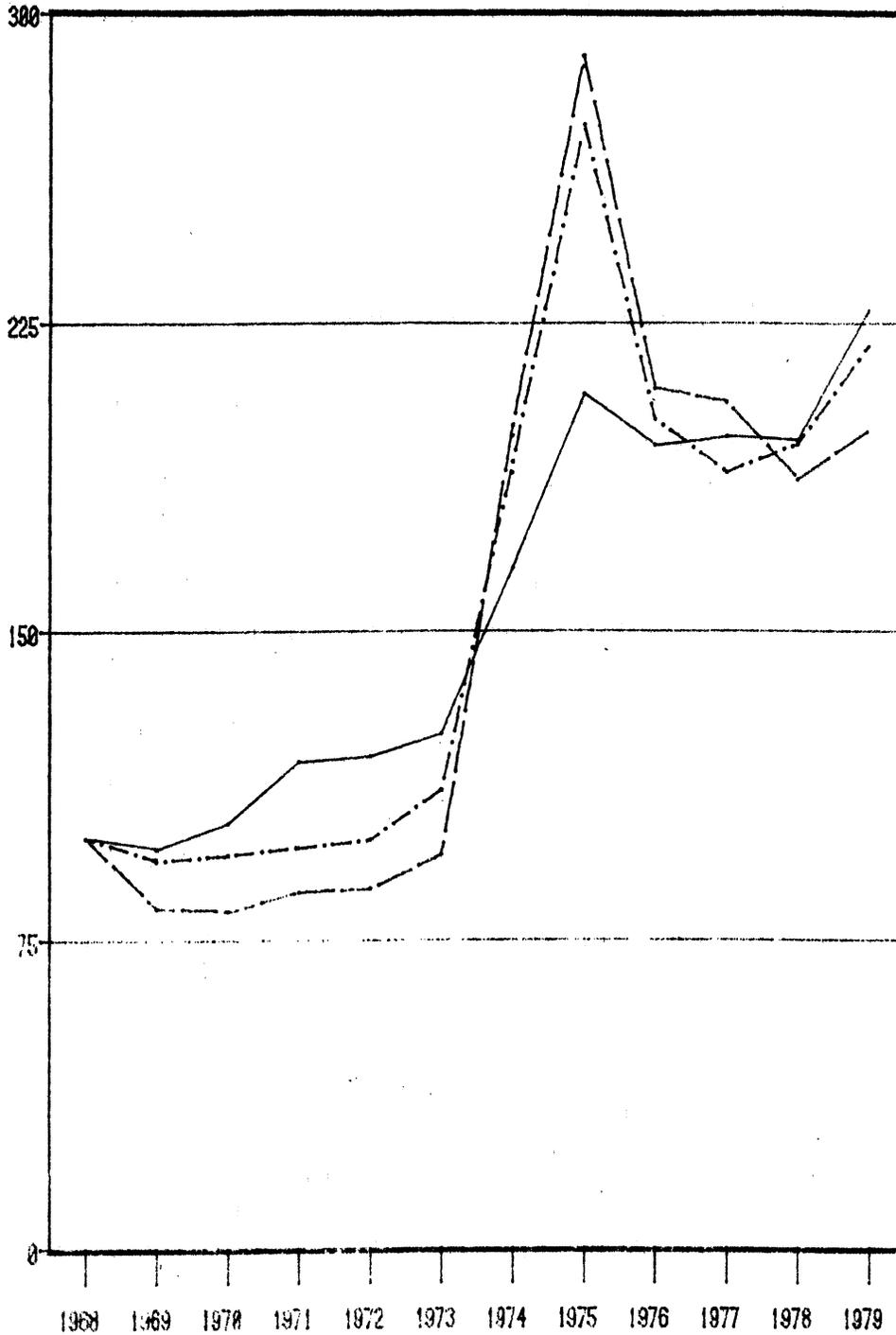
The prices received by U.S. potassium chloride producers are influenced in part by U.S. farmers' demand for potassium chloride fertilizer. Such demand is, in turn, related to the demand for all fertilizer and, thus, to the demand for crops.

Officials at the Tennessee Valley Authority, U.S. Department of Agriculture, and The Fertilizer Institute report that the price of fertilizer is governed in large part by the price of crops. For example, in the mid-1970's massive world crop failures and the resultant food shortage forced a dramatic rise in the price of food. During the crisis, the demand for fertilizer products increased, driving up the price. As shown in figure 9, U.S. farmers' fertilizer expenses are related to their cash receipts from crop marketings.

Imports of potassium chloride from Canada, as a share of apparent U.S. consumption, increased from 56 percent in 1970 to 78 percent in 1980. Thus, the supply and price of potassium chloride from Canada have had a large and increasing influence upon U.S. market prices and U.S. producers' prices, which have closely followed the prices charged for imports from Canada. The actions

Figure 8.--Indexes of average prices paid by U.S. farmers for selected fertilizers, Apr. 15 of 1968-76 and May 15 of 1977-79.

