Ferrovanadium From China and South Africa

Investigations Nos. 731-TA-986 and 987 (Final)

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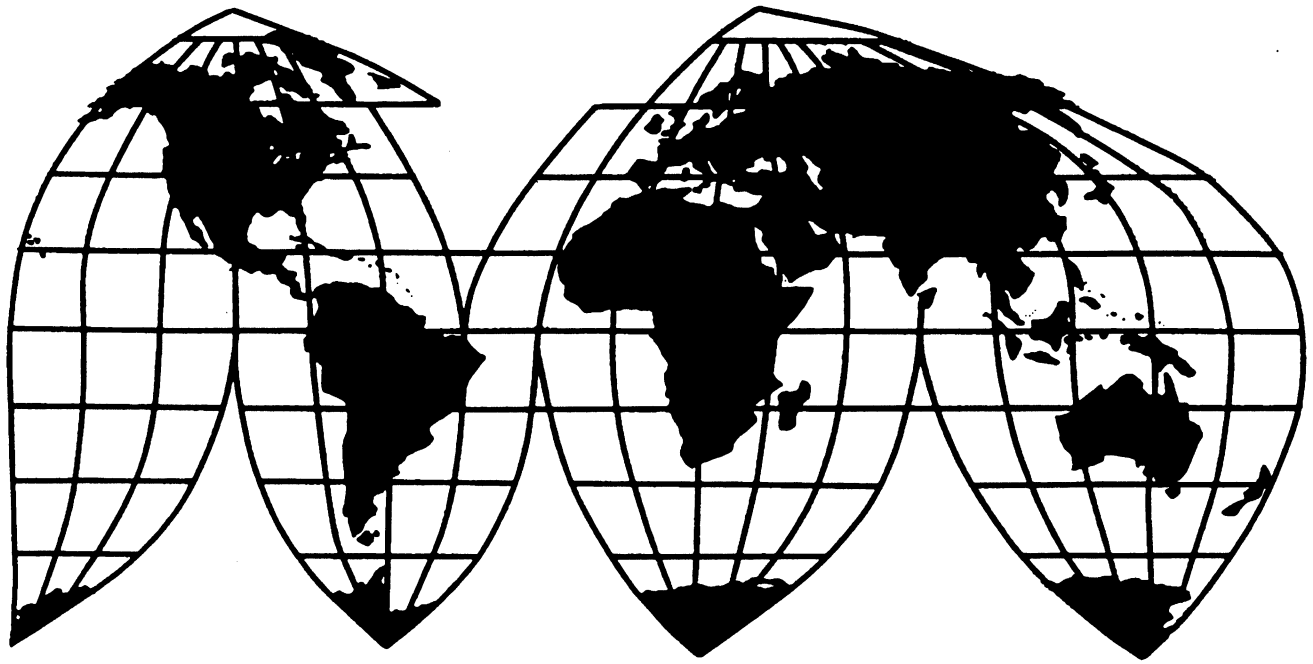

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CONTENTS

CONTENTS

Page

Appendixes

Figures

Tables

CONTENTS

Page

Tables--Continued

CONTENTS

Page

Tables--Continued

CONTENTS

Page

Tables--Continued

Note.–Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report.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

Investigations Nos. 731-TA-986 and 987 (Final)

FERROVANADIUM FROM CHINA AND SOUTH AFRICA

DETERMINATIONS

On the basis of the record[1] developed in the subject investigations, the United States International Trade Commission (Commission) determines, pursuant to section 735(b) of the Tariff Act of 1930 (19 U.S.C. § 1673d(b)) (the Act), that an industry in the United States is materially injured by reason of imports from China and South Africa of ferrovanadium, provided for in subheading 7202.92.00 of the Harmonized Tariff Schedule of the United States, that have been found by the Department of Commerce (Commerce) to be sold in the United States at less than fair value (LTFV).

BACKGROUND

The Commission instituted these investigations effective November 26, 2001, following receipt of a petition filed with the Commission and Commerce by The Ferroalloys Association Vanadium Committee and its following members: Bear Metallurgical Co., Butler, PA; Shieldalloy Metallurgical Corp., Cambridge, OH; Gulf Chemical & Metallurgical Corp., Freeport, TX; U.S. Vanadium Corp., Danbury, CT; and CS Metals of Louisiana, Convent, LA. The final phase of the investigations was scheduled by the Commission following notification of preliminary determinations by Commerce that imports of ferrovanadium from China and South Africa were being sold at LTFV within the meaning of section 733(b) of the Act (19 U.S.C. § 1673b(b)). Notice of the scheduling of the final phase of the Commission's investigations and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of July 29, 2002 (67 FR 49035). The hearing was held in Washington, DC, on November 22, 2002, and all persons who requested the opportunity were permitted to appear in person or by counsel.

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[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 these investigations, we determine that an industry in the United States is materially injured by reason of imports of ferrovanadium from China and South Africa that are sold in the United States at less than fair value ("LTFV").[1]

I. DOMESTIC LIKE PRODUCT

A. In General

In determining whether an industry in the United States is materially injured or threatened with material injury by reason of imports of the subject merchandise, the Commission first defines the "domestic like product" and the "industry."[2] Section 771(4)(A) of the Tariff Act of 1930, as amended ("the Act"), defines the relevant domestic 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."[3] In turn, 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 . . . ."[4]

The decision regarding the appropriate domestic like product(s) in an investigation is a factual determination, and the Commission has applied the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.[5] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[6] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[7] Although the Commission must accept the determination of the Department of Commerce ("Commerce")

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[1] The record in these determinations closed on Tuesday, December 17, 2002. Pursuant to 19 U.S.C. § 1677m(g) and 19 C.F.R. § 207.30(b), for purposes of these determinations, we are disregarding new factual information not included in the record as follows: all references to *** contained on page 2 of respondents' final comments filed on Wednesday, December 18, 2002.

[2] 19 U.S.C. §1677(4)(A).

[3] 19 U.S.C. § 1677(4)(A).

[4] 19 U.S.C. § 1677(10).

[5] See, e.g., NEC Corp. v. Department of Commerce, 36 F. Supp.2d 380, 383 (Ct. Int'l Trade 1998); Nippon Steel Corp. v. United States, 19 CIT 450, 455 (1995); Torrington Co. v. United States, 747 F. Supp. 744, 749 n.3 (Ct. Int'l Trade 1990), aff'd, 938 F.2d 1278 (Fed. Cir. 1991) ("every like product determination 'must be made on the particular record at issue' and the 'unique facts of each case' "). The Commission generally considers a number of factors including: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes and production employees; and, where appropriate, (6) price. See Nippon, 19 CIT at 455 n.4; Timken Co. v. United States, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996).

[6] See, e.g., S. Rep. No. 96-249 at 90-91 (1979).

[7] Nippon Steel, 19 CIT at 455; Torrington, 747 F. Supp. at 748-49. See also S. Rep. No. 96-249 at 90-91 (1979) (Congress has indicated that the like product standard should not be interpreted in "such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not 'like' each other, nor should the definition of 'like product' be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.").

as to the scope of the imported merchandise that has been found to be subsidized or sold at LTFV, the Commission determines what domestic product is like the imported articles Commerce has identified.[8]

B. Product Description

Commerce's final determinations define the imported merchandise within the scope of these investigations as:

> all ferrovanadium, regardless of grade, chemistry, form, shape or size. Ferrovanadium is an alloy of iron and vanadium that is used chiefly as an additive in the manufacture of steel. The merchandise is commercially and scientifically identified as ferrovanadium. The scope of this investigation specifically excludes vanadium additives other than ferrovanadium, such as nitrided vanadium, vanadium-aluminum master alloys, vanadium chemicals, vanadium oxides, vanadium waste and scrap, and vanadium-bearing raw materials such as slag, boiler residues and fly ash. Merchandise under the following Harmonized Tariff Schedule of the United States ("HTSUS") item numbers 2850.00.2000, 8112.40.3000 and 8112.40.6000 is specifically excluded. Ferrovanadium is classified under HTSUS item number 7202.92.00. Although the HTSUS item number is provided for convenience and Customs purposes, the Department's written description of the scope of this proceeding remains dispositive.[9]

C. Past Investigations

In 1995, the Commission conducted an antidumping duty investigation regarding ferrovanadium and nitrided vanadium from Russia.[10] Unlike these present investigations, the scope of the 1995 investigation included nitrided vanadium, and the Commission found ferrovanadium and nitrided vanadium to be a single domestic like product and reached an affirmative determination.[11] However, in its five-year review of that antidumping duty order, the Commission determined that, because nitrided vanadium had not been produced in the United States since 1992 and there were no other significant

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[8] Hosiden Corp. v. Advanced Display Mfrs., 85 F.3d 1561, 1568 (Fed. Cir. 1996) (Commission may find single like product corresponding to several different classes or kinds defined by Commerce); Torrington, 747 F. Supp. at 748-752 (affirming Commission determination of six like products in investigations where Commerce found five classes or kinds).

[9] 66 Fed. Reg. 66398 (December 26, 2001); 67 Fed. Reg. 45083 and 45088 (July 8, 2002); 67 Fed. Reg. 59050 (September 19, 2002).

[10] Ferrovanadium and Nitrided Vanadium from Russia, Inv. No. 731-TA-702 (Final), USITC Pub. 2904 (June 1995) ("Original Russian Investigation").

[11] Original Russian Investigation, USITC Pub. 2904 at I-5 to I-8 & n.14.

changes in the nature, use and production of ferrovanadium and nitrided vanadium, the domestic like product consisted only of ferrovanadium.[12] [13]

D. Domestic Like Product

Petitioners[14] advocate a single domestic like product consisting of all grades of ferrovanadium.[15] Respondents,[16] however, argue that there should be two separate like products consisting of 45-percent grade ferrovanadium and 80-percent grade ferrovanadium.[17]

Based on the record evidence in these investigations, as discussed below, we find a single domestic like product consisting of ferrovanadium of all grades coextensive with the scope of these investigations.

1. Physical Characteristics and Uses

Respondents argue that 45-percent grade and 80-percent grade ferrovanadium differ because they contain different proportions of chemical elements, with 45-percent grade possessing higher levels of impurities, rendering it unusable in some steel production.[18]

The record shows, however, that all grades of ferrovanadium share similar physical characteristics and uses. Ferrovanadium is used principally as an alloying agent in the production of steel and iron castings. Although the product subject to these investigations has a vanadium content ranging from about 40 percent to about 80 percent (by weight), in practice the product is sold in

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[12] Ferrovanadium and Nitrided Vanadium from Russia, Inv. No. 731-TA-702 (Review), USITC Pub. 3420 at 5 (May 2001) ("Russian Five-Year Review"). The Commission also reached an affirmative determination in the five-year review. Ferrovanadium and nitrided vanadium also were discussed in the context of a Commission report, Advice Concerning Possible Modifications to the U.S. Generalized System of Preferences, Inv. No. 332-383, USITC Pub. 3079 at 83-88 (Dec. 1997).

In the preliminary phase of these investigations, one South African respondent argued that the domestic like product should include nitrided vanadium. See, e.g., Conference Tr. at 79 (Stras). Again, because there is no domestic production of nitrided vanadium, it cannot be included in the domestic like product. CR/PR at I-3, n.9.

[13] Commissioner Bragg defined the domestic like product in the Russian Five-Year Review consistent with the scope of that review investigation – one like product encompassing ferrovanadium and nitrided vanadium as the Commission found in the original determination. Commissioner Bragg further noted that had she excluded nitrided vanadium from the definition of the domestic like product, she would nonetheless have reached an affirmative determination. See Russian Five-Year Review at 5 n.22.

[14] Petitioners are the Ferroalloys Association Vanadium Committee and its members: Bear Metallurgical Company ("Bear"), Shieldalloy Metallurgical Corporation ("Shieldalloy"), Gulf Chemical & Metallurgical Corporation ("Gulf"), U.S. Vanadium Corporation ("USV"), and CS Metals of Louisiana ("CS Metals").

[15] Petitioners' Prehearing Brief at 2-4; Hearing Transcript ("Tr.") at 41 (de Laurentiis).

[16] Respondents are Xstrata South Africa Limited ("Xstrata"), Glencore Ltd ("Glencore"), and Panzhihua Iron and Steel (Group) ("Panzhihua" or "Pangang"). Highveld Steel & Vanadium Corp., Ltd. ("Highveld"), who participated in the preliminary investigations, did not appear at the November 22, 2002 hearing or submit any briefs in these final phase investigations.

[17] Respondents raised this argument for the first time in their prehearing brief. Respondents' Prehearing Brief at 3; Respondents' Posthearing Brief at 9.

[18] Respondents' Prehearing Brief at 4-5; Respondents' Posthearing Brief at 10.

essentially two grades, one containing approximately 45-percent to 55-percent vanadium, and the other grade, 80-percent vanadium.[19]

Adding vanadium to steel improves the finished product's wear resistance, strength and hardness. The vanadium in both grades combines with some of the carbon and nitrogen in the steel (creating stable carbides and nitrides, respectively) at temperatures associated with the casting, rolling, and heat treatment of steels; these carbides and nitrides enhance steel properties, particularly hardness and strength.[20] Ferrovanadium is used to make high-strength-low-alloy ("HSLA") steels, which in turn are used in high-performance long-distance oil and gas pipelines, railway lines, structural steels used in building construction, and automobiles.[21] Purchasers were unanimous in reporting that they do not require different specifications of ferrovanadium according to end use, given that the vanadium content of steel, by weight, is extremely small: 0.02 percent to 0.10 percent of HSLA steels; up to about 5 percent of vanadium chromium tool steels; and a very small percent of carbon steel. Ferrovanadium is a tiny part of the cost of the steel products it is used to produce, with most purchasers estimating that it accounts for less than 2 percent of the total cost of the steel produced.[22]

Respondents also contend that 45-percent grade is outmoded in that it lacks an American Society for Testing and Materials ("ASTM") specification.[23] The record indicates, however, that the lack of an ASTM specification for a grade is not necessarily an indication that the product is of poor quality or that there is no demand for the product. There are many products produced and widely used that do not have an ASTM specification, including many grades of steel products.[24]

2. Interchangeability

Respondents argue that 45-percent grade and 80-percent grade ferrovanadium are not interchangeable because purchasers are unable to switch from 45-percent grade to 80-percent grade unless they make changes to their melt shop practices, due in part to the lower melting temperature of 45-percent grade compared to 80-percent grade ferrovanadium.[25]

While tool steel producers seem to prefer the 80-percent grade ferrovanadium and some minimills that continuously cast their products through small nozzles choose the 45-percent grade ferrovanadium,[26] the record reveals that many steel producers have the technical capability to use different grades of ferrovanadium. The user needs to know only the grade of ferrovanadium so that the

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[19] CR at I-3; PR at I-2 to I-3.

