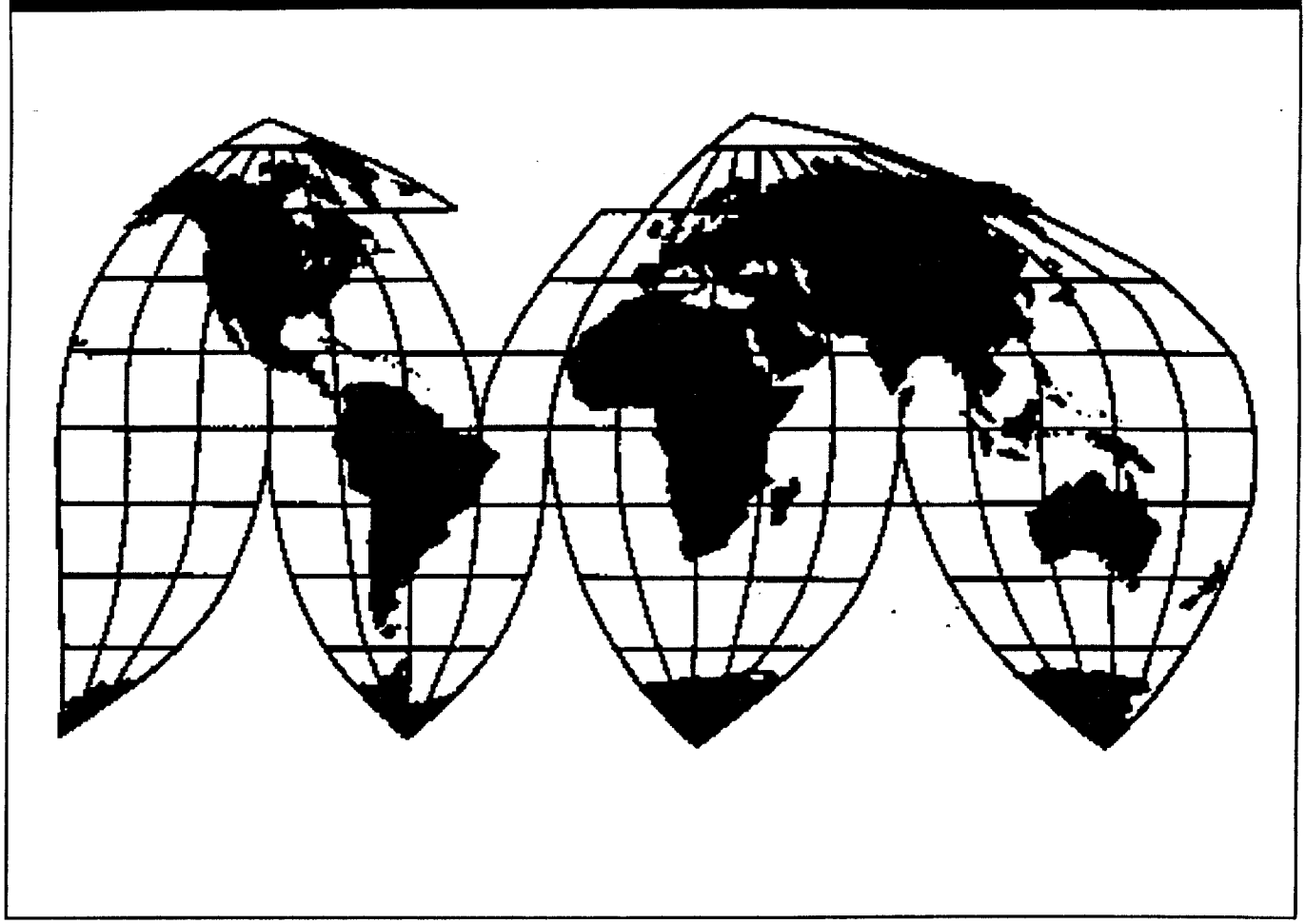
Elemental Sulfur from Canada

Investigation No. AA1921-127 (Review)

Publication 3152 **January 1999**

U.S. International Trade Commission



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GLOSSARY OF ABBREVIATIONS
(In order of appearance)

Name/agency/phrase	Abbreviation
U.S. International Trade Commission	Commission
Federal Register	FR
U.S. Department of Commerce	Commerce
Freeport-McMoRan Sulfur, Inc.	Freeport Sulfur
Staff Report to the Commission in Investigation No. AA 1921-127 (Oct. 12, 1973)	Report
Husky Oil, Ltd.	Husky
U.S. Geological Survey	USGS
U.S. Customs Service	Customs
U.S. Bureau of Mines	USBM
FERTECON International	FERTECON
Green Markets, Fertilizer Market Intelligence Weekly	*Green Markets*

Note.–Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report. Such deletions are indicated by asterisks.

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. AA1921-127 (Review)

ELEMENTAL SULFUR FROM CANADA

DETERMINATION

On the basis of the record[1] developed in the subject five-year review, the United States International Trade Commission determines, pursuant to section 751(c) of the Tariff Act of 1930 (19 U.S.C. § 1675(c)) (the Act), that revocation of the antidumping duty finding on elemental sulfur from Canada would not be likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

BACKGROUND

The Commission instituted this review on August 3, 1998 (63 FR 41280) and determined on November 5, 1998 that it would conduct an expedited review (63 FR 64275, November 19, 1998).

[1] The record is defined in sec. 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR § 207.2(f)).

VIEWS OF THE COMMISSION

Based on the record in this five-year review, we determine under section 751(c) of the Tariff Act of 1930, as amended ("the Act"), that revocation of the antidumping finding concerning elemental sulfur from Canada is not likely to lead to continuation or recurrence of material injury to an industry in the United States within a reasonably foreseeable time.

I. BACKGROUND

In October 1973, the U.S. Tariff Commission determined that an industry in the United States was likely to be injured by reason of dumped imports of elemental sulfur from Canada pursuant to Section 201 of the Antidumping Act, 1921. Subsequently, the Department of Treasury issued an antidumping finding covering these imports.[1] On August 3, 1998, the Commission instituted a review pursuant to section 751(c) of the Act to determine whether revocation of the antidumping finding on elemental sulfur from Canada would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time.[2]

In five-year reviews, the Commission first determines whether to conduct a full review (which would include a public hearing, the issuance of questionnaires, and other procedures) or an expedited review. Specifically, the Commission determines whether individual responses to the notice of institution are adequate and, based on these individually adequate responses, whether the collective responses submitted by two groups of interested parties -- domestic interested parties (such as producers, unions, trade associations, or worker groups) and respondent interested parties (such as importers, exporters, foreign producers, trade associations, or subject country governments) -- show a sufficient willingness among interested parties to participate and provide information requested in a full review,

[1] 38 Fed. Reg. 34655 (Dec. 17, 1973).

[2] 63 Fed. Reg. 41280 (Aug. 3, 1998).

and if not, whether other circumstances warrant a full review.[3]

In this review the Commission received two individually adequate responses to its notice of institution, one from a domestic interested party producer of elemental sulfur, Freeport-McMoRan Sulphur, Inc. ("Freeport"), and one from a respondent interested party, Husky Oil Ltd. ("Husky"), a Canadian producer of subject merchandise. Freeport and Husky also filed comments arguing that the Commission should conduct an expedited review because the aggregate response from the opposing interested party group was inadequate.[4]

On November 5, 1998, the Commission found that the responses from both the domestic and

[3] *See* 19 C.F.R. § 207.62(a); 63 Fed. Reg. 30599, 30602-05 (June 5, 1998).

[4] *See* 19 C.F.R. § 207.62(b) (authorizing, *inter alia*, all interested parties that have responded to the notice of institution to file comments with the Commission on whether the Commission should conduct an expedited review).

respondent interested party groups were inadequate.[5] [6] Pursuant to Section 751(c)(3)(B) of the Act, it voted to conduct an expedited review.[7] [8] [9]

The Commission concluded that the domestic interested party group response was inadequate

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[5] Commissioner Askey notes that the group adequacy approach adopted by the Commission to decide whether or not interested party responses are adequate to warrant full sunset review is not suggested by the Uruguay Round Agreements Act (URAA) or the Statement of Administrative Action (SAA). As the process is currently structured, Commissioners vote on the adequacy of each group, but not on the adequacy of the responses overall. In order to expedite a case, a majority of Commissioners must agree that a particular group is inadequate. Commissioners are therefore constrained in their ability to evaluate the underlying factors independently and to agree on an outcome, albeit for different reasons. The result contradicts the Commission's entire practice in Title VII cases. In no other Title VII area is a majority of the Commission required to agree on the rationale underlying a condition precedent to a statutory finding.

The current structure can therefore lead to the anomalous result of a full review when a majority of the Commission fails to agree which group is inadequate despite the fact that a majority of Commissioners favors expedition. The group adequacy approach presupposes that the adequacy of each group is clear-cut and permits the decision on group adequacy to control the decision on overall adequacy, and therefore the decision to expedite. In fact, the adequacy or inadequacy of a particular group's response may reflect merely a difference in market structure since the case was filed but does not necessarily portend a lack of cooperation or clarity in an ensuing "full" investigation. The structure also implies that *group* adequacy considerations inevitably predominate in a Commissioner's decision of whether to conduct a full review, whereas a Commissioner may decide to conduct a full review, despite group or overall inadequacy, based on other factors.

[6] Commissioner Crawford concurs with Commissioner Askey that the multi-step "group inadequacy" voting process recently adopted by the Commission to decide whether to expedite a review does not reflect the statute. The statute clearly grants discretion to Commissioners to decide whether or not to expedite a review if they find interested party responses inadequate. Under the "group inadequacy approach," a Commissioner is prohibited from voting to expedite, without regard to his or her own conclusions regarding adequacy, unless a majority of Commissioners have found that one or another (or both) of the "groups" of interested party responses is inadequate. Thus, the ability of a Commissioner to exercise his or her statutory discretion is superseded by a procedural voting rule, and under certain circumstances is foreclosed altogether. This result is inconsistent with the statutory intent that each Commissioner exercise discretion in the decision to expedite.

[7] 19 U.S.C. § 1675(c)(3)(B).

[8] Chairman Bragg found both domestic and respondent interested party group responses to be inadequate. However, she voted to conduct a full review based on ambiguous language regarding the like product in the original determination.

[9] Commissioner Koplan did not concur in the decision to expedite this review and therefore does not join the following three paragraphs.

because Freeport's response, although individually adequate, accounted for a low 17% share of domestic production.[10] Moreover, the Commission stated that while recovered sulfur now accounts for most of domestic elemental sulfur production, no recovered sulfur producer responded to the notice of institution. Thus, the Commission found that there was not a sufficient willingness among domestic interested parties to participate in this review and to provide information requested throughout the proceeding.[11]

With respect to respondent interested party group response, the Commission concluded that the response was inadequate because Husky's response, although individually adequate, accounted for a low share of both subject imports (***) and of Canadian production (***).[12] The Commission consequently found that there was not a sufficient willingness among respondent interested parties to participate in this review and to provide information requested throughout the proceeding.

Finally, neither Husky nor Freeport contended that a full review would be "an efficient exercise

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[10] This figure was based on production data Freeport furnished in its response to the notice of institution and total U.S. production data for sulfur reported by the U.S. Geological Service (USGS). The USGS data appear to overstate total elemental sulfur production in two respects: (1) USGS overstates Frasch sulfur production (which would correspond with Freeport production, because, as explained below, Freeport is the only U.S. Frasch producer) in relation to the data Freeport reported in its response to the notice of institution; (2) USGS included some production of a product other than elemental sulfur (specifically, sulfuric acid). If the USGS data are adjusted to correct these problems, Freeport's share of 1997 domestic production is 21 percent. *See* INV-V-100 (Dec. 9, 1998). This recalculation does not affect the conclusion that the domestic interested party response was inadequate.

[11] We emphasize that this conclusion was based on inadequate domestic interested party participation in the review and cooperation with our information requests. It was not premised on inadequate industry "support" for the antidumping finding.

[12] Husky's percentage of Canadian production is taken from its response to the notice of institution. *See* Husky Response to Notice of Institution at 23. Husky's percentage of imports is calculated from U.S. import data it provided in its response to the notice of institution and data concerning the total value of subject imports obtained from the U.S. Customs Service. *See* Husky Response to Notice of Institution, Exhibit 16; Confidential Report ("CR") at I-12, Public Report ("PR") at I-9.

of the resources of either the Commission or the parties."[13] Instead, both parties requested that the review be expedited.

On December 8, 1998, Freeport, Husky, and Mulberry Corp., a U.S. purchaser and industrial user of elemental sulfur that is a party to the review, filed comments pursuant to 19 C.F.R. § 207.62(d) concerning the determination that the Commission should reach in the review.[14]

II. DOMESTIC LIKE PRODUCT AND INDUSTRY

A. Domestic Like Product

In making its determination under section 751(c), the Commission first identifies "the domestic like product" and the "industry."[15] The Act defines "domestic like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation under this subtitle."[16] In its final five-year review determination, the Department of Commerce (Commerce) defined the imported product covered by the existing antidumping finding as

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[13] *See* 63 Fed. Reg. at 30603.

[14] Portions of Mulberry's comments contain new factual information, which is not permitted under 19 C.F.R. § 207.62(d). Pursuant to that regulation and 19 U.S.C. § 1677m(g), we have disregarded this information. Under 19 U.S.C. § 1677m(g), the Commission is to disregard new factual information submitted in final party comments in a section 751 proceeding. The comments filed under 19 C.F.R. § 207.62(d) in an expedited five-year review are final party comments for purposes of 19 U.S.C. § 1677m(g).

We urge parties in future expedited five-year reviews to provide citations to the record for the factual assertions made in their comments. This will enable both the parties to the investigation and the Commission to ascertain that such assertions are based on existing information in the record and not on new information which is not permitted under 19 C.F.R. § 207.62(d).

[15] 19 U.S.C. § 1677(4)(A). Section 771(4)(A) of the Act defines the relevant industry as the "producers as a [w]hole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product." *Id.*

[16] 19 U.S.C. § 1677(10). *See* Nippon Steel Corp. v. United States, 19 CIT 450, 455 (1995); Timken Co. v. United States, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996); Torrington Co. v. United States, 747 F. Supp. 744, 748-49 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991). *See also* S. Rep. No. 249, 96th Cong., 1st Sess. 90-91 (1979).

elemental sulfur from Canada.[17]

Freeport and Husky both maintain that there is no reason in the instant review for the Commission to find a different domestic like product than it did in its original determination. As a preliminary matter, we observe that the Antidumping Act, 1921 did not contain a "like product" provision and the Commission did not make a like product determination *per se* in its original determination. Instead, it stated that "[i]n making our determination we have considered the industry to consist of those domestic facilities of U.S. producers devoted to the mining and recovery of sulfur."[18] Thus, the Commission essentially treated all elemental sulfur as a single product.[19]

Two processes are used to produce elemental sulfur. The Frasch process is used to mine sulfur reserves that occur in salt domes and sedimentary deposits. "Recovered" sulfur is produced as a nondiscretionary byproduct of petroleum and sour natural gas production.[20] Freeport and Husky both agree that all elemental sulfur should be a single domestic like product because, notwithstanding the differences in the production processes between Frasch and recovered sulfur, elemental sulfur made by one process is not commercially distinguishable in terms of physical characteristics, end use, interchangeability, or customer perceptions from elemental sulfur made by the other process.[21]

We find, based on the facts available, that the appropriate definition of the domestic like product

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[17] 63 Fed. Reg. 67647 (Dec. 8, 1998).

[18] Elemental Sulfur From Canada, Inv. No. AA1921-127, TC Pub. 617 at 3 (Oct. 1973) ("Original Determination").

[19] The Commission's analysis of the condition of the domestic industry, however, focused on Frasch, rather than recovered, sulfur producers as it stated that "the U.S. sulfur industry is clearly undergoing a transition of far-reaching consequences, and one in which the Frasch-sulfur producers are the most vulnerable." Original Determination, TC Pub. 617 at 3-4.

[20] Original Determination Report at 3; CR at I-6-7, PR at I-5-6.

[21] Freeport Comments at 7-9; Husky Comments at 5 n.3.

in this expedited five-year review is all elemental sulfur.

B. Domestic Industry

Section 771(4)(A) of the Act defines the relevant industry as the "domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product . . . ."[22] In defining the domestic industry in this review, we consider whether any producers of the domestic like product should be excluded from the domestic industry pursuant to the related parties provision in section 771(4)(B) of the Act.[23]

Freeport has alleged that six U.S. producers of elemental sulfur are related to Canadian exporters of elemental sulfur, are U.S. importers of Canadian elemental sulfur, or are related to U.S. importers of

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[22] 19 U.S.C. § 1677(4)(A). In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market, provided that adequate production-related activity is conducted in the United States. *See* United States Steel Group v. United States, 873 F. Supp. 673, 682-83 (Ct. Int'l Trade 1994), *aff'd*, 96 F.3d 1352 (Fed. Cir. 1996).

[23] 19 U.S.C. § 1677(4)(B). That provision of the statute allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise, or which are themselves importers. Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each case. *See* Sandvik AB v. United States, 721 F. Supp. 1322, 1331-32 (Ct. Int'l Trade 1989), *aff'd without opinion*, 904 F.2d 46 (Fed. Cir. 1990); Empire Plow Co. v. United States, 675 F. Supp. 1348, 1352 (Ct. Int'l Trade 1987). The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude such parties include:

> (1) the percentage of domestic production attributable to the importing producer;
> (2) the reason the U.S. producer has decided to import the product subject to investigation, i.e., whether the firm benefits from the LTFV sales or subsidies or whether the firm must import in order to enable it to continue production and compete in the U.S. market, and
> (3) the position of the related producer vis-a-vis the rest of the industry, i.e., whether inclusion or exclusion of the related party will skew the data for the rest of the industry.

See, e.g., Torrington Co. v. United States, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), *aff'd without opinion*, 991 F.2d 809 (Fed. Cir. 1993). The Commission has also considered the ratio of import shipments to U.S. production for related producers and whether the primary interest of the related producer lies in domestic production or importation. *See, e.g.*, Sebacic Acid from the People's Republic of China, Inv. No. 731-TA-653 (Final), USITC Pub. 2793, at I-7 - I-8 (July 1994).

such sulfur.[24] Five of the six Canadian exporters that Freeport has identified as being related to U.S. producers have expressly been excluded from the scope by Commerce in its five-year review determination.[25] There is no evidence or allegation that the U.S. producers to which these exporters are related import merchandise that is currently covered by the antidumping finding.

Even assuming *arguendo* that one or more of the U.S. elemental sulfur producers that Freeport contends are related parties are in fact related parties, Freeport has not argued that appropriate circumstances exist to exclude these firms from the domestic industry. Moreover, because none of these producers responded to the Commission's notice of institution and there is little current producer-specific data pertaining to these firms, there is little information that the Commission could "exclude" concerning these producers.[26] We consequently do not exclude any producer from the domestic industry in the instant five-year review. Accordingly, we define the domestic industry to encompass all U.S. producers of elemental sulfur.

III. REVOCATION OF THE FINDING ON ELEMENTAL SULFUR IS NOT LIKELY TO LEAD TO CONTINUATION OR RECURRENCE OF MATERIAL INJURY WITHIN A REASONABLY FORESEEABLE TIME

A. Legal Standard

In a five-year review conducted under section 751(c) of the Act, Commerce will revoke an

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[24] *See* Freeport Response to Notice of Institution at 29-30; Freeport Comments at 10-11.

[25] *Compare* Freeport Comments at 11 n.40 *with* 63 Fed. Reg. at 67647, 67650. As we explain in section III.C. below, because Commerce has expressly excluded these Canadian producers from the scope of the finding, they are not producing "subject merchandise." Because application of the "related parties" provision is dependent on a producer of the domestic like product importing "subject merchandise" or being related to an "exporter or importer of subject merchandise," 19 U.S.C. § 1677(4)(B), these five domestic producers' relationships with Canadian producers as to which the finding has been revoked are insufficient to make them related parties.

[26] The report prepared in connection with the original determination did not discuss or present any data relating to the question of related parties, inasmuch as there was no related parties provision in the Antidumping Act, 1921.

antidumping duty order or finding unless it makes a determination that dumping is likely to continue or recur and the Commission makes a determination that material injury would be likely to continue or recur, as described in section 752(a).