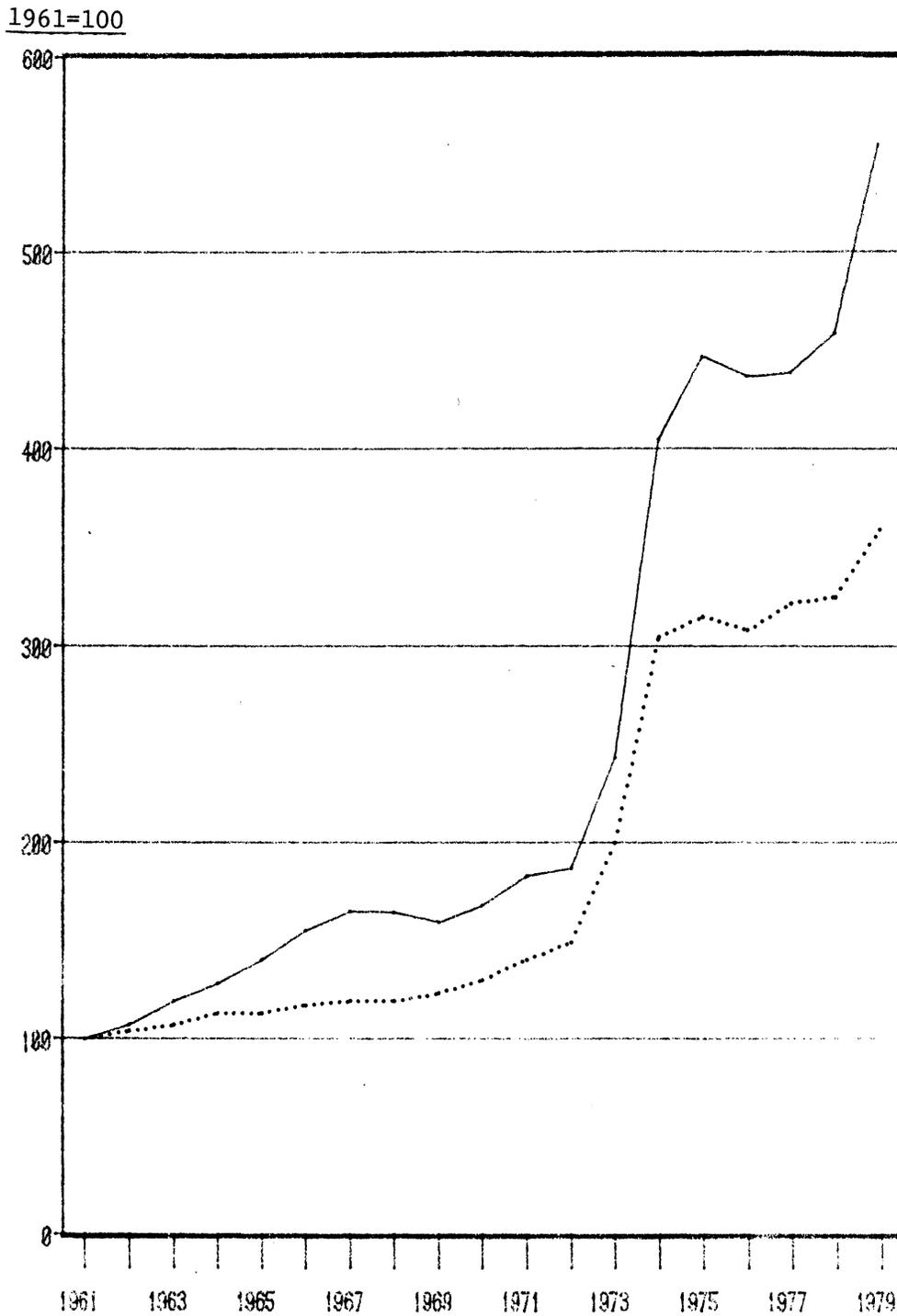
1968=100



Ammonia
 Potassium chloride
 Phosphate

Source: U.S. Department of Agriculture.

Figure 9.--Indexes of U.S. farmers' fertilizer expenses and cash receipts from crop marketings, 1/ 1961-79.



— fertilizer expenses
 cash receipts

1/ Cash receipts adjusted to prior July-June period.

Source: The Billings Group, Inc.

by the Saskatchewan government to enforce base prices, set production quotas, and impose restrictive taxes caused Canadian producers' prices of potassium chloride to be higher than they otherwise would have been.

Green Markets, a U.S. fertilizer trade publication, publishes U.S. and Canadian producers' prices of potassium chloride each week. These prices are obtained through informal telephone surveys of North American producers willing to disclose their prices. While these prices are not obtained through rigorous scientific surveys, industry sources have indicated that no better listing of potassium chloride prices has been published. Figure 10 shows the close relationship between New Mexican and Saskatchewan producers' f.o.b. mine prices of coarse-grade potassium chloride, as reported by Green Markets. The trend in prices of coarse-grade potassium chloride, which accounted for 39 percent of U.S. potassium chloride consumption in 1979, is representative of the trends in the prices of all potassium chloride grades. The prices of the various grades of potassium chloride tend to rise and fall at the same time.

Canadian producers and U.S. producers sell potassium chloride to customers at similar levels in the market and under similar terms and conditions. Unlike the situation in most other Commission investigations, there are no importers, as such, acting as middlemen between the Canadian producer and the customer in the present investigation. Potassium chloride is generally sold by the producer f.o.b. mine by the train carload. A few transactions are by truckload at additional cost. Large producers periodically publish list prices: small customers purchase the product at list price, while large customers pay list price less a negotiated discount. U.S. and Canadian producers' prices for the U.S. market are quoted in U.S. dollars, net cash 30 days with a service charge of 1.5 percent a month on overdue accounts.

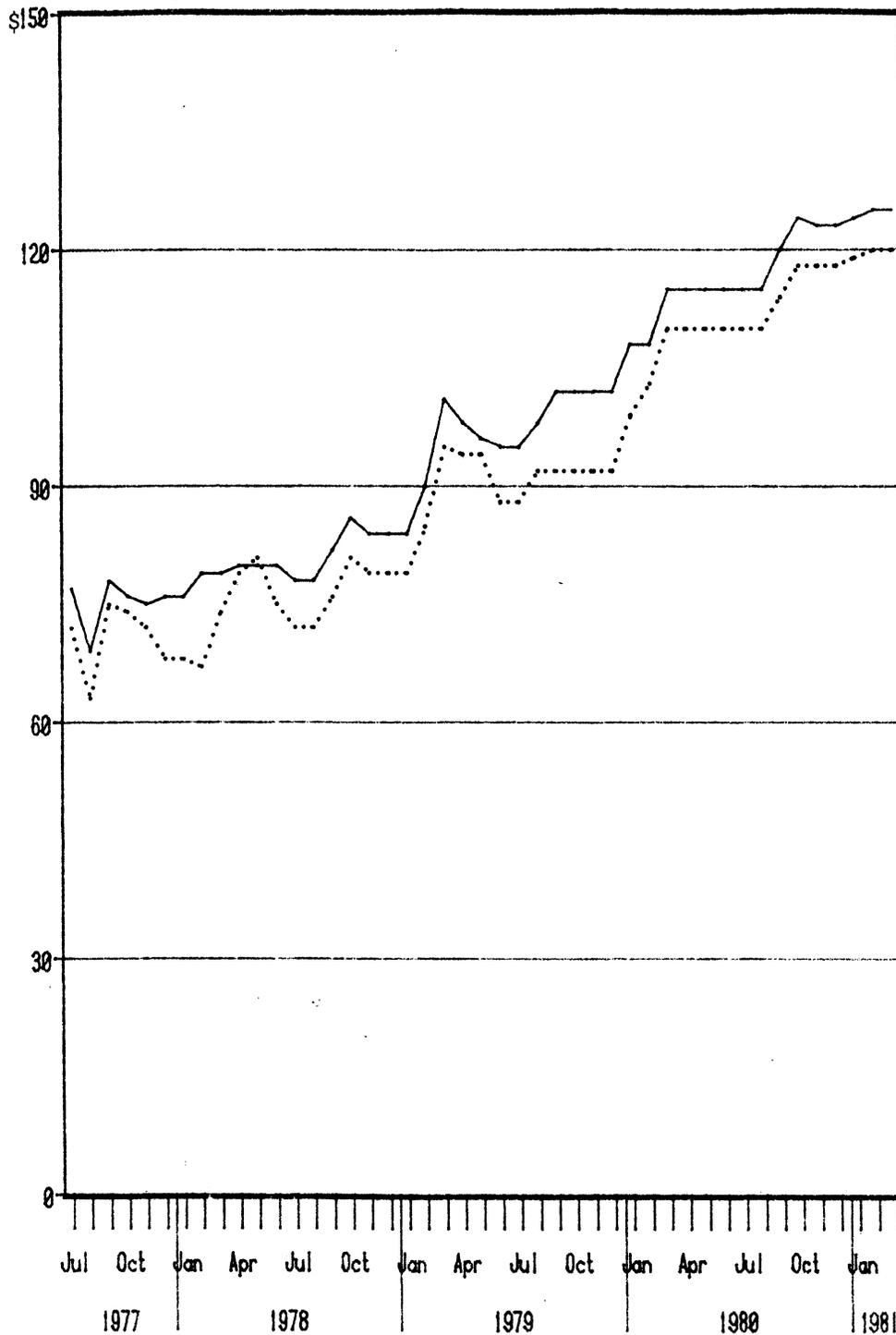
U.S. producers' average f.o.b. mine prices of potassium chloride are higher than Canadian producers' prices. The difference can be attributed, in large part, to the lower transportation costs of the product from the U.S. producers to their U.S. customers. Transportation costs account for more than 40 percent of the estimated delivered price of potassium chloride.