[20] CR at I-3; PR at I-3.

[21] CR at I-4; PR at I-3.

[22] CR at I-3, II-7; PR at I-3, II-4.

[23] Respondents' Prehearing Brief at 5-6.

[24] CR at I-11 to I-12; PR at I-7 to I-8.

[25] Respondents' Prehearing Brief at 5-8; Respondents' Posthearing Brief at 10-11. At the hearing, respondents stated that testimony by a Glencore representative (Mr. Young) at the preliminary conference regarding switching between grades of ferrovanadium should be discounted because Mr. Young is a salesperson, not a metallurgist, and has no first-hand knowledge of the effort or expense required to make the switch. They noted that Mr. Young also testified that switching from one grade to another requires a melt shop change, and does not mean that such products are interchangeable, and that there are steel products that cannot be produced using 45-percent grade ferrovanadium. Moreover, according to respondents, nearly all steel producers use only one grade of ferrovanadium, and there is not a routine switching between grades by users. Hearing Tr. at 124-125 (O'Connell).

[26] CR at I-4; PR at I-3.

steelmaking process and ingredients can be adjusted accordingly.[27] In these final phase investigations, six purchasers reported purchasing both 45-percent and 80-percent grade ferrovanadium during the period of investigation ("POI").[28] Purchasers *** indicated that they could switch between 45-percent grade and 80-percent grade with no adjustments to their melting processes. Purchaser *** reported that it could use either grade if it made appropriate adjustments for ***.[29] While respondents argue that there is no interchangeability between 45-percent grade and 80-percent grade product because of melt shop changes that are necessary to switch from 45-percent grade to 80-percent grade, the record indicates that such melt shop changes are not required in every instance and that the two grades are in fact substitutable.[30]

3. Channels of Distribution

Respondents argue that, although both grades are sold to steel mills and iron foundries, they are sold through separate channels of distribution because only one distributor reported selling both 45-percent and 80-percent grade ferrovanadium.[31] Although suppliers of 45-percent and 80-percent grade may differ, the record evidence shows that the majority of ferrovanadium production is sold directly to steel mills and iron foundries in the United States. To a lesser extent, some product is sold to distributors who may repackage the material or blend ferrovanadium from different lots.[32]

4. Customer Perceptions

Respondents argue that a bag containing 45-percent grade with 25 pounds of vanadium weighs about 55.5 pounds while a bag containing 80-percent grade with the same amount of vanadium weighs only 31 pounds; thus, the 45-percent grade packages are larger and require more inventory space as well as higher transportation costs.[33]

Ferrovanadium is usually packed in bags or small drums containing 10 to 25 pounds of vanadium, although a limited number of consumers accept ferrovanadium packed in 500-pound drums. Most ferrovanadium is sold in lumps with an upper size range of approximately 2 inches. These lumps are commonly added to the molten steel after it has been poured from the steelmaking furnace into a ladle.[34]

The record shows that some purchasers did note a preference for 80-percent grade over 45-percent grade ferrovanadium because one can of 80-percent grade weighs less than 45-percent grade and thus is easier to handle during the production process. As indicated earlier in the discussion on interchangeability, however, purchasers reported that they can use either 45-percent grade or 80-percent grade in their production.[35]

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[27] Preliminary Determination, USITC Pub. 3483 at 6.

[28] CR at II-1; PR at II-1.

[29] CR at II-1 to II-2, n.2; PR at II-1, n.2; Petitioners' Final Comments at 1-2.

[30] Respondents' Prehearing Brief at 5-7; Respondents' Posthearing Brief at 10-11.

[31] Respondents' Prehearing Brief at 8.

[32] CR at I-5; PR at I-4.

[33] Respondents' Prehearing Brief at 5.

[34] CR at I-5; PR at I-4.

[35] CR at II-1 to II-2, n.2; PR at II-1, n.2.

5. Common Manufacturing Facilities, Production Processes, and Production Employees

Respondents contend that there are differences in the production processes of 45-percent grade and 80-percent grade ferrovanadium in that Shieldalloy uses the silicothermic process to produce 45-percent grade and Bear uses the aluminothermic process to produce 80-percent grade.[36]

The aluminothermic and silicothermic processes are the two most common methods of ferrovanadium production in the United States. Shieldalloy generally uses a modified silicothermic reduction process using vanadium-bearing iron slag alone or in combination with other vanadium-bearing materials such as petroleum residues and fly ash in combination with aluminum, silicon and carbon to produce ferrovanadium containing about 42 to 48 percent vanadium by weight. Molten ferrovanadium that results from this process is poured into molds, crushed to size, and packaged. Shieldalloy has the capability, however, to produce a range of grades of ferrovanadium and is not limited to the 45-percent grade.[37] Bear is a toll converter with the vast majority of its production on behalf of Gulf and USV. It makes vanadium pentoxide into ferrovanadium using an aluminothermic process whereby a mixture of vanadium pentoxide, aluminum, iron scrap, and flux is charged into a magnesite-lined vessel and the reactants are ignited electrically. However, Bear's process results in ferrovanadium with a vanadium content that is not limited to 80 percent, but may be adjusted between 42-percent and 80-percent.[38]

6. Price

Respondents argue that 45-percent grade is *** than 80-percent grade ferrovanadium.[39] In the pricing data collected by the Commission, U.S. product 1 (40-60 grade) is *** U.S. product 2 (78-82 grade) in 13 of 14 quarters during the POI; however, in all but one of those quarters, ***.[40] Generally, ferrovanadium is sold on the basis of pounds of contained vanadium.[41] The record further indicates that, while certain industry publications seem to report only the price of 80-percent grade ferrovanadium, they do in fact solicit pricing data from Shieldalloy and the price of 45-percent grade is therefore reflected in the published prices.[42]

7. Conclusion

On balance, we find that 45-percent grade and 80-percent grade ferrovanadium do not constitute separate like products. In past investigations, when the Commission has considered alleged distinctions among types of products, it has looked for clear dividing lines in terms of characteristics and uses of the various products.[43] If the Commission has been unable to find clear dividing lines between products within the scope of the investigation, the Commission generally has found that the continuum of products

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[36] Respondents' Prehearing Brief at 9-11.

[37] CR at I-4 to I-5; PR at I-3 to I-4; Hearing Tr. at 28 (Carter).

[38] CR at I-5; PR at I-5.

[39] Respondents' Prehearing Brief at 11-12; Respondents' Posthearing Brief at 12.

[40] CR at V-8, n.13; PR at V-5, n.13.

[41] CR at I-5; PR at I-4.

[42] Hearing Tr. at 30-31 (Carter); CR at I-10, n.29; PR at I-7, n.29.

[43] See Nippon Steel, Slip Op. 95-57 at 11; Torrington, 747 F. Supp. At 748-49.

comprised a single domestic like product.[44] Based on the record in these investigations, ferrovanadium of all grades is interchangeable and shares physical characteristics and uses. All grades of ferrovanadium contain varying levels of vanadium and are used as an alloy in the production of steel. Purchasers have reported that they are able to use 45-percent and 80-percent grade ferrovanadium interchangeably. While the two major domestic producers use different manufacturing processes, Bear can produce both 45-percent and 80-percent grade ferrovanadium, and Shieldalloy has the capability to produce grades other than the 45-percent grade. The evidence further indicates at most minor differences in price and some overlap in distribution channels for 45-percent and 80-percent grade product.[45] Based on the record evidence, we do not find that any of the six factors indicate such clear dividing lines as to warrant a finding of separate like products.[46]

II. DOMESTIC INDUSTRY[47]

In defining the domestic industry, the Commission's general practice has been to include in the industry all of the domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.[48] Based on our finding of a single domestic like product, we find that the domestic industry consists of Bear, Shieldalloy, and International Specialty Alloys ("ISA"). During the POI, Bear and ISA toll-produced ferrovanadium for other firms under tolling agreements, and Shieldalloy produced ferrovanadium for sale to unrelated third-party customers.[49] None of the parties disputed that Bear, Shieldalloy and ISA are domestic producers.[50]

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[44] The Commission has stated that it "normally does not find separate like products based on different grades of chemicals or mineral products." See e.g., Bulk Acetylsalicylic Acid (Aspirin) from China, Inv. No. 731-TA-828, USITC Pub. 3314 at 5-6 (June 2000).

[45] The respondents were given an opportunity but filed no comments to the draft questionnaires and therefore did not request that the Commission collect data on the issue of separate like products. Respondents raised the issue of two separate like products for the first time in their prehearing brief. The Commission, in promulgating rule 207.20(b), 19 C.F.R. § 207.20(b), explicitly indicated that parties should make arguments that would require data collection at the time they submitted comments on draft questionnaires, rather than later in the investigation, noting that it is often impracticable to obtain industry data at a later date. See 61 Fed. Reg. 37818, 37826 (July 22, 1996) (Notice of Final Rulemaking). See also General Motors Corp. v. United States, 827 F. Supp. 774, 781 (Ct. Int'l Trade 1993) ("The parties were given an adequate opportunity to comment on the questionnaires . . . It was not until their prehearing brief . . .that they first raised arguments concerning [a need for later data]. Given the lateness of the plaintiff's allegations, ITC's decision not to conduct a supplemental investigation was reasonable.").

[46] We also note that it is not completely evident that respondents have articulated clear dividing lines among all grades of ferrovanadium covered by the scope of these investigations. Even though respondents have argued for two groups of like products, *i.e.,* 45-percent grade and 80-percent grade ferrovanadium, they have not clarified how the Commission should treat other grades of ferrovanadium in its like product analysis. Respondents claim that their argument regarding separate like products of 45-percent grade and 80-percent grade really constitute midpoints for products with lower and higher vanadium content, respectively. See Hearing Tr. at 154-156 (Weigel). However, respondents do not specify an actual dividing line between these various grades of ferrovanadium.

[47] Commissioner Miller does not join in this section of the Commission's Views. See Separate Views of Commissioner Marcia E. Miller on Domestic Industry and Material Injury.

[48] See United States Steel Group v. United States, 873 F. Supp. 673, 681-84 (CIT 1994), aff'd, 96 F.3d 1352 (Fed. Cir.1996).

[49] CR at III-2; PR at III-1.

[50] Based on its questionnaire response, ISA *** performed *** toll production of ferrovanadium of *** pounds for Glencore in ***. CR at III-1 and III-3; PR at III-1.

Petitioners, however, argue that the Commission should include tollees Gulf and USV in the domestic industry. Gulf and USV are both domestic producers of vanadium pentoxide, which is an upstream product used almost exclusively to produce ferrovanadium.[51] Under toll agreements, Bear converts this vanadium pentoxide into ferrovanadium for these two firms. Gulf and USV each retain title to the finished product throughout the conversion process and sell the finished product to their customers.[52] Petitioners argue that Gulf and USV should be included in the domestic industry based on their substantial production-related activities in the United States, including large capital investments, technical expertise, value added, employment levels, and domestically produced and sourced raw materials.[53] Gulf and USV retain title to and bear all risks associated with the production and conversion of vanadium pentoxide into ferrovanadium. ***.[54] Gulf controls 49.5 percent of Bear's stock.[55] Petitioners contend that the supply of vanadium pentoxide by Gulf and USV to Bear is distinguishable from prior investigations in which the Commission found that companies which supply raw materials and pay fabrication fees were not members of the domestic industry.[56] In particular, petitioners argue that the vanadium pentoxide supplied by Gulf and USV to Bear is not raw material, but the key intermediate product for the production of ferrovanadium.[57] Respondents contend that tollees Gulf and USV should be excluded from the domestic industry or industries because they produce only vanadium pentoxide, a product not covered by the scope of these investigations.[58]

We do not include tollees USV and Gulf in the domestic industry. While we recognize that these firms' ferrovanadium-related production and other activities are substantial, these firms produce an intermediate product, vanadium pentoxide, but do not actually produce the domestic like product. The Commission is required under the statute to define the domestic industry for a particular domestic like product as the domestic producers of that domestic like product.[59] Vanadium pentoxide is not included in the scope of these investigations, and petitioners denied that vanadium pentoxide should be included in the domestic like product in the preliminary phase of these investigations.[60] The ferrovanadium-related activities in which Gulf and USV engage are therefore insufficient to warrant treating them as domestic producers given that they do not engage in production of the domestic like product. Accordingly, consistent with our definition of the domestic like product, we define a single domestic industry

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[51] Hearing Tr. at 44 (Bunting and Orr).

[52] CR at III-4 to III-5; PR at III-3.

[53] Petitioners' Prehearing Brief at 6; Petitioners' Posthearing Brief at 6.

[54] Petitioners' Prehearing Brief at 6-12.

[55] CR at III-5, n.14; PR at III-5, n.14.

[56] Certain Welded Large Diameter Line Pipe From Japan, Inv. No. 731-TA-919 (Final) and Furfuryl Alcohol From China and Thailand, Inv. Nos. 731-TA-703 and 705 (Review).

[57] Petitioners' Prehearing Brief at 6-7, n.23.

[58] Respondents' Prehearing Brief at 12-14.

[59] 19 U.S.C. § 1677(4)(A); see also, e.g., Russian Five-Year Review, USITC Pub. 3420 at 6-7. In previous cases, we found that merely supplying raw materials and paying a fabrication fee do not constitute sufficient production activities to include tollees in the domestic industry. See, e.g., Certain Welded Large Diameter Line Pipe from Japan, Inv. No. 731-TA-919 (Final), USITC Pub. 3464 at 10 n.53 (Nov. 2001) (while toll producers that engage in sufficient production-related activity are included in the domestic industry, tollees "that merely supply raw materials and pay a fabrication fee" are not); Furfuryl Alcohol from China and Thailand, Invs. Nos. 731-TA-703 and 705 (Review), USITC Pub. 3412 at 6 n.23 (Apr. 2001); Sweaters Wholly or in Chief Weight of Manmade Fibers from Hong Kong, the Republic of Korea and Taiwan, Invs. Nos. 731-TA-448 to 450 (Final), USITC Pub. 2312 at 24-26 & nn.68-69 (Sept. 1990).

[60] Conference Tr. at 44; Petitioners' Postconference Brief at 15.

consisting of the sole U.S. producers of ferrovanadium, i.e., Bear, Shieldalloy, and ISA. However, as discussed below, we find it appropriate to consider the condition of USV and Gulf in our assessment of the impact of subject imports on the domestic industry.