Section 752(a) of the Act states that in a five-year review "the Commission shall determine whether revocation of an order, or termination of a suspended investigation, would be likely to lead to continuation or recurrence of material injury within a reasonably foreseeable time."[27] [28] The URAA SAA indicates that "under the likelihood standard, the Commission will engage in a counter-factual analysis: it must decide the likely impact in the reasonably foreseeable future of an important change in the status quo -- the revocation [of the order] . . . and the elimination of its restraining effects on volumes and prices of imports."[29] Thus, the likelihood standard is prospective in nature.[30] The statute states that "the Commission shall consider that the effects of revocation

. . . may not be imminent, but may manifest themselves only over a longer period of time."[31]

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[27] 19 U.S.C. § 1675a(a).

[28] Chairman Bragg notes that Husky contends that "the burden of persuasion [in five-year reviews] would appear to rest with the domestic industry." Husky Comments at 5. Husky cites no authority in support of this proposition. In fact, nothing in the statute or legislative history assigns a burden of persuasion or proof on any interested party or group of interested parties in five-year reviews. *Compare* 19 U.S.C. § 1675(b)(3) (in changed circumstances review, party seeking revocation of an order or termination of a suspended investigation or suspension agreement has burden of persuasion as to whether there are changed circumstances sufficient to warrant revocation or termination). *See also* Titanium Sponge from Japan, Kazakhstan, Russia, and Ukraine, Inv. Nos. 751-TA-17-20, USITC Pub. 3119 at 11 (Aug. 1998).

[29] URAA SAA, H.R. Rep. No. 316, 103d Cong., 2d Sess., vol. I at 883-84.

[30] While the SAA states that "a separate determination regarding current material injury is not necessary," it indicates that "the Commission may consider relevant factors such as current and likely continued depressed shipment levels and current and likely continued prices for the domestic like product in the U.S. market in making its determination of the likelihood of continuation or recurrence of material injury if the order is revoked." SAA at 884.

[31] 19 U.S.C. § 1675a(a)(5).

According to the SAA, a "'reasonably foreseeable time' will vary from case-to-case, but normally will exceed the 'imminent' timeframe applicable in a threat of injury analysis [in antidumping and countervailing duty determinations]."[32]

Although the standard in five-year reviews is not the same as the standard applied in original antidumping or countervailing duty investigations, it contains some of the same elements. The statute provides that the Commission is to "consider the likely volume, price effect, and impact of imports of the subject merchandise on the industry if the order is revoked." It directs the Commission to take into account its prior injury determination, whether any improvement in the state of the industry is related to the order under review, and whether the industry is vulnerable to material injury if the order is revoked.[33]

Section 751(c)(3)(B) of the Act and the Commission's regulations provide that in an expedited five-year review the Commission may issue a final determination "based on the facts available, in accordance with section 776."[34] We have relied on this authority in this review. Accordingly, the record in this expedited review is more limited than what we anticipate the record of a typical full five-year review would be.

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[32] SAA at 887. Among the factors that the Commission should consider in this regard are "the fungibility or differentiation within the product in question, the level of substitutability between the imported and domestic products, the channels of distribution used, the methods of contracting (such as spot sales or long-term contracts), and lead times for delivery of goods, as well as other factors that may only manifest themselves in the longer term, such as planned investment and the shifting of production facilities." *Id.*

[33] 19 U.S.C. § 1675a(a)(1). The statute further provides that the presence or absence of any factor that the Commission is required to consider shall not necessarily give decisive guidance with respect to the Commission's determination. 19 U.S.C. § 1675a(a)(5). While the Commission must consider all factors, no one factor is necessarily dispositive. SAA at 886.

[34] 19 U.S.C. § 1675(c)(3)(B); 19 C.F.R. § 207.62(e). Section 776 of the Act, in turn, authorizes the Commission to "use the facts otherwise available" in reaching a determination when: (1) necessary information is not available on the record or (2) an interested party or any other person withholds information requested by the agency, fails to provide such information in the time or in the form or manner requested, significantly impedes a proceeding, or provides information that cannot be verified pursuant to section 782(i) of the Act. 19 U.S.C. § 1677e(a).

For the reasons stated below, we determine that revocation of the antidumping finding on elemental sulfur from Canada would not be likely to lead to continuation or recurrence of material injury to the domestic industry within a reasonably foreseeable time.[35] [36]

B. Conditions of Competition

In evaluating the likely impact of the subject imports on the domestic industry if the finding is revoked, the statute directs the Commission to evaluate all relevant economic factors "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[37] Conditions of competition relevant to the elemental sulfur industry are discussed below.

We first examine conditions of competition pertinent to the supply of elemental sulfur. As noted above, elemental sulfur is produced by two methods. Under the Frasch process, sulfur is mined from reserves which occur in salt domes and sedimentary deposits. "Recovered" sulfur is produced as a nondiscretionary byproduct of petroleum and sour natural gas production.[38]

At the time of the original determination, Frasch sulfur was produced by five companies at 12

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[35] Section 752(a)(6) of the Act states that "the Commission may consider the magnitude of the margin of dumping" in making its determination in a five-year review. 19 U.S.C. § 1675a(a)(6). The statute defines the "magnitude of the margin of dumping" to be used by the Commission in five-year reviews as "the dumping margin or margins determined by the administering authority under section 1675a(c)(3) of this title." 19 U.S.C. § 1677(35)(C)(iv). *See also* SAA at 887.

Commerce's expedited determination in its five-year review provided likely margins for 25 specific Canadian elemental sulfur producers ranging from 0.00 to 87.65 percent. The "all others" margin is 5.56 percent. 63 Fed. Reg. at 67650.

[36] Section 752(a)(1)(D) of the Act directs the Commission to take into account in five-year reviews involving antidumping proceedings "the findings of the administrative authority regarding duty absorption." 19 U.S.C. § 1675a(a)(1)(D). Commerce stated in its five-year review determination that it has not issued any duty absorption findings in this matter. 63 Fed. Reg. at 67649.

[37] 19 U.S.C. § 1675a(a)(4).

[38] CR at I-6-7, PR at I-5-6; Original Determination Report at 2-3.

sites in the United States.[39] Changes in U.S. environmental laws limiting sulfur emissions from refineries and natural gas processing facilities and the sulfur content of fuels have led to increased recovery of sulfur in petrochemical operations since 1990.[40] Since the time of the original determination, recovered sulfur has replaced Frasch sulfur as the leading source of elemental sulfur in the United States as a result of both increased sulfur recovery and increased production of oil and gas.[41]

Today, Frasch sulfur is produced in the United States by only one company -- Freeport -- at two sites, one of which is in the process of being closed.[42] The share of domestic elemental sulfur production accounted for by Frasch sulfur has fallen from 79 percent in 1972 to 21 percent in 1997.[43] The remainder of 1997 U.S. elemental sulfur production -- 79 percent -- was recovered sulfur.[44]

U.S. recovered sulfur producers cannot store or inventory the elemental sulfur that they produce. While excess sulfur can be poured to block from the petrochemical stream, this requires a block storage license. No U.S. elemental sulfur producer other than Freeport possesses such a license.[45] Consequently, the U.S. recovered sulfur producers must sell all the elemental sulfur that they produce from their

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[39] Original Determination, TC Pub. 617 at 3. In light of the directive in section 752(a)(1)(A) of the Act, 19 U.S.C. § 1675a(a)(1)(A), we have taken the Commission's original determination into account both in this discussion of the pertinent conditions of competition and in the discussion below concerning the likely volume, price effects, and impact of the subject imports.

[40] CR at I-9, PR at I-7; Husky Response to Notice of Institution at 28-29.

[41] Freeport Comments at 26; Husky Comments at 8-9; Mulberry Comments at 7-10.

[42] *See* Freeport Response to Notice of Institution at 3. Frasch sulfur, which accounted for 12.3 percent of worldwide elemental sulfur production in 1997, is also produced in Poland, Iraq, China, and republics of the former Soviet Union. *Id.*

[43] *Compare* Original Determination Report at 12 with OINV-V-100 (Dec. 9, 1998).

[44] *See* INV-V-100 (Dec. 9, 1998).

[45] Freeport Response to Notice of Institution at 4-5; Husky Response to Notice of Institution at 5-6.

petrochemical operations. This condition of competition was also present at the time of the original determination,[46] but has become far more important because of the dominance of recovered sulfur operations today.

Because of the foregoing supply conditions, changes in the price of elemental sulfur are not likely to affect the supply of recovered sulfur, as most recovered sulfur producers are not likely to change their production levels in response to changes in the market price.[47]

Parties also state or imply that in light of the prevailing supply conditions, there is a structural imbalance between the supply and demand of elemental sulfur both in the United States market and worldwide.[48] The increasing supply of elemental sulfur relative to demand was also a condition of competition the Commission observed in its original determination.[49] As recovered sulfur production has become larger and increasingly dominant, the imbalance between supply and demand has increased.

Another condition of competition relevant to supply concerns transportation. Elemental sulfur is shipped in specially-designed railroad cars. The number and availability of these cars is limited.[50] The parties agree that availability of rail cars and transportation costs are significant in the economics of the elemental sulfur industry.[51] This condition of competition has not changed significantly since the

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[46] *See* Original Determination Report at 26.

[47] Freeport Comments at 22-24; Freeport Response to Notice of Institution at 9; Husky Response to Notice of Institution at 6; Mulberry Comments at 14-15.

[48] Freeport Comments at 22, 26-28 (condition of "general over supply" of sulfur present in 1973 has not changed); Husky Comments at 14 (because of growth in recovered sulfur operations, elemental sulfur supply has outpaced demand); Mulberry Comments at 10 ("There is and will continue to be a glut of sulfur in the United States and around the world").

[49] Original Determination, TC Pub. 617 at 4.

[50] *See* Husky Response to Notice of Institution at 17; Freeport Comments at 38.

[51] Freeport Response to Notice of Institution at 9; Husky Response to Notice of Institution at 16-

Commission's original determination. What has changed, however, is that transportation considerations no longer appear to divide the U.S. into regional market areas. The apparent regional nature of the elemental sulfur market in 1973 led the Commission in the original determination to focus on the "up-river market" in the North Central United States where it found that the "bulk" of Canadian elemental sulfur was sold in its analysis of the effects of the subject imports.[52] By contrast, none of the parties to the instant review contend, and nothing in the record indicates, that the U.S. elemental sulfur market is or is likely to become regional in nature. To the contrary, both Husky and Freeport agree that elemental sulfur from Canada and domestically-produced product are currently sold throughout the United States.[53]

Conditions of competition relevant to demand include the following: Demand for elemental sulfur is mostly a derived demand. The great majority of elemental sulfur is used to produce sulfuric acid. In turn, the majority of sulfuric acid is used in the production of agricultural chemicals, principally phosphate fertilizers. The parties indicate that demand for elemental sulfur is derived primarily from demand for these phosphate fertilizers, the production of which has been fairly steady.[54] Elemental sulfur constitutes a relatively small proportion of the total cost of the downstream fertilizer product.[55] The parties describe the substitutability between elemental sulfur and other products as quite limited. They note that elemental sulfur is unusual since it is used as an intermediate chemical agent rather than as an

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[51](...continued)
18.

[52] *See* Original Determination, TC Pub. 617 at 5.

[53] *See* Freeport Comments at 45, 49; Husky Response to Notice of Institution at 32.

[54] Freeport Response to Notice of Institution at 3, 7; Husky Response to Notice of Institution at 30-34.

[55] Freeport Comments at 22; *see* CR at I-28, PR at I-21.

input into another product.[56] For these reasons, changes in the price of elemental sulfur are not likely to affect significantly the total demand for elemental sulfur. These conditions of competition have not changed since the Commission's original determination.[57]

Elemental sulfur purchasers are able to change suppliers with relative ease. Elemental sulfur is a commodity product. Its physical qualities tend to be the same regardless of the source of supply.[58] This condition has not changed since the original determination.[59] By contrast, the typical contractual relationship between purchaser and supplier has changed since the original determination. At the time of the original determination, most elemental sulfur was sold under contracts ranging between one and ten years in duration, which limited purchasers' ability to switch suppliers.[60] Today, according to Freeport, elemental sulfur contracts are typically one to two years in duration, and normally contain provisions calling for prices to be renegotiated at set intervals (such as quarterly) or to be tied to a formula or index.[61] Consequently, although price competition between suppliers will not significantly affect the amount of elemental sulfur demanded, it can induce purchasers to switch suppliers.

We find that the conditions of competition in the market for elemental sulfur are not likely to

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[56] Freeport Comments at 21-22; Husky Response to Notice of Institution at 31-32; Mulberry Comments at 15.

[57] *See* Original Determination Report at 29.

[58] CR at I-28, PR at I-21; *see* Freeport Response to Notice of Institution at 8.

[59] *See* Original Determination, TC Pub. 617 at 4.

[60] *See* Original Determination Report at 24. Elemental sulfur purchase contracts in 1973 typically had "meet or release" clauses stipulating that if significant quantities of elemental sulfur of a grade comparable to that being delivered by the supplier were offered to the purchaser at a price less than that being charged by the supplier, the supplier was obligated either to meet the lower price or to release that quantity of elemental sulfur from the terms of the contract. *Id.* at 24-25; *see* Original Determination, TC Pub. 617 at 7.

[61] Freeport Response to Notice of Institution at 8.

change in the reasonably foreseeable future. Accordingly, in this review the current conditions in the elemental sulfur industry are a reasonable basis from which to analyze the effects of revocation. We also find that conditions of competition are such that any effects of revocation would be likely to manifest themselves within a relatively short period of time.[62]

C. Likely Volume of Subject Imports

In evaluating the likely volume of imports of subject merchandise if the finding under review is revoked, the Commission is directed to consider whether the likely volume of imports would be significant either in absolute terms or relative to production or consumption in the United States.[63] In doing so, the Commission must consider "all relevant economic factors," including four enumerated factors: (1) any likely increase in production capacity or existing unused production capacity in the exporting country; (2) existing inventories of the subject merchandise, or likely increases in inventories; (3) the existence of barriers to the importation of the subject merchandise into countries other than the United States; and (4) the potential for product shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products.[64]

As an initial matter, we must decide which imports we should examine for purposes of our analysis. Freeport contends that we should examine all imports of elemental sulfur from Canada. Husky, however, argues that we should not examine imports from companies as to which Commerce has revoked the antidumping finding.

The statute provides that the Commission will consider the "likely volume of imports of the

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[62] Chairman Bragg does not concur in this statement.

[63] 19 U.S.C. § 1675a(a)(2).

[64] 19 U.S.C. § 1675a(a)(2)(A)-(D).

subject merchandise. . . ."[65] Subject merchandise is defined under section 771(25) of the Act as "the class or kind of merchandise that is within the scope of the investigation, a review, an order under this subtitle or section 1303 of this title, or a finding under the Antidumping Act, 1921."[66] In the instant review, Commerce has expressly excluded from the scope imports of elemental sulfur from Canada from those manufacturers and exporters as to which the finding has been revoked.[67] Thus, under the plain language of the statute, imports from the revoked companies are not "subject merchandise." Consequently, for purposes of this review our analysis of likely volume, price, and impact focuses solely on the imports from companies that have not been revoked from the finding.

The record in this expedited review indicates that subject imports accounted for approximately 20 percent of total imports from Canada in 1997, and that total imports from Canada accounted for 12.6 percent of apparent U.S. consumption of elemental sulfur in that year.[68] Consequently, subject import

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[65] 19 U.S.C. § 1675a(a)(2) (emphasis added).

[66] 19 U.S.C. § 1677(25).

[67] 63 Fed. Reg. at 67447. Commerce regulations specify that when an antidumping duty order or finding is revoked with respect to a specific exporter or producer, that exporter or producer must "agree[] in writing to its immediate reinstatement in the order, as long as any exporter or producer is subject to the order, if the Secretary concludes that the exporter or producer, subsequent to the revocation, sold the subject merchandise at less than normal value." 19 C.F.R. § 351.222(b)(2)(iii). It is true, as Freeport argues, that this provision means that any revoked company can again be made subject to the order as long as the order remains in place. Before this can happen, however, Commerce must conduct an administrative review with respect to the revoked company and find sales at less than fair value.

During the time revocation is effective, however, imports from the revoked companies are not subject to the antidumping duty order. In light of this and the fact that the scope description in Commerce's five-year review determination expressly excludes product from the revoked companies, we do not agree with Freeport that Commerce's regulation places imports from the revoked companies within the scope of the finding under review.

[68] Freeport acknowledges that the producers currently subject to Commerce's antidumping finding are responsible for a minority of Canadian elemental sulfur production. *See* Freeport Comments at 18.

market share in 1997 was approximately 2.5 percent.[69]

In a five-year review our focus is on whether subject import volume is likely to be significant in the reasonably foreseeable future if the antidumping finding is revoked. Because the facts available indicate that subject import volume is not likely to change significantly if the finding is revoked, we answer this question in the negative.

We initially observe that the data available indicate that the antidumping finding seems to have had little impact on the market penetration of *total* imports from Canada. In its original determination, the Commission stated that subject import market penetration had been about 10 percent since 1968.[70] [71] During the period from 1995 to 1997, the market penetration of combined subject and nonsubject imports from Canada only ranged from 12.1 to 13.2 percent, despite the revocation of the antidumping finding with respect to many of the largest Canadian producers prior to this period.[72] Consequently, neither imposition of the original antidumping finding nor its subsequent revocation with respect to most imports has caused any substantial variation in elemental sulfur imports from Canada in the U.S. market. This pattern suggests that revocation of the antidumping finding with respect to the remaining subject imports is not likely to lead to any significant increase in subject imports into the U.S. market.[73]

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[69] CR at I-12, PR at I-9.

[70] Original Determination, TC Pub. 617 at 7.

[71] Chairman Bragg, Commissioner Crawford, and Commissioner Askey note that in 1974, the first year after the antidumping finding was imposed, market penetration of all elemental sulfur imports from Canada actually rose to 11.8 percent. Table 1, CR at I-13, PR at I-10. By contrast, market penetration of elemental sulfur imports from Canada had been 9.4 percent in 1973. *Id.*

[72] *See* Table 1, CR at I-13, PR at I-10. *Compare* 63 Fed. Reg. at 67647, 67650 *with* CR at C-3, PR at C-3 *and* Freeport Comments, Exhibit 7. *See also* Husky Response to Notice of Institution, Exhibit 14.

[73] Chairman Bragg, Commissioner Crawford, and Commissioner Askey note that there has also been relatively little variation in the market penetration of imports from countries other than Canada in (continued...)

We also observe that the record does not indicate that there are barriers to the importation of the subject merchandise into countries other than the United States. To the contrary, the large majority of Canadian elemental sulfur exports (nearly 80 percent) is shipped to countries other than the United States.[74] Because this ratio did not vary significantly from 1995 to 1997,[75] we give little credence to Freeport's argument that constraints on Canadian exports to third-country markets have increased in recent years. In addition, the persistent imbalance between supply and demand in the U.S. market, reflected by falling sulfur prices since 1985,[76] limits any incentive for Canadian producers to shift exports from third-country markets to the United States if the antidumping finding is revoked.

Additionally, the ability of Canadian producers, including those subject to the finding, to increase exports to the United States is constrained by their ability to obtain rail cars to transport the elemental sulfur. Freeport acknowledges that an increase in the supply of railroad tank cars would be necessary for Canadian producers to increase significantly their exports to the United States, but argues that the supply of rail cars would increase to meet demand in the event of revocation.[77] In light of prevailing U.S. market conditions, the substantial presence of nonsubject imports from Canada in the U.S. market, and the presence of export markets other than the United States for Canadian producers, we perceive little incentive for the subject producers to seek an increase in rail car supply if the finding is revoked.

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[73](...continued)
recent years. Market penetration for nonsubject imports from countries other than Canada from 1995 to 1997 has varied between 5.0 and 7.4 percent. Table 1, CR at I-13, PR at I-10.

[74] Freeport Response to Notice of Institution, Exhibit 4. The record does not contain data that would enable us to calculate export ratios for the producers of subject merchandise only.

[75] Freeport Response to Notice of Institution, Exhibit 4.

[76] *See* Table 2, CR at I-30, PR at I-22; Freeport Response to Notice of Institution, Exhibit 15.