Counsel for Texasgulf supplied the Commission with a complete list of potassium chloride rail freight rates for each production location in North America for September 1980 (app. B). U.S. producers' freight advantage over Canadian producers is illustrated in the map in figure 11. States which are blank in the map are those for which no data concerning rates from Canada are available. Little or no potassium chloride from Canada enters these States because the transportation advantage of the U.S. producers is extremely high.

The cost of transportation, in large part, determines the States to which U.S.- and Canadian-produced potassium chloride is shipped. The data for the following maps, which illustrate the shipments of U.S.- and Canadian-produced potassium chloride, were obtained from the Potash & Phosphate Institute. As shown in figure 12, U.S. producers' shipments of potassium chloride are concentrated in the South and Midwest. Canadian producers' shipments to the United States, as shown in figure 13, are concentrated in the Northern and Midwestern States, where U.S. producers' transportation advantage is less. U.S. imports from Canada as a share of U.S. consumption, by States, are shown in the map in figure 14.

Figure 10.--Coarse grade potassium chloride: New Mexican and Saskatchewan producers' prices, f.o.b. mine, by months, July 1977-March 1981.

Per unit 1/



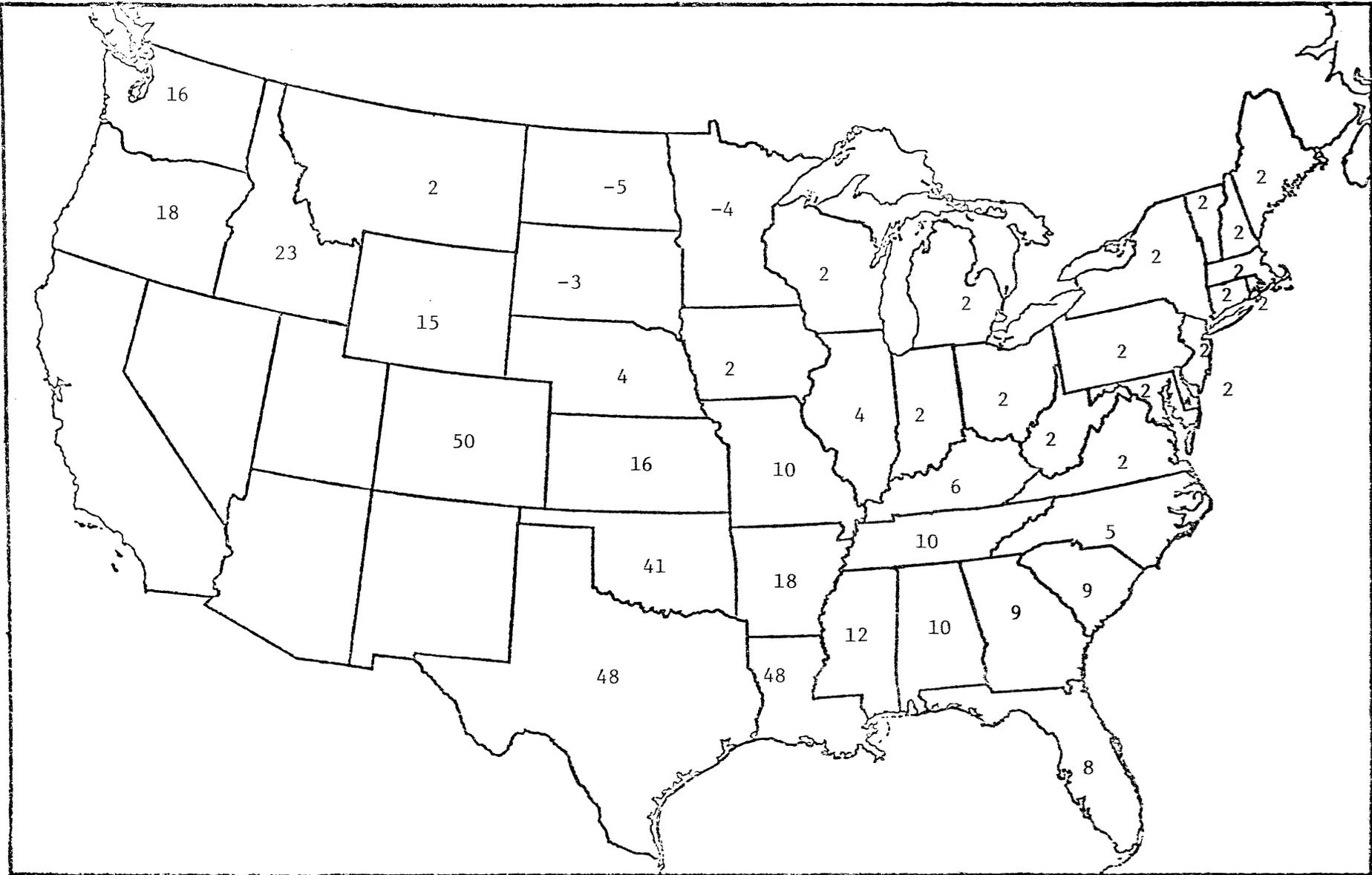
— New Mexican prices
 Saskatchewan prices

1/ 20 pounds K20.