III. CUMULATION[61]

A. In General

For purposes of evaluating the volume and price effects for a determination of material injury by reason of the subject imports, section 771(7)(G)(i) of the Act requires the Commission to assess cumulatively the volume and effect of imports of the subject merchandise from all countries as to which petitions were filed and/or investigations self-initiated by Commerce on the same day, if such imports compete with each other and with domestic like products in the U.S. market.[62] In assessing whether subject imports compete with each other and with the domestic like product,[63] the Commission has generally considered four factors, including:

(1) the degree of fungibility between the subject imports from different countries and between imports and the domestic like product, including consideration of specific customer requirements and other quality related questions;
(2) the presence of sales or offers to sell in the same geographic markets of subject imports from different countries and the domestic like product;
(3) the existence of common or similar channels of distribution for subject imports from different countries and the domestic like product; and
(4) whether the subject imports are simultaneously present in the market.[64]

While no single factor is necessarily determinative, and the list of factors is not exclusive, these factors are intended to provide the Commission with a framework for determining whether the subject imports compete with each other and with the domestic like product.[65] Only a "reasonable overlap" of competition is required.[66]

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[61] The statutory provision for negligible imports, 19 U.S.C. § 1677(24), does not apply in these investigations because subject imports from South Africa and China each account for more than three percent of the volume of all ferrovanadium imported into the United States in the most recent twelve-month period for which data are available preceding the filing of the petition. See CR/PR at Table IV-2.

[62] 19 U.S.C. § 1677(7)(G)(i). There are four exceptions to the cumulation provision, none of which applies to these investigations. See id. at 1677(7)(G)(ii).

[63] The SAA expressly states that "the new section will not affect current Commission practice under which the statutory requirement is satisfied if there is a reasonable overlap of competition." SAA at 848, citing Fundicao Tupy, S.A. v. United States, 678 F. Supp. 898, 902 (Ct. Int'l Trade 1988), aff'd, 859 F.2d 915 (Fed. Cir. 1988).

[64] See Certain Cast-Iron Pipe Fittings from Brazil, the Republic of Korea, and Taiwan, Inv. Nos. 731-TA-278-280 (Final), USITC Pub. 1845 (May 1986), aff'd, Fundicao Tupy, S.A. v. United States, 678 F. Supp. 898 (Ct. Int'l Trade), aff'd, 859 F.2d 915 (Fed. Cir. 1988).

[65] See, e.g., Wieland Werke, AG v. United States, 718 F. Supp. 50 (Ct. Int'l Trade 1989).

[66] See Goss Graphic System, Inc. v. United States, 33 F. Supp. 2d 1082, 1087 (Ct. Int'l Trade 1998) ("cumulation does not require two products to be highly fungible"); Mukand Ltd. v. United States, 937 F. Supp. 910, 916 (Ct. Int'l Trade 1996); Wieland Werke, 718 F. Supp. at 52 ("Completely overlapping markets are not required.").

The conditions for cumulating the subject imports have been satisfied. The petition was filed with respect to all subject imports on the same day, and, based on the record in the final phase of these investigations, we find that there is a reasonable overlap of competition among the subject imports, and between the subject imports and the domestic like product. Petitioners argue that the Commission should cumulate all subject imports from China and South Africa for purposes of its final determination.[67] Respondents did not brief the issue of cumulation in their written submissions, but asserted at the hearing that 45-percent grade product should not be cumulated with 80-percent grade product. Respondents, however, conceded that 80-percent grade ferrovanadium from China and South Africa should be cumulated.[68]

First, there is at least a moderate level of fungibility between domestic ferrovanadium and the subject imports and among imports from China and South Africa.[69] U.S. producers, tollees and importers reported that subject imports and the domestic like product are always or frequently interchangeable.[70] Purchasers generally described U.S., subject, and nonsubject ferrovanadium as comparable in purchasing factors such as availability, price, delivery time, and packaging. Seven purchasers reported that U.S. and Chinese ferrovanadium are used in the same applications while eleven purchasers stated that U.S. and South African ferrovanadium are used in the same applications. The majority of purchasers indicated that they did not order ferrovanadium specifically from just one source.[71]

Available data indicate that 80-percent grade ferrovanadium is sold by USV and Gulf as well as by importers of Chinese and South African product.[72] Although respondents have argued that there are differences in product mix from the subject countries because imports from South Africa consist of only 80-percent grade product while imports from China include both 45-percent and 80-percent grade product,[73] the record evidence, as discussed above, generally shows that purchasers buy their ferrovanadium requirements from all subject countries as well as U.S. suppliers and that ferrovanadium from these sources is interchangeable. We note that purchaser responses do not indicate that 45-percent grade product is supplied by only Chinese producers and not South African producers.[74] Therefore, in light of the interchangeability of 45-percent and 80-percent grade product from all subject countries and

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[67] Petitioners' Prehearing Brief at 15.

[68] Hearing Tr. at 182 (Bruno).

[69] Questionnaire responses indicate that U.S. producers and tollees believe that differences other than price between products from the United States, subject and nonsubject countries, are "never" important in the domestic sale of ferrovanadium while importers reported that differences other than price are "sometimes" or "never" important in the sale of ferrovanadium in the United States. CR at II-12, Table II-5; PR at II-8, Table II-5.

[70] CR at II-12 to II-13, Table II-6; PR at II-8, Table II-6. Importer *** noted that some U.S. steel producers use only 45-percent grade ferrovanadium, available only from Shieldalloy, and thus will not purchase subject ferrovanadium. It added that some U.S. producers prefer nitrided vanadium, and that even with the same grade ferrovanadium, the amounts of other elements can differ and affect purchaser preferences. However, few other ferrovanadium sellers or purchasers noted these kinds of differences. CR at II-13; PR at II-8 to II-9.

[71] CR at II-13 to II-14, Table II-7; PR at II-9, Table II-7. When asked if certain grades of ferrovanadium are available from only a single source, the majority of responding purchasers responded "no." CR at II-14; PR at II-9.

[72] CR at II-1; PR at II-1.

[73] Hearing Tr. at 112 (Weigel).

[74] We note that respondents raised their cumulation arguments for the first time in response to a question by Chairman Okun at the November 22, 2002, hearing. See Hearing Tr. at 182 (Bruno). Due to the lateness of respondents' cumulation arguments, the Commission did not request data regarding the product mix of imports (45-percent grade vs. 80-percent grade) from China and South Africa in its questionnaires. Respondents had the opportunity to raise this issue by commenting on the draft questionnaires. See infra note 45.

the United States, we find that imports from China and South Africa are sufficiently fungible with each other as well as with the domestic like product to warrant cumulation.

Second, the record indicates that subject imports from China and South Africa and ferrovanadium produced in the United States are sold in the same geographic markets throughout the United States.[75]

Third, questionnaire responses indicate that subject imports from China and South Africa and domestically produced ferrovanadium were all sold in the U.S. market during each year of the POI. According to the data on pricing product 1 (40-60 percent grade), subject imports of ferrovanadium from China for pricing product 1 were sold in the U.S. market in three quarters of 1999 and in each quarter of 2000, 2001, and interim 2002, as was U.S. product. According to the data on pricing product 2 (78-82 percent grade), subject imports from China for pricing product 2 were sold in each quarter of 1999, 2000, 2001, and interim 2002, as was U.S. product. Subject imports of ferrovanadium from South Africa for pricing product 2 were sold in the U.S. market in each quarter in 1999, 2000, 2001, and interim 2002, along with U.S. product.[76]

Finally, the record shows that ferrovanadium (whether from subject countries or produced domestically) is sold primarily to end users, namely steel companies and iron foundries.[77]

We therefore find that a reasonable overlap of competition exists among the subject imports and between subject imports and the domestic like product. Consequently, we cumulate subject imports from China and South Africa for the purpose of analyzing whether the domestic industry is materially injured by reason of the subject imports.

IV. MATERIAL INJURY BY REASON OF LESS THAN FAIR VALUE IMPORTS [78] [79]

In the final phase of antidumping duty investigations, the Commission determines whether an industry in the United States is materially injured by reason of the imports under investigation.[80] In making this determination, the Commission must consider the volume of imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.[81] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[82] In assessing whether the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on

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[75] Domestic producers and tollees reported that *** percent of their ferrovanadium shipments occurred within 101 to 1,000 miles, followed by *** percent of shipments that occurred within 100 miles and *** percent of shipments that occurred at distances over 1,000 miles. Five non-producer importers of subject merchandise reported that about 73.2 percent of their shipments occurred within 100 miles, followed by 22.6 percent of shipments that occurred within 101 to 1,000 miles, and 4.3 percent of shipments that occurred at distances over 1,000 miles. CR at V-1; PR at V-1.

[76] CR/PR at Tables V-1, V-2.

[77] CR at II-1; PR at II-1.

[78] Commissioner Miller does not join in this section of the Commission's Views. See Separate Views of Commissioner Marcia E. Miller on Domestic Industry and Material Injury.

[79] All quantities of ferrovanadium cited in these Views are in units of pounds of contained vanadium.

[80] 19 U.S.C. § 1673d(b).

[81] 19 U.S.C. § 1677(7)(B)(i). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each [such] factor . . . [a]nd explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B). See also, Angus Chemical Co. v. United States, 140 F.3d 1478 (Fed. Cir. 1998).

[82] 19 U.S.C. § 1677(7)(A).

the state of the industry in the United States.[83] No single factor is dispositive, and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[84]

For the reasons discussed below, we determine that the domestic industry is materially injured by reason of cumulated subject imports from China and South Africa found to be sold in the United States at LTFV.

A. Conditions of Competition

The following conditions of competition are pertinent in our analysis to these investigations.

1. Demand and Supply

Ferrovanadium is used primarily by the steel industry to improve the strength-to-weight ratio and other properties of steel products, especially in HSLA steel where it can impart useful properties without the cost or additional chemistry of using alloys. *** reported that demand grew during the period examined due in part to the development of thin slab casting. U.S. producers and tollees generally reported that ferrovanadium demand had declined in 2001 due to falling steel production, but they noted that demand may have regained some ground in 2002. Importers generally agreed that U.S. ferrovanadium demand follows steel production and thought that the steel section 201 tariffs would increase ferrovanadium demand.[85] Apparent U.S. consumption was relatively steady at 13.0 million pounds in 1999 and 2000, but then decreased to 11.9 million pounds in 2001. Apparent U.S. consumption was 6.4 million pounds in interim 2002 compared to 6.3 million pounds in interim 2001.[86]

Greater competition among European ferrovanadium suppliers results in lower prices, which then affect prices in the United States.[87] Questionnaire responses reveal that producers and importers agreed that worldwide prices for ferrovanadium can have an effect on U.S. prices. Producers generally stated that European ferrovanadium prices had been at lower levels than U.S. prices, and that this difference was encouraging other world suppliers to ship their product to the United States. Importers characterized the effect of international prices on U.S. prices as being driven by demand, due to market awareness of lower prices elsewhere.[88]

Five firms account for all U.S. production and shipments of ferrovanadium. Only three firms, Bear, Shieldalloy, and ISA, actually produce ferrovanadium in the United States. Two firms, Gulf and USV, produce only the intermediate product, vanadium pentoxide, which is toll converted by Bear into ferrovanadium for sale by Gulf and USV. In the U.S. market, ferrovanadium is sold primarily to steel companies and iron foundries.[89] Imports from China were distributed by at least five importers while imports from South Africa were sold principally by two importers.[90]

End-of-period inventories of the domestic industry increased from *** pounds in 1999 to *** pounds in 2000 and to *** pounds in 2001, and were higher in interim 2002 (*** pounds) than in interim

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[83] 19 U.S.C. § 1677(7)(C)(iii).

[84] Id.

[85] CR at II-5; PR at II-3.

[86] CR/PR at Table IV-5.

[87] Hearing Tr. at 126 (O'Connell).

[88] CR at V-5; PR at V-4.

[89] CR at II-1 and III-1; PR at II-1 and III-1.

[90] CR at II-4; PR at II-2.

2001 (*** pounds).[91] U.S. importers' end-of-period inventories for subject imports decreased *** from *** pounds in 1999 to *** pounds in 2000, but then increased to *** pounds in 2001, and was *** pounds in interim 2001 compared to *** pounds in interim 2002.[92]

2. Commodity-Like Nature of Product

As noted earlier, ferrovanadium of all grades is interchangeable and shares the same physical characteristics and uses; virtually all ferrovanadium is used as an alloying agent in the production of steel. Steel producers have the technical capability to use different grades of ferrovanadium, and the user needs to know only the grade of ferrovanadium so that the steelmaking process and ingredients can be adjusted accordingly.[93]

Twenty end-user purchasers indicated that certification is required for 100 percent of purchases, citing mostly chemistry and process specifications. Qualifying a new supplier depends on quality of product, reliability in trial orders, ISO certification, and size consistency. No purchasers reported any suppliers failing certification since 1999. The record indicates that most purchasers bought ferrovanadium at the lowest price.[94]

3. Producers and Tollees

During the POI, domestic producers Bear and ISA toll-produced ferrovanadium for other firms under tolling agreements, and Shieldalloy produced product for sale to unrelated third-party customers. At its plant in Butler, PA, Bear toll converts raw materials, principally vanadium pentoxide, provided by companies such as Gulf and USV, into ferrovanadium. The vast majority of Bear's ferrovanadium production is performed on behalf of Gulf and USV.[95] Shieldalloy's production facility is located in Cambridge, OH. Unlike Bear and Chinese and South African producers, Shieldalloy does not use vanadium pentoxide as its principal raw material input. Instead, Shieldalloy produces ferrovanadium by a modified reduction process that is capable of utilizing any vanadium-bearing raw materials, such as, for example, petroleum residues, fly ash, hazardous spent catalysts, and iron slag.[96]

Gulf and USV do not produce ferrovanadium. Instead, each firm operates under a toll agreement whereby it supplies the raw material, vanadium pentoxide, to Bear, which then converts the raw material to ferrovanadium. Both Gulf and USV retain title to the finished product throughout the conversion process and sell the finished product to their customers. *** of Gulf and USV's 2001 shipments of ferrovanadium was produced under the respective toll agreement that each has with Bear.[97] U.S. producers and tollees have varying material costs, depending on the type of raw material used to produce ferrovanadium or vanadium pentoxide. Gulf primarily uses spent catalysts for its production of vanadium pentoxide, which it can obtain *** from oil refineries. USV reported that ***.[98] The total cost

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[91] CR/PR at Table III-6.

[92] CR/PR at Table VII-3.