[77] Freeport Comments at 38.

Production "capacity" for the recovered sulfur producers that account for all Canadian production is simply a function of oil or natural gas production. The record indicates that production of subject and nonsubject elemental sulfur in Canada has increased in recent years and that future increases are projected.[78] Past production increases, however, did not result in increased U.S. market penetration for all Canadian imports, notwithstanding that most of the imports were not subject to the antidumping finding.[79] Consequently, we conclude that any future increases in elemental sulfur production in Canada are not likely to result in significantly increased imports of subject merchandise if the finding is revoked.

Stockpiles of block sulfur in Canada are, according to Freeport, tantamount to inventories of the product. Accepting Freeport's characterization for the sake of argument, we acknowledge that these stockpiles have increased in recent years.[80] Although none of the producers subject to the antidumping finding other than Husky responded to the notice of institution, we have assumed *arguendo* that their stockpiles have also increased.[81] [82] Before these producers could export the stockpiled material, however, they would need to incur the expense of converting it to a form in which the material could be transported.[83] By contrast, sales of current production would entail no similar expense. Given the

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[78] *See* Freeport Response to Notice of Institution, Exhibit 3. Again, the record does not contain production data pertaining exclusively to the producers of subject merchandise.

[79] *Compare* Freeport Response to Notice of Institution, Exhibit 3 *with* Table 1, CR at I-13, PR at I-10.

[80] *See* Freeport Response to Notice of Institution, Exhibit 3.

[81] There are no data in the record indicating to what extent the stockpile increase is attributable to those Canadian producers subject to the antidumping finding.

[82] Commissioner Crawford and Commissioner Askey note that while revocation of the antidumping finding may reduce the subject producers' incentive to add to their stockpiles, they do not believe that this would lead to a significant increase in subject import volume in light of the considerations discussed above.

[83] *See* Husky Response to Notice of Institution at 5.

existing and likely supply conditions in the U.S. market described above, there would likely be little incentive for conversion in the reasonably foreseeable future if the finding is revoked. We therefore find that the existence of the stockpiles is not likely to result in increased volumes of subject imports if the finding is revoked.

Finally, we observe that, because of the nature of the elemental sulfur production process, no production facility currently being used to produce other products can instead be used to produce elemental sulfur. The lack of any potential for product shifting also supports our conclusion that revocation of the antidumping finding is not likely to lead to an increase in the volume of subject imports such that the likely volume of subject imports would be significant.

D. Likely Price Effects of Subject Imports

In evaluating the likely price effects of subject imports if the antidumping finding is revoked, the Commission is directed to consider whether there is likely to be significant underselling by the subject imports as compared to domestic like products and if the subject imports are likely to enter the United States at prices that otherwise would have a significant depressing or suppressing effect on the price of domestic like products.[84]

The record in this expedited review contains very little pricing data, and provides no information comparing current prices of the domestic like product and the subject imports in the U.S. market.[85] Consequently, our conclusions regarding the likely price effects if the finding is revoked are drawn largely from our conclusions on likely subject import volumes and the pertinent conditions of

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[84] 19 U.S.C. § 1675a(a)(3). The SAA states that "[c]onsistent with its practice in investigations, in considering the likely price effects of imports in the event of revocation and termination, the Commission may rely on circumstantial, as well as direct, evidence of the adverse effects of unfairly traded imports on domestic prices." SAA at 886.

[85] The pricing data cited in the opinion in the original determination focused on Frasch producers (instead of all domestic producers) on the domestic side, and information from the "up-river" market (instead of nationwide data) on the import side. *See* Original Determination, TC Pub. 617 at 6.

competition.[86]

As we observed earlier, subject import market share is not likely to increase significantly if the antidumping finding is revoked. In fact, we find that it is likely to remain approximately at 1997 levels. We also noted that elemental sulfur is a commodity product and that there is a structural imbalance between supply and demand of elemental sulfur both in the U.S. market and worldwide. This imbalance appears to be the result of increasing recovered sulfur production in the face of relatively stable demand. U.S. prices, which have declined steadily since 1985, reflect this supply and demand imbalance.[87] We find that this imbalance is likely to continue to put downward pressure on prices in the U.S. market. In light of the low anticipated market share of subject imports and these important conditions of competition, we conclude that the subject imports are not likely to have significant price depressing or suppressing effects in the reasonably foreseeable future.

Another factor pertinent to our analysis is that transportation costs for elemental sulfur are significant. That subject Canadian elemental sulfur producers would need to charge prices sufficient to recover such transportation costs likely would limit their ability to undercut U.S. producers' prices if the antidumping finding is revoked.[88] Based on the foregoing, we find that revocation of the antidumping

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[86] Chairman Bragg notes that, pursuant to statute, when relying on facts available the Commission is entitled to take adverse inferences against interested parties that fail to respond adequately to the Commission's information requests. 19 U.S.C. § 1675(c)(3)(B), 1677e(b). She further notes that domestic producers of recovered sulfur failed to provide information in response to the Commission's notice of institution in this review. Accordingly, based on the existing record information regarding likely price effects of revocation, Chairman Bragg infers that revocation of the antidumping finding would not cause significant price effects to U.S. producers of recovered sulfur.

[87] Table 2, CR at I-30, PR at I-22; Freeport Response to Notice of Institution, Exhibit 15.

[88] Husky argues that the proximity of substantial U.S. end-users of elemental sulfur -- phosphate fertilizer producers located in the Southern and Eastern United States -- to large U.S. elemental sulfur producers located in Louisiana and Texas gives the domestic industry a "tremendous advantage" with respect to transportation costs over the Canadian producers, which are located predominantly in Alberta. *See* Husky Response to Notice of Institution at 31-32.

finding would not be likely to lead to significant underselling of the subject imports compared to the domestic like product, or to significant price depression or suppression in the reasonably foreseeable future.[89] Therefore, we find that revocation is not likely to lead to significant price effects.

E. Likely Impact of Subject Imports

In evaluating the likely impact of imports of subject merchandise if the order is revoked, the Commission is directed to consider all relevant economic factors that are likely to have a bearing on the state of the industry in the United States, including but not limited to: (1) likely declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity; (2) likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment; and (3) likely negative effects on the existing development and production efforts of the industry, including efforts to develop a derivative or more advanced version of the domestic like product.[90] All relevant economic factors are to be considered within the context of the business cycle and the conditions of competition that are distinctive to the industry.[91] As instructed by the statute, we have considered the extent to which any improvement in the state of the domestic industry is related to the antidumping finding at issue and whether the industry is vulnerable to material injury if the finding is revoked.

Freeport has not argued that issuance of the antidumping finding led to an improvement in the state of the industry, and there are no data in the record that would support such a conclusion. We also

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[89] Chairman Bragg notes that no U.S. recovered sulfur producer responded to the notice of institution in this review. Consequently, no U.S. recovered sulfur producer furnished any data that would suggest that revocation of the antidumping finding would be likely to lead to any significant changes in its prices for elemental sulfur. The lack of any response regarding the likely price effects following a revocation from the recovered sulfur producers that are responsible for 79 percent of U.S. elemental sulfur production leads her to conclude that revocation of the antidumping finding would not be likely to lead to significant underselling of the subject imports compared to the domestic like product, or to significant price depression or suppression in the reasonably foreseeable future.

[90] 19 U.S.C. § 1675a(a)(4).

[91] 19 U.S.C. § 1675a(a)(4).

observe that notwithstanding the antidumping finding the Frasch producers, who dominated the domestic industry in 1973, have all exited the market with the exception of Freeport.

Freeport has argued that the domestic industry is vulnerable to material injury if the antidumping finding under review is revoked.[92] [93] We agree that Freeport's mining operations may be vulnerable to material injury in view of the growing predominance of recovered sulfur in the U.S. market. Freeport incurred a large operating loss in 1997.[94] It also incurred a *** in the first six months of 1998 and announced plans to close one of its two Frasch mines.[95]

In any event, Freeport constitutes a minority of the domestic industry. The recovered sulfur producers that are responsible for 79 percent of U.S. elemental sulfur production did not respond to the notice of institution in this review and there are no data that support a finding of vulnerability for recovered sulfur producers. Accordingly, considering the available data for the domestic industry as a whole, we determine that the domestic industry is not vulnerable to material injury if the antidumping finding is revoked.

We also conclude that subject imports are not likely to have a significant adverse impact on Freeport or the recovered sulfur producers that make up most of the domestic industry if the finding is revoked. We found above that revocation of the antidumping finding is not likely to lead either to

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[92] *See* Freeport Response to Notice of Institution at 27; Freeport Comments at 27-29.

[93] Chairman Bragg and Commissioner Askey do not find that Freeport is vulnerable to material injury and do not join the remainder of this paragraph.

[94] As a result of its change to an independent entity, Freeport took a $425.4 million write-off of its sulfur assets in 1997. CR at I-20-22, PR at I-15-16; Freeport Response to Notice of Institution, Exhibit 17 at 4.

[95] Freeport Response to Notice of Institution, Exhibit 17 at 4. Freeport's vulnerability is mitigated by its long-term contract to supply approximately 75 percent of the elemental sulfur requirements of IMC-Agrico, the largest phosphatic fertilizer producer in the United States. *Id.* A portion of Freeport's sales to IMC-Agrico are made at a price greater than the market price. *See* Husky Response to Notice of Institution at 20-21.

significant volumes of subject imports or significant price effects. These findings in turn indicate that the subject imports are not likely to have a significant adverse impact on the domestic industry as a whole in the reasonably foreseeable future if the order is revoked.

Moreover, certain conditions specific to this industry suggest that a significant adverse impact is not likely. Notwithstanding the antidumping finding, Frasch sulfur production in the United States has declined significantly, and the number of Frasch producers and production operations has declined, while recovered sulfur production has increased significantly since the 1970s.[96] Because U.S. recovered sulfur production is likely to continue to increase independent of the antidumping finding, Freeport's difficulties competing with recovered sulfur producers are likely to continue regardless of whether the antidumping finding is revoked.[97]

Revocation would not be likely to have a significant impact on the recovered sulfur producers that account for 79 percent of U.S. elemental sulfur production. As discussed in the conditions of competition section above, recovered sulfur producers' production of elemental sulfur is a function of their production of other petrochemical products, rather than a function of conditions in the elemental sulfur market, and these producers must sell all the elemental sulfur they produce. Consequently, in the event of revocation, subject imports would not be likely to have a significant impact on recovered sulfur producers' production, shipments, or employment of production and related workers within a reasonably foreseeable time. This conclusion, combined with our conclusion regarding price effects, leads us to conclude that revocation is not likely to lead to significant reductions in these producers' revenues or operating performance. This conclusion is supported by the recovered sulfur producers' failure to

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[96] *See* Table 1, CR at I-13, PR at I-10; Freeport Response to Notice of Institution at 3-4; Original Determination, TC Pub. 617 at 3.

[97] Indeed, Freeport identifies that the supply of U.S. recovered sulfur is currently insufficient to meet domestic demand as a principal reason why its Frasch operations remain commercially viable. *See* Freeport Comments at 14.

participate in this review and to submit any data in response to the Commission's information requests that would suggest that, in the event of revocation, subject imports would be likely to have an adverse impact on their operations within a reasonably foreseeable time.[98]

Therefore, considering the domestic industry as a whole, we conclude that revocation of the antidumping finding would not be likely to lead to significant declines in output, sales, market share, profits, productivity, return on investments, and utilization of capacity, likely negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, or likely negative effects on the domestic industry's development and production efforts within a reasonably foreseeable time.

CONCLUSION

For the foregoing reasons, we determine that revocation of the antidumping finding on elemental sulfur from Canada would not be likely to lead to continuation or recurrence of material injury to the U.S. elemental sulfur industry within a reasonably foreseeable time.

[98] Chairman Bragg notes that she based her conclusion that revocation would not be likely to have a negative impact on the recovered sulfur producers primarily upon their failure to cooperate with the Commission's information requests in this review. *See* footnote 89 above.

INFORMATION OBTAINED IN THE REVIEW

INTRODUCTION

On November 5, 1998, the Commission ruled that both domestic and respondent interested party responses[1] to its notice of institution[2] of the five-year review concerning the antidumping duty finding on elemental sulfur from Canada were inadequate and that, accordingly, it would conduct an expedited review pursuant to section 751(c)(3)(B) of the Tariff Act of 1930 (19 U.S.C. § 1675(c)(3)(B)) (the Act).[3] In its notice of the review the Commission commented:

> "The Commission concluded that the domestic interested party group response was inadequate because the sole response by a domestic interested party, although individually adequate, accounted for a low share of domestic elemental sulfur production, and therefore did not represent a sufficient willingness among domestic interested parties to participate in this review and an adequate indication that they will submit information requested throughout the proceeding. We note that recovered elemental sulfur now accounts for most of domestic elemental sulfur production, but that no recovered elemental sulfur producers responded to the notice of institution. The Commission concluded that the respondent interested party group response was inadequate because the sole response by a respondent interested party, although individually adequate, accounted for a low share of subject imports and a low share of foreign production, and therefore did not represent a sufficient willingness among respondent interested parties to participate in this review and an adequate indication that they will submit information requested throughout the proceeding."

The Commission voted on December 21, 1998, and transmitted its determination to Commerce on January 19, 1999.

The Original Investigation

The original investigation was completed by the Commission in October 1973.[4] In its opinion, the Commission concluded that elemental sulfur produced by two different processes (Frasch and recovered) are the same product. Its primary analysis concerning the condition of the domestic industry, however, focused on the Frasch, rather than recovered, sulfur producers as it noted that "the U.S. sulfur industry is clearly undergoing a transition of far-reaching consequences, and one in which the Frasch-sulfur producers are most vulnerable."[5] [6] Further, in analyzing the impact of the subject imports on the

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[1] Freeport Sulfur (a U.S. producer) and Husky (a Canadian producer/exporter) provided responses to the Commission's notice of institution.

[2] 63 FR 41280, Aug 3, 1998. *Federal Register* notices relevant to this review are presented in app. A.

[3] Chairman Bragg and Commissioner Koplan dissenting.

[4] 38 FR 29655, Oct. 26, 1973. Petitioner in the original investigation was Duval Corp., a subsidiary of Pennzoil United, Inc. of Houston, TX. Report, p. 1.

[5] Commission Opinion, p. 3.

[6] In 1972, the last full year examined by the Commission, the Frasch process accounted for just over 79 percent of total elemental sulfur production with the recovered process accounting for the balance of U.S. output. By 1997, the recovered process accounted for 73 percent of U.S. production. USGS, *Mineral Industry Surveys,*

(continued...)

national market the Commission stated that it "based [its determination] on a detailed examination of conditions prevailing in the up-river market [the North Central states], where some 10 to 15 percent of U.S. sulfur consumption occurs,[7] rather than a national market.

Commerce's Final Results of Expedited Sunset Review

On December 3, 1998, the Commission received Commerce's "Final Results of Expedited Sunset Review" concerning elemental sulfur from Canada.[8] The review covered all manufacturers and exporters of elemental sulfur from Canada other than the following firms for which the finding has been revoked: Shell Canada Resources, Ltd., Canadian Superior Oil, Ltd., Chevron Standard, Ltd., Gulf Oil Canada, Ltd., Hudson's Bay Oil & Gas, Ltd., Sulconan, Inc., Irving Oil, Ltd., Tiger Chemicals, Ltd., Pan Canadian Petroleum, Ltd., Amoco Canada Petroleum, Ltd., Imperial Oil, Ltd./Exxon Chemical Americas, Inc., Canterra Energy, Ltd. (formerly Aquitaine Co. of Canada, Ltd.), CDC Oil & Gas, Ltd., Dome Petroleum, Ltd., Petrogas Processing, Ltd., Cities Service Oil & Gas, Imperial Oil, Ltd., Texaco Canada, Ltd., BP Resources Oil, Cornwell Chemical, Ltd., Home Oil, Ltd., Suncor, InterRedec, Petro Canada, and Sulco Chemicals, Ltd.

The following tabulation provides information with regard to the margin (in percent) applicable to those firms still subject to the antidumping order:

Company	Margin
Amerada Minerals	28.90
Brimstone Export	87.65
Canadian Bright Sulfur	26.95
Canadian Reserve	19.06
Canadian Reserve/Canamex	87.65
Canamex Commodity	3.20
Canterra/Brimstone	87.65
Canterra/Canamex	5.56
Home Oil-Canamex	2.86
Koch Oil	26.95
Marathon Oil	28.90
Pacific Petroleum	26.95
Pacific Petroleum-Canamex	20.28
Pan Canadian/Canamex	0.00
Petrofina	28.90
Petrosul	0.00
Rampart Resources/Sulbow Minerals	0.00
Real International Marketing	0.21

[6] (...continued)
Sulfur, Oct. 1998.

[7] Commission Opinion, p. 5.

[8] The *Federal Register* notice, published Dec. 8, 1998, is presented in app. A.

Company	Margin
Sulbow Minerals	26.95
Sulmar Canada	26.95
Sulpetro (formerly Candel Oil)	28.90
Suncor/Canamex	20.28
Union Texas	0.00
West Decalta	28.90
West Coast Transmission	28.90
All others	5.56

Insofar as Husky is concerned, Commerce "determined that the magnitude of the margin likely to prevail for Husky is the first 'new shippers' rate determined by the Department (see *Elemental Sulfur from Canada: Final Results of Administrative Review of Antidumping Finding*; 48 FR 53592 (November 28, 1983))." In that notice Commerce stated that for "any new shipment from a new exporter not covered in this or prior administrative reviews, whose first shipments occurred after November 30, 1981, and who is unrelated to any covered firm, a cash deposit of 5.56 percent shall be required on future entries." Hence, the margin applicable to Husky will be 5.56 percent.

THE PRODUCT

Sulfur, often referred to as brimstone, is a nonmetallic element found in native form in certain salt-dome structures, bedded gypsum evaporate basin formations, and volcanic rocks. Sulfur is also found combined with hydrogen sulfide in natural gas, petroleum and tar sands, metal sulfide ores, mineral sulfates, and coal. Sulfur ranks as one of the more important elements used as an industrial raw material and is of prime importance in fertilizer production.

Elemental sulfur may be classified by its method of production. Frasch[9] sulfur is produced from salt domes or sedimentary deposits by conventional mining methods and recovered sulfur is generally produced as a byproduct of petroleum and sour natural gas processing.

Production Processes[10]

The Frasch method is used to "voluntarily" mine sulfur reserves which occur in salt domes[11] in the Gulf Coast regions of the southern United States and in sedimentary deposits[12] in huge evaporate basins such as found in western Texas. Elemental sulfur may also occur in other types of surface or

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[9] Dr. Herman Frasch determined that sulfur could be melted underground by injecting superheated water into salt dome formations and then bringing the molten sulfur to the surface with a sucker pump. The process was commercialized in 1902 and was important in the development and production of sulfur from the Texas-Louisiana salt dome area. *Kirk-Othmer Encyclopedia of Chemical Technology* (Third Edition, Vol. 22), p. 78.

[10] Derived from process descriptions found in *Kirk-Othmer Encyclopedia of Chemical Technology* (Third Edition, Vol. 22), pp. 78-105 and 267-296.

[11] Salt domes are vertical structures, usually circular in outline with steeply dipping flanks. The cap rock which surmounts such salt domes frequently contains limestone interspersed with veins, seams, fissures, and cavities. Sulfur occurs as well-developed crystal aggregates in the veins or as disseminated particles in the porous limestone section of the cap rock. *Kirk-Othmer Encyclopedia of Chemical Technology* (Third Edition, Vol. 22), p. 83.

[12] This sulfur was derived by hydrocarbon reduction of sulfate materials assisted by anaerobic bacteria, which permitted the reaction to occur at ambient temperature. Id.

underground deposits, but seldom in concentrations or locations which are commercially viable.[13] Sulfur is also recovered as a byproduct from various process operations. Such sulfur is termed "involuntary" or "nondiscretionary" sulfur and accounts for the largest portion of the world sulfur production.