Source: Green Markets.

Figure 11.--Potassium chloride: U.S. producers' transportation advantage over Canadian producers, 1/ by States, September 1980.

(In percent)



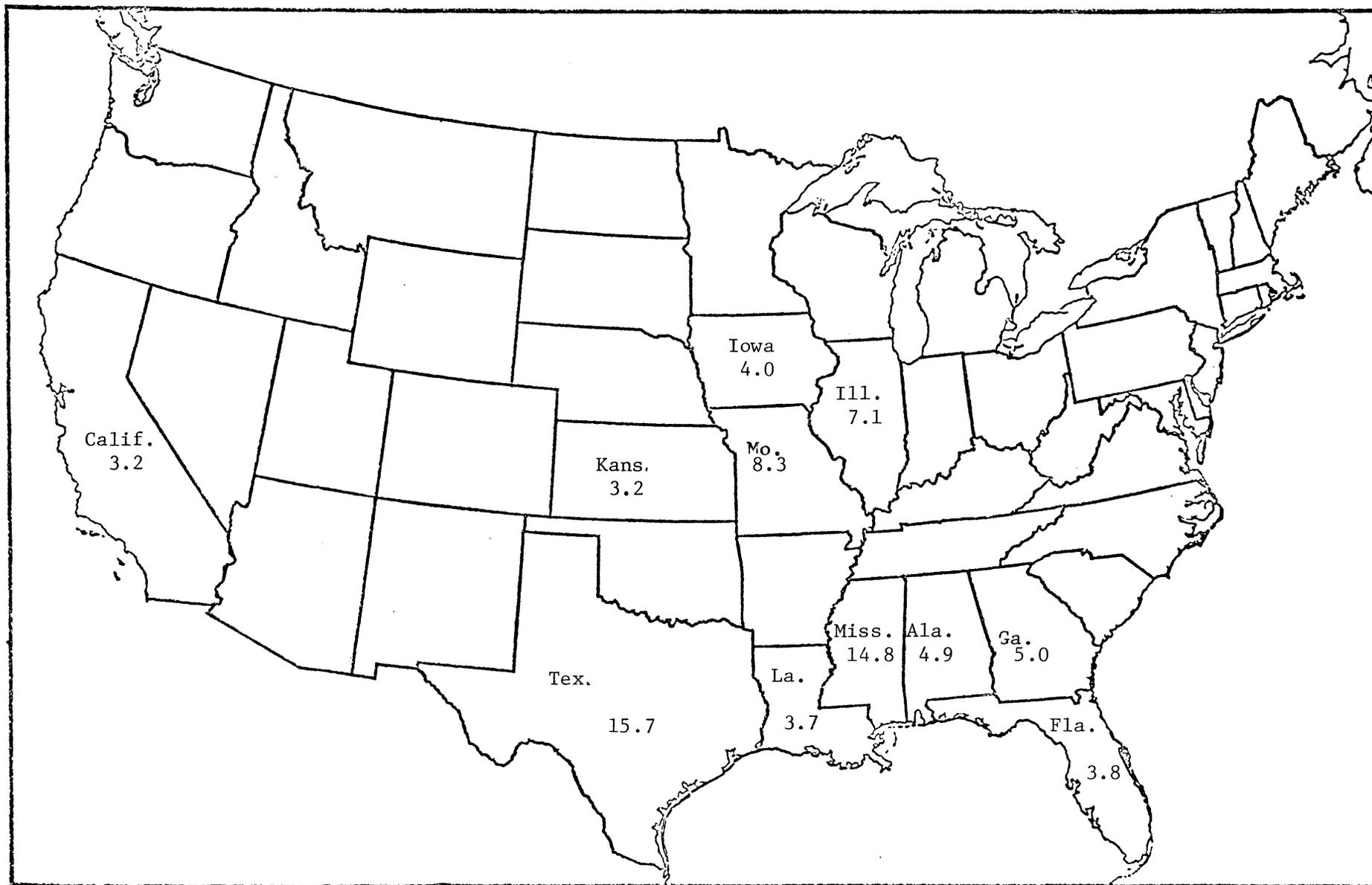
A-38

1/ (U.S. freight rate minus Canadian freight rate) divided by Canadian freight rate. A negative figure indicates a Canadian advantage.

Source: Compiled from data submitted by counsel for Texasgulf Inc.

Figure 12.--Potassium chloride: Principal markets for U.S. producers' shipments, by states, 1979.