[93] Petitioners' Prehearing Brief at 19 (citing Preliminary Determination, USITC Pub. 3483 at 6-7, 11, 17).

[94] CR at II-11; PR at II-7.

[95] CR at III-2 to III-3; PR at III-2.

[96] CR at III-4; PR at III-2.

[97] CR at III-4 to III-5; PR at III-3.

[98] CR at V-1, n.1, PR at V-1, n.1.

of goods sold ("COGS") of domestic producers and tollees decreased from 1999 to 2001 because of the lower quantity of sales and decreased unit costs of raw materials.[99]

The domestic industry may experience injury in different ways, as acknowledged by the Commission in the preliminary phase of these investigations. The vast majority of Bear's production is sold into the market by its tollees, USV and Gulf; therefore, in the somewhat unique structure of this industry, market conditions affect Bear through these tollees. As ferrovanadium prices fall, Bear's tollees, USV and Gulf, become less profitable. As a result, *** reduces Bear's own profit. Reduced demand for ferrovanadium sold by USV and Gulf also reduces Bear's volume of toll conversion and its profits. Thus, although Bear is not directly exposed to market conditions, those conditions, and the health of Gulf and USV, have a very real effect on Bear's condition. Shieldalloy is directly exposed to the market, and therefore can be injured by falling sales volume and prices; it may also experience injury as a result of using raw materials purchased at higher prices to produce ferrovanadium sold at prices insufficient to cover its costs, due to the continuing decline of ferrovanadium prices during the POI.[100]

4. Nonsubject imports

Major nonsubject sources of imports include Austria, Belgium, Canada, and the Czech Republic. Nonsubject imports increased substantially in 2000 when compared to 1999, but returned to near 1999 levels in 2001. By quantity, nonsubject imports increased from 1.9 million pounds in 1999 to 3.0 million pounds in 2000, before declining to 2.2 million pounds in 2001. Nonsubject imports were 1.1 million pounds in interim 2001 compared with 2.3 million pounds in interim 2002.[101] Importer *** noted that new Australian ferrovanadium production has been recently added to the market.[102]

5. Substitutes

Ferrovanadium, like other additives to steel, imparts its own set of unique properties to the steel in which it is used. Substitution away from ferrovanadium to another material may change the physical properties of the steel produced. When a steel specification calls for a certain amount of vanadium, then no substitution away from vanadium is possible.[103]

Questionnaire responses reveal that there are several possible substitutes for ferrovanadium, but only in limited applications and only when ferrovanadium prices are relatively high. In general, substitution away from ferrovanadium is rare. The majority of purchasers responded in the negative when asked if there were other products that could be substituted for ferrovanadium in its end uses. A few purchasers identified ferrocolumbium and nitrided vanadium as a substitute; however, they noted that the degree of substitutability of these products for ferrovanadium was limited.[104]

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[99] CR at VI-5; PR at VI-3.

[100] Petitioners' Prehearing Brief at 23-24.

[101] CR at II-4; PR at II-3; CR/PR at Table IV-3.

[102] CR at II-4; PR at II-3.

[103] CR at II-6; PR at II-4.

[104] CR at II-5 to II-6; PR at II-3 to II-4.

6. Pricing and Distribution

Ferrovanadium typically is bought and sold on the basis of the weight of contained vanadium, and petitioners argue that the price is typically the same regardless of the grade.[105]

Producers/tollees and importers reported that prices are determined by transaction-by-transaction negotiations and by contracts for multiple shipments. When contracts for multiple shipments are used for long-term sales, formula pricing based on industry publications such as *Ryan's Notes* and *American Metal Market* is often used as a benchmark. Sixteen purchasers reported experience with using published prices as contract benchmarks. On spot trades, these industry publications also can have an influence, with other purchasers reporting that they used the published prices as negotiating guidelines. Because prices are often indexed to a published source, purchasers reported that prices change frequently; recent changes have been moderate compared to the period prior to 1999.[106]

Most ferrovanadium sold in the U.S. market is sold in lumps with an upper size range of approximately 2 inches. A significant portion of ferrovanadium sold to end users in the U.S. market is packaged in bags or cans that hold product with a contained weight of 10 to 25 pounds of vanadium, and the remainder is sold in bulk drums that typically contain a net weight of 500 pounds of vanadium. These lumps are commonly added to the molten steel after it has been poured from the steelmaking furnace into a ladle.[107] In virtually all cases, the packages are placed onto pallets or into pallet boxes to facilitate handling, storage and distribution.[108]

B. Volume of Subject Imports

Section 771(7)(C)(i) of the Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[109]

By quantity, the volume of cumulated subject imports increased during the POI from 2.3 million pounds in 1999 to 2.5 million pounds in 2000 to 3.5 million pounds in 2001, before decreasing from 1.6 million pounds in interim 2001 to 0.5 million pounds in interim 2002.[110]

By quantity, the market share of subject imports increased from 17.8 percent in 1999 to 19.4 percent in 2000 and to 29.2 percent in 2001; between interim periods, the market share of subject imports decreased from 26.3 percent to 8.1 percent of domestic consumption. Comparatively, the market share of nonsubject imports, by quantity, increased from 15.0 percent in 1999 to 23.0 percent in 2000, then

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[105] Hearing Tr. at 19-20 (Jones); Petitioners' Prehearing Brief at 25.

[106] CR at V-3; PR at V-3.

[107] CR at I-5; PR at I-4.

[108] Petition at 13; Conference Tr. at 15-16 (Young).

[109] 19 U.S.C. § 1677(7)(C)(i).

[110] CR/PR at Table IV-3. Subject import volume decreased dramatically after the filing of the petition, which occurred on November 26, 2001. We accord this volume change diminished weight in making our material injury determination because we find that it is related to the pendency of these investigations. CR/PR at Tables IV-3 and IV-4. 19 U.S.C.§ 1677(7)(I). The statute instructs the Commission to consider whether changes in volume, price effects, or impact are related to the pendency of the investigations. If the Commission determines that such changes are related to the pendency of the investigations, it has discretion under the statute to reduce the weight accorded to such information.

decreased to 18.1 percent in 2001, losing market share to subject imports. Between interim periods, nonsubject import market share increased from 17.8 percent to 36.4 percent.[111]

The market share of U.S. shipments for domestic producers and tollees declined progressively from 67.2 percent in 1999 to 57.6 percent in 2000 to 52.8 percent in 2001, and was 55.9 percent in interim 2001 compared to 55.5 percent in interim 2002.[112]

In these final determinations, we find the volume and increase in volume of cumulated subject imports, both in absolute terms and relative to apparent domestic consumption in the United States, to be significant.[113]

C. Price Effects of the Subject Imports

Section 771(7)(C)(ii) of the Act provides that, in evaluating the price effects of the subject imports, the Commission shall consider whether –

> (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
> (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[114]

The record in these investigations indicates that domestically produced ferrovanadium and subject imports are generally substitutable, and that price is the key factor in purchasing decisions.[115] The parties agree that price is very important in purchasing decisions, given the commodity-like nature of the subject product. Although purchasers require that 100 percent of their ferrovanadium be certified for chemistry and process specifications, they reported no difficulties qualifying their suppliers since 1999.[116]

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[111] CR/PR at Table IV-5. Total domestic consumption, by quantity, remained relatively steady at 13.0 million pounds in 1999 and 2000, before decreasing to 11.9 million pounds in 2001. From interim periods 2001 to 2002, total domestic consumption increased slightly from 6.3 million pounds to 6.4 million pounds. We combine the U.S. shipments of both domestic producers and tollees in calculating U.S. market share because Bear's toll production of ferrovanadium is sold commercially by tollees Gulf and USV. CR/PR at Table IV-5; CR at III-2 to III-3, III-10; PR at III-1 to III-2, III-5.

[112] CR/PR at Table IV-5.

[113] Commissioner Bragg finds the volume of subject imports to be significant relative to domestic production as well as to apparent U.S. consumption. In particular, Commissioner Bragg notes that in 1999 the total volume of subject imports was equivalent to *** percent of domestic production, while the 77.8 percent increase in subject import volume between 1999 and 2000, in and of itself, was equivalent to roughly *** percent of domestic production in 2000. Although the total volume of subject imports declined in 2001, that volume was equivalent to *** percent of domestic production in 2001. Commissioner Bragg finds that, in the context of flat or declining demand over the POI, the significance of subject import volume relative to domestic production is evidenced by the roughly *** percent increase in end-of-period inventories for the domestic industry between 1999 and 2000, as well as the roughly *** percent increase in end-of-period inventories in 2001. See CR/PR at Table C-1.

[114] 19 U.S.C. § 1677(7)(C)(ii).

[115] CR at II-9 to II-15, PR at II-6 to II-10.

[116] Petitioners' Prehearing Brief at 21-23; Respondents' Posthearing Brief at 1, n.1; CR at II-9 to II-11; PR at II-6 to II-8.

Product-specific price comparison data were mixed but indicated mostly overselling. For pricing product one, out of 13 quarterly comparisons of weighted-average delivered selling prices, subject imports undersold U.S. product in five quarters but oversold U.S. product in eight quarters.[117] For pricing product two, out of 28 quarterly comparisons of weighted-average delivered selling prices, subject imports undersold U.S. product in five quarters but oversold the U.S. product in 23 quarters.[118] Based on these pricing data, we do not find underselling to be significant in these investigations.

Prices for both the domestic like product and the subject merchandise declined over the POI.[119] The price decline was much more steep than the drop in apparent consumption over the POI.[120] In light of the highly substitutable nature of the products and the increasing volume of subject imports, we find that subject imports depressed domestic prices to a significant degree, even though there was insufficient evidence of consistent underselling. With the exception of interim 2002, which we discount due to the pendency of these investigations,[121] subject imports increased market share at the expense of the domestic industry, even while domestic producers themselves reduced prices in an unsuccessful effort to retain market share.[122] Our conclusion regarding price depression also is given support by the confirmed lost sales and revenue allegations of the domestic industry.[123] Despite the reduction of subject import volume in interim 2002 during the pendency of these investigations, U.S. prices still have not recovered due to the overhang of significant end-of-period inventories held by U.S. importers of subject merchandise in 2001 and interim period 2002. The significant decline in such inventories from interim 2001 to interim 2002 indicates that U.S. importers were aggressively selling significant volumes of inventories of their product in the U.S. market and continuing to put downward pressure on U.S. ferrovanadium prices, even while subject import volume fell in interim 2002.[124]

Respondents argue that other causes such as world prices, nonsubject imports, and *** caused the price declines.[125] While prices may tend to equalize across countries over time, we must consider whether subject, unfairly traded imports are causing price depression in the United States. As discussed above, the record indicates that the increasing volumes of highly substitutable subject imports have played a significant role in driving down prices in the United States; this is clearly price depression in the U.S. market, regardless of what prices are in other markets. The record also indicates that subject

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[117] CR/PR at Table V-1.

[118] CR/PR at Table V-2.

[119] CR/PR at Tables V-1 and V-2.

[120] The unit sales value of U.S.-produced ferrovanadium declined by *** percent from 1999 to 2001 while U.S. apparent consumption decreased by 8.3 percent over the same period. CR/PR at Table C-1.

[121] 19 U.S.C. § 1677(7)(I).

[122] CR/PR at Table IV-5, C-1 and C-2. In response to questioning by Commissioner Bragg during the hearing, Petitioners testified that a fairly high level of capacity utilization is necessary for U.S. producers to cover fixed costs economically, and that domestic firms made a strategic decision to reduce prices in order to maintain sales volumes in the face of competition from subject imports. Hearing Tr. at 54-56 (Jones, Carter, Orr, Bunting).

[123] CR at V-16 to V-22; PR at V-6 to V-7.

[124] The end-of-period inventories for subject imports declined from *** pounds in 1999 to *** pounds in 2000 before increasing to *** pounds in 2001 and were *** pounds in interim 2001 compared to *** pounds in interim 2002. CR/PR at Table VII-3.

[125] Respondents' Prehearing Brief at 22-28.

imports had significant price depressing effects, notwithstanding the presence of nonsubject imports in the U.S. market. Subject imports gained far more market share over the POI than nonsubject imports[126] and, except for interim 2002 (after the petition had been filed), had a lower average unit value than nonsubject imports.[127] As for respondents' argument that domestic price competition has been ***,[128] we acknowledge that *** U.S.-produced ferrovanadium during the POI. Nonetheless, the fact remains that increasing subject imports captured market share at the expense of both U.S. producers and tollees, and the purchaser data are inconclusive regarding price leadership.[129] We also note that *** market share was *** than subject imports'.[130]

Therefore, we find that prices have been depressed to a significant degree by the subject imports.

D. Impact of the Subject Imports

In examining the impact of the subject imports on the domestic industry, we consider all relevant economic factors that bear on the state of the industry in the United States.[131] These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, profits, cash flow, return on investment, ability to raise capital, and research and development. No single factor

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[126] CR/PR at Table IV-5. In 2001, when subject import volume was at its peak for the POI, subject import market share was 29.2 percent, compared to 18.1 percent for nonsubject imports. From 2000 to 2001, subject import volume increased by 37.1 percent, while nonsubject import volume fell by 28.2 percent. CR/PR at Table IV-3.

[127] CR/PR at Table IV-3.

[128] Respondents' Prehearing Brief at 27; Respondents' Posthearing Brief at 8.

[129] CR/PR at Tables III-3 and IV-5. Seven purchasers felt that there was no price leader in the U.S. ferrovanadium market while six purchasers cited Shieldalloy as the price leader and two cited USV as having led prices in both upward and downward directions. Three other purchasers cited Gulf as a price leader. One purchaser cited importers Larson Sales and Considar as price leaders. One purchaser commented that U.S. product was priced higher than Chinese ferrovanadium while two purchasers said that U.S. and Chinese ferrovanadium prices were comparable. Three purchasers noted that U.S. ferrovanadium was more expensive than South African ferrovanadium while three other purchasers said that U.S. and South African product were priced the same. Three purchasers reported that U.S. ferrovanadium was priced more expensively than nonsubject ferrovanadium. CR at V-5 to V-6; PR at V-3 to V-4.

[130] As noted earlier, total domestic consumption was 13.0 million pounds in 1999 and 2000, 11.9 million pounds in 2001, 6.3 million pounds in interim 2001, and 6.4 million pounds in interim 2002. CR/PR at Table IV-4. *** volume of U.S. shipments was *** pounds, *** pounds, *** pounds, *** pounds, and *** pounds in 1999, 2000, 2001, interim 2001, and interim 2002, respectively. CR/PR at Table III-4. Calculating *** data as a share of apparent consumption, *** accounted for *** percent of apparent consumption in 1999, 2000, 2001, interim 2001, and interim 2002, respectively. See, e.g., CR/PR at Tables III-4 and IV-4. Subject imports accounted for 17.8, 19.4, 29.2, 26.3, and 8.1 percent of apparent consumption in 1999, 2000, 2001, interim 2001, and interim 2002, respectively. CR/PR at Table IV-5. *** share of apparent consumption is *** in each year and period ***, which we discount due to the pendency of these investigations.