Frasch Process

In the Frasch process, large quantities of hot water are introduced through wells drilled into buried sulfur deposits. The hot water melts the sulfur in the well vicinity and the molten high-purity sulfur is then pumped to the surface. Depending on mine location, the liquid sulfur may then be pumped to storage vats to be solidified, to tanks for storage as a liquid, to pipelines, or to thermally insulated barges for transport to a central shipping terminal. Although mine life varies, sulfur production from salt domes is finite. Further, sulfur extraction weakens the rock formation and may cause subsidence, which can break well pipes and end its productivity.[14]

Cost effective salt dome or subsurface sulfur deposit Frasch process mining requires porous sulfur-bearing limestone, a large and dependable supply of water,[15] and a source of inexpensive fuel. A power plant is required to produce the necessary volume of hot water, compressed air for pumping molten sulfur from the wells, and electric power for drilling, lighting, operating maintenance equipment, loading sulfur for shipment, and similar operations.

Recovered Process

Recovered sulfur is generally produced as a nondiscretionary byproduct of petroleum and sour natural gas production processes which first strip hydrogen sulfide from the hydrocarbon and then convert it to elemental sulfur. An increase in sour crude oil processing, combined with strict pollution controls, forced petroleum refineries to recover the sulfur content of crude oil. There are many methods for both stripping hydrogen sulfide gases from natural gas and petroleum and for processing the stripped gases to recover sulfur, and many factors affect process selection.[16]

Amine reagents in aqueous solution are widely used in a stripping process whereby the amine absorbs hydrogen sulfide and carbon dioxide[17] from sour natural gas. The basic engineering design includes an absorber in which a lean water solution of an amine absorbs the hydrogen sulfide and carbon dioxide gases from the sour natural gas and a stripper in which heat, usually in the form of steam, separates the hydrogen sulfide and carbon dioxide gases from the amine solution, which is then recycled.

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[13] For example, volcanic origin sulfur deposits originated from gases emitted from active craters or hot springs which contained deposited sulfur and built up in fractures of rock or lake beds. Most volcanic sulfur deposits are located at high elevations which make production and transportation costs prohibitive. Id., p. 84.

[14] Directional drilling techniques, whereby pipe casings extend into the sulfur formation somewhat horizontally, better utilize heating water and extend well life.

[15] This water may be deoxygenated seawater heated by steam from high-pressure boilers. Production may involve seawater both from stationary systems and portable, barge-mounted power plants.

[16] Including the volume of gas to be processed and its temperature and pressure, the desirability of sulfur recovery, the selectivity required, the types of impurities present, the concentrations of the impurities, air-pollution regulations, and specifications to be met to sell the processed product.

[17] Collectively referred to as "acid gas."

The Claus process[18] is also widely used to strip hydrogen sulfide and convert it to elemental sulfur. There are two variations of the Claus process: the first is a straight-through process in which air, hydrogen sulfide, and carbon dioxide gases pass through a combustion zone; the second is a split-flow process in which all air and at least one-third of the acid gas pass through a combustion zone and the remaining acid gas is sent to a catalytic reactor. Air-pollution regulations require modern Claus plants to be equipped with a combustion stage, one-to-four catalytic converters, and a tail-gas clean-up unit.

In the Claus process, energy is consumed by the air blower, incinerator, boiler feed water, and reheating of reactor feeds and liberated in steam, the liquid sulfur product, steam condensate, boiler blowdown, stack gas, and losses. The sulfur-recovery plant air feed is dependent on the hydrogen sulfide concentration in the acid gas and the quantity of combustible impurities, and both reaction heat balance and sulfur recovery are affected by the feed to the plant. Claus plants operate at nearly atmospheric pressure with a standard bauxite catalyst. As hydrogen sulfide gas is extremely toxic and quickly paralyzes the sense of smell, safety is very important in its handling and processing.

Environmental Issues

Elemental sulfur is not considered to be an environmentally hazardous material and may be stockpiled in large, free-form exposed stacks with relatively minor amounts of sulfur leaching into the surrounding ground area. The major environmental issue surrounding sulfur is air pollution, or release of sulfur into the atmosphere, from combustion of sulfur-containing fuels. The U.S. Clean Air Act Amendments of 1990 led to increased recovery of sulfur, such as that contained in petroleum, natural gas, and ores, to comply with emissions regulations applicable directly to processing facilities or indirectly through restrictions on sulfur content of fuels sold or used by the facility.[19] However, a growing deficiency of sulfur in soils, due to tightening environmental regulations that decrease sulfur dioxide emissions, intensified agricultural production, and lack of availability of sulfur as a nutrient in high analysis fertilizers; led to recognition of sulfur as a major plant nutrient.[20]

USGS notes that the environmental necessity to remove sulfur from solid, liquid, and gaseous effluents has caused the production of sulfur and sulfur compounds from these sources to exceed production from primary sources of supply. The long-term prospect is that 85 percent or more of the world sulfur supply will come from environmentally regulated sources and that output from these sources will be produced regardless of world sulfur demand. As a result, it is probable that no new operation that produces sulfur as its primary product will be developed and that more discretionary operations will be curtailed. USGS notes that as more countries enact and enforce environmental legislation on a par with North American and European laws, tremendous new quantities of sulfur could be recovered.[21]

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[18] The basic Claus process was invented in 1883, but its large-scale use in the United States began in the 1950s. *Kirk-Othmer Encyclopedia of Chemical Technology* (Third Edition, Vol. 22), p. 94.

[19] USGS, *Mineral Industry Surveys, Sulfur,* Oct. 1998.

[20] Jim Fahner, "The Canadian Sulphur Industry; Opportunities and Challenges on the Horizon" (paper presented at the 66th International Fertilizer Industry Association Annual Conference, Toronto, Canada, May 11-14, 1998), p. 10.

[21] USGS, *Mineral Industry Surveys, Sulfur,* Oct. 1998.

Industry Characteristics

As noted previously, elemental sulfur is one of the most widely used commodity chemicals in the world, having many applications in the chemical industry, most notably its use in manufacturing phosphatic fertilizers for agriculture usage. However, the demand for sulfur is a "derived" demand influenced by the economic well being of the downstream industries. The primary consumer of sulfur, accounting for some 65 percent of consumption, is the fertilizer industry.[22] The fertilizer industry's demand for sulfur is determined by agriculture's demand for phosphatic or sulfur-containing fertilizers. Elemental sulfur is converted to sulfuric acid, which is then reacted with phosphate rock to make various phosphatic fertilizers, primarily diamonium phosphate.[23] The second largest consumer of sulfuric acid is the petroleum refining industry. Sulfur is also used (not necessarily sulfuric acid) as a bleaching agent in the pulp, paper, and leather industries, as elemental sulfur fertilizer, and as a chemical reagent in many synthetic organic industries (e.g., dyes, detergents, plastics, etc.).

The supply of sulfur is dominated by nondiscretionary sulfur recovered as a byproduct of petroleum, natural gas, and coke production, as mandated by Federal and state environmental regulations. Hence, there is no price mechanism in the sulfur market that will control the production of this sulfur.[24] Since the Commission's 1973 finding, recovered sulfur has replaced Frasch-mined sulfur as the leading source of elemental sulfur in the United States as companies have added the necessary equipment and improved the technology to produce the recovered product. In 1997, recovered sulfur accounted for 73 percent of U.S. production. Sulfur demand is derived primarily from demand for phosphatic fertilizers used in agriculture. Overall aggregate phosphatic fertilizer (and sulfur) demand has been basically stable, growing only slightly in recent years.[25]

Both sulfur and phosphatic fertilizer operations are determined by the location of their primary inputs (sulfur and phosphate deposits) and the cost of transportation. Further, the continued influence of environmental regulations requiring petroleum and gas refiners to remove sulfur from their products, combined with the presence of stable demand, are likely to maintain low prices and some imbalance.[26]

Substitutability between sulfur and other products is quite limited. Sulfur is unusual in that it is used as an intermediate chemical reagent rather than as an input in another product. When used as a reagent, the chemistry of the reaction dictates what is used. When used as elemental sulfur as in agriculture, there is no other product that is available. The report in the 1973 investigation noted that sulfur is a very small portion of finished products, citing industry estimates that stated a $1-per-ton reduction in the price of sulfur would decrease the price of a 50-pound bag of diamonium phosphate by

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[22] Id.

[23] More than 80 percent of elemental sulfur is converted to sulfuric acid before it is used in fertilizer or other applications. Id.

[24] Freeport Sulfur brief, p. 9 and Husky brief, p. 6.

[25] See, for example, Mannsville Chemical Products Corp., *Chemical Products Synopsis: Sulfur,* Jan. 1998.

[26] For a discussion of these concerns, see, for example, Gretchen Busch, "Sulfur's Oversupply Still Depressing Prices," *Chemical Marketing Reporter*, Sept. 28, 1992, p. 3; Edward Swain, "Sulfur Recovery in U.S. Refineries Is at an All-Time High," *Oil & Gas Journal*, Apr. 21, 1997, pp. 71-73; and Pierre L. Louis, presentations at the 65th and 66th International Fertilizer Industry Association Annual Conferences.

about 1 cent.[27] Sulfur is a commodity chemical with little opportunity to distinguish itself among suppliers by offering different physical characteristics beyond the solid or molten states. The difference between the yellow and brown (less pure) grades of sulfur does not seem to be an important determinant in the larger applications.[28]

U.S. IMPORTS AND CONSUMPTION

1997 domestic consumption of elemental sulfur in all forms was slightly higher than in 1996. Of the elemental sulfur consumed, the greatest portion was supplied by U.S. recovered sulfur producers followed by the U.S. Frasch producer and imports of recovered sulfur. Table 1 and figure 1 present consumption figures for elemental sulfur for selected years from 1970 to 1997. Total imports from Canada accounted for 12.6 percent of apparent U.S. consumption in 1997. Customs reported the value of imports from Canada that were subject to the antidumping order as follows:

FY 1994	$41,855,099
FY 1995	6,792,038
FY 1996	6,711,691
FY 1997	3,257,465

Applying Husky's reported unit value for its exports in 1997,[29] the $3.3 million of subject imports in FY 1997 represents just over 20 percent of the quantity of total imports from Canada.

The USGS collected end-use data on elemental sulfur according to the Standard Industrial Classification of industrial activities. Elemental sulfur differs from most other major mineral commodities in that its primary use is as a chemical reagent rather than as a component of a finished product. This use generally requires that it be converted to an intermediate chemical product prior to its initial use by industry. The largest elemental sulfur end use, sulfuric acid, represented 80 percent of reported consumption with an identified end use.[30] Because of its desirable properties, sulfuric acid retained its position as the most universally used mineral acid and the most produced and consumed inorganic chemical, by volume. Reported U.S. consumption of sulfur in sulfuric acid was unchanged from 1996.

Agriculture was the largest elemental sulfur-consuming industry[31] despite a slight decrease to 8.2 million tons compared with 8.3 million tons reported in 1996. The second largest end use for elemental

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[27] Report, p. 29.

[28] *Kirk-Othmer Encyclopedia of Chemical Technology* (Third Edition, Vol. 22), p. 97.

[29] Husky brief, Exhibit 16.

[30] USGS notes that some survey respondents identified elemental sulfur end uses that were tabulated in the "Unidentified" category because these data were proprietary. Data collected from companies that did not identify shipments by end use also were tabulated as "Unidentified." Although there are no supporting data, USGS believes it can be reasonably assumed that a significant portion of the elemental sulfur in the "Unidentified" category was shipped to elemental sulfuric acid producers or was exported. USGS, *Mineral Industry Surveys, Sulfur,* Oct. 1998.

[31] The largest agricultural application is in fertilizer production. Elemental sulfur itself is an essential plant nutrient, ranking in importance with nitrogen and phosphorus in forming protein. Mannsville Chemical Products Corp., *Chemical Products Synopsis: Sulfur*, Jan. 1998.

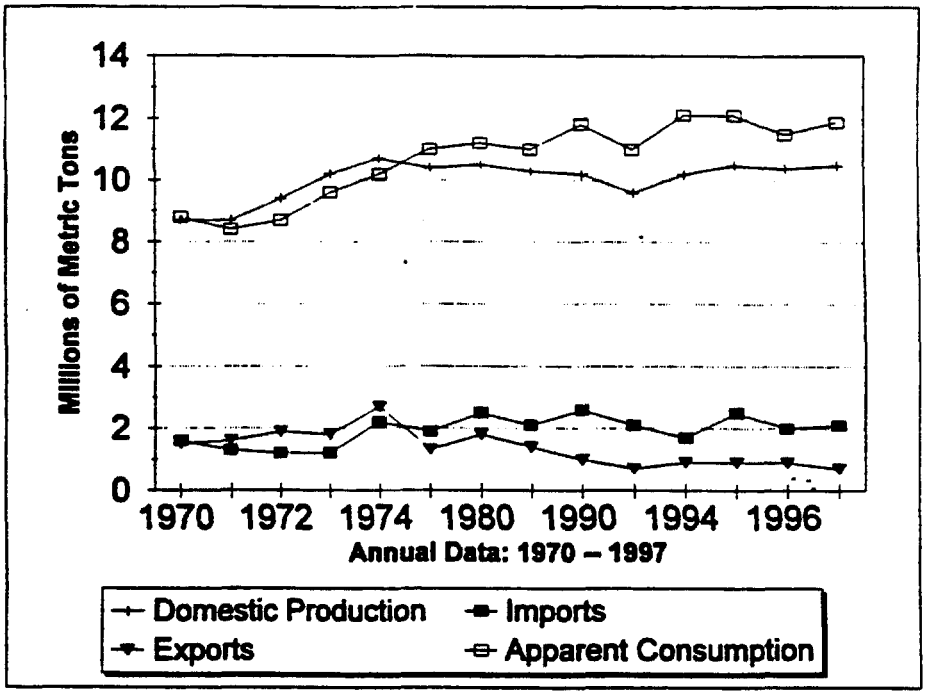
Table 1
Elemental sulfur: U.S. production (by process), imports, exports, and apparent consumption, 1970-97 (selected years)

(In million metric tons)

Year	Production			Imports			Exports	Apparent consumption
	Frasch	Recovered	Total	Canada	Other	Total		
1970	7.2	1.5	8.7	1.0	0.6	1.6	1.5	8.8
1971	7.1	1.6	8.7	0.8	0.5	1.3	1.6	8.4
1972	7.4	2.0	9.4	0.9	0.3	1.2	1.9	8.7
1973	7.7	2.5	10.2	0.9	0.3	1.2	1.8	9.6
1974	8.0	2.7	10.7	1.2	1.0	2.2	2.7	10.2
1975	7.3	3.1	10.4	0.9	1.0	1.9	1.3	11.0
1980	6.4	4.1	10.5	1.5	1.0	2.5	1.7	11.3
1985	5.0	5.3	10.3	1.4	0.7	2.1	1.4	11.0
1990	3.7	6.5	10.2	1.4	1.2	2.6	1.0	11.8
1993	1.9	7.7	9.6	1.5	0.6	2.1	0.7	11.0
1994	3.0	7.2	10.2	1.1	0.6	1.7	0.9	11.0
1995	3.2	7.3	10.5	1.6	0.9	2.5	0.9	12.1
1996	2.9	7.5	10.4	1.4	0.6	2.0	0.9	11.5
1997	2.8	7.7	10.5	1.5	0.6	2.1	0.7	11.9

Source: Compiled from USGS and USBM (before 1996) annual reports for years specified.

Figure 1
Elemental sulfur: U.S. production, imports, exports, and apparent consumption, 1970-97 (selected years)



Source: Table 1.

sulfur was in petroleum refining and other petroleum and coal products industries, with demand increasing from 1996 to 1997.

Insofar as the longer term outlook for the sulfur industry is concerned, the USGS report views it as being unchanged--increased output combined with slower growth in consumption resulting in variable prices and growing inventories. USGS notes that "discretionary producers are in a more vulnerable position than nondiscretionary producers." According to USGS, world sulfur demand is forecast to increase at an annual rate of 2 percent per annum over the next 10 years, with growth of consumption in the United States expected to be modest.[32] Likewise, FERTECON sees "no significant change" in demand in the North American market over the next few years.[33]

THE U.S. INDUSTRY

Unless otherwise noted, the discussion in this section comes directly from the USGS *Mineral Industry Surveys, Sulfur* (1997 Annual Review), October 1998.[34] For its reports, the USGS collects monthly production statistics from U.S. elemental sulfur operations that account for 100 percent of total U.S. elemental sulfur production. All operations receiving survey requests for the 1997 Annual Review responded.

In 1997, domestic elemental sulfur production, shipments, consumption, imports, and prices were slightly higher than the previous year and the United States maintained its longstanding position as the world's leading producer and consumer of elemental sulfur and sulfuric acid.[35] The quantity of elemental sulfur recovered during petroleum refining and natural gas processing continued an upward trend that dates back to 1939[36] while production of elemental sulfur using the Frasch process was slightly lower than in 1996. Although elemental sulfur is produced in 26 states, three states (Texas, Louisiana, and Wyoming) accounted for approximately 57 percent of domestic production during 1997. A list of U.S. elemental sulfur producers is presented in appendix B.

Frasch Production

From the 1970s through the early 1990s, U.S. production of elemental sulfur by the Frasch method experienced a long, steady decline from a level of over 7 million metric tons to a level near 3 million metric tons.[37] Frasch production declined largely as the result of increases in the nondiscretionary production of recovered sulfur that were driven primarily by environmental regulations

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[32] USGS, *Mineral Industry Surveys, Sulfur,* Oct. 1998.

[33] FERTECON, *Outlook for Sulphur Supply Demand 1996-2003,* Oct. 1998, p. 37. FERTECON International, Inc. is an international consulting and market analysis firm focusing on the fertilizer and associated product industries.

[34] Prior to 1996, when the Government's minerals information activities were transferred to the USGS, the USBM was responsible for data collection in the minerals industries.

[35] Canada is the world's largest producer of gas-recovered elemental sulfur. FERTECON, *Outlook for Sulphur Supply Demand 1996-2003,* Oct. 1998, p. 5.

[36] 1939 was the second year the USBM published data on the production of this type of elemental sulfur in its *Minerals Yearbook.*

[37] With the exception of 1992/93, U.S. Frasch production has since remained near the 3 million metric ton level. Mannsville Chemical Products Corp., *Chemical Products Synopsis: Sulfur,* Jan. 1998.

limiting allowable emission from processing facilities and restrictions on the elemental sulfur content of fuels.

Freeport Sulfur, the largest elemental sulfur marketer in the world,[38] is presently the only U.S. producer using the Frasch method of production. It operates two Frasch mines, one located in Louisiana and the other in Texas. The Main Pass, LA mine is located 27 kilometers off the Louisiana coast in the Gulf of Mexico while the Culberson County, TX facility is located in the western part of the State some 150 miles east of El Paso. In addition to the two mines, Freeport Sulfur operates elemental sulfur forming and elemental sulfur loading facilities in Galveston, TX and Tampa, FL.[39] According to Freeport Sulfur, 1997 production at Main Pass and Culberson averaged about 5,500 and 2,400 metric tons per day, respectively, throughout the year.[40]

Late in 1997, Freeport Sulfur became an independent, publicly traded company. It was spun off as an independent company when Freeport-McMoRan, Inc., previously its corporate parent, merged with IMC Global, Inc. All of Freeport McMoRan, Inc.'s sulfur assets and as well as IMC Global's share of the Main Pass operation transferred to Freeport Sulfur as part of the agreement.[41]

In June 1998, Freeport Sulfur announced plans to close the Culberson County mine during the third quarter of the year; however, those plans have been delayed due to the temporary shut down of the Main Pass facility in response to the adverse weather conditions created by Hurricane Georges. Present plans now call for the Culberson County mine to operate at reduced rates through "at least" the fourth quarter of 1998.[42]

At the time of the Commission's 1973 finding, there were five U.S. firms, operating 12 mines, producing elemental sulfur by the Frasch method. During 1972, the last full year examined by the Commission, Frasch producers were responsible for just over 79 percent of total elemental sulfur production, with recovered producers accounting for the balance of U.S. production. By 1997, the lone Frasch producer accounted for 27 percent of total elemental sulfur production, while recovered elemental sulfur producers accounted for the other 73 percent.

The USGS figure for 1997 Frasch production (Freeport Sulfur's production) is much higher than the figure Freeport Sulfur reported in its response to the Commission's notice of institution (2.8 metric tons versus 2.0 metric tons). Using Freeport Sulfur's reported production figure and USGS' reported production of recovered sulfur, total estimated production would be 9.7 million metric tons and Freeport Sulfur's share would be 21 percent.