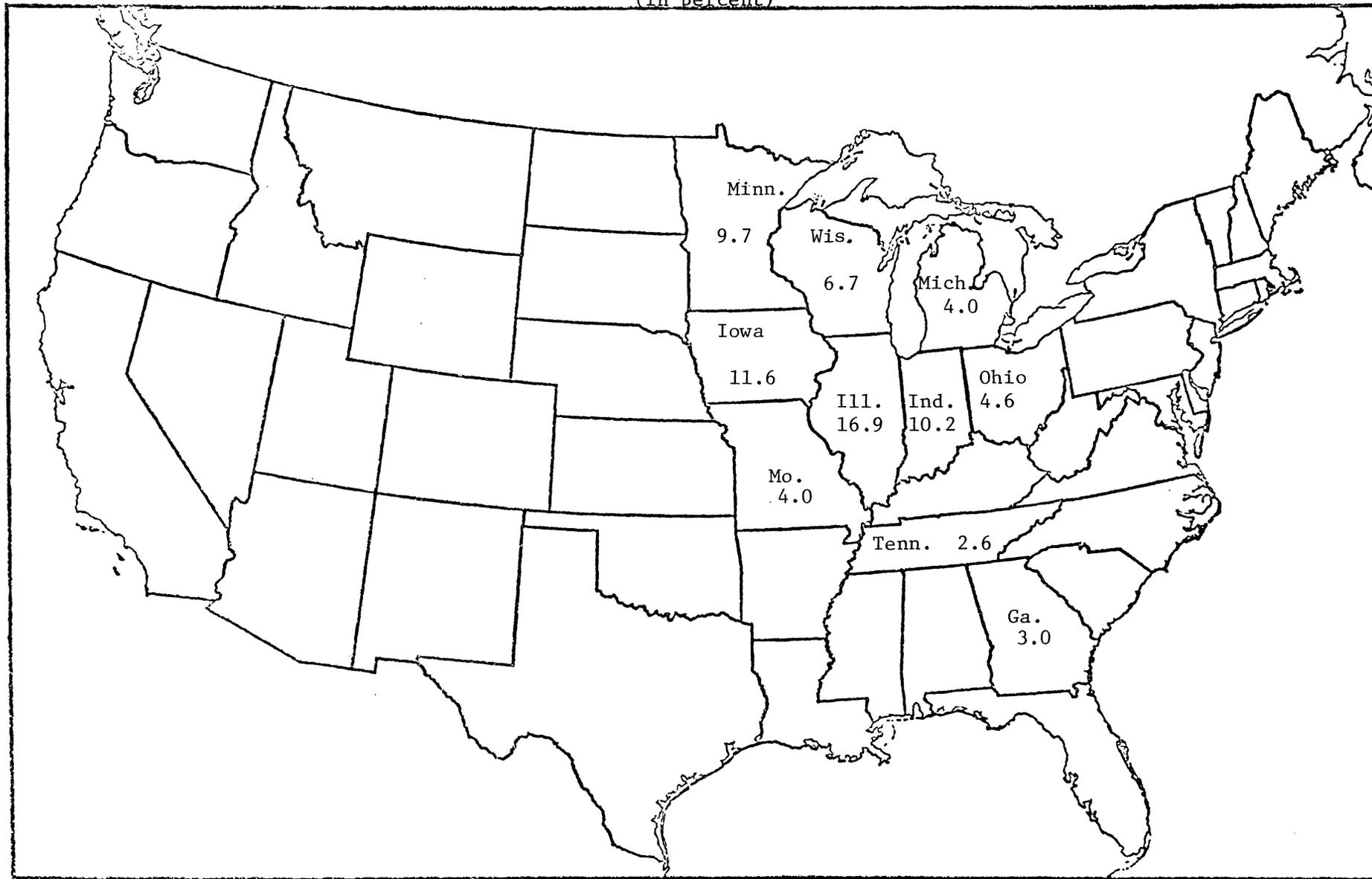
(In percent)



Source: Potash & Phosphate Institute.

Figure 13.--Potassium chloride: Principal markets for U.S. imports from Canada, by states, 1979.

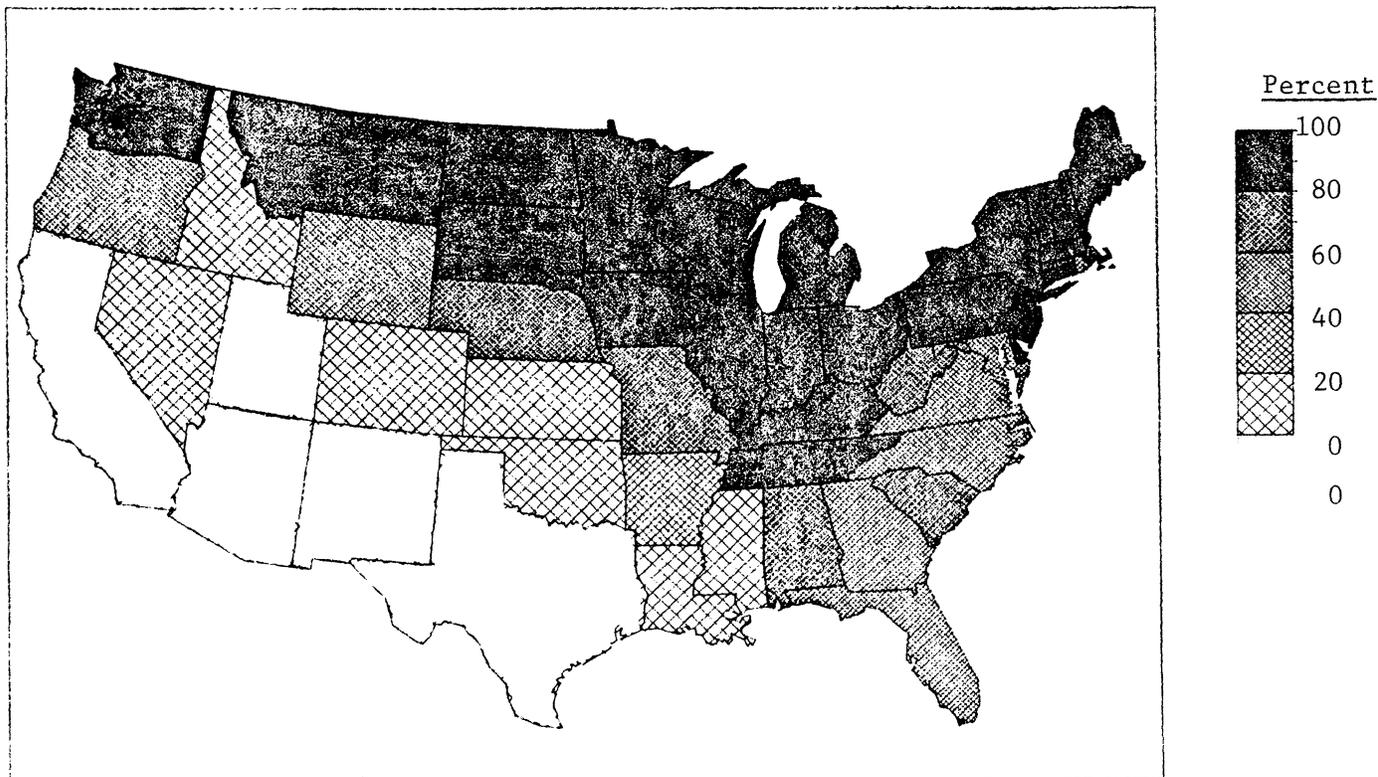
(In percent)



A-40

Source: Potash & Phosphate Institute.

Figure 14.--Potassium chloride: U.S. imports for consumption from Canada as a share of U.S. consumption, by States, 1979.