[131] 19 U.S.C. § 1677(7)(C)(iii). See also SAA at 851, 885 ("In material injury determinations, the Commission considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports." Id. at 885.).

is dispositive and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[132] [133] [134]

We find that subject imports have adversely impacted the domestic industry. As the volume of subject imports increased, the industry's condition worsened as evidenced by declines in a number of performance indicators. Domestic producers' commercial shipments remained steady at *** pounds in 1999 and 2000 before falling to *** pounds in 2001, and declined from *** pounds in interim 2001 to *** pounds in interim 2002.[135] As a result of declining sales, domestic producers' end-of-period inventories climbed from *** pounds in 1999 to *** pounds in 2000 to *** pounds in 2001, and increased from *** pounds in interim 2001 to *** pounds in interim 2002.[136] [137]

The domestic industry's production capacity increased *** from *** pounds in 1999 to *** pounds in 2000 and 2001, and was *** pounds in interim 2001 and interim 2002. However, domestic producers decreased production from *** pounds in 1999 to *** pounds in 2000 to *** pounds in 2001, while remaining at *** pounds during interim 2001 and interim 2002. Overall, domestic production declined *** percent from 1999 to 2001.[138] The domestic industry's capacity utilization dropped from *** percent in 1999 to *** percent in 2000 to *** percent in 2001, and declined from *** percent in interim 2001 to *** percent in interim 2002. The domestic industry's average number of production workers also declined throughout the POI.[139]

The domestic industry sustained *** throughout the POI. Although Bear and Shieldalloy's financial condition *** from 1999 to 2000 with a *** of $*** in 2000 (compared to a *** in 1999) due to *** in the cost of goods sold (COGS),[140] the domestic industry's operating *** then increased with

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[132] 19 U.S.C. § 1677(7)(C)(iii). See also SAA at 851, 885; Live Cattle from Canada and Mexico, Inv. Nos. 701-TA-386, 731-TA-812-813 (Preliminary), USITC Pub. 3155 (Feb. 1999) at 25 n.148.

[133] The statute instructs the Commission to consider the "magnitude of the dumping margin" in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii) (V). In its final determinations, Commerce found the following dumping margins: For South Africa, a final weighted margin of 116.00 percent for Xstrata, Highveld and all others; for China, a final weighted antidumping margin for Panzhihua of 13.03 percent and a country-wide rate of 66.71 percent. Notice of Final Determination of Sales at Less Than Fair Value: Ferrovanadium from the Republic of South Africa, 67 Fed. Reg. 71136, 71137 (November 29, 2002), and Notice of Final Determination of Sales at Less Than Fair Value: Ferrovanadium from the People's Republic of China, 67 Fed. Reg. 71137, 71140 (November 29, 2002).

[134] Commissioner Bragg notes that she does not ordinarily consider the magnitude of the margin of dumping to be of particular significance in evaluating the effects of subject imports on domestic producers. See Separate and Dissenting Views of Commissioner Lynn M. Bragg in Bicycles from China, Inv. No. 731-TA-731 (Final), USITC Pub. 2968 (June 1996).

[135] CR/PR at Table C-2. We note that Bear, as a toller of ferrovanadium, had *** level of commercial sales of ferrovanadium during the POI. CR at III-10; PR at III-5; CR/PR at Table III-3.

[136] CR/PR at Table C-2.

[137] As noted, Commissioner Bragg finds that the significance of subject import volume relative to domestic production is evidenced by the significant impact subject imports had in causing inventory levels for the domestic industry to increase over the POI. See supra n.113.

[138] CR/PR at Table C-2.

[139] The number of production related workers fell from *** in 1999 to *** in 2000 to *** in 2001, and from *** in interim 2001 to *** in interim 2002. CR/PR at Table C-2.

[140] Unit COGS for Bear and Shieldalloy are as follows: $*** per pound in 1999; $*** per pound in 2000; $*** per pound in 2001; $*** per pound in interim 2001; and $*** per pound in interim 2002. CR/PR at Table F-3.

.[141] The domestic industry's *** in 2001 coincided with the dramatic increase in subject import volume in 2001.[142] Despite a decrease in COGS that helped the domestic industry *** in 2000, U.S. ferrovanadium prices fell faster than the domestic industry's declines in COGS.[143] Unit net sales value of ferrovanadium continually fell during the POI, from $ per pound in 1999 to $*** per pound in 2000 to $*** per pound in 2001, and from $*** per pound in interim 2001 to $*** per pound in interim 2002.[144]

As noted previously, we attribute the domestic producers' continued performance declines in interim 2002 to the release of the significant increases in subject import inventories held by U.S. importers through the end of 2001, even while actual subject import volume declined after the filing of the petition. The end-of-period inventories for subject imports declined *** from *** pounds in 1999 to *** pounds in 2000 before nearly doubling to *** pounds in 2001, and decreased from *** pounds in interim 2001 to *** pounds in interim 2002. The *** end-of-period inventories of subject merchandise held by importers in 2001 coupled with the significant decline in subject inventories between interim periods indicate that subject inventories continued to exert downward pressure on U.S. ferrovanadium prices and impede U.S. shipments by the domestic industry, even as subject import volume slowed in 2002.[145]

Bear's results on its tolling operations also showed *** declines in net quantity tolled, tolling revenue, and ***. Net quantities of ferrovanadium tolled by Bear declined from *** pounds in 1999 to *** pounds in 2000 and *** pounds in 2001, and was *** pounds in interim 2002 compared to *** pounds in interim 2001. Bear's net tolling revenue decreased from *** in 1999 to *** in 2000 and *** in 2001, and was *** in interim 2002 compared with *** in interim 2001. Bear's *** fell from *** in 1999 to *** in 2000 and *** in 2001, and was a *** in interim 2002 compared to *** in interim 2001.[146]

Thus, the record shows there have been significant increases in the volume and market share of the subject imports and that subject imports had a significant depressing effect on domestic prices. Large volumes of subject imports and depressed prices in the U.S. market led to severe financial declines and a deterioration in the overall condition of the domestic industry during the POI. Accordingly, we find that the subject imports are having a significant adverse impact on the domestic industry.

This conclusion is further confirmed by consideration of the performance of Bear's tollees, Gulf and USV. Such consideration is consistent with the statutory requirement to "evaluate all relevant economic factors . . . within the context of the business cycle and conditions of competition that are distinctive to the affected industry." As noted above, Bear is dependent on its tollees for raw materials and revenue, and financial difficulties of USV and Gulf in turn affect Bear. Further, the vast majority of commercial sales of Bear's production of ferrovanadium is reflected in the financial data of USV and Gulf. With respect to the tollees, while Gulf's shipments increased from 1999 to 2001, by *** pounds contained vanadium, USV's shipments fell by ***, *** of contained vanadium, during the same

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[141] CR/PR at Table F-3.

[142] CR/PR at Tables IV-3 and IV-5.

[143] The domestic industry's ratio of COGS to net sales was *** percent in 1999, *** percent in 2000, *** percent in 2001, *** percent in interim 2001, and *** percent in interim 2002. CR/PR at Table F-3.

[144] CR/PR at Table C-1.

[145] CR/PR at Table VII-3.

[146] CR/PR at Table F-1.

period.[147] With respect to profitability, the *** and worsened from 1999 to 2001. USV had ***.[148] Gulf had ***.[149]

CONCLUSION

For the foregoing reasons, we determine that an industry in the United States is materially injured by reason of imports of ferrovanadium from China and South Africa that are sold in the United States at less than fair value.

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[147] CR/PR at Table III-4. The U.S. market share held by U.S. producers and tollees, as a percentage of total apparent U.S. consumption, declined from 67.2 percent in 1999 to 57.6 percent in 2000 to 52.8 percent in 2001 and from 55.9 percent in interim 2001 to 55.5 percent in interim 2002. CR/PR at Table IV-5.

[148] CR/PR at Table VI-6.

[149] CR/PR at Table VI-4.

SEPARATE VIEWS OF COMMISSIONER MARCIA E. MILLER ON DOMESTIC INDUSTRY AND MATERIAL INJURY

I concur with the majority's affirmative determination, and I join in the majority's views with respect to the domestic like product and cumulation. Although I concur with the majority's views that Shieldalloy, Bear, and International Specialty Alloys ("ISA")[1] are part of the domestic industry, I also determine, consistent with my views in the preliminary phase of this investigation and in the recent sunset review of ferrovanadium from Russia,[2] that tollees Gulf and USV[3] engage in sufficient production-related activity to be included in the domestic industry. I therefore write separately to express my views on the definition of the domestic industry and on my finding of material injury by reason of the less than fair value ("LTFV") subject imports.

I. DOMESTIC INDUSTRY AND RELATED PARTIES

Section 771(4)(A) of the Act defines the relevant industry as the domestic "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."[4] 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.[5]

None of the parties disputed that Shieldalloy, Bear, and ISA are domestic producers. The petitioners argue that tollees Gulf and USV should also be included in the domestic industry and that this position would be consistent with the Commission's finding in the original determination on ferrovanadium from Russia.[6] The respondents urge the Commission not to include the tollees in the domestic industry, consistent with the majority's position in the preliminary phase, noting generally that "supplying raw materials and paying a fabrication fee do not make the tollees part of the domestic industries."[7]

In deciding whether a firm qualifies as a domestic producer, the Commission generally analyzes the overall nature of a firm's production-related activities in the United States with respect to production of the domestic like product. It generally considers six factors:

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[1] ISA's questionnaire response indicates it toll produced *** pounds of ferrovanadium for Glencore ***. Because it produced this *** quantity of ferrovanadium during *** of the period examined, its data are not consolidated with the data of the other domestic producers. CR at III-3.

[2] *Ferrovanadium From China and South Africa,* Inv. Nos. 731-TA-986 and 987 (Preliminary), USITC Pub. 3484 at 19-22 (Jan. 2002) ("Separate Views of Commissioner Marcia E. Miller on Domestic Industry and Material Injury"); *Ferrovanadium and Nitrided Vanadium From Russia*, Inv. No. 731-TA-702 (Review), USITC Pub. 3420 at 21-22 (May 2001) ("Separate Views of Commissioner Marcia E. Miller on the Definition of the Domestic Industry").

[3] USV, or U.S. Vanadium Corporation, is a U.S. subsidiary of Strategic Metals Corporation, or "Stratcor."

[4] 19 U.S.C. § 1677(4)(A).

[5] *See, e.g., 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).

[6] Petitioners' Posthearing Brief at 5-6; Petitioners' Prehearing Brief at 4-12.

[7] Respondents' Prehearing Brief at 12-16.

(1) source and extent of the firm's capital investment;
(2) technical expertise involved in U.S. production activities;
(3) value added to the product in the United States;
(4) employment levels;
(5) quantity and type of parts sourced in the United States; and
(6) any other costs and activities in the United States directly leading to production of the like product.

No single factor is determinative and the Commission may consider any other factors it deems relevant.[8] The Commission has not included tollees in the domestic industry in cases where the tollee merely supplied the raw material and paid a fabrication fee to the toller, and did not itself produce the raw material.[9] Those cases, however, are distinguishable from the instant case where the tollees not only produce a substantial portion of the raw material supplied to the toller, but also meet a number of the other criteria demonstrating sufficient production-related activity in the United States.

Gulf in 2001 produced *** percent of the vanadium pentoxide, the intermediate product or raw material input, that Bear converted into ferrovanadium on Gulf's behalf.[10] Gulf owns 49.5 percent of the common stock of toll producer Bear and continues to engage in long-term tolling agreements with Bear.[11] The original cost of Gulf's investment in fixed assets related to the production of vanadium pentoxide, the intermediate product, was *** in 1999.[12] Gulf employs approximately *** workers in the production of vanadium pentoxide.[13] Vanadium pentoxide accounts for between *** percent and *** percent of the cost of the ferrovanadium sold by Gulf.[14] Gulf remains owner of the vanadium it supplies to toller Bear and assumes the financial risk of sale of the domestic like product.[15] Gulf negotiates the sales of ferrovanadium, arranges for shipping the product from Bear to Gulf's customers, and instructs Bear on how to package the toll-converted ferrovanadium, prepare the bill of lading, and load the trucks. In 2001 Gulf accounted for *** percent of domestic commercial shipments of ferrovanadium produced in the United States.[16]

USV converted vanadium pentoxide into ferrovanadium until 1994 and is still capable of making ferrovanadium at its Niagara Falls facility. It estimates it would take approximately one month and cost less than *** for USV to resume production of ferrovanadium at an annual production capacity of approximately *** pounds.[17] It continues to produce vanadium pentoxide, the intermediate product.

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[8] *Certain Pipe and Tube from Argentina, Brazil, Canada, India, Korea, Mexico, Singapore, Taiwan, Thailand, Turkey, and Venezuela*, Inv. Nos. 701-TA-253 (Review) and 731-TA-132, 252, 271, 273, 276, 277, 296, 409, 410, 532-534, 536, and 537 (Review), USITC Pub. 3316 at 16, n.77 (July 2000).

[9] *See, e.g., Furfuryl Alcohol From China and Thailand*, Inv. Nos. 731-TA-703 and 705 (Review), USITC Pub. 3412 at 6 (April 2001).

[10] Gulf's Questionnaire Response at 12, III-8.

[11] CR/PR at VI-1.

[12] CR/PR at Table VI-8.

[13] CR/PR at Table III-7.

[14] CR/PR at Table III-7, n.1.

[15] CR at III-5; PR at III-3; Petitioners' Prehearing Brief at 8.

[16] CR at III-2; PR at III-1.

[17] Petitioners' Posthearing Brief at "Answers to Questions Posed by the Commission and Staff," p. 13.