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[38] Id.

[39] The Culberson County mine as well as the Tampa and Galveston facilities were purchased from Pennzoil Sulfur in 1995.

[40] Freeport Sulfur 1997 10-K, pp. 4-5. The elemental sulfur reserves at Main Pass are 53.6 million metric tons while the Culberson County reserves are 7.6 million metric tons. Freeport Sulfur is also a purchaser of recovered elemental sulfur, purchasing "almost one million tons per year." Approximately 32.5 percent its 1997 sales were supplied from its recovered elemental sulfur purchases. Id., p. 2.

[41] *Green Markets.*

[42] Freeport Sulfur press release, Nov. 9, 1998.

Recovered Production

Recovered elemental sulfur is a nondiscretionary byproduct from petroleum refining, natural gas processing, and coking plants, and is produced primarily to comply with environmental regulations that are applicable directly to emissions from the processing facility or indirectly by restricting the elemental sulfur content of the fuels sold or used by the facility. In 1997, recovered elemental sulfur was produced by 51 companies at 134 plants in 26 States.[43] Most of these plants were relatively small, with only 25 reporting annual production exceeding 100,000 tons. By source, 68 percent of recovered production was produced at petroleum refineries or satellite plants treating refinery gases and coking plants, with the remainder being produced at natural gas treatment plants. The largest recovered producers are Exxon Corp., Amoco Corp., Chevron Corp., Mobil Oil Corp., Star Enterprises, and Shell Oil Co. These companies collectively owned 41 plants that accounted for over 55 percent of recovered sulfur output during 1997.

Over the past few years, the oil and gas industry has undergone significant consolidation, a trend that USGS notes as continuing in 1997. A number of the smaller producers have merged in recent years and in 1997 two major U.S. companies announced their intentions to merge. Shell Oil Co. and Texaco Inc. expected to combine their refining and marketing operations in 1998.[44]

As part of the merger, Star Enterprises, a joint venture between Texaco and Saudi Aramco, was to become part of a new, bigger company. Briefly, Saudi Aramco, Shell, and Texaco were to merge refining and marketing capabilities under two operating units. One, Equilon Enterprises, was established to control the new alliance's activities in the western United States and the other, Motiva Enterprises, will operate in the Eastern United States. According to USGS, the new alliances should be among the top elemental sulfur producers in the United States.

Based on available information, U.S. producers of elemental sulfur products are likely to respond to changes in demand fairly rapidly and with sufficient quantities to meet demand in the U.S. market. Supply responsiveness is due to the excess of supply that exists as a norm in both the world and in the United States. The existence of strict environmental regulations requiring oil and gas producing companies to eliminate sulfur from their fuels has increased the number of suppliers and is the force that consistently maintains supply in the United States. In 1973, the Commission reported the existence of five Frasch sulfur producers and 55 oil and gas recovered sulfur producers.[45] By 1996, the *Oil & Gas Journal* reported 623 operating natural gas treating plants and 64 associated sulfur recovery units. The report also listed 166 operating refineries, 110 of which had sulfur recovery facilities.[46] However, even with this increase in sulfur recovery capacity, supplies may not be evenly allocated throughout the country. For example, approximately 70 percent of natural gas is produced in the southwest and Gulf states, but only about 50 percent of U.S. recovered sulfur comes from these gas fields. Another 45

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[43] Additionally, there was one plant each in Puerto Rico and the U.S. Virgin Islands

[44] On December 1, 1998, Exxon Corp. and Mobil Oil Corp. announced their intention to merge. Details of the merger's impact on their respective sulfur operations are not available.

[45] Report (Oct. 12, 1973), pp. 9-11. As noted previously, there is presently only one U.S. Frasch producer.

[46] For a discussion of the 1996 *Oil & Gas Journal* survey, see Edward Swain, "Sulfur Recovery in U.S. Refineries Is at an All-Time High," *Oil and Gas Journal*, Apr. 21, 1997, pp. 71-73.

percent of the U.S. sulfur supply comes from gas produced in the Wyoming region due to the high sulfur content of that region's gas.

Industry Operating Capacity[47]

Both operating capacity and production increased for the recovered sulfur producers in recent years. U.S. recovered sulfur producers have increased operating capacity by adding both more and improved sulfur capturing technology while Frasch mining companies have reduced operating capacity as they closed mines in response to declining prices of sulfur.[48] In addition, operating capacity for sulfur production is also affected by the amount of sulfur in the petroleum and gas streams. In recent years, the amount of sulfur in natural gas has declined while the amount of sulfur in crude petroleum has increased.[49]

Export Markets

U.S. producers' export shipments are very small compared to shipments to the U.S. market. In 1997, the United States exported about 703,000 metric tons and shipped domestically about 10.4 million metric tons. U.S. export shipments, which accounted for approximately 6 percent of total 1997 shipments, dropped 18 percent from 1996 levels. Major export markets for U.S. sulfur include India, Brazil, and Senegal. U.S. exports were also relatively small when compared to exports from Canada, Saudi Arabia, Japan, the former Soviet Union, and Poland, all of which exported more than 1 million metric tons, and which, in the aggregate, accounted for approximately 68 percent of world exports in 1997.[50]

Financial Information

Freeport Sulfur is the only current U.S. producer of elemental sulfur using the Frasch method. Freeport Sulfur also purchases recovered sulfur for resale as well as producing and selling oil. The other U.S. elemental sulfur producers generate recovered sulfur as a byproduct from their natural gas and/or oil refining operations. Separate financial results of operations data for byproducts are not typically maintained by manufacturers of primary products. For accounting purposes, the net realizable value from the sale of byproducts is usually either deducted from the production expenses of the primary product or shown as other revenue or income, and thus there is no separate measurement of income or loss. Revenues from byproducts usually are substantially less than those for the primary product. However, this could vary in certain situations such as the Caroline project cited in the petitioner's brief where revenues from sulfur can exceed those from the sale of natural gas.[51]

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[47] Operating capacity may be defined as short-run operating capacity.

[48] Gretchen Busch, "Sulfur's Oversupply Still Depressing Prices," *Chemical Marketing Reporter*, Sept. 28, 1992, pp.1-2.

[49] Edward Swain, "Sulfur Recovery in U.S. Refineries Is at an All-Time High," *Oil & Gas Journal*, Apr. 21, 1997, pp. 71-73; and Pierre L. Louis, presentation at the 66th International Fertilizer Industry Association Annual Conference, Toronto, Canada, May 11-14, 1998, p. 61.

[50] USGS, *Mineral Industry Surveys, Sulfur*, Oct. 1998.

[51] "The large Caroline project in Alberta, Canada, was developed with that expectation." Freeport Sulfur brief, p. 4. There is no available information that a meaningful amount of U.S. production of recovered sulfur comes

(continued...)

In the 1973 investigation, the Frasch sulfur producers accounted for just over 79 percent of total sulfur production in 1972, and the recovered sulfur producers accounted for nearly 21 percent.[52] In that investigation, six Frasch-producers submitted results of operations data, but there were no financial responses from the recovered sulfur producers.[53]

Freeport Sulfur, a publicly held company, has been independent since December 22, 1997. Its predecessor companies were involved in oil and gas partnerships and chemicals. On August 3, 1998, it announced that it and McMoRan Oil & Gas would become wholly owned subsidiaries of a newly formed holding company, McMoRan Exploration Co. Freeport Sulfur's overall operations consist of produced sulfur, the purchase and sale of recovered sulfur (which accounted for approximately 32.5 percent of its 1997 sulfur sales), and revenues from its oil operations. The sale of sulfur (purchased and produced) accounted for approximately 90 percent of Freeport Sulfur's revenues in the nine-month period ending September 30, 1998. Its main customer for sulfur, accounting for 65 percent of sulfur sales, is IMC-Agrico, which uses it to produce phosphate fertilizers. IMC-Agrico was a former affiliate of Freeport Sulfur, but the sales values are basically at market prices.

In 1997, Freeport Sulfur took a large write-off[54] of its sulfur assets prior to becoming an independent company. In its 1997 10-K report, Freeport Sulfur stated that the change in the nature of its operations to an independent entity may limit the use of historical financial information as a basis for comparing the current condition of the company.[55] Its overall operations are summarized in the tabulation on the following page (in $1,000, except as shown).[56]

[51] (...continued)
from facilities that produce more recovered sulfur than their natural gas and/or refined oil products.

[52] Report, p. 12, by calculation.

[53] The responding six producers accounted for the "bulk" of U.S. production under the Frasch method during the period examined by the Commission. Report, p. 38.

[54] The write-off consisted of a major increase in depreciation and amortization expense. See footnote 58 on the following page for a fuller explanation.

[55] Freeport Sulfur 1997 10-K, p. 23.

[56] Id., p. 28, and Sept. 30, 1998 10-Q, pp. 4 and 10.

	1995	1996	1997	Jan.-Sept– 1997	1998
Net sales (long tons)	3,049,500	2,900,000	2,907,500	2,167,000	2,460,000
Sulfur average price per ton	$70.44	$61.78	$61.04	$60.75	$59.96[57]
Net sales	$255,949	$221,426	$211,945	$158,304	$164,531
Operating income or (loss)	$25,020	$12,392	($439,316)	($425,171)	$44
Net income or (loss) before taxes	$25,020	$12,392	($374,199)	($425,171)	$1,154

Note: The 1995 operating income includes charges totaling $7.0 million allocated to Freeport Sulfur to reflect a compensation charge pursuant to a management services agreement. The 1997 loss includes charges totaling $425.4 million for an impairment assessment of sulfur assets and $9.9 million for an increase in estimated reclamation costs for sulfur properties, drilling costs for an additional brine well, and a reduction of sulfur inventory book value to market value.[58] Net income for 1997 reflects a tax adjustment. The January-September 1998 period includes a $3.5 million net benefit ($2.3 million to net income) for a reduction in Culberson pension and post-retirement liabilities net of other closure-related costs and includes a $9.5 million charge ($6.2 million to net income) for the write-off of Culberson mine assets. The 1998 period also reflects lower depreciation rates primarily because of the third-quarter 1997 impairment of sulfur assets. Hurricane Georges in September 1998 also affected operations for the nine-month period in 1998.

Stocks

Year-end stocks held by Frasch and recovered elemental sulfur producers increased in 1997 by about 19 percent from those of 1996. On the basis of apparent consumption of all forms of elemental sulfur, combined year-end stocks amounted to about a 20-day supply in 1997 compared with a 17-day supply in 1996 and a 15-day supply in 1995.[59]

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[57] In its Sept. 30, 1998 10-Q financial report (pp. 9-10), Freeport Sulfur indicated that it expects an increase of $3.00 in its sulfur contract prices for the fourth quarter of 1998.

[58] "In 1995 the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 121 which requires an assessment of the carrying value of long-lived assets and a reduction of such carrying value to fair value when events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. In September 1997, Freeport Sulfur concluded that the carrying value of the Main Pass sulfur assets exceeded the undiscounted estimated future net cashflows, such that an impairment writedown of $416.4 million was required. A similar analysis of the Culberson mine sulfur assets, based on a reassessment of recoverable reserves utilizing recent production history, also indicated that a writedown of $9.0 million was required. Fair values were estimated using discounted estimated future net cash flows related to these assets. The writedowns in fair value were recorded in the third quarter of 1997 and are reflected in the financial statements as additional depreciation and amortization charges. Future operating results of Freeport Sulfur will reflect lower depreciation and amortization expense as result of these writedowns." Freeport Sulfur 1997 10-K, p. 30

[59] USGS, *Mineral Industry Surveys, Sulfur,* Oct. 1998.

U.S. IMPORTERS

According to Freeport Sulfur's brief, Canadian producers of elemental sulfur are responsible for virtually all U.S. imports of Canadian product.[60] In this regard, the following Canadian firms are cited by Freeport Sulfur as being known to have exported the "subject merchandise" to the United States since the Commission's 1973 finding:[61]

AEC West, Ltd.
Anderson Exploration, Ltd.
Canadian Forest Oil, Ltd.
Canwest
Chevron Canada Resources
Conoco Canada, Ltd.
CXY Energy Marketing
Enerplus Resources Corp.
Esso Resources Canada, Ltd.
Gulf Canada Resources, Ltd.
Hamilton Bros. Canadian Gas Co., Ltd.
Highridge Exploration, Ltd.
Husky
Mobil Oil Canada
NCE Resources Group, Inc.
Northrock Resources, Ltd.
Northstar Energy Corp.
OMERS Resources, Ltd. (Pensionfund Energy Resources, Ltd.)
Paddon Hughes Development Co.
Palmer Ranch
Petro-Canada Oil and Gas
Poco Petroleum, Ltd.
Prime West Energy Trust, Inc.
Star Oil and Gas
Talisman Energy
Union Pacific Resources, Ltd.

In its brief, Husky says that it believes that it is currently the only producer of sulfur in Canada that is known to be exporting subject merchandise and is still covered by the order, and that the only *** companies that import Husky's sulfur are ***.[62]

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[60] Freeport Sulfur notes that FERTECON indicates that the Canadian producers are the importers of "virtually all" of the imports of Canadian sulfur. Additionally, Freeport Sulfur notes that DuPont has identified itself as an importer in its entry of appearance in this review. Freeport Sulfur brief, p. 30.

[61] This list does not include the Canadian sulfur producers that are not subject to the finding. Id., pp. 30-32.

[62] Husky brief, p. 23 and Exhibits 10-11.

THE CANADIAN INDUSTRY[63]

Canada is second to the United States in production of elemental sulfur in all forms. In 1997, Canada led the world in the production of recovered elemental sulfur,[64] exports,[65] and stockpiled material. It also remains the world's largest producer of gas-recovered elemental sulfur.[66] The majority of the production came from natural gas plants in Alberta, where elemental sulfur inventories reached nearly 10 million tons. A list of Canadian elemental sulfur producers is presented in appendix C.

Eight sulfur producers in Western Canada account for over 70 percent of total Canadian production. Shell Canada, Ltd. is the largest individual sulfur producer, accounting for 30 percent of total Western Canada production. Amoco Canada Petroleum Co., Ltd., Husky, and Shell Canada, Ltd., together account for almost 50 percent of total production and directly market their own production.[67] In 1997, Canadian export levels of 1.4 million metric tons to the United States accounted for 20 percent of Canada's total exports. Sulfur is exported in liquid form via Canadian and U.S. railways to the southeastern United States, supplying primarily the phosphate fertilizer industry in Florida. Canada is the largest exporter to the United States, supplying close to 70 percent of total U.S. imports of sulfur.[68]

In addition to the large sour gas deposits in Alberta, the area contains huge oil sand deposits known as the Adiabascan Oil Sands, with estimated reserves of 1.7 to 2.5 billion barrels of crude oil, 300 million barrels of which are recoverable. In 1997, about 20 percent of Canadian crude oil production came from oil sands. These deposits also contain 4 to 5 percent sulfur that must be removed during processing. Several major projects to expand exploitation of oil sands were announced in 1997, representing proposed investments of nearly $13 billion. Production from oil sands contributed nearly 700,000 metric tons to total Canadian sulfur output in 1997; completion of the proposed new projects could produce an additional 1 to 2 million metric tons per year.[69]

FACTORS AFFECTING PRICES

Costs of Production

Publicly available production costs for Frasch mined sulfur and recovered sulfur are not available. In its brief, Husky noted that "stripping the H_2S from the gas and/or oil and converting it into

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[63] Unless otherwise noted, the discussion in this section comes directly from USGS, *Mineral Industry Surveys, Sulfur* (1997 Annual Review), Oct. 1998.

[64] Likewise, in other major producing countries (e.g., France, Germany, Iran, Russia, Saudi Arabia, and the United States), recovered elemental sulfur is the predominant form of elemental sulfur. Nondiscretionary sources represented about 75 percent of the elemental sulfur in all forms produced worldwide.

[65] In addition to Canada, other major exporting countries, in descending order of importance, include Saudi Arabia, Japan, the former Soviet Union (individual countries unspecified), and Poland. In 1997, each exported more than I million metric tons of elemental sulfur and together they accounted for 68 percent of world trade.

[66] FERTECON, *Outlook for Sulphur Supply Demand 1996-2003,* Oct. 1998, p. 5.

[67] Jim Fahner, "The Canadian Sulphur Industry; Opportunities and Challenges on the Horizon" (paper presented at the 66th International Fertilizer Industry Association Annual Conference, Toronto, Canada, May 11-14, 1998), p. 10.

[68] Id. p. 5.

[69] USGS, *Mineral Industry Surveys, Sulfur,* Oct. 1998.

elemental sulfur . . . is the single most costly component of gas processing and oil refining from sour wells."[70] However, because recovering sulfur is mandated by environmental regulations, sulfur is not the primary product in the industry (although theoretically possible, companies do not enter or exit the oil or gas industries as a consequence of sulfur-related environmental costs). Husky also observes that "the production of sulfur is dictated not by the sulfur market but by (1) the need to produce gas and refined oil products meeting pipeline quality specifications; (2) the level and concentration in the gas/oil stream and (3) the stringent environmental standards."[71] Freeport states that "[s]ince recovery of sulfur from natural gas is legally required before the gas can be sold, recovered sulfur production is a nondiscretionary result of sour natural production and processing once a project is operational. However, depending on the economics of a particular gas project, the revenues from the sale of sulfur can exceed the revenues from the sale of natural gas."[72]

For Frasch-mined sulfur, mining costs are an important business consideration as sulfur deposit geology and mine production costs may vary by location. Therefore, costs of mined sulfur production and product market price are important factors in sulfur deposit exploration.[73] Furthermore, mining typically becomes more costly as mines age and the deposits are depleted. Over the last two decades as average sulfur prices have fallen relative to mining costs, a number of U.S. mines have closed.

Transportation Costs

Transportation costs are a significant element in the pricing structure. As the price of sulfur declines, transportation costs will likely become more significant. While sulfur is not physically difficult to handle, one component of transportation cost is the need to ship sulfur in heated tankers or railcars to keep the sulfur molten. Virtually all sulfur shipped in the United States, whether domestically produced or imported from either Canada or Mexico, is molten. In its brief, Husky discussed a possible railway tank car shortage due to an aging fleet of cars and the attendant temporary transportation disruptions as an important factor that could complicate the transportation component of sulfur pricing in the future.[74] Freeport agrees that "the cost of transportation and availability of sulfur railroad cars are significant to the economics of the sulfur industry."[75] The relative ease of handling helps make sulfur an internationally traded commodity; the cost of shipping relative to its value influences its competitiveness in various markets.

Exchange Rates

Exchange rates reported by the IMF for Canada for selected years from 1970 forward are shown in figure 2. The Canadian dollar depreciated relative to the U.S. dollar from 1990 through 1997 by 15 percent.

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[70] Husky brief, p. 3.

[71] Id. p.6.

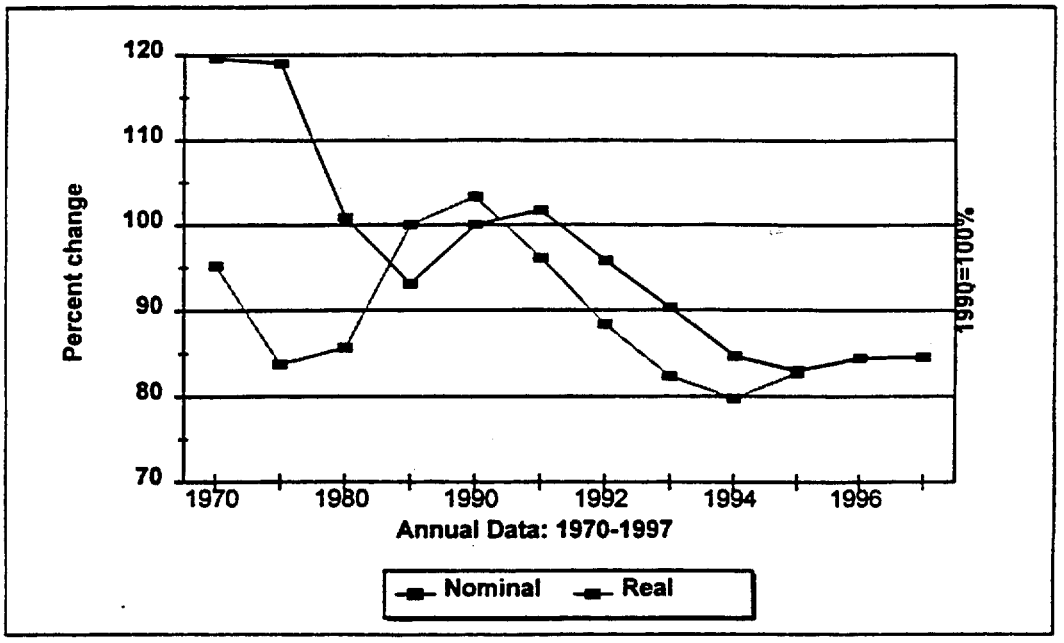
[72] Freeport brief, p. 4.