Source: Potash & Phosphate Institute.

From Texasgulf's list of freight rates, in combination with the shipment data supplied by the Potash & Phosphate Institute, the Commission calculated that the weighted average transportation costs of U.S.-produced potassium chloride to U.S. customers is 15 percent lower than the transportation costs of the Canadian-produced product. When the differences in the transportation costs are taken into account, the estimated delivered price of potassium chloride from Canada might actually be higher than the estimated delivered price of the U.S.-produced product.

The Commission sent questionnaires to all Canadian producers of potassium chloride requesting information concerning their prices of the product sold to U.S. customers. All seven Canadian producers completed and returned the forms. They provided data on their weighted average f.o.b. mine prices of coarse grade potassium chloride to--

1. Small accounts--U.S. customers which purchase less than 500 short tons of potassium chloride a year, and
2. National accounts--U.S. customers which purchase more than 15,000 short tons of potassium chloride a year.

In all quarters but one during January 1978-September 1980, the price at which Texasgulf sold coarse-grade potassium chloride to small accounts and national accounts was greater than or within the range of prices at which all other Canadian producers sold coarse-grade potassium chloride (tables 15 and 16). Tables A-2-A-5 in appendix B present the prices of each North American producer.

Table 15.--Coarse-grade potassium chloride: Carlsbad, N. Mex., and Canadian producers' weighted average prices to small accounts f.o.b. mine, by quarters, January 1978-September 1980

(In U.S. dollars per unit K20)

Period	: Range of Carlsbad : producers' prices	: Range of prices of : all Canadian producers: : except Texasgulf	: Texasgulf
1978:			
January-March-----:	\$0.81-\$0.85	\$0.70-\$0.74	***
April-June-----:	.79- .84	.70- .82	***
July-September-----:	.71- .84	.73- .77	***
October-December---:	.85- .88	.77- .83	***
1979:			
January-March-----:	.89- .98	.86- .90	***
April-June-----:	.98- 1.01	.90- .96	***
July-September-----:	.96- .99	.90- .93	***
October-December---:	1.01- 1.03	.98	***
1980:			
January-March-----:	1.08- 1.12	1.03- 1.05	***
April-June-----:	1.13- 1.16	1.09- 1.10	***
July-September-----:	1.14- 1.19	1.09- 1.14	***

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 16.--Coarse-grade potassium chloride: Carlsbad, N. Mex., and Canadian producers' weighted average prices to national accounts f.o.b. mine, by quarters, January 1978-September 1980

(In U.S. dollars per unit K20)

Period	: Range of Carlsbad : producers' prices	: Range of prices of : all Canadian producers: : except Texasgulf	: Texasgulf
1978:			
January-March-----:	\$0.67-\$0.80	\$0.63-\$0.70	***
April-June-----:	.68- .79	.68- .74	***
July-September-----:	.67- .80	.64- .69	***
October-December---:	.72- .84	.71- .75	***
1979:			
January-March-----:	.82- .91	.79- .89	***
April-June-----:	.90- .93	.82- .87	***
July-September-----:	.91- .94	.83- .88	***
October-December---:	.95- .98	.89- .93	***
1980:			
January-March-----:	1.03- 1.06	.94- 1.00	***
April-June-----:	1.09	.99- 1.05	***
July-September-----:	1.07- 1.13	1.01- 1.08	***

1/ ***.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Lost sales

U.S. producers were requested in the Commission's questionnaires to supply information about--

1. Sales of potassium chloride lost because of competition from potassium chloride produced by Texasgulf in Canada, and
2. Sales for which they were forced to reduce their price to meet the price of Texasgulf's product from Canada.

No U.S. producer reported any instance of lost sales or price reductions to meet competition from Texasgulf.

APPENDIX A

THE COMMISSION'S FEDERAL REGISTER NOTICES

[Investigation No. 751-TA-3]

**Potassium Chloride From Canada;
Investigation**

AGENCY: U.S. International Trade
Commission.

ACTION: Initiation of an investigation
under section 751(b) of the Tariff Act of
1930.

SUMMARY: This action initiates an
investigation under section 751(b) of the
Tariff Act of 1930, 93 Stat. 175 (to be
codified at 19 U.S.C. 1675(b)), to
determine whether changed
circumstances exist which indicate that
an industry in the United States would
not be threatened with material injury if
the antidumping finding concerning
potassium chloride (provided for in item
480.50 of the Tariff Schedules of the
United States (TSUS)) from Canada
were revoked.

In November 1969, the Commission
determined that an industry in the
United States was being injured by
reason of the importation from Canada
of potassium chloride that was being, or
was likely to be, sold at less than fair
value within the meaning of the
Antidumping Act, 1921. Sales by U.S.
Borax & Chemical Co. were excluded
from the Department of Treasury's
determination of less than fair value
(LTFV) sales in August 1969. Subsequent
to Treasury's December 19, 1969 finding
of dumping with respect to potassium
chloride from Canada, the following

companies have been excluded from the dumping finding after determinations by Treasury that sales of each of these firms have not been at LTFV and assurances from each firm that future sales of potassium chloride to the United States will not be made at LTFV: AMAX Potash Ltd.; Brockville Chemical Industries, Ltd.; Central Canada Potash Co., Ltd.; Cominco, Ltd.; CF Industries, Inc.; Duval Corp. of Canada; Hudson Bay Mining and Smelting Co., Ltd.; International Minerals and Chemical Corp.; Kalium Chemicals, Ltd.; Potash Company of America; Potash Company of Canada; Potash Company of Saskatchewan; Swift Canadian Co., Ltd. Revocation of the antidumping finding would not affect these assurances. An application for a review of the Commission's determination was filed with Commission by Texasgulf, Inc., on August 1, 1980. On the basis of the application, the Commission voted on December 11, 1980, to institute an investigation pursuant to section 751(b) of the Tariff Act of 1930 and § 207.45 of the Rules of Practice and Procedure (19 CFR 207.45).

DATE: The 120-day statutory period for this investigation began to run on December 11, 1980, the date of institution. The deadline for the Commission's determination is April 9, 1981.

FOR FURTHER INFORMATION CONTACT: Daniel F. Leahy, U.S. International Trade Commission, 202-523-1369.