Vanadium pentoxide accounts for between *** percent and *** percent of the total cost of the ferrovanadium sold by USV.[18] USV produces vanadium pentoxide at its ***. The original cost of USV's *** in 1999, a significant investment in capital assets.[19] Additionally, in 1999 Stratcor, USV's parent, became a *** percent joint venture partner in CS Metals, a new *** facility for vanadium pentoxide production in Louisiana,[20] and during the period examined CS Metals supplied *** of its production of vanadium pentoxide to USV. USV provided an ***.[21] [22] During the period examined USV supplied Bear with vanadium pentoxide produced by USV and by its affiliate that Bear converted into ferrovanadium based on long-term toll-processing agreements.[23] Approximately *** people are employed in the production of vanadium pentoxide for USV.[24] USV, like Gulf, maintains title to the contained vanadium it supplies Bear and assumes the risk of sale of the ferrovanadium produced.[25] It arranges for shipment of the ferrovanadium from Bear to USV's customers and instructs Bear on how to package the ferrovanadium, prepare the bill of lading, and load the trucks. In 2001, USV accounted for *** percent of domestic shipments of ferrovanadium produced in the United States.[26]

Because both Gulf and USV have made *** investments in assets related to the production of vanadium pentoxide,[27] the intermediate product, retain title to and bear all risks related to the vanadium pentoxide they produce and the ferrovanadium produced on their behalf, contribute technical expertise and labor to the ultimate production of the like product, and contribute *** to the value added to the product, it is appropriate to include them in the domestic industry. While Bear, the toller for Gulf and USV, accounted for *** percent of the reported production of ferrovanadium in the United States in 2001 and virtually *** of the production of ferrovanadium from vanadium pentoxide, Bear's commercial sales of ferrovanadium are less than *** percent of its production.[28] Because over *** percent of Bear's ferrovanadium production is on behalf of and sold commercially by Gulf and USV, not including them in the domestic industry would omit nearly *** of the commercial sales of ferrovanadium produced in the United States. To have a clear understanding of the impact of subject imports on the domestic industry, as required by the statute, it is necessary to consider the operations of those domestic firms that represent such a significant share of U.S. commercial shipments of ferrovanadium. I also view the inclusion of Gulf and USV in the domestic industry in this investigation as consistent with the reasoning employed by

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[18] CR/PR at Table III-7, n.1.

[19] CR/PR at Table VI-8, n.3.

[20] CR/PR at II-1, n.1; CR at III-4, n.13; PR at III-3, n.13.

[21] Petition, vol. 1 at 21-22.

[22] During the third quarter of 2002, Stratcor sold its interest in CS Metals, ***. Petitioners' Prehearing Brief at 11, n.45.

[23] CR at VI-2; PR at VI-1-2.

[24] CR/PR at Table III-7.

[25] CR at III-5; PR at III-3.

[26] CR at III-2; PR at III-1.

[27] The vast majority of vanadium pentoxide (90-95 percent) produced in the United States is used to make ferrovanadium, and all U.S. vanadium pentoxide production in the United States is accounted for by Gulf, USV, and CS Metals, USV's affiliate during the period examined. Hearing Tr. at 151-152.

[28] CR at III-2; PR at III-1; CR/PR at Tables VI-3, F-1.

the Commission in the original determination on ferrovanadium from Russia and with my domestic industry finding in the sunset review of that case.[29]

I also find that appropriate circumstances do not exist to exclude any domestic producers as related parties under the statute.[30] The only domestic producer to fall within the related parties provision is USV, based on both the fact that its parent, Stratcor, directly controls Vametco, a South African producer of ferrovanadium, *** during the period of investigation. ***[31] Despite the ***, it does not appear appropriate to exclude USV as a related party. USV maintains that it ***.[32] The record therefore does not indicate that USV currently is benefitting from its relationship with a South African producer or that it is shielded substantially from the effects of import competition. Accordingly, inclusion of USV in the domestic industry does not present a distorted picture for my analysis of the domestic industry.

For all the foregoing reasons, I find that the domestic industry consists of Shieldalloy, Bear, ISA, Gulf, and USV.

II. MATERIAL INJURY BY REASON OF LTFV SUBJECT IMPORTS

In the final phase of antidumping duty investigations, the Commission determines whether an industry in the United States is materially injured by reason of the imports under investigation.[33] In making this determination, the Commission must consider the volume of imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.[34] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[35] In assessing whether the domestic industry is

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[29] *Ferrovanadium and Nitrided Vanadium From Russia*, Inv. No. 731-TA-712 (Final), USITC Pub. 2904 at 12 (June 1995); USITC Pub. 3420 at 21-22.

[30] Section 771(4)(B) of the Act 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. 19 U.S.C. § 1677(4)(B). The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party 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 producers 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*, 780 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), *aff'd mem.*, 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 interests of the related producers lie in domestic production or in importation. *See, e.g., Melamine Institutional Dinnerware from China, Indonesia, and Taiwan*, Inv. Nos. 731-TA-741-743 (Final), USITC Pub. 3016 at 14, n.81 (Feb. 1997). Exclusion of a producer under the related parties provision is within the Commission's discretion based upon the facts presented in each case. *Sandvik AB v. United States*, 721 F. Supp. 1322, 1331-32 (Ct. Int'l Trade 1989), *aff'd mem.*, 904 F.2d 46 (Fed. Cir. 1990).

[31] CR/PR at IV-1, n.3.

[32] CR/PR at IV-1.

[33] 19 U.S.C. § 1673d(b).

[34] 19 U.S.C. § 1677(7)(B)(i). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each [such] factor . . . [a]nd explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B). *See also, Angus Chemical Co. v. United States*, 140 F.3d 1478 (Fed. Cir. 1998).

[35] 19 U.S.C. § 1677(7)(A).

materially injured by reason of subject imports, the Commission considers all relevant economic factors that bear on the state of the industry in the United States.[36] No single factor is dispositive, and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[37]

A. Conditions of Competition

I find the following conditions of competition relevant to my analysis.

Ferrovanadium sold in the United States is used primarily for steel-making, and demand for steel therefore drives demand for ferrovanadium.[38] *** reported that demand grew during the period examined due in part to the development of thin slab casting.[39] U.S. producers generally reported that demand had been down in 2001, due to declining steel production, but appeared to have regained some ground in 2002.[40] Importers generally agreed that U.S. ferrovanadium demand follows steel production.[41] Apparent U.S. consumption decreased overall by 8.3 percent from 1999 to 2001, but showed small increases from 1999 to 2000 and between the interim periods (first half of 2001 and first half of 2002).[42]

Ferrovanadium is a commodity product, and different grades compete against each other for sales. The record indicates that certain purchasers have the technical capability to use any grade of ferrovanadium and may switch grades on the basis of price.[43]

Ferrovanadium is bought and sold on the basis of the weight of contained vanadium.[44] There is a high degree of substitutability between the subject imports and the domestic like product, and price is an important factor in purchasing decisions.[45] U.S. producers reported that approximately *** of their sales are by contract, and the remainder are spot sales. Sales by importers are also a mix of contract and spot sales, although more heavily weighted toward spot sales.[46] Even when sold by contract, however, contracts for multiple shipments often use formula pricing that is keyed to published prices, based on spot sales, in such publications as *Ryan's Notes* and *American Metals Market*.[47] Producers and importers agreed that world prices can have an effect on U.S. prices. Producers stated that lower European prices for ferrovanadium, since at least 1999, were encouraging world suppliers to ship their product to the United States.[48] Most U.S. sales of both domestically produced and imported ferrovanadium are directly to end users.[49]

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[36] 19 U.S.C. § 1677(7)(C)(iii).

[37] *Id.*

[38] CR at I-3, II-5; PR at I-2, II-3.

[39] CR at II-5; PR at II-3.

[40] CR at II-5; PR at II-3.

[41] CR at II-5; PR at II-3.

[42] CR/PR at Table C-1.

[43] CR at II-1-2, n.2; PR at II-1, n.2.

[44] CR at I-5; PR at I-4. All quantities of ferrovanadium cited in these views are in pounds of contained vanadium.

[45] CR at II-9-14; PR at II-6-9.

[46] CR/PR at V-3-4.

[47] CR/PR at V-3.

[48] CR at V-5; PR at V-4.

[49] CR at I-5; PR at I-4.

Ferrovanadium is produced from vanadium-bearing raw materials, such as vanadium pentoxide. Raw material costs declined significantly from 1999 to 2001.[50] U.S. producers made investments in their plants and equipment during the period examined that allowed them to utilize lower cost raw materials and achieve lower cost of sales.[51]

The record indicates that, while there are several possible substitutes for ferrovanadium, including nitrided vanadium, substitution occurs only in limited applications and only when ferrovanadium prices are relatively high. Substitution away from ferrovanadium generally appears to be rare.[52]

U.S. producers' inventories increased toward the end of the period, from *** pounds in 1999 to *** pounds in 2000, to *** pounds in 2001, and were higher in interim 2002, at *** pounds, than in interim 2001, at *** pounds.[53] U.S. importers' end-of-period inventories of subject imports decreased *** from *** pounds in 1999 to *** pounds in 2000, but then increased significantly to *** pounds in 2001, and were *** pounds in interim 2002, as compared to *** pounds in interim 2001.[54]

Non-subject imports, primarily from Austria, Belgium, Canada, and the Czech Republic, increased their U.S. market share by quantity, from 15.0 percent in 1999 to 18.1 percent in 2001, and to 36.4 percent in interim 2002.[55] Imports from Russia virtually ceased after an antidumping duty order was imposed in July 1995, and there were no imports of ferrovanadium from Russia during the period of investigation.[56]

B. Volume

Section 771(C)(i) of the Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[57]

The volume of cumulated subject imports increased significantly, by 50.1 percent from 1999 to 2001, as apparent U.S. consumption began to decline, and then showed a decline between the interim periods (January-June 2001 and 2002), likely due to the pendency of the petition, which was filed on November 26, 2001.[58] The volume of cumulated subject imports increased from 2.3 million pounds in 1999, to 3.5 million pounds in 2001, and was 1.6 million pounds in interim 2001, as compared to 514,000 pounds in interim 2002. The volume of imports from nonsubject countries increased by 10.8 percent from 1999 to 2001, and then continued to increase between the interim periods.[59]

Cumulated subject imports steadily gained U.S. market share over the period, from 17.8 percent, by quantity, in 1999 to 19.4 percent in 2000, and to 29.2 percent in 2001, as U.S. producers' U.S. market

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[50] CR/PR at Table VI-2.

[51] CR at VI-12; PR at VI-4.

[52] CR at II-6; PR at II-4.

[53] CR/PR at Table III-6.

[54] CR/PR at Table VII-3.

[55] CR/PR at Table C-1.

[56] CR/PR at I-2; Official Commerce Import Statistics, 1999-2001; Jan.-June 2001-2002.

[57] 19 U.S.C. § 1677(7)(C)(I).

[58] I note that the Commission has discretion under the statute, 19 U.S.C. § 1677(7)(I), to reduce the weight accorded to data for the period after the filing of the petition if it determines that changes in the volume, price effects, or impact of imports that occurred since the filing of the petition are related to the pendency of the investigation.

[59] CR/PR at Table C-1.

share declined from 67.2 percent in 1999 to 57.6 percent in 2000, and to 52.8 percent in 2001.[60] Cumulated subject imports thus captured market share at the expense of domestic producers. Nonsubject imports' U.S. market share increased somewhat from 1999 to 2000, and then declined in 2001 as subject import market share increased substantially.[61] As subject imports receded from the market in the first half of 2002, due to the pendency of the petition, nonsubject imports' U.S. market share increased. U.S. producers saw a slight loss in U.S. market share when interim 2001 and interim 2002 are compared.[62]

As a percent of U.S. production, the volume of subject imports *** over the period, before showing a decline in interim 2002 after the petition was filed. The ratio of subject imports to U.S. production increased steadily from *** percent in 1999 to *** percent in 2000 to *** percent in 2001, and was *** percent in interim 2002 as compared to *** percent in interim 2001.[63]

I find that the volume of cumulated subject imports and the increase in that volume, both in absolute terms and relative to domestic consumption and production in the United States, are significant.

C. Price

Section 771(C)(ii) of the Act provides that, in evaluating the price effects of the subject imports, the Commission shall consider whether –

(I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
(II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[64]

The pricing data generally show dramatic declines in both U.S. prices and those of the subject imports from 1999 to 2001.[65] The average unit values ("AUVs") of the subject imports and of U.S. producers' U.S. sales showed similar trends, and the AUVs of the subject imports were lower than those of the U.S. product in 1999 and 2000, and slightly higher in 2001.[66] The AUVs of the subject imports were also lower than those of the nonsubject imports, except in interim 2002.[67] While the use of AUVs in general may present product mix issues, that possibility is diminished in this case by the apparent substitutability and competition among different grades of ferrovanadium. Prices recovered somewhat in the second quarter of 2002 but never returned to their levels at the beginning of the period examined.

The pricing data show very few instances of underselling by subject imports,[68] and I do not find underselling to be significant.[69] In a commodity market in which price is an important purchasing factor

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[60] CR/PR at Table C-1.

[61] CR/PR at Table C-1.

[62] CR/PR at Table C-1.

[63] Calculated from data in CR/PR at Table C-1.

[64] 19 U.S.C. § 1677(7)(C)(ii).

[65] CR/PR at Tables V-1, V-2.

[66] CR/PR at Table C-1.

[67] CR/PR at Table C-1.

[68] CR/PR at Tables V-1, V-2.

[69] Contrary to respondents' assertion (Hearing Tr. at 112-113), the lack or infrequency of underselling does not compel a negative determination. *See, e.g., Allegheny Ludlum Corp. v. United States*, 287 F.3d 1365, 1374 (Fed. Cir. 2002) ("the falling prices of the imported merchandise would seem to support a finding of material injury to

(continued...)

and published prices are widely available, underselling may be less frequent as prices adjust to each other. In any event, the absence of significant underselling does not mean that there can be no adverse price effects by reason of the subject imports, and I do find an indication that subject imports depressed and suppressed U.S. prices during the period. As noted, U.S. prices and subject import prices declined throughout the period, and U.S. prices never returned to their levels at the beginning of the period. In addition, although U.S. producers' COGS declined significantly over the period as raw material costs dropped, U.S. producers' net sales values declined more steeply. From 1999 to 2001, unit COGS declined by *** percent,[70] while unit sales values declined by *** percent.[71] U.S. producers were thus not able to sell at prices sufficient to recover their costs, and I attribute this cost-price squeeze in large part to the significant and growing presence of the subject imports in the U.S. market. As subject import volumes surged in 2001, U.S. producers lowered their prices in an attempt to win sales and retain market share. While this effort may explain the infrequency of underselling, as U.S. prices fell in response to declining subject import prices, the effort was not completely successful in that subject imports, not U.S. producers, gained market share.