[73] *Kirk-Othmer Encyclopedia of Chemical Technology* (Third Edition, Vol. 22), pp. 84-86.

[74] Husky brief, pp. 16-18. The possible shortage was also discussed in a paper presented by Pierre L. Louis at the 65th International Fertilizer Industry Association Annual Conference, Beijing, May 19-22, 1997 . Louis, "Fertilizer and Raw Materials Supply and Supply/Demand Balances," p. 41.

[75] Freeport Sulfur brief, p. 9.

Figure 2
Exchange rates: Indexes of exchange rates of the Canadian dollar relative to the U.S. dollar, by year, 1970, 1975, 1980, 1985, and 1990-97



Source: IMF, *International Financial Statistics*, Nov. 1998.

Pricing Practices

In the aggregate, the demand for sulfur may tend to be price-inelastic, since the sulfur is likely to be used in fixed proportions as determined by the chemistry of the downstream process, and the fact that there are unlikely to be many substitutes for sulfur without changing the process and incurring capital costs. The 1973 Report further discussed the issue that the price of sulfur is a small portion of the cost of the finished product.[76] However, it also seems likely that for the sulfur consumer, the choice of supply source should be quite sensitive to price (the cross-price elasticity of demand for sulfur should be quite high). Sulfur is a commodity product having little opportunity to physically distinguish itself among various sources and is sold in large quantities both in contract and in spot market transactions.[77] The shift in sources that has occurred since the 1970s would imply a high cross-price elasticity. Aggregate demand has not increased dramatically, while the source of supply has steadily switched from Frasch-produced sulfur to the less expensive recovered sulfur.

Large U.S. producers seek to negotiate contract prices, but some analysts indicate that contracts have become more flexible as the market has become more competitive.[78] The discussion of contracts explored in the original investigation does not appear to be as widely mentioned in recent publicly available literature. In the 1970s, most sulfur was sold under the terms of purchase contracts with a duration of up to 10 years to ensure dependability of supply for the customers and economies of scale for the producers.[79] Owing to the long-term nature of the contracts, meet-or-release clauses were often included in the contracts. In this regard, the Report noted:

> "The contract price, if one is included, may be rendered meaningless by the inclusion of a meet-or-release clause–a provision which stipulates that if significant quantities of sulfur of a grade comparable to that being delivered by the supplier are offered to the purchaser at a price less than that being charged by the supplier, the supplier is obligated to either meet the lower price or to release that quantity of sulfur from the terms of the contract."[80]

According to Freeport Sulfur, current contracts are of a "much shorter duration, in the realm of one to two years."[81] [82] Freeport Sulfur further notes that while it is unaware as to the prevalence of meet-or-release provisions in current contracts, "it is currently normal practice for contracts to contain provisions calling for prices to be renegotiated at set quarterly or other specific points in time, or for contract prices to be tied to a formula or index."[83]

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[76] Report, p. 29.

[77] There has been discussion about various grades of sulfur, with recovered sulfur being somewhat purer than mined. When sulfur is converted to sulfuric acid and then used in a "dirty" operation, such as dissolving phosphate rock, however, there should be no need to start with pure sulfur. *Kirk-Othmer Encyclopedia of Chemical Technology* (Third Edition, Vol. 22), p. 97.

[78] Edward Swain, "Sulfur Recovery in U.S. Refineries Is at an All-Time High," *Oil & Gas Journal*, Apr. 21, 1997, pp. 71-73.

[79] Report, p. 24.

[80] Id., pp. 24-25.

[81] Freeport Sulfur brief, Exhibit 17, p. 3.

[82] An exception to the shorter contracts is a 10-year contract negotiated between a U.S. phosphoric acid plant located in North Carolina and a Venezuelan sulfur company. The acid shipped will be molten. USGS, *Mineral Industry Surveys, Sulfur,* Oct. 1998.

[83] Freeport Sulfur brief, Exhibit 17, p. 3.

PRICE DATA

Sulfur prices are reported in various weekly publications such as Green Markets, and the *Chemical Marketing Reporter*.[84] These prices are quoted for specific locations such as Tampa, FL or Vancouver, Canada. However, the prices are not derived from actual market transactions, and often represent current market conditions as perceived by selected buyers and sellers.[85] Table 2 contains annual (1985-96) and quarterly (1997-98) price data for selected ports collected by *Green Markets*. The prices listed are on an f.o.b. basis at the producer's plant gate, terminal, or pipeline point unless otherwise noted.

Table 2
Elemental sulfur: Price data for selected ports, by year (1985-96) and by quarter (January 1997-October 1998)

(In dollars per metric ton)

	New Orleans	Tampa		Vancouver	
Year	Contract	Contract	Spot	Contract	Spot
1985	$77.87	$99.83	-	$135.93	$144.45
1986	74.11	96.65	-	135.15	127.45
1987	79.81	116.69	-	100.10	96.88
1988	76.38	118.45	$122.00	95.92	99.37
1989	74.00	120.55	126.70	97.49	114.93
1990	69.60	120.38	120.64	86.52	109.70
1991	66.11	119.29	114.71	81.98	83.11
1992	59.63	113.85	83.66	55.12	49.49
1993	57.00	106.85	70.00	34.23	30.35
1994	55.50	100.86	58.04	40.60	45.31
1995	57.10	97.81	75.73	53.52	56.48
1996	57.50	94.63	65.42	36.88	34.81
1997Q1	52.50	63.08	63.25	31.15	35.27
1997Q2	54.81	66.54	64.67	33.50	35.50
1997Q3	55.50	67.00	65.00	34.58	36.58
1997Q4	55.50	67.00	65.00	34.83	36.50
1998Q1	54.88	65.27	63.33	29.46	25.88
1998Q2	53.80	64.50	61.70	25.00	22.50
1998Q3	53.50	64.50	61.50	25.00	22.50
1998Q4	56.50	67.50	-	-	22.50

Source: *Green Markets.*

[84] *Green Markets* is published by Pike & Fisher, Inc. and has executive offices in Bethesda, MD; *Chemical Market Reporter* is published by Schnell Publishing with offices in New York, NY.

[85] For a list of the limitations of the survey prices, see footnotes to the price tables in the various issues of *Green Markets.* In some cases, such as Vancouver, it is easy to distinguish the type of sulfur, since only recovered sulfur is shipped out of this port. In Tampa, FL, there are deliveries of both Frasch and recovered sulfur.

Using USGS/USBM sulfur price data, table 3 recreates a set of historical prices presented in a recent market analysis in the *Oil & Gas Journal*.[86]

Table 3
Elemental sulfur: Estimated prices, Frasch and recovered, 1986-95

(In dollars per metric ton)

Year	Frasch	Recovered	Average
1986	$123.79	$92.06	$105.22
1987	107.16	79.63	89.78
1988	99.24	77.03	85.95
1989	100.18	78.70	86.62
1990	91.17	73.89	80.14
1991	87.05	64.17	71.45
1992	58.15	44.47	48.14
1993	51.60	25.06	31.86
1994	54.44	17.72	28.45
1995	66.00	34.78	43.33

Source: *Oil & Gas Journal*, Apr. 21, 1997, p. 72.

LIKELY EFFECTS OF REVOCATION

Both Freeport Sulfur and Husky offered comments concerning the likely effects of revocation of the antidumping order. Freeport Sulfur voiced the view that given the "conditions of competition and the growing supply surplus, revocation of the finding would lead to a substantial injurious impact on the U.S. sulfur industry." Further, it stated that in the absence of the finding, "the import volume of very low priced imports of Canadian sulfur would be immense."[87]

While acknowledging differences in impact for Frasch and recovered producers, Freeport Sulfur said the impact would nevertheless be "severely injurious" for both. With respect to its Frasch operations, Freeport Sulfur stated that revocation would allow Canadian sulfur to be offered at prices that would cause its customers to either switch to Canadian product or force Freeport Sulfur to reduce prices to hold business. Should the prices it receives fail to cover its production costs, Freeport Sulfur says it will be forced to suspend production at its mining operations.[88] For U.S. recovered sulfur producers, Freeport Sulfur argued that the impact would be more in the nature of reduced prices since those producers and the Canadian producers "must continue to produce sulfur so long as they process and sell

[86] Edward Swain, "Sulfur Recovery in U.S. Refineries Is at an All-Time High," *Oil & Gas Journal*, Apr 21, 1997, p. 72.

[87] Freeport Sulfur brief, p. 25.

[88] In this regard, Freeport Sulfur made note of its recently announced plans to close its Culberson County, TX mine. Id., p. 27.

gas and petroleum products."[89] Freeport Sulfur further noted that recovered sulfur producers cannot stop producing sulfur without closing their entire petroleum and gas production operations and that there may be such operations "for which the decline in sulfur revenues would be sufficient to make the entire gas facility uneconomic and thus cause it to be shut down as well."[90] Additionally, Freeport Sulfur made mention that U.S. recovered producers operate under a constraint not shared by Canadian producers in that "U.S. environmental regulations effectively prevent the U.S. recovered producers from 'pouring to block' and stockpiling sulfur." Hence, recovered sulfur that is produced domestically must be sold or disposed of at "considerable cost."[91]

For its part, Husky argued that while the pattern and producer composition of exports from Canada might be altered by revocation of the order, such action would "encourage, at most, a truly negligible change in the aggregate volume of shipments from Canada to the United States."[92] Husky, which views itself as essentially the only Canadian producer/exporter covered by the order, said that any increase in its shipments resulting from the revocation "would be, for all intents and purposes, fully offset by induced reductions in U.S. shipments by other Canadian producers who are presently not subject to the order."[93] Husky then went on to say that since the "price effects attributable to removal of the order require an accompanying increase in import shipments, the absence of aggregate volume increases implies directly that prices, as well, will not fall once the order is revoked."[94] In support of its conclusions, Husky put forward three characteristics of the market as reinforcing its position:

> "First, Husky's shipments account for a tiny share of the U.S. and world markets. It is a price taker, and is not even potentially significant enough to influence prices.
>
> Second, shipments to the United States of liquid sulfur require specially designed heated rail tanker cars that are uniquely serviceable for that purpose. These cars are in limited supply and are, to the best of Husky's knowledge, presently fully utilized. Hence, any hypothetical increase in U.S. shipments by Husky related to revocation of the order must necessarily be (emphasis added by Husky) offset by reductions in imports from other current Canadian suppliers.
>
> Third, North American liquid sulfur prices are tied to the world market for elemental sulfur and reflect consistently the global (emphasis added by Husky) balance between supply and demand."[95]

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[89] Id., p. 25.
[90] Id., p. 26.
[91] Id., p. 26.
[92] Husky brief, p. 13.
[93] Id., pp. 13-14.
[94] Id., p. 14.
[95] In this regard, Husky made reference to Exhibit 15 of its brief as illustrating the pattern of sulfur price changes in a variety of marketing areas around the world. Id., p. 14.

APPENDIX A

FEDERAL REGISTER NOTICES

INTERNATIONAL TRADE COMMISSION

[Investigation No. AA1921–127 (Review)]

Elemental Sulphur from Canada

AGENCY: United States International Trade Commission.

ACTION: Scheduling of an expedited five-year review concerning the antidumping duty order on elemental sulphur from Canada.

SUMMARY: The Commission hereby gives notice of the scheduling of an expedited review pursuant to section 751(c)(3) of the Tariff Act of 1930 (19 U.S.C. § 1675(c)(3)) (the Act) to determine whether revocation of the antidumping duty order on elemental sulphur from Canada would be likely to lead to continuation or recurrence of material injury. For further information concerning the conduct of this review and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A, D, E, and F (19 CFR part 207). Recent amendments to the Rules of Practice and Procedure pertinent to five-year reviews, including the text of subpart F of part 207, are published at 63 F.R. 30599, June 5, 1998, and may be downloaded from the Commission's World Wide Web site at http://www.usitc.gov/rules.htm.

EFFECTIVE DATE: November 5, 1998.

FOR FURTHER INFORMATION CONTACT: Jim McClure (202–205–3191), Office of Investigations, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202–205–1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000. General information concerning the Commission may also be obtained by accessing its internet server (http://www.usitc.gov).

SUPPLEMENTARY INFORMATION

Background

On November 5, 1998, the Commission determined that both domestic and respondent interested party responses to its notice of institution (63 F.R. 41280, August 3, 1998) of the subject five-year review were inadequate.[1] The Commission

[1] Chairman Bragg and Commissioner Koplan dissenting.

concluded that the domestic interested party group response was inadequate because the sole response by a domestic interested party, although individually adequate, accounted for a low share of domestic sulphur production, and therefore did not represent a sufficient willingness among domestic interested parties to participate in this review and an adequate indication that they will submit information requested throughout the proceeding. We note that recovered sulphur now accounts for most of domestic sulphur production, but that no recovered sulphur producers responded to the notice of institution. The Commission concluded that the respondent interested party group response was inadequate because the sole response by a respondent interested party, although individually adequate, accounted for a low share of subject imports and a low share of foreign production, and therefore did not represent a sufficient willingness among respondent interested parties to participate in this review and an adequate indication that they will submit information requested throughout the proceeding. The Commission did not find any other circumstances that would warrant conducting a full review. Accordingly, the Commission determined that it would conduct an expedited review pursuant to section 751(c)(3) of the Act. A record of the Commissioners' votes and the statement of Chairman Bragg are available from the Office of the Secretary and at the Commission's web site.

Staff Report

A staff report containing information concerning the subject matter of the review will be placed in the nonpublic record on December 3, 1998, and made available to persons on the Administrative Protective Order service list for this review. A public version will be issued thereafter, pursuant to section 207.62(d)(4) of the Commission's rules.

Written Submissions

As provided in section 207.62(d) of the Commission's rules, interested parties that are parties to the review and that have provided adequate responses to the notice of institution,[2] and any party other than an interested party to the review may file written comments with the Secretary on what determination the Commission should reach in the review. Comments are due on or before December 8, 1998, and may not contain new factual information. Any person that is neither a party to the five-year review nor an interested party may submit a brief written statement (which shall not contain any new factual information) pertinent to the review by December 8, 1998. If comments contain business proprietary information (BPI), they must conform with the requirements of sections 201.6, 207.3, and 207.7 of the Commission's rules. The Commission's rules do not authorize filing of submissions with the Secretary by facsimile or electronic means.

In accordance with sections 201.16c and 207.3 of the rules, each document filed by a party to the review must be served on all other parties to the review (as identified by either the public or BPI service list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

Determination

The Commission has determined to extend the period of time for making its expedited determination in this review by up to 90 days pursuant to 19 U.S.C. § 1675(c)(5)(B).

Authority: This review is being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.62 of the Commission's rules.

By order of the Commission.

Issued: November 13, 1998.

Donna R. Koehnke,

Secretary.

[FR Doc. 98-30887 Filed 11-18-98; 8:45 am]

BILLING CODE 7020-02-P

[2] The Commission has found responses submitted by Freeport-McMoRan Sulphur Inc. and Husky Oil Ltd. to be adequate. Comments from other interested parties will not be accepted (see 19 CFR 207.62(d)(2)).

DEPARTMENT OF COMMERCE

International Trade Administration

[A-122-047]

Final Results of Expedited Sunset Review: Elemental Sulphur From Canada

AGENCY: Import Administration, International Trade Administration, Department of Commerce.

ACTION: Notice of Final Results of Expedited Review: Elemental Sulphur from Canada.

SUMMARY: On August 3, 1998, the Department of Commerce ("the Department") initiated a sunset review (63 FR 41227) of the antidumping finding on elemental sulphur from Canada pursuant to section 751(c) of the Tariff Act of 1930, as amended ("the Act"). On the basis of a notice of intent to participate and substantive comments filed on behalf of the domestic industry, and inadequate response (in this case no response) from respondent interested parties, the Department determined to conduct an expedited review. As a result of this review, the Department finds that revocation of antidumping finding would be likely to lead to continuation or recurrence of dumping at the levels located in the Appendix to this notice.

FOR FURTHER INFORMATION CONTACT: Martha V. Douthit or Melissa G. Skinner, Office of Policy for Import Administration, International Trade Administration, U.S. Department of Commerce, 14th St. & Constitution Ave., NW, Washington, D.C. 20230; telephone (202) 482-3207 or (202) 482-1560, respectively.

EFFECTIVE DATE: December 8, 1998.

Statute and Regulations

This review was conducted pursuant to section 751(c) and 752 of the Act. The Department's procedures for the conduct of the sunset reviews are set forth in *Procedures for Conducting Five-year ("Sunset") Reviews of Antidumping and Countervailing Duty Order*, 63 FR 13516 (March 20, 1998) ("*Sunset Regulations*"). Guidance on methodological or analytical issues relevant to the Department's conduct of sunset reviews is set forth in the Department's Policy Bulletin 98:3—*Policies Regarding the Conduct of Five-year ("Sunset") Reviews of Antidumping and Countervailing Duty Orders; Policy Bulletin*, 63 FR 18871 (April 16, 1998) ("Sunset Policy Bulletin").

Scope

The merchandise subject to this antidumping finding is elemental sulphur from Canada. This merchandise is classifiable under Harmonized Tariff Schedule (HTS) subheadings 2503.10.00, 2503.90.00, and 2802.00.00. Although the HTS subheadings are provided for convenience and for U.S. Customs purposes, the written description of the scope of this finding remains dispositive.

This review covers all manufacturers and exporters of elemental sulphur from Canada other than the following for which the finding has been revoked: Shell Canada Resources, Ltd., Canadian Superior Oil, Ltd., Chevron Standard, Ltd., Gulf Oil Canada, Ltd., Hudson's Bay Oil & Gas, Ltd.,[1] Sulconan, Inc., Irving Oil, Ltd.,[2] Tiger Chemicals Ltd., Pan Canadian Petroleum Ltd., Amoco Canada Petroleum Company, Ltd., Imperial Oil Ltd./Exxon Chemical Americas, Inc., Canterra Energy Ltd.(formerly Aquitaine Company of Canada, Ltd.), CDC Oil & Gas Ltd., Dome Petroleum Ltd.,[3] PetroGass Processing, Ltd., Cities Service Oil & Gas, Imperial Oil Limited, and Texaco Canada Ltd.,[4] BP Resources Oil, Cornwell Chemical Ltd., Home Oil Ltd., Suncor,[5] InterRedec,[6] Petro Canada,[7] and Sulco Chemicals Ltd.[8]

Background:

On August 3, 1998, the Department initiated a sunset review of the antidumping duty finding on elemental sulphur from Canada (63 FR 41227) pursuant to section 751(c) of the Tariff Act of 1930. On August 18, 1998, the Department received a Notice of Intent to Participate from Freeport-McMoRan Sulphur Inc. ("Freeport"). Freeport claimed interested party status under section 771(9)(C) of the Act as a U.S. manufacturer of elemental sulphur. Freeport stated that it acquired the sulphur production operations of Pennzoil Company ("Pennzoil") and Duval, a subsidiary of Pennzoil. Duval was the original petitioner in this proceeding in 1972 and has actively participated in several administrative reviews. We received a complete substantive response from Freeport on September 2, 1998, within the 30-day deadline specified in the *Sunset Regulations* under section 351.218(d)(3)(i). Noting that it has requested revocation of the finding, on

[1] *Elemental Sulphur From Canada; Final Results of Administrative Review and Partial Revocation of Antidumping Finding;* 47 FR 3811 (January 27, 1982) (revocation with respect to Shell Canada, Ltd. and Canadian Superior Oil, Ltd.); *Elemental Sulphur From Canada; Partial Revocation of Antidumping Finding;* 48 FR 40760 (September 9, 1983) (revocation with respect to Chevron); *Elemental Sulphur From Canada; Revocation of Antidumping Finding in Part;* 49 FR 1920 (January 16, 1984) (revocation with respect to Hudson's Bay Oil & Gas Company Limited and Gulf Oil Canada Limited); *Elemental Sulphur From Canada; Reinstatement in Part of Antidumping Finding;* 51 FR 19580 (May 30, 1986) (reinstatement of finding with respect to Shell Canada Resources, Ltd., Canadian Superior Oil, Ltd., Chevron Standard, Ltd., Gulf Oil Canada, Ltd., and Hudson's Bay Oil & Gas, Ltd.); and *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review and Revocation in Part;* 53 FR 1048 (January 15, 1988) (revocation with respect to Shell Canada Resources, Ltd., Canadian Superior Oil, Ltd., Chevron Standard, Ltd., Gulf Oil Canada, Ltd., and Hudson's Bay Oil & Gas, Ltd.).