SUPPLEMENTARY INFORMATION: *Proposed rule change.* Participants in the investigation should be aware that the Commission voted on August 6, 1980, to amend § 207.45 of the Rules of Practice and Procedure which implements section 751 of the Tariff Act of 1930. The proposed revision was published for comment at 45 F.R. 54086 (Aug. 14, 1980). If the amended rule becomes final

during the conduct of this investigation, it will have the effect of a change in the form of the Commission's determination in this investigation. In the event that the Commission were to adopt the proposed amendment, the Commission would determine whether an industry in the United States would be materially injured, or would be threatened with material injury, or the establishment of an industry in the United States would be materially retarded, by reason of imports of potassium chloride provided for in TSUS item 480.50 from Canada if the antidumping order were revoked.

Public Hearing.—Any person with an interest in this investigation may request in writing that the Commission hold a public hearing in connection with this investigation. Any such request must be received by the Commission within two weeks of the date of publication of this notice of investigation in the Federal Register.

Written Submissions.—Any person may submit to the Commission on or before March 4, 1981, written statements of information pertinent to the subject matter of the investigation. A signed original and nineteen true copies of such statements must be submitted.

Any business information which a submitter desires the Commission to treat as confidential shall be submitted separately and each sheet must be clearly marked at the top "Confidential Business Data." Confidential submissions must conform with the requirements of § 201.6 of the Rules of Practice and Procedure (19 CFR 201.6). All written submissions except business confidential data, will be available for public inspection.

Issued: December 12, 1980.

By order of the Commission.

Kenneth R. Mason,
Secretary.

[FR Doc. 80-39220 Filed 12-16-80; 8:45 am]

BILLING CODE 7026-02-M

**INTERNATIONAL TRADE
COMMISSION**

[Investigation No. 751-TA-3]

**Potassium Chloride From Canada;
Denial of Petition To Expand the
Scope of the Investigation**

AGENCY: U.S. International Trade
Commission.

ACTION: Denial of petition to expand
scope of investigation No. 751-TA-3 on
potassium chloride from Canada.

SUMMARY: This action notifies all interested persons of the denial of a petition filed on behalf of PPG Industries Canada Ltd., Kalium Division (PPG), requesting the Commission to expand the scope of investigation No. 751-TA-3 to include all exporters of potassium chloride from Canada currently covered by T.D. 69-265, the dumping finding at issue in this case. (T.D. 69-265 was originally published at 34 FR 19904 (Dec. 19, 1969).) The scope of the Commission review investigation of potassium chloride covers all Canadian producers of potassium chloride that have not previously been excluded from the scope of the order. It is the understanding of the Commission, at this time, that Texasgulf, Inc., is the only Canadian producer so situated.

U.S. Borax & Chemical Co. was exempted from the original finding when published in 1969; it was never covered by the order. The following companies—AMAX Potash, Ltd.; Brockville Chemical Industries, Ltd.; Central Canada Potash Co., Ltd.; Cominco, Ltd.; CF Industries, Inc.; Duval Corp. of Canada; Hudson Bay Mining and Smelting Co., Ltd.; International Minerals and Chemical Corp.; PPG Industries Canada Ltd., Kalium Division; Potash Co. of America; Potash Co. of Canada; Potash Co. of Saskatchewan; and Swift Canadian Co., Ltd.—were originally covered by the order; however, they have subsequently been excluded from the scope of the order by the Department of the Treasury (the administering authority of the dumping statute prior to the passage of the Trade Agreements Act of 1979).

To qualify for an exclusion, the administering authority requires that a company demonstrate that "any sales at less than fair value have been terminated for a substantial period of

time," and that the company provide the administering authority with "assurances" that future sales will not be at less than fair value. 19 CFR 153.44.

PPG's petition was based entirely on the assumption that the companies excluded from the purview of T.D. 69-265 after providing the administering authority with assurances remain, nonetheless, subject to the order. PPG posited that the exclusion "with assurances" from the order was not a revocation of the T.D. 69-265; rather, it was a conditional revocation of a portion of the antidumping order, or a conditional exclusion from the order.

According to information received by the Commission staff from the U.S. Department of Commerce (the administering authority since the passage of the Trade Agreements Act of 1979), this premise is not correct. Commerce informed the Commission staff that it considers the exclusion of a company from an antidumping order, based on the absence of LFTV sales and pricing assurances, to be a revocation of the order as to that company, i.e., a partial revocation of the order. The absence of LTFV sales and the assurances are preconditions for qualification for a revocation, and no more. Commerce does not distinguish between an exclusion with assurances and a revocation.

In light of the information provided by Commerce to the Commission, the arguments and concerns expressed in PPG's petition become moot. Accordingly, the Commission denied PPG's request to expand the scope of investigation No. 751-TA-3 on potassium chloride from Canada.

FOR FURTHER INFORMATION CONTACT:
Jane Albrecht, Esq., U.S. International
Trade Commission, 701 E Street NW.,
Washington, D.C. 20436, telephone 202-
523-1627.

By order of the Commission.

Issued: March 4, 1981.

Kenneth R. Mason,

Secretary.

[FR Doc. 81-7626 Filed 3-10-81; 8:45 am]

BILLING CODE 7020-02-M

APPENDIX B

FREIGHT RATES AND U.S. AND CANADIAN PRODUCERS' PRICES

Table A-1.--Potassium chloride: Average freight rates from selected North American producing locations to selected States, September 1980

(Per 80-short-ton rail car)