Indeed, staff confirmed several instances of sales lost by domestic producers to subject imports, which further indicate the adverse price effects of subject imports. Staff confirmed lost sales in the amount of $*** and *** pounds (out of more than $*** and *** pounds in lost sales alleged by domestic producers).[72] Staff also confirmed one lost revenue allegation in the amount of *** pounds, where the U.S. producer was forced to lower its price from *** per pound to *** per pound because of competition from subject imports.[73]

Although respondents argue that an oversupply of vanadium and a downturn in demand from the steel industry are the cause of the current weakness in world ferrovanadium prices,[74] and in U.S. prices as well, I do not find this argument persuasive. The record shows a clear correlation between the rising volume of subject imports at steadily declining prices, and the steady drop in U.S. prices despite few instances of underselling. Record evidence also indicates that European prices for ferrovanadium were lower than U.S. prices throughout the period,[75] which, as petitioners argued, would provide an incentive for suppliers to seek out the U.S. market. With respect to alleged oversupply on the world market, I note that the South African producers' capacity to produce ferrovanadium increased *** during the period to the point that both their capacity and production currently ***.[76] The record thus indicates that the negative price effects and, as explained below, the overall deterioration in the domestic industry's condition over the period were due to the increasing volume of subject imports.

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[69] (...continued)
domestic producers, despite the fact that the subject imports were priced higher than corresponding domestic like products"); *Cemex, S.A. v. United States*, 790 F. Supp. 290, 298 (Ct. Int'l Trade 1992) ("To require findings of underselling would be inconsistent with the proposition that price suppression or depression is sufficient."); *Florex v. United States*, 705 F. Supp. 582, 593 (Ct. Int'l Trade 1989) ("Furthermore, injury need not be based on a finding of injury by specific price underselling. ITC may consider, as it did, the suppressive price effects of the unfairly traded imports.")

[70] Contrary to respondents' argument that Shieldalloy uses an outdated and costly production process (Respondents' Prehearing Brief at 29), the record shows that Shieldalloy's raw material and total COGS *** during the period examined. CR/PR at Table VI-5.

[71] CR/PR at Table C-1.

[72] CR/PR at Table V-5.

[73] CR/PR at Table V-6.

[74] CR at II-5, V-5; PR at II-3, V-3-4.

[75] CR/PR at Table D-2.

[76] CR/PR at Tables VII-2, C-1.

I therefore find that the increased volume of subject imports has depressed and suppressed U.S. prices to a significant degree.

D. Impact

In examining the impact of the subject imports on the domestic industry, I consider all relevant economic factors that bear on the state of the industry in the United States.[77] These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, profits, cash flow, return on investment, ability to raise capital, and research and development. No single factor is dispositive and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[78] [79]

Most financial and other performance indicators of the domestic industry declined over the period as subject import volumes surged and the unit values of subject imports declined. U.S. producers lost market share, and their production quantity, U.S. shipments, net sales, and capacity utilization all declined, as the quantity of inventories began to rise. U.S. producers' U.S. market share, by quantity, declined by 14.5 percentage points from 1999 to 2001; their U.S. production quantity declined by *** percent, from *** pounds in 1999 to *** pounds in 2001; and their U.S. shipments, by quantity, fell by 28.0 percent, and, by value, by 45.7 percent from 1999 to 2001. U.S. producers' net sales also declined from 1999 to 2001, by *** percent in terms of quantity and *** percent in terms of value. U.S. producers' capacity utilization dropped from *** percent in 1999 to *** percent in 2001, and was lower in interim 2002 than in interim 2001. Inventories of both U.S. product and subject imports increased from 1999 to 2001, and the ratio of U.S. producers' inventories to total shipments grew by *** percentage points over the same period.[80]

By 2001, the U.S. producers' operating margin had fallen to a negative *** percent, from a negative *** percent in 1999, and was a negative *** percent in 2000.[81] The evidence shows that the decline in profitability largely resulted from lower volume and the decline in average unit sales values. Although COGS also declined over the period, particularly as a result of a drop in raw material costs, domestic prices fell more sharply, and producers were not able to make a profit. Given the commodity nature of the product and the price competition that exists between subject imports and the domestic product, the evidence indicates that declining subject import prices, although not always below U.S. prices, resulted in U.S. producers lowering and keeping their prices low to retain or regain market share.

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[77] 19 U.S.C. § 1677(7)(C)(iii). *See also* SAA at 851 and 885 ("In material injury determinations, the Commission considers, in addition to imports, other factors that may be contributing to overall injury. While these factors, in some cases, may account for the injury to the domestic industry, they also may demonstrate that an industry is facing difficulties from a variety of sources and is vulnerable to dumped or subsidized imports." *Id.* at 885).

[78] 19 U.S.C. § 1677(7)(C)(iii). *See also* SAA at 851 and 885 and *Live Cattle from Canada and Mexico*, Inv. Nos. 701-TA-386 and 731-TA-812-813 (Preliminary), USITC Pub. 3155 at 25, n.148 (Feb. 1999).

[79] The statute instructs the Commission to consider the "magnitude of the dumping margin" in an antidumping proceeding as part of its consideration of the impact of imports. 19 U.S.C. § 1677(7)(C)(iii)(V). In its final determinations, Commerce found the following dumping margins: for South Africa, 116 percent; for China, 13.03 percent for Panzhihua and a country-wide rate of 66.71 percent. *Notice of Final Determination of Sales at Less Than Fair Value: Ferrovanadium from the Republic of South Africa*, 67 Fed. Reg. 71136, 71137 (Nov. 29, 2002); *Notice of Final Determination of Sales at Less Than Fair Value: Ferrovanadium from the People's Republic of China*, 67 Fed. Reg. 71137, 71140 (Nov. 29, 2002).

[80] CR/PR at Table C-1.

[81] CR/PR at Table C-1.

The industry continued to perform poorly in interim 2002, with little or no improvement in most financial indicators and continued declines in some indicators. The U.S. producers' operating margin was a negative *** percent in interim 2002.[82] I attribute in part the industry's continued poor performance in 2002, even after subject imports began to recede from the market due to the pendency of the petition, to the continued sale of competitively priced imports out of inventory. U.S. importers' inventories of subject imports had grown to *** pounds in 2001, from approximately *** pounds in each of the two preceding years; inventories of subject imports then dropped to *** pounds in interim 2002, as subject product was sold out of inventory.[83] The growing presence of nonsubject imports in the U.S. market toward the end of the period may have also contributed to the industry's worsening condition. As noted, the AUVs of nonsubject imports were generally higher than those of subject imports and were close to U.S. producers' average unit sales values during the period examined. However, nonsubject imports' AUVs were at their lowest in interim 2002 and were substantially below U.S. producers' average unit sales values.[84] The fact that nonsubject imports may have added to the industry's financial difficulties, particularly late in the period examined, does not, however, negate a finding that the industry experienced material injury by reason of the subject imports.

I therefore find that the increased volume of cumulated subject imports from China and South Africa, with their depressing and suppressing effects on U.S. prices, are having a significant adverse impact on the domestic industry.

CONCLUSION

For the reasons stated above, I determine that the domestic industry producing ferrovanadium is materially injured by reason of subject imports of ferrovanadium from China and South Africa that are sold in the United States at less than fair value.

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[82] CR/PR at Table C-1.

[83] CR/PR at Table VII-3.

[84] Respondents argue that imports in the U.S. market have been "stable" and that the presence of nonsubject imports shows that the "U.S. market requires imports." Respondents' Posthearing Brief at 5. The record does not support this contention. U.S. producers' U.S. market share declined by 14.5 percentage points from 1999 to 2001; imports were therefore not stable, but increasing, and the increase during this period is attributable mainly to subject imports, whose market share grew by 11.3 percentage points from 1999 to 2001. Furthermore, U.S. capacity to produce ferrovanadium currently exceeds U.S. demand, but U.S. production and capacity utilization levels have been curtailed by the growth in subject imports. CR/PR at Table C-1.

PART I: INTRODUCTION

BACKGROUND

These investigations result from a petition filed by the Ferroalloys Association Vanadium Committee and its members: Bear Metallurgical Co., Butler, PA ("Bear"); Shieldalloy Metallurgical Corp., Cambridge, OH ("Shieldalloy"); Gulf Chemical & Metallurgical Corp., Freeport, TX ("Gulf"); U.S. Vanadium Corp., Danbury, CT ("USV"); and CS Metals of Louisiana, Convent, LA ("CS Metals"), on November 26, 2001, alleging that an industry in the United States is materially injured and threatened with material injury by reason of less-than-fair-value (LTFV) imports of ferrovanadium[1] from China and South Africa. Information relating to the background of the investigations follows.

Effective date	Action	*Federal Register* citation
November 26, 2001	Petition filed with Commerce and the Commission; institution of Commission investigations	66 FR 59815, November 30, 2001
December 26, 2001	Commerce's notice of initiation of investigations	66 FR 66398, December 26, 2001
January 16, 2002	Commission's preliminary determinations	67 FR 2236, January 16, 2002
July 8, 2002	Commerce's preliminary determinations and notices of postponement of final determinations; scheduling of final phase of Commission investigations	67 FR 45083, July 8, 2002; 67 FR 49035,[2] July 29, 2002
September 19, 2002	Commerce's notice of amended preliminary determination with respect to South Africa	67 FR 59050, September 19, 2002
November 22, 2002	Date of the Commission's hearing[3]	Not applicable

[1] For purposes of these investigations, ferrovanadium is all ferrovanadium, regardless of grade, chemistry, form, shape, or size. Ferrovanadium is an alloy of iron and vanadium that is used chiefly as an additive in the manufacture of steel. The merchandise is commercially and scientifically identified as ferrovanadium. The scope of these investigations specifically excludes vanadium additives other than ferrovanadium, such as nitrided vanadium, vanadium-aluminum master alloys, vanadium chemicals, vanadium oxides, vanadium waste and scrap, and vanadium-bearing raw materials such as slag, boiler residues, and fly ash. Merchandise under Harmonized Tariff Schedule of the United States ("HTSUS") subheadings 2850.00.20, 8112.40.30 and 8112.40.60 is specifically excluded. Ferrovanadium is classified under HTS subheading 7202.92.00 with a normal trade relations tariff rate of 4.2 percent *ad valorem*, applicable to imports from China and South Africa.

[2] *Federal Register* notice is presented in appendix A.

[3] A list of witnesses appearing at the hearing is presented in appendix B.

Effective date	Action	*Federal Register* citation
November 29, 2002	Commerce's final determinations[4]	67 FR 71136,[2] November 29, 2002
December 19, 2002	Date of the Commission's vote	Not applicable
January 13, 2003	Transmittal of the Commission's determinations to Commerce	Not applicable

SUMMARY DATA

A summary of data collected in the investigations is presented in appendix C, tables C-1 and C-2. Except as noted, U.S. producers'/tollees' data are based on the questionnaire responses of four firms that accounted for all U.S. production and shipments of ferrovanadium in 2001. U.S. imports are based on official Commerce statistics.

PREVIOUS INVESTIGATIONS

In 1994, Shieldalloy filed a petition seeking the imposition of antidumping duties on ferrovanadium and nitrided vanadium from Russia pursuant to section 731 of the Tariff Act of 1930. Shieldalloy's petition led to an affirmative dumping and injury determination by Commerce and the Commission, respectively, and the issuance of an antidumping duty order on ferrovanadium and nitrided vanadium from Russia.[5] Commerce and the Commission recently conducted a sunset review of that order, which resulted in affirmative determinations by both agencies.[6] Current antidumping margins on imports of ferrovanadium and nitrided vanadium from Russia range from 10.10 percent to 108 percent *ad valorem*.

DESCRIPTION AND USES

Ferrovanadium is an alloy of iron and vanadium that is used primarily by steel producers and iron founders as an alloying agent in the production of steel and iron mill products.[7] Although the product subject to these investigations typically has a vanadium content ranging from about 40 percent to

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[4] Commerce determined that the following weighted-average dumping margins exist for its periods of investigation: Pangang Group International Economic & Trading Corp., 13.03 percent; PRC-wide rate of 66.71 percent; Highveld Steel and Vanadium Corp. Ltd., 116.00 percent; Xstrata South Africa (Proprietary) Limited, 116.00 percent; all other South African manufacturers and exporters, 116.00 percent.

[5] *Notice of Antidumping Order: Ferrovanadium and Nitrided Vanadium From the Russian Federation*, 60 FR 35550 (July 10, 1995).

[6] *Ferrovanadium and Nitrided Vanadium From Russia* (Inv. No. 731-TA-702 (Review)), USITC Pub. 3420, May 2001. *Continuation of Antidumping Duty Order*: *Ferrovanadium and Nitrided Vanadium From Russia,* 66 FR 30694 (June 7, 2001).

[7] About 90 percent of domestic consumption of vanadium is accounted for by the use of ferrovanadium in iron and steel, according to Mineral Industry Surveys of the U.S. Geological Survey.

about 80 percent (by weight), in practice the product is sold in essentially two grades, containing either approximately 45 to 55 percent vanadium or 80 percent vanadium.[8] [9]

The contained vanadium often accounts for about 0.02 to 0.10 percent of steel, by weight, in the case of microalloyed high-strength-low-alloy ("HSLA") steels; up to about 5 percent, by weight, in the case of vanadium-chromium tool steels; and for a very small percent in the case of carbon steel. Vanadium combines with some of the carbon and nitrogen in the steel (creating stable carbides and nitrides, respectively) at temperatures associated with the casting, rolling, and heat treatment of steels; these carbides and nitrides enhance steel properties, particularly hardness and strength. Addition of vanadium to steel improves the finished product's wear resistance.[10] Nitrogen combined with vanadium aids in grain refining and hardening, and adding vanadium is an inexpensive way to raise the strength of low-carbon steels. Vanadium-containing HSLA steels are used in high-performance long-distance oil and gas pipelines, railway lines, structural steels used in building construction, and automobiles. Vanadium additions to tool steels enable such alloy steels to maintain their hardness at elevated temperatures generated during high-speed machining (these are called tungsten-vanadium or chromium-vanadium tool steels).

A common phenomenon in cast iron production is the creation, after solidification of the casting, of tiny flakes of graphite distributed throughout the metal. Ferrovanadium promotes a more even distribution of graphite in the cast iron which results in a stronger casting.