[2] *Elemental Sulphur From Canada; Final Results of Administrative Review and Partial Revocation of Antidumping Finding;* 47 FR 31716 (July 22, 1982) (revocation with respect to Sulconam, Inc. and Irving Oil, Ltd.).

[3] *Elemental Sulphur From Canada; Final Results of Administrative Review of Antidumping Finding and Revocation in Part;* 50 FR 37889 (September 18, 1985) (revocation with respect to Tiger Chemicals, Ltd., Pan Canadian Petroleum, Ltd., Amoco Canada Petroleum Company, Ltd., Imperial Oil, Ltd./Exxon Chemical Americas, Inc., Canterra Energy (formerly Aquitaine Company of Canada, Ltd.), CDC Oil & Gas, Ltd., and Dome Petroleum, Ltd.).

[4] *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review and Revocation in Part;* 55 FR 13179 (April 9, 1990) (revocation with respect to PetroGass Processing, Cities Service Oil & Gas, Imperial Oil, and Texaco Canada).

[5] *Elemental Sulphur From Canada; Final Results of Antidumping Duty; Administrative Review and Revocation in Part;* 55 FR 43152 (October 26, 1990) (revocation with respect to B.P. Resources Canada, Cornwall Chemical, Home Oil, and Suncor).

[6] *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review and Revocation in Part;* 56 FR 5391 (February 11, 1991) (revocation with respect to InterRedec Sulphur Corporation).

[7] *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review and Revocation in Part;* 56 FR 15068 (April 19, 1991) (revocation with respect to Petro-Canada).

[8] *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review and Revocation in Part;* 57 FR 1452 (January 14, 1992) (revocation with respect to Sulco Chemicals, Ltd.).

September 1, 1998, Husky Oil Ltd., waived its right to participate in the Department's sunset review. We did not receive a substantive response from any respondent interested parties to this proceeding. As a result, pursuant to section 751(c)(3)(B) of the Act, and our regulations (19 CFR 351.218(e)(1)(ii)(C)(2)), the Department determined to conduct an expedited review.

Determination

In accordance with section 751(c)(1) of the Act, the Department conducted this review to determine whether revocation of the antidumping would be likely to lead to continuation or recurrence of dumping. Section 752 of the Act provides that, in making this determination, the Department shall consider the weighted-average dumping margins determined in the investigation and subsequent reviews and the volume of imports of the subject merchandise for the period before and the period after the issuance of the antidumping finding, and shall provide to the International Trade Commission ("the Commission") the magnitude of the margin of dumping likely to prevail if the finding is revoked.

The Department's determinations concerning continuation or recurrence of dumping and the magnitude of the margin are discussed below. In addition, parties' comments with respect to continuation or recurrence of dumping and the magnitude of the margin are addressed within the respective sections below.

Continuation or Recurrence of Dumping

Drawing on the guidance provided in the legislative history accompanying the Uruguay Round Agreements Act ("URAA"), specifically the Statement of Administrative Action ("the SAA"), H.R. Doc. No. 103-316, vol. 1 (1994), the House Report, H.R. Rep. No. 103-826, pt.1 (1994), and the Senate Report, S. Rep. No. 103-412 (1994), the Department issued its *Sunset Policy Bulletin* providing guidance on methodological and analytical issues, including the bases for likelihood determinations. In its *Sunset Policy Bulletin*, the Department indicated that determinations of likelihood will be made on an order-wide basis (*see* section II.A.3). In addition, the Department indicated that normally it will determine that revocation of an antidumping order is likely to lead to continuation or recurrence of dumping where (a) dumping continued at any level above *de minimis* after the issuance of the order, (b) imports of the subject merchandise ceased after the issuance of the order, or (c) dumping was eliminated after the issuance of the order and import volumes for the subject merchandise declined significantly (*see* section II.A.3).

The antidumping finding on elemental sulphur from Canada was published in the **Federal Register** as Treasury Decision 74-1 (38 FR 34655, Dec. 17, 1973). Since that time, the Department has conducted numerous administrative reviews.[9] The finding remains in effect for all imports of elemental sulphur from Canada other than those for which the finding has been revoked, as discussed previously.

In its substantive response, Freeport applied the criteria contained in the Department's *Sunset Policy Bulletin* and concluded that revocation of the finding would result in continued and increased dumping. Freeport provided in its comments a table which identified dumping margins, by company, over the life of the finding. Freeport claimed that this evidence demonstrated that, in practically every case, dumping not only continued, but that the margin of dumping remained steady or increased. In addition, Freeport provided a table presenting Census data on the total quantity of sulphur imported into the United States from Canada and stated that imports have decreased every year since 1992, when the domestic industry began requesting administrative reviews.

We find that the existence of dumping margins after the issuance of the finding is highly probative of the likelihood of continuation or recurrence of dumping. Deposit rates above de minimis levels continue in effect for exports by several Canadian manufacturers and exporters of elemental sulphur (for example Allied Signal Inc., Brimstone Export, Mobil Oil Canada, Ltd., Norcen Energy Resources, Petrosul International). As discussed in Section II.A.3 of the *Sunset Policy Bulletin*, the SAA at 890, and the House Report at 63-64, if companies continue dumping with the discipline of an order in place, the Department may reasonably infer that dumping would continue if the discipline were removed. Therefore, given that dumping has continued over the life of the finding, and absent argument and evidence to the contrary, the Department determines that dumping is likely to continue if the finding were revoked.

Magnitude of the Margin

In the *Sunset Policy Bulletin*, the Department stated that, in a sunset review of an antidumping finding for which no company-specific margin or "all others" rate is included in the Treasury finding published in the **Federal Register**, the Department normally will provide to the Commission the company-specific margin from the first final results of administrative review published in the **Federal Register** by the Department. Additionally, if the first final results do not contain a margin for a particular company, the Department normally will provide the Commission, as the margin for that company, the first "new shipper" rate established by the Department for that finding. (*See* section II.B.1 of the *Sunset Policy Bulletin*). Exceptions to this policy include the use of a more recently calculated margin, where appropriate, and consideration of duty absorption

[9] *Elemental Sulphur From Canada; Final Results of Administrative Review and Partial Revocation of Antidumping Finding;* 47 FR 3811 (January 27, 1982); *Elemental Sulphur From Canada; Final Results of Administrative Review of Antidumping Finding;* 47 FR 14507 (April 25, 1982); *Elemental Sulphur From Canada; Final Results of Administrative Review and Partial Revocation of Antidumping Finding;* 47 FR 31716 (July 22, 1982); *Elemental Sulphur From Canada; Final Results of Administrative Review of Antidumping Finding;* 47 FR 31911 (July 23, 1982); *Elemental Sulphur From Canada; Partial Revocation of Antidumping Finding;* 48 FR 40760 (September 9, 1983); *Elemental Sulphur From Canada; Final Results of Administrative Review of Antidumping Finding;* 48 FR 53592 (November 28, 1983); *Elemental Sulphur From Canada; Revocation of Antidumping Finding in Part;* 49 FR 1920 (January 16, 1984); *Elemental Sulphur From Canada; Final Results of Administrative Review of Antidumping Finding and Revocation in Part;* 50 FR 37889 (September 18, 1985); *Elemental Sulphur From Canada; Reinstatement in Part of Antidumping Finding;* 51 FR 19580 (May 30, 1986); *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review;* 51 FR 43954 (December 5, 1986); *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review;* 51 FR 45153 (December 17, 1986); *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review;* 52 FR 41601 (October 29, 1987); *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review and Revocation in Part;* 53 FR 1048 (January 15, 1988); *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review;* 53 FR 15257 (April 28, 1988); *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review and Revocation in Part;* 55 FR 13179 (April 9, 1990); *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review;* 55 FR 28794 (July 13, 1990); *Elemental Sulphur From Canada; Final Results of Antidumping Duty; Administrative Review and Revocation in Part;* 55 FR 43152 (October 26, 1990); *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review and Revocation in Part;* 56 FR 5391 (February 11, 1991); *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Review and Revocation in Part;* 57 FR 1452 (January 14, 1992); *Elemental Sulphur From Canada; Final Results of Antidumping Finding Administrative Review;* 61 FR 8239 (March 4, 1996); *Elemental Sulphur From Canada; Final Results of Antidumping Duty Administrative Reviews;* 62 FR 37970 (July 15, 1997).

determinations. (*See* section II.B.2 and 3 of the *Sunset Policy Bulletin.*)

Because Treasury did not publish weighted-average dumping margins in its finding, and such margins are not otherwise publicly available, the margins determined in the original investigation are not available to the Department for use in this sunset review. Under these circumstances, the Department normally will select the margin from the first administrative review conducted by the Department as the magnitude of the margin of dumping likely to prevail if the finding is revoked. We note that, to date, the Department has not issued any duty absorption findings in this case.

In its substantive comments, Freeport suggests that the Department use the margins from both the first (which covered 33 companies) and second (which covered 17 companies) final results of administrative review because both determinations established company-specific margins for the period in the 1970s immediately following the issuance of Treasury's 1973 antidumping finding. For companies covered in either of these first two reviews for which margins have increased over the life of the finding, Freeport recommends that the Department select the highest rate applied to those companies. Finally, for companies covered by neither of these two reviews, but covered in subsequent reviews, Freeport recommends either the first "all others" rate calculated by the Department, the highest company-specific rate calculated by the Department, or, in the case to two manufacturer/exporter combinations, the only rate ever calculated for the combination. Other than its discussion related to the appropriate margin for Husky, Freeport merely suggests that the Department's policy provides for the selection of the highest rate for companies where the Department has calculated a margin higher than the original.

With respect to Husky Oil, Ltd. ("Husky") (a company that was first reviewed by the Department during the 1991–1992 administrative review), Freeport argues that, if the finding were revoked, the magnitude of the margin likely to prevail would be the highest rate calculated for Husky. Freeport notes that the margins determined by the Department for Husky in the 91–92, 92–93, 93–94, and 94–95 administrative reviews have been 7.17%, 40.38%, 3.38% and 0.33%, respectively. Freeport argues that the enormous increase in Husky's margin between the 91–92 and 92–93 administrative reviews reflects Husky's choice to increase dumping in a effort to maintain market share, particularly during a period when U.S. market prices declined significantly. Freeport further argues that Husky's margins from the 93–94 and 94–95 administrative reviews are aberrationally low and reflect dramatic reduction in Husky's U.S. sales volumes and reversible changes in its operations designed to minimize the margins calculated by the Department.

Using the non-confidential ranged figures reported by Husky during the course of the administrative reviews, Freeport states that Husky's U.S. sales volumes decreased from the 91–92 administrative review high to a 92–93 all time low, and then increased during the 94–95 administrative review. Freeport adds that in the course of the ongoing administrative review of the 96–97 administrative review, Husky again decreased the volume of its exports of sulphur to the U.S. market.

Freeport notes that the overwhelming majority of Husky's (and Canada's) sulphur is produced at major sour gas processing plants. Freeport then states that, under the discipline of the finding, Husky made changes in its operations by limiting its U.S. exports to sulphur produced at an unrepresentative facility (the Lloydminster heavy oil upgrader, as opposed to sour gas processing plants) and shifted to production of formed sulphur at its sour gas facilities. Freeport adds that these changes had a major impact on Husky's reported cost of production and constructed value and the resultant dumping margins calculated by the Department.

Freeport concludes that in the absence of the constraints imposed by the antidumping finding, Husky would again export much larger volumes of sulphur to the United States, would resume exporting to the U.S. from its major sour gas production facilities and would otherwise revert to its normal commercial operations.

On April 5, 1982, the Department issued the final results of review of this finding covering 47 of the 52 known exporters and, generally, the period July 1, 1978 through November 30, 1980 (47 FR 14507). On November 28, 1983, the Department issued the final results of review of this finding covering 43 of the 49 manufacturers and/or exporters and, generally, the period December 1, 1980 through November 30, 1981 (48 FR 53592). We note, however, that for some companies, the November 1983 notice covered an earlier review period than did the April 1982 notice. For example, the November 1983 notice covered entries dating back to 1973 for certain companies. Therefore, we agree with Freeport and have selected, as the magnitude of the margin likely to prevail, the margin for the first period reviewed for each company, regardless of which **Federal Register** notice contained the review results.

With respect to selecting the highest rate calculated by the Department for companies whose dumping margins have increased over time, we do not agree with Freeport. In the *Sunset Policy Bulletin* the Department stated that "a company may choose to increase dumping in order to maintain or increase market share" and that "the Department may, in response to argument from an interested party, provide to the Commission a more recently calculated margin for a particular company, where, for that particular company, dumping margins increased after the issuance of the order." (*See* section II.B.2 of the *Sunset Policy Bulletin.*) The Department's intent was to establish a policy of using the original investigation margin as the starting point, thus providing interested parties the opportunity and incentive to come forward with data which would support a different estimate. Freeport, however, merely asserts that the highest rate calculated should be selected based on "the 'increasing margins' criterion" established in the *Sunset Policy Bulletin.* (*See* Freeport's September 2, 1998, Substantive Response, p. 9.) Freeport did not, however, present arguments with respect to changes in margin levels as related to market share. The statistics provided by Freeport, 1991–1997 annual volume and value of imports from Canada, do not show an increase in imports concurrent with an increase in dumping, nor does it present the Department with a picture of the relative market shares held by Canada manufacturers and exporters. Given the information available to the Department, it is not possible to discern whether any increases or decreases in margins reflect an effort to maintain or increase market share. Similarly, Freeport did not offer any reason for its request that the Department select the highest margin or "all others" rate, whichever is higher, for those companies that were not reviewed in either of the first or second administrative reviews conducted by the Department.

Finally, with respect to the magnitude of the margin likely to prevail with respect to Husky, we are not persuaded by Freeport's arguments. While we agree that the volume of Husky's exports declined significantly after the 91–92 review, and never reached the 91–92 level, the level of Husky's exports increased between 92–93 and 93–94. Further, we have no reason to believe that Husky will, if the finding is

revoked, revert to producing sulphur for export to the United States at its other facilities. Therefore, as discussed previously, we have determined that the magnitude of the margin likely to prevail for Husky is the first "new shippers" rate determined by the Department (*see Elemental Sulphur From Canada; Final Results of Administrative Review of Antidumping Finding*; 48 FR 53592 (November 28, 1982)).

Our review of the margin history over the life of this finding demonstrates that there have, with respect to some companies, been fluctuations in the level of the margins. We do not, however, view them as demonstrating a consistent patter of behavior. Therefore, the Department finds no reason to deviate in this review from our stated policy of using the first rates calculated by the Department. We determine that the original margins calculated by the Department are probative of the behavior of Canadian manufacturers and exporters of elemental sulphur. (*See Elemental Sulphur From Canada; Final Results of Administrative Review of Antidumping Finding*; 47 FR 14507 (April 5, 1982 and *Elemental Sulphur From Canada; Final Results of Administrative Review of Antidumping Finding*; 48 FR 53592 (November 28, 1983)). We will report to the Commission the company-specific and "all others" rate included in the Appendix to this notice.

Final Results of Review

As a result of this review, the Department finds that revocation of the antidumping finding would be likely to lead to continuation or recurrence of dumping at the levels indicated in the Appendix to this notice.

This notice serves as the only reminder to parties to administrative protective order (APO) of their responsibility concerning the disposition of proprietary information disclosed under APO in accordance with 19 CFR 351.305 of the Department's regulations. Timely notification of return or destruction of APO materials or conversation to judicial protective order is hereby requested. Failure to comply with the regulations and the terms of an APO is a sanctionable violation.

This five-year ("sunset") review and notice are in accordance with section 751(c) and 777(i) of the Act.

Dated: December 1, 1998.

Robert S. LaRussa,

Assistant Secretary for Import Administration.

APPENDIX

Manufacturer/exporter	Margin (percent)
Amerada Minerals	28.90.
Amoco Canada	Revoked.
Brimstone Export/all other mfgs.	87.65.
Canadian Bright Sulphur	26.95.
Canadian Reserve	19.06.
Canadian Reserve/Canamex	87.65.
Canamex Commodity	3.20.
Canterra Energy (formerly Aquitaine Co. of Canada Ltd.	Revoked.
Canterra/Brimstone	87.65.
Canterra/Canamex	5.56.
CDC Oil & Gas	Revoked.
Cornwall Chemicals	Revoked.
Dome Petroleum	Revoked.
Home Oil	Revoked.
Home Oil-Canamex	2.86.
Imperial Oil	Revoked.
Imperial Oil/Exxon	Revoked.
Irving Oil	Revoked.
Koch Oil	26.95.
Marathon Oil	28.90.
Pacific Petroleum	26.95.
Pacific Petroleum-Canamex	20.28.
Pan Canadian	Revoked.
Pan Canadian/Canamex	0.
Petro Canada Exploration	Revoked.
Petrofina	28.90.
Petrogas Processing	Revoked.
Petrosul	0.
Rampart Resources/Sulbow Minerals.	0.
Real Int'l Marketing	0.21.
Sulbow Minerals	26.95.
Sulconam (formerly Laurentide Sulphur & Chemicals, Ltd.).	Revoked.
Sulmar Canada	26.95.
Sulpetro (formerly Candel Oil).	28.90.
Suncor, Inc. (formerly Sun Oil Company of Canada, Ltd. and Great Canadian Oil Sands, Ltd.).	Revoked.
Suncor/Canamex	20.28.
Texaco Canada	Revoked.
Tiger Chemicals	Revoked.
Union Texas	0.
West Decalta	28.90.
West Coast Transmission	28.90.
All others	5.56.