Destination	Production location			
	Carlsbad, N. Mex.	Trona, Calif.	Wendover, Utah	Saskatchewan
Alabama-----	\$4,468	\$4,916	\$4,765	\$4,974
Arizona-----	199	199	<u>1/</u>	<u>1/</u>
Arkansas-----	4,160	4,947	4,748	5,080
California-----	247	92	217	<u>1/</u>
Colorado-----	4,012	4,948	4,044	4,838
Connecticut-----	5,465	5,984	5,984	5,571
Delaware-----	5,320	4,837	5,837	5,417
Florida-----	5,044	5,474	5,333	5,483
Georgia-----	4,659	5,105	4,955	5,139
Idaho-----	5,659	4,962	<u>1/</u>	5,659
Illinois-----	4,414	4,943	4,510	4,574
Indiana-----	4,817	5,281	4,979	4,921
Iowa-----	4,043	4,781	4,043	4,121
Kansas-----	4,043	4,770	4,043	4,838
Kentucky-----	4,496	4,952	4,803	4,809
Louisiana-----	3,814	4,903	4,717	5,173
Maine-----	5,691	6,211	6,211	5,800
Maryland-----	5,320	5,837	5,837	5,417
Massachusetts-----	5,465	5,985	5,985	5,571
Michigan-----	4,852	5,306	5,002	4,944
Minnesota-----	4,170	4,961	4,172	4,015
Mississippi-----	4,213	4,662	4,511	4,767
Missouri-----	4,112	4,794	4,358	4,557
Montana-----	5,145	<u>1/</u>	4,212	4,313
Nebraska-----	4,137	4,912	4,137	4,272
New Hampshire-----	5,465	5,985	5,985	5,571
New Jersey-----	5,320	5,837	5,837	5,417
New York-----	5,320	5,837	5,837	5,417
North Carolina-----	5,075	5,516	5,369	5,348
North Dakota-----	4,160	4,947	4,160	3,957
Ohio-----	4,934	5,453	5,147	5,029
Oklahoma-----	3,015	4,250	4,237	5,080
Oregon-----	5,393	4,539	4,507	5,393
Pennsylvania-----	5,320	5,837	5,837	5,417
Rhode Island-----	5,465	5,985	5,985	5,571
South Carolina-----	4,857	5,272	5,126	5,348
South Dakota-----	4,160	4,947	4,160	4,039
Tennessee-----	4,374	4,817	4,670	4,852
Texas-----	2,801	4,436	4,369	5,348
Utah-----	5,216	4,441	1,404	<u>1/</u>
Vermont-----	5,465	5,950	5,950	5,571
Virginia-----	5,295	5,655	5,563	5,417
Washington-----	5,557	4,817	4,684	5,557
West Virginia-----	5,200	5,758	5,370	5,297
Wisconsin-----	4,190	4,983	4,190	4,272
Wyoming-----	4,160	4,947	4,160	4,624

1/ Not available.

Source: Compiled from data submitted by counsel for Texasgulf Inc.

Table A-2.--Coarse-grade potassium chloride: Weighted average prices of U.S. producers to small accounts, 1/ f.o.b. mine, by firms and by quarters, January 1978-September 1980

(In cents per unit of K20)

Period	:International: : Minerals & : Chemical : Corp.	: Texasgulf : Inc.	: Kerr-McGee : Chemical : Corp.	: Kaiser : Aluminum & : Chemical : Corp.	: Potash : Co. of : America	: AMAX : Chemical : Corp.
1978:	:	:	:	:	:	:
January-March-----:	***	***	***	***	***	***
April-June-----:	***	***	***	***	***	***
July-September----:	***	***	***	***	***	***
October-December--:	***	***	***	***	***	***
1979:	:	:	:	:	:	:
January-March-----:	***	***	***	***	***	***
April-June-----:	***	***	***	***	***	***
July-September----:	***	***	***	***	***	***
October-December--:	***	***	***	***	***	***
1980:	:	:	:	:	:	:
January-March-----:	***	***	***	***	***	***
April-June-----:	***	***	***	***	***	***
July-September----:	***	***	***	***	***	***
October-December--:	***	***	***	***	***	***

1/ U.S. customers which purchase less than 500 short tons a year.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table A-3.--Coarse-grade potassium chloride: Weighted average prices of U.S. producers to national accounts, 1/ f.o.b. mine, by firms and by quarters, January 1978-September 1980

(In cents per unit of K2O)

Period	:International: : Minerals & : Chemical : Corp.	: Texasgulf : Inc.	: Kerr-McGee : Chemical : Corp.	: Kaiser : Aluminum & : Chemical : Corp.	: Potash : Co. of : America	: AMAX : Chemical : Corp.
1978:	:	:	:	:	:	:
January-March-----:	***	***	***	***	***	***
April-June-----:	***	***	***	***	***	***
July-September----:	***	***	***	***	***	***
October-December--:	***	***	***	***	***	***
1979:	:	:	:	:	:	:
January-March-----:	***	***	***	***	***	***
April-June-----:	***	***	***	***	***	***
July-September----:	***	***	***	***	***	***
October-December--:	***	***	***	***	***	***
1980:	:	:	:	:	:	:
January-March-----:	***	***	***	***	***	***
April-June-----:	***	***	***	***	***	***
July-September----:	***	***	***	***	***	***
October-December--:	***	***	***	***	***	***

1/ U.S. customers which purchase more than 15,000 short tons a year.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table A-4.--Coarse-grade potassium chloride: Weighted average prices of Canadian producers to small accounts, 1/ f.o.b. mine, by firms and by quarters, January 1978-September 1980

(In cents per unit of K20)

Period	Potash Corp. of Saskatchewan	Cominco	Potash Co. of America	Texasgulf Inc.	Kalium Chemicals, Ltd.	International Minerals & Chemical Corp.
1978:						
January-March-----:	***	***	***	***	***	***
April-June-----:	***	***	***	***	***	***
July-September----:	***	***	***	***	***	***
October-December--:	***	***	***	***	***	***
1979:						
January-March-----:	***	***	***	***	***	***
April-June-----:	***	***	***	***	***	***
July-September----:	***	***	***	***	***	***
October-December--:	***	***	***	***	***	***
1980:						
January-March-----:	***	***	***	***	***	***
April-June-----:	***	***	***	***	***	***
July-September----:	***	***	***	***	***	***
October-December--:	***	***	***	***	***	***

1/ U.S. customers which purchase less than 500 short tons a year.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table A-5.--Coarse-grade potassium chloride: Weighted average prices of Canadian producers to national accounts, 1/ f.o.b. mine, by firms and by quarters, January 1978-September 1980

(In cents per unit of K20)

Period	Potash Corp. of Saskatchewan	Cominco	Noranda Mines Ltd.	Potash Co. of America	Texasgulf Inc.	Kalium Chemicals, Ltd.	International Minerals & Chemical Corp.
1978:							
January-March----	***	***	***	***	***	***	***
April-June-----	***	***	***	***	***	***	***
July-September---	***	***	***	***	***	***	***
October-December--	***	***	***	***	***	***	***
1979:							
January-March----	***	***	***	***	***	***	***
April-June-----	***	***	***	***	***	***	***
July-September---	***	***	***	***	***	***	***
October-December--	***	***	***	***	***	***	***
1980:							
January-March----	***	***	***	***	***	***	***
April-June-----	***	***	***	***	***	***	***
July-September---	***	***	***	***	***	***	***
October-December--	***	***	***	***	***	***	***

1/ U.S. customers which purchase more than 15,000 short tons a year.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