[FR Doc. 98-32544 Filed 12-7-98; 8:45 am]

BILLING CODE 3510-DS-P

APPENDIX B

U.S. ELEMENTAL SULFUR PRODUCERS

Company and location	Source	Type of process	— Metric tons/day — Design capacity	Production
UNITED STATES				
Altura Energy Ltd —Hockley County Tex	nat. gas	2 bed Claus	45.0	27.0
Amoco Oil Co —Whiting, Ind.	ref. gas	Claus	449.0	390.0
Mandan, N.D.	ref. gas	Claus	15.3	6.0
Texas City, Tex.	ref. gas	Claus	1,123.0	650.0
Salt Lake City, Utah	ref. gas	Claus	13.5	5.0
Yorktown, Va.	ref. gas	Claus	66.0	50.0
Amoco Production Co —Eddy County, N.M.	nat. gas	2 bed Claus	36.0	13.5
Andrews County, Tex.	nat. gas	2 bed Claus-CBA	22.0	17.9
Ector County, Tex.	nat. gas	2 bed Claus	30.0	28.4
Yoakum County, Tex.	nat. gas	Locat	8.0	6.5
Fremont County, Wyo.	nat. gas	2 bed Claus	25.0	16.0
Natrona Co., Wyo.	nat. gas	Locat	1.0	1.0
Park County, Wyo.	nat. gas	2 bed Claus	62.0	25.0
Sweetwater Co., Wyo.	nat. gas	Locat	4.0	2.7
Uinta County, Wyo.	nat. gas	2 bed Claus-CBA	1,200.0	1,100.0
Arco Permian—Yoakum Co., Tex.	nat. gas		....	2.0
Arco Products Co.—Carson, Calif.	ref. gas	Claus	410.0	380.0
Ferndale, Wash.	ref. gas	Claus	215.0	200.0
Ashland Exploration—Martha, Ky.	sour gas	Mod. Claus	2.6	1.4
Ashland Petroleum Co.—Canton, Ohio	ref. gas	Claus-Scot	100.0	36.0
Catlettsburg, Ky.	ref. gas	Claus-Scot	400.0	174.0
St. Paul Park, Minn.	ref. gas	Claus-Scot	54.0	38.0
BHP Hawaii Inc.—Kapolei, Hawaii	ref. gas	Claus-Scot	34.5	20.0
BP Oil Corp.—Belle Chasse, La.	ref. gas	Claus-Scot	50.0	....
Lima, Ohio	ref. gas	Claus	40.0	....
Toledo, Ohio	ref. gas	Claus-Scot	100.0	....
Calumet Lubricants Co.—Princeton, La.	ref. gas	Claus	3.0	1.0
Cenex Inc.—Laurel, Mont.	ref. gas	Claus	119.9	48.8
Chevron U.S.A. Production Co.—Gaviota, Goleta, Calif.	nat. gas	Selectox-Claus	18.3	6.6
Carter Creek, Wyo.	nat. gas	Claus-Stretford	1,057.0	712.0
Chevron U.S.A. Products Co.—El Segundo, Calif.	ref. gas	Claus-Weitman-Lord	432.0	....
Richmond, Calif.	ref. gas	Claus-Weitman-Lord	406.0	....
Pascagoula, Miss.	ref. gas	Claus-Stretford	1,179.0	....
El Paso, Tex.	ref. gas	Claus-Stretford	58.0	....
Salt Lake City, Utah	ref. gas	Claus	19.0	....
Citgo Petroleum Corp.—Lemont, Ill.	ref. gas	Claus	390.0	360.0
Lake Charles, La.	ref. gas	Claus	684.0	459.0
Corpus Christi, Tex.	ref. gas	Claus	310.0	285.0
Clark Refining—Port Arthur, Tex.	ref. gas	Claus-Scot	525.0	473.0
Coastal Eagle Point Oil Co.—Westville, N.J.	ref. gas		15.0	....
Coastal Refining & Marketing Inc.—Corpus Christi, Tex.	ref. gas	Claus	280.0	125.0
Collet Ventures Inc.—Chatom, Ala.	sour gas	Claus	140.0	70.0
Conoco Inc.—Commerce City, Colo.	ref. gas	Mod. Claus	86.0	45.0
Westlake, La.	ref. gas	Claus	704.0	363.0
Ponca City, Okla.	ref. gas	Claus	31.0	15.0
Crown Central Petroleum Corp.—Pasadena, Tex.	ref. gas	Claus	25.0	20.0
Diamond Shamrock Refining Co.—Moore Co., Tex.	ref. gas	Claus	81.3	22.9
Three Rivers, Tex.	ref. gas	Claus	50.8	22.3
El Paso Natural Gas Co.—San Juan County, N.M.	nat. gas	Mod. Claus	53.0	—
Enron Corp.—Batstow, Tex.	nat. gas	2 bed Claus	68.0	14.0
Ergon West Virginia Inc.—Newell, W. Va.	ref. gas	Sulferox	1.0	0.5
Exxon Company USA—Escambia Co., Ala.	nat. gas	3 reactor Claus	1,002.0	658.0
Mobile Co., Ala.	nat. gas	5 reactor Claus	280.0	254.0
Benicia, Calif.	ref. gas	Claus	286.0	159.0
Santa Barbara, Calif.	nat. gas	4 reactor Claus	11.0	4.0
Santa Rosa Co., Fla.	nat. gas	3 reactor Claus	244.0	139.0
Baton Rouge, La.	ref. gas	3 reactor Claus	611.0	497.0
Baytown, Tex.	ref. gas	Claus	935.0	....
Lincoln & Sweetwater Co., Wyo.	nat. gas	Claus	1,120.0	1,096.0
Farmland Industries Inc.—Coffeyville, Kans.	ref. gas	Claus	91.4	61.0
Fina Oil & Chemical Co.—Big Spring, Tex.	ref. gas	Claus	127.0	111.8
Port Arthur, Tex.	ref. gas	Claus	273.1	176.9
Flying J Inc.—Salt Lake City, Utah	ref. gas	Claus	4.0	2.0
Frontier Oil & Refining Co.—Cheyenne, Wyo.	ref. gas	Claus-Scot	97.0	45.0
Giant Refining Co —Bloomfield, N.M.	ref. gas	Dow/Sulferox	1.6	1.4
Gallup, N.M.	ref. gas	Sulferox	2.0	0.5
GPM Gas Co —Artesia, N.M.	nat. gas	Mod. Claus	55.9	7.0
Eunice, N.M.	nat. gas	Claus	64.0	25.0
Linam Ranch, N.M.	nat. gas		...	29.0
Fullerton, Tex.	nat. gas	3 bed Claus	60.9	24.0
Goldsmith, Tex.	nat. gas	3 bed Claus	111.8	55.0
Hunt Refining Co —Tuscaloosa, Ala.	ref. gas	Claus	81.3	50.8
Inland Resources—Woods Cross, Utah	ref. gas		1.4	0.7
Interenergy Corp.—Lignite, N.D.	nat. gas	Claus	7.5	3.0
Kern Oil & Refining Co.—Bakersfield, Calif.	ref. gas	Sulferox	4.5	3.5
KN Energy, Inc.—Winkler Co., Tex.	nat. gas	Claus	15.0	3.1
Koch Midstream Processing Co.—Coyanosa, Tex.	nat. gas	Claus	29.7	6.1
Freestone County (Aker), Tex.	nat. gas	Claus	180.0	48.8
Gilmer, Tex.	nat. gas	Claus	100.0	39.0
Teague, Tex.	nat. gas	Claus	13.0	7.4
Koch Sulfur Products Co.—Pine Bend, Minn.	ref. gas	Claus	800.0	550.0
Sidney, Mont.	nat. gas	Claus	181.0	40.0
Corpus Christi, Tex.	ref. gas	Claus-Scot	200.0	45.0
LaGloria Oil & Gas Co.—Tyler, Tex.	ref. gas	3 bed Claus	10.1	9.5
Lion Oil Co —El Dorado, Ark.	ref. gas		142.0	....
Little America Refining Co.—Casper, Wyo.	ref. gas	Claus	19.7	5.2
Lyondell-Citgo Refining Co. Ltd.—Houston, Tex.	ref. gas	Mod. Claus-TGT	900.0	635.0
Mapco Petroleum Inc.—Memphis, Tenn.	ref. gas	Claus	40.0	32.0
Marathon Oil Co.—Artesia, N.M.	nat. gas	3 bed Claus	33.5	24.4
Cody, Wyo.	nat. gas	3 bed Claus	4.7	4.8
Robinson, Ill.	ref. gas	Claus	44.0	31.3
Garyville, La.	ref. gas	Claus	504.0	188.8
Jonesville, Mich.	nat. gas	Locat	0.3	....
Midcoast Energy Resources—Pachuta, Miss.	nat. gas	3 bed Claus	10.0	4.0
Midgard Energy Co.—Sunray, Tex.	nat. gas	Claus-Super Claus	14.0	8.0
Mobil Oil Corp.—Mary Ann, Ala.	nat. gas	Claus	229.0	180.0
Torrance, Calif.	ref. gas	Claus	400.0	—
Joliet, Ill.	ref. gas	Claus	560.0	—
Chalmette, La.	ref. gas	Claus	250.0	—
Paulsboro, N.J.	ref. gas	Claus	135.0	—
Beaumont, Tex.	ref. gas	Claus	500.0	—
Montana Sulphur & Chemical Co.—East Billings, Mont.	ref. gas	Claus	250.0	100.0
Murphy Oil USA Inc.—Meraux, La.	ref. gas	Claus-Scot	118.0	70.0
Superior, Wis.	ref. gas	Claus	15.0	10.0
National Cooperative Refinery Association—McPherson, Kans.	ref. gas		81.0	72.0
Paramount Petroleum Corp.—Paramount, Calif.	ref. gas	Claus	38.0	—
Pennzoil Products Co.—Shreveport, La.	ref. gas	Claus	28.2	10.0
Petro-Hunt—Little Knife, Dunn County, N.D.	nat. gas	Claus	125.0	—
Phillips Petroleum Co.—Chatom, Ala.	nat. gas	Claus	193.0	—
Borger, Tex.	ref. gas	Claus-Scot	345.0	220.0
Sweeny, Tex.	ref. gas	Claus-Scot	320.0	300.0
Woods Cross, Utah	ref. gas	Claus	10.0	4.0
Placid Refining Co.—Port Allen, La.	ref. gas	Claus	28.0	18.0
Pursue Energy Corp.—Thomasville, Miss.	nat. gas	Claus	1,245.0	—
Shell Deer Park Refining Co.—Deer Park, Tex.	ref. gas	Claus	915.0	—

Company and location	Source	Type of process	— Metric tons/day — Design capacity	Production
Shell Martinez Refining Co.—				
Martinez, Calif.	ref. gas	Claus-Stretford	432.0	—
Shell Norco Refining Co.—				
Norco, La.	ref. gas	Claus	140.0	—
Shell Oil Products Co.—				
Saraland, Ala.	ref. gas	Claus-Scot	50.0	7.0
Shell Wood River Refining Co.—				
Wood River, Ill.	ref. gas	Claus	457.2	—
Shell Western E&P Inc.—Mobile				
Co., Ala.	nat. gas	Claus	60.0	—
Manistee County, Mich.	nat. gas	Claus	25.0	—
Goodwater, Miss.	nat. gas	Claus	50.0	—
Bryans Mill, Tex.	nat. gas	Claus	175.0	—
Denver Unit, Tex.	nat. gas	Claus	4.0	—
Sid Richardson Gasoline Co.—				
Jal, N.M.	nat. gas	Claus	20.0	13.6
Kermit, Tex.	nat. gas	Selectox	20.0	12.4
Sinclair Oil Corp —Tulsa, Okla.	ref. gas		19.0	—
Star Enterprise—Delaware				
City, Del.	ref. gas	Claus	406.0	—
Convent, La.	ref. gas	Claus	660.0	—
Port Arthur, Tex.	ref. gas	Claus	576.0	—
Sulphur River Resources—				
Dike, Tex.	nat. gas	Mod. Claus	30.0	5.0
Sun Refining & Marketing Co.—				
Toledo, Ohio	ref. gas	Claus	55.1	53.6
Philadelphia, Pa.	ref. gas	Claus-Scot	40.0	—
Tesoro Alaska Petroleum Corp.—				
Kenai, Alas.	ref. gas		15.0	—
Texaco Inc.—Franklin County,				
Tex.	nat. gas	Claus	219.0	50.0
Texaco Refining & Marketing Inc.—				
Bakersfield, Calif.	ref. gas	Claus	93.0	93.0
Wilmington, Calif.	ref. gas	Claus	283.0	245.0
El Dorado, Kans.	ref. gas	Claus	227.0	90.0
Anacortes, Wash.	ref. gas	Claus	102.0	102.0
Tosco Refining Co.—				
Linden, N.J.	ref. gas	Claus/Beavon Stretford	392.0	90.0
Los Angeles, Calif.	ref. gas	Claus/BSRP/Scot	410.0	340.0
San Francisco, Calif.	ref. gas	Claus-Scot	560.0	460.0
Trainer, Pa.	ref. gas	Claus	160.0	35.0
Ferndale, Wash.	ref. gas	Claus	42.0	40.0

Company and location	Source	Type of process	— Metric tons/day — Design capacity	Production
Trans-Jeff Chemical Corp.—				
Tilden, No 1, Tex.	acid gas	Chance Claus	19.5	—
Tilden, No 2, Tex.	acid gas	Chance Claus	73.7	24.4
Tristar Gas Co.—Pyote, Tex.	nat. gas	Claus	20.0	2.7
Ultramar Diamond Shamrock				
Corp —Denver, Colo.	ref. gas	Claus	2.0	0.4
Alma, Mich.	ref. gas	Claus-Scot	53.9	25.4
Ardmore, Okla.	ref. gas	Claus-Scot	65.0	41.1
Wilmington, Calif.	ref. gas	COPE II	250.0	240.0
United Refining Co.—Warren,				
Pa.	ref. gas	Prichard-TPA	80.0	35.0
U.S. Oil & Refining Co.—				
Tacoma, Wash.	ref. gas	Claus	10.0	5.0
Valence Operating Co —Como,				
Hopkins County, Tex.	nat. gas	Claus	72.0	56.0
Valero Energy Corp —Corpus				
Christi, Tex.	ref. gas	Claus	370.0	250.0
Houston, Tex.	ref. gas	Claus	102.0	50.0
Texas City, Tex.	ref. gas	Claus	604.0	200.0
Warren Petroleum—Texarkana,				
Ark.	nat. gas	MCRC	16.3	15.2
Monument, Lea County, N.M.	nat. gas	Mod. Claus	32.0	19.4
Eustace/Myrtle Springs, Tex.	nat. gas	Claus-Scot	812.0	426.0
Fashing, Atascosa Co., Tex.	nat. gas	Mod. Claus	35.0	24.0
Sand Hills, Crane County, Tex.	nat. gas	Mod. Claus	45.0	39.0
Western Gas Resources, Inc.—				
San Juan River, N.M.	nat. gas	Claus	45.7	6.1
Bethel, Tex.	nat. gas	Claus	9.1	—
MiVida, Tex.	nat. gas	Claus	15.2	7.1
Edgewood, Tex.	nat. gas	Claus	335.3	267.2
Wyoming Refining Co.—				
Newcastle, Wyo.	ref. gas	Locat	3.0	2.0

APPENDIX C

CANADIAN ELEMENTAL SULFUR PRODUCERS

TABLE 6. CANADA, NATURAL SOUR GAS PROCESSING PLANTS, SULPHUR CAPACITY, 1994-96

Operating Company	Source Field or Plant Location	H_2S in Raw Sour Gas	Daily Sulphur Capacity[1]		
			1994	1995	1996
		(%)	(tonnes/day)		
SOUR GAS, ALBERTA					
Alberta Energy Company Ltd.	Sinclair-Hythe	3	256	256	256.7
Alberta Energy Company Ltd.	Valhalla-Sexsmith	10	–	475.4	475.4
Amoco Canada Petroleum Company Ltd.	Bigstone Creek	15	385	385	–
Amoco Canada Petroleum Company Ltd.	Caroline North-Garrington	0.3	10.4	10.4	10.4
Amoco Canada Petroleum Company Ltd.	Caroline South-Harmattan	0.4	8.6	8.6	8.6
Amoco Canada Petroleum Company Ltd.	East Crossfield-Lone Pine Creek	34	1 797	1797	1 797
Amoco Canada Petroleum Company Ltd.	Kaybob Mil-Fir	8	1 090	1090	1090
Amoco Canada Petroleum Company Ltd.	Windfall-Whitecourt	12	1 333	1 333	1 333
Anderson Exploration Limited	Carstairs	0.5	64.8	64.8	64.8
Canadian 88 Energy Corporation	Olds-Garrington	14	389	389	391
Canadian Occidental Petroleum Ltd.	East Calgary-Crossfield	16	1 696	1 696	1 696
Canadian Occidental Petroleum Ltd.	Okotoks-Medallion	25	577	577	577
Canadian Occidental Petroleum Ltd.	Paddle River	0.1	19.4	19.4	–
Chevron Canada Resources	Kaybob South III-Obed	8	3 557	3 557	3 557
Chevron Canada Resources	Medicine Lodge	7.5	55.9	55.9	55.9
Gulf Canada Limited	Brazeau River-Nordegg	1.7	46.5	46.5	46.5
Gulf Canada Limited	Brazeau River-Peco	1.3	110	110	110
Gulf Canada Limited	Homeglen-Rimbey	0.5	127.5	127.5	127.5
Gulf Canada Limited	Strachan	9	953	953	953
Husky Oil Ltd.	Rainbow Lake	2	142	142	142
Husky Oil Ltd.	Ram River (Ricinus)	16.5	4 572	4 572	4 572
Imperial Oil Resources Limited	Bonnie Glen	0.4	34.5	34.5	34.5
Imperial Oil Resources Limited	Quirk Creek	9	301.2	301.2	301.2
Imperial Oil Resources Limited	Redwater	3	11	11	11
Mobil Oil Canada, Ltd.	Harmattan-Elkton-Leduc	52	66.2	66.2	81
Mobil Oil Canada, Ltd.	Lone Pine Creek	13.5	162	162	162
Monsson Petroleums Limited	Nevis	4	245.8	245.8	300
Morrison Petroleums Limited	Savannah Creek (Coleman)	12	389	696.4	696.4
Norcen Energy Resources Limited	Progress	0.7	49.5	49.5	49.5
Pembina Corporation	Turner Valley	1.2	15.5	15.5	15.5
Penn West Petroleum Ltd.	Minnehik-Buck Lake	0.1	45	45	37.5
Pennzoil Petroleums Ltd.	Zama	4	74	74	74
Petro-Canada Inc.	Brazeau River-Peco	21	447.3	447.3	447.3
Petro-Canada Inc.	Gold Creek	2.4	43	43	97
Petro-Canada Inc.	Hanlan Robb	8	1 092	1 092	1 092
Petro-Canada Inc.	Wildcat Hills	7	280.3	280.3	280.3
Poco Petroleums Ltd.	Sturgeon Lake South	9.5	98	98	98
Shell Canada Limited	Burnt Timber Creek	13	489	560	560
Shell Canada Limited	Caroline	25	4 504	4 504	4 504
Shell Canada Limited	Jumping Pound	7.5	597	597	597
Shell Canada Limited	Waterton	15	3 107	3 107	3 107
Suncor Inc.	Rosevear North	8	111.3	111.3	111.3
Suncor Inc.	Rosevear South	6.5	171	171	171
Suncor Inc.	Simonette River	5.5	95	115.8	115.8
Talisman Energy Inc.	Edson-Pine Creek	1.4	292	292	292
Talisman Energy Inc.	Teepee Creek	0.4	23	23	23
Ulster Petroleums Ltd.	Wimborne	10.5	182	182	182
Wolcott Gas Processing Ltd.	W. Pembina-Brazeau	11	520	520	520
SOUR GAS, BRITISH COLUMBIA					
Westcoast Energy Inc.	Fort Nelson	2	674	674	674
Westcoast Energy Inc.	Taylor Flats-McMahon	1.6	558	558	558
Westcoast Energy Inc.	Pine River	12	2 000	2 000	2 000

Sources: Alberta Energy and Utilities Board publication, January 1997; companies' survey 1996-97.
– Nil.
1 Maximum design capacity.

TABLE 5. CANADA, CRUDE OIL AND OIL SANDS REFINERIES, SULPHUR CAPACITY, 1994-96

Operating Company	Location	Daily Sulphur Capacity		
		1994	1995	1996
		(tonnes/day)		
CRUDE OIL REFINERIES				
Canadian Ultramar Limited	St. Romuald, Quebec	50	50	50
Chevron Canada Limited	Burnaby, British Columbia	10	10	10
Imperial Oil Limited	Dartmouth, Nova Scotia	76	76	76
	Edmonton, Alberta	40	40	40
	Nanticoke, Ontario	35	35	35
	Ioco, British Columbia	20	–	–
	Sarnia, Ontario	140	140	140
Irving Oil Limited	Saint John, New Brunswick	100	100	100
North Atlantic Refinery Limited	Come-By-Chance, Newfoundland	–	200	200
Petro-Canada Inc.	Edmonton, Alberta	56	56	56
	Lake Ontario-Mississauga, Ontario	44	44	44
	Lake Ontario-Oakville, Ontario	40	40	40
Shell Canada Limited	Sarnia, Ontario	35	35	35
	Scotford, Alberta	14	14	14
Sulconam Inc.	Montréal, Quebec	300	300	300
Suncor Inc.	Sarnia, Ontario	50	50	50
Total effective capacity		1 010	1 190	1 190
HEAVY OIL UPGRADERS				
Consumers' Co-operative Refineries Limited	Regina, Saskatchewan	220	220	220
Husky Oil Operations Ltd.	Lloydminster, Saskatchewan	250	250	250
Total effective capacity		470	470	470
OIL SANDS PLANTS				
Suncor Inc.	Mildred Lake, Alberta	850	850	850
Syncrude Canada Ltd.	Fort McMurray, Alberta	1 255	1 255	1 255
Total effective capacity		2 105	2 105	2 105

Sources: Natural Resources Canada; company interviews, 1996.