The use of ferrovanadium depends on the steelmaking practices of a given steel producer. The decision to use a specific grade, say 45-percent or 80-percent ferrovanadium, for example, depends upon the steelmaker's melting and rolling practices and intended finished product. Tool steel producers would have a preference for the 80-percent grade ferrovanadium whereas some minimills who are continuously casting their products through small nozzles would prefer the 45-percent grade ferrovanadium.[11]

Production Process

The most common ferrovanadium production processes are aluminothermic or silicothermic, as described below. Shieldalloy uses a modified silicothermic reduction process that starts with vanadium-bearing iron slag alone or in combination with other vanadium-bearing materials (such as petroleum residues and fly ash) in combination with aluminum, silicon, and carbon at its Cambridge, OH plant. These vanadium-bearing materials are melted first in a submerged electric arc furnace in a silicothermic process to raise the material's vanadium content and extract certain elements. The resulting alloy is further refined in another electric arc furnace to produce ferrovanadium containing about 42 to 48

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[8] American Society for Testing and Materials ("ASTM") designation A102-93, the current *Standard Specification for Ferrovanadium*, covers only one grade of ferrovanadium with a vanadium content of 75 to 85 percent by weight (ferrovanadium 80) and specified limits on other elements and impurities. ASTM, *Annual Book of ASTM Standards*, 2000. The ASTM specification for ferrovanadium was changed to eliminate other grades in 1992. Ferrovanadium grades typically specify certain maximum levels of impurities, which are considered limits. Purchasers may specify stricter tolerances when placing orders with suppliers. Shieldalloy typically produces ferrovanadium containing 42 to 48 percent vanadium (transcript of the Commission's November 22, 2002 hearing ("hearing transcript"), p. 28). Bear's production typically consists of the grade containing 80 percent vanadium (hearing transcript, p. 17).

[9] Nitrided vanadium is no longer produced in the United States (hearing transcript, p. 101).

[10] Vanadium also reduces the incidence of cracking during the continuous casting of steel. Vanadium additions to steel may ameliorate the harmful effects of nitrogen (an element usually present in steel) that reduce the steel's ability to be bent and shaped.

[11] Hearing transcript, p. 69. Shieldalloy's 45-percent grade ferrovanadium product is low in aluminum and does not clog the small nozzles used in continuous casting in some minimills. Hearing transcript, p. 69.

percent vanadium by weight. Molten ferrovanadium that results from this process is poured into molds, crushed to size, and packaged.

Bear is a toll converter that processes vanadium pentoxide into ferrovanadium using an aluminothermic process at its plant in Butler, PA, for several U.S. companies, with the vast majority of production on behalf of Gulf and USV.[12] A mixture of vanadium pentoxide, aluminum, iron scrap, and flux is charged into a magnesite-lined vessel and the reactants are ignited electrically. This results in a ferrovanadium with a vanadium content that may be adjusted between 42 and 80 percent, although the 80-percent grade accounts for *** of Bear's production of ferrovanadium currently.[13] The process requires a short amount of time to be complete, although cooling of the ferrovanadium slab may require several hours. Following cooling, the slab is removed from its vessel, the layer of ferrovanadium metal is separated from the layer of slag, and the ferrovanadium is conveyed to a separate part of the facility for crushing, sizing, and packaging.

The majority of production is sold directly to steel mills and iron foundries in the United States. To a lesser extent, some is sold to distributors who may repackage the material; alternatively, these distributors may blend ferrovanadium from different lots. Ferrovanadium is sold on a basis of pounds of contained vanadium. It is usually packed in bags or small drums containing 10 to 25 pounds of contained vanadium, although a limited number of consumers accept ferrovanadium packed in 500-pound drums. Most ferrovanadium is sold in lumps with an upper size range of approximately 2 inches. These lumps are commonly added to the molten steel after it has been poured from the steelmaking furnace into a ladle.

DOMESTIC LIKE PRODUCT ISSUES

This section presents information related to the Commission's "domestic like product" determination.[14] In the preliminary phase of these investigations, petitioners and respondents Xstrata South Africa (Pty) Ltd. ("Xstrata") and its exclusive importer Glencore Ltd. ("Glencore") advocated one domestic like product consisting of all grades of ferrovanadium. On the other hand, another South African producer, Highveld Steel & Vanadium Corp., Ltd., argued that the Commission should also include nitrided vanadium in the domestic like product in these investigations.[15] In the preliminary phase of these investigations, the Commission determined that there is one domestic like product comprised of

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[12] Hearing transcript, pp. 14-15.

[13] This production method was used by Shieldalloy at that company's Newfield, NJ facility, where production ceased in November 1992, and by USV at its plant in Niagara Falls, NY, where production ceased in October 1993.

[14] The Commission's decision regarding the appropriate domestic products that are "like" the subject imported products is based on a number of factors including (1) physical characteristics and uses; (2) common manufacturing facilities and production employees; (3) interchangeability; (4) customer and producer perceptions; (5) channels of distribution; and, where appropriate, (6) price.

[15] Nitrided vanadium is a chemical compound of vanadium, carbon, and nitrogen, but contains no iron, and shares many of the same uses as ferrovanadium. It contains approximately 80 percent vanadium and not less than 5 percent nitrogen by weight (product literature indicates two grades, containing 12 percent and 16 percent nitrogen, respectively). The addition of nitrogen in steelmaking is beneficial in applications where strength is more important than the ability of the steel to be bent or shaped. For example, one such steel is a structural plate grade, ASTM A633-E, which is used in welded, bolted, or riveted constructions in low-temperature applications; here the nitrogen content is specified as a minimum and vanadium is specified as well. The scope of the subject investigations specifically excludes nitrided vanadium. Currently, there is no U.S. production of nitrided vanadium.

all grades of ferrovanadium, consistent with Commerce's scope.[16] Beginning with their prehearing brief in the final phase of these investigations, respondents Xstrata, Glencore, and the Pangang Group International Economic & Trading Corp. have argued for two separate domestic like products (45-percent grade ferrovanadium and 80-percent grade ferrovanadium),[17] while petitioners assert that there is only one domestic like product consisting of all grades of ferrovanadium.[18]

Both respondents and petitioners, during the Commission's hearing on November 22, 2002, reviewed the six factors the Commission traditionally uses in making its determination of the domestic like product.

Physical Characteristics, Uses, and Common Manufacturing Facilities and Production Employees

Respondents argue that there "are significant production differences between the 45 and the 80 grade products. In the United States the 45 product . . . is made in what's called a silicothermic process. In contrast, . . . all 80-percent product is made beginning with vanadium pentoxide and an aluminothermic process. These processes are entirely different in every sense of the production process and yield entirely different products. The one process yields the 45 grade, the other process principally yields the 80 grade, but . . . there can be adjustments made basically to lower the grade from the 80 grade. There are also differences in what's contained in the {ferro}vanadium as we mentioned in our brief such as aluminum, silicon and carbon. It's our understanding that it is these elements that can affect whether a 45- or an 80-percent product is used."[19]

On the other hand, petitioners assert that, " . . . the principle characteristic of ferrovanadium is a high percentage of vanadium by weight. Virtually all ferrovanadium is consumed by the steel industry, where it is used as an alloying agent. Ferrovanadium's high vanadium content is essential to such use . . . Bear uses the same respective manufacturing facilities, production processes, and production employees to produce ferrovanadium in a range of grades, from 42 to 80 percent; and as well, to produce low aluminum ferrovanadium. Shieldalloy would also do so."[20]

Interchangeability and Customer and Producer Perceptions

Respondents state that, "First, while both products contain ferrovanadium, the record reveals that they are not used interchangeably in the production process. The information instead shows that producers select either the 45 or 80 product and they typically do not buy both products. It does not appear that anyone uses them interchangeably in the melt process. The record simply does not support any argument of interchangeability in use between 45 and 80 such that in the morning you're using 80

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[16] *Ferrovanadium from China and South Africa* (Invs. Nos. 731-TA-986 and 987 (Preliminary)), USITC Pub. 3484, January 2002, p. 6.

[17] Respondents did not request the Commission to collect data on the issue of two separate domestic like products in their comments to the draft questionnaires intended for use in the investigations.

[18] Highveld made no argument concerning the domestic like product in the final phase of the investigations.

[19] Hearing transcript, pp. 110-111. Although Bear and Shieldalloy each typically produce either 45-percent or 80-percent grade ferrovanadium, Panzhihua, a producer in China, makes both the 45-percent and the 80-percent grade. Panzhihua uses separate production "workshops" and different employees to make each grade (hearing transcript, pp. 130-131).

[20] Hearing transcript, pp. 201, 203.

and in the afternoon using 45."[21] Most purchasers responding to the Commission's questionnaire indicated that they purchase only either the 45-percent grade ferrovanadium or the 80-percent-grade ferrovanadium.[22]

Petitioners contend that, " . . . the Commission has observed that petitioners and respondents agreed that subject imports are fungible with one another and with the domestic product. The Commission's preliminary determination also found that, 'Steel producers have the technical capability to use different grades of ferrovanadium, and the user needs to know only the grade of ferrovanadium, so that the steelmaking process and ingredients can be adjusted accordingly.' The Commission further determined that, 'It is relatively easy and inexpensive for users to adjust the production process, particularly in the steel sector, where an overwhelming portion of ferrovanadium is sold, to accommodate different grades of ferrovanadium.' In light of this and other evidence, the Commission concluded that there is a high degree of substitutability among the domestic product and subject imports."[23] Petitioners also note, "ferrovanadium has a high degree of inter-changeability . . . and it is relatively easy and inexpensive for users to shift between ferrovanadium of various grades. In addition, Bear and Shieldalloy can produce ferrovanadium in a range of grades."[24]

Channels of Distribution

Respondents argue that, "while both products are sold to steel producers as are most ferroalloys, the distributors for each grade typically differ. Glencore, for example, . . . sells only 80 grade and is not supplying 45 grade to buyers."[25]

Petitioners contend that, "virtually all ferrovanadium is consumed by the steel industry. As the Commission's preliminary determination found, the majority of ferrovanadium is sold to U.S. steel mills and iron foundries. The Commission further noted that a significant portion of ferrovanadium sold in the United States is sold to U.S. end users in bags or cans that hold product with a contained weight of 10 to 25 pounds of vanadium."[26]

Price

Respondents assert that, " . . . there is a difference in pricing between the 45 and the 80 {percent} grade . . . only the 80 {percent} product . . . is in the American Metal Market {pricing data for ferrovanadium}."[27] Part V of this report presents pricing data collected for domestically-produced and subject imported ferrovanadium. The data indicate that prices for domestically-produced 40-60-percent grade ferrovanadium were *** prices for 78-82-percent grade ferrovanadium in *** calendar quarters.

The petitioners state that, " . . . the Commission's preliminary determination found that, 'Ferrovanadium is typically bought and sold on the basis of the weight of contained vanadium, and the price is typically the same, regardless of grade.' The Commission also pointedly determined that, 'Price is generally the same, regardless of whether ferrovanadium is 80 or 40 percent grade.' The Commission

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[21] Hearing transcript, pp. 109-110.

[22] This issue is discussed further in Part II of this report entitled *Conditions of Competition in the U.S. Market.*

[23] Hearing transcript, pp. 201-202.

[24] Hearing transcript, p. 202.

[25] Hearing transcript, p. 111.

[26] Hearing transcript, p. 202.

[27] Hearing transcript, p. 111.

also found that price is an important sales factor in the ferrovanadium industry. Thus, price, too, supports the Commission's determination that ferrovanadium is a single like product."[28]

During the hearing, there was testimony that, " . . . respondents' claim that ferrovanadium prices published in American Metals Market do not include 45-percent grade product . . . is false. The publication is misleading in that it states that the published price is for 70-to-80-percent grade vanadium in warehouse in Pittsburgh. I can assure you that Shieldalloy's prices for 45-percent grade ferrovanadium are reflected in the published prices. Those who are familiar with the trade know this. I receive regular calls from representatives of publications, including American Metals Market and Ryan's Notes, asking for our recent ferrovanadium spot pricing activity. The prices that are published represent an amalgamation of data obtained from Shieldalloy and other companies that buy and sell ferrovanadium on the spot market regardless of grade or location."[29]

ASTM Specifications

In addition to analyzing the Commission's traditional six factors used in making a domestic like product determination, respondents also examine the ASTM ferrovanadium specification in making an argument for two separate domestic like products, " . . . only the 80 {percent} product has an ASTM specification and . . . it looks like ASTM has dropped the 45 {percent grade} specification."[30]

The ASTM ferrovanadium specification (A102) originated in the 1920s with periodic revisions since. The 80-percent grade ferrovanadium is a relatively new grade (compared to 45-percent grade ferrovanadium) and was not included in the ASTM ferrovanadium specification prior to 1964. The number of grades included in the ASTM ferrovanadium specification has varied over time. The earliest available version of A102 is the 1950 revision printed in the 1958 book of ASTM standards. It has three grades: "A" with 30.0 to 40.0 percent vanadium,[31] "B" with 35.0 to 45.0 percent vanadium,[32] and "C" with 35.0 to 45.0 percent vanadium.[33] A102 was revised in 1964 and the composition table was revised to include four grades: "A" with 50.0 to 55.0 percent or 70.0 to 80.0 percent vanadium,[34] "B" with 50.0 to 55.0 percent vanadium or 70.0 to 80.0 percent vanadium,[35] "C" with 50.0 to 55.0 percent vanadium,[36] and "Iron Foundry" grade with 38.0 to 42.0 percent vanadium or 50.0 to 55.0 percent vanadium.[37] The most recent revision of A102 was in 1992 and it is currently published with only one grade containing 75 to 85 percent vanadium. Staff has not determined why these grades were added and dropped over the

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[28] Hearing transcript, p. 203.

[29] Hearing transcript, pp. 30-31. ***. According to a representative at Ryan's Notes, its published ferrovanadium prices technically should, as restricted by the specifications, only include 80-percent grade ferrovanadium. However, because traders generally deal in both 45-percent and 80-percent grade material, oftentimes it is unclear as to which grade of product they are referring to when contacted for price quotes. For this reason, the Ryan's Notes representative believes that her firm's published ferrovanadium prices inadvertently include 45-percent grade material. (Telephone conversation with Karen Taylor of the Commission's staff with Ms. Alice Agoos, editor, Ryan's Notes.)

[30] Hearing transcript, p. 111.

[31] Carbon 3.5 percent maximum and silicon 13.0 percent maximum.

[32] Carbon 0.5 percent maximum and silicon 3.5 percent maximum.

[33] Carbon 0.20 percent maximum and silicon 1.2 percent maximum.

[34] Carbon 0.20 percent maximum and silicon 1.5 percent maximum.

[35] Carbon 1.5 percent maximum and silicon 2.3 percent maximum.

[36] Carbon 3.0 percent maximum and silicon 3.0 percent maximum.

[37] Carbon 3.0 percent maximum and silicon 7.0 to 11.0 percent.

years. An ASTM specification is developed when a request is made and there is determined to be sufficient interest in the issue. A request can be made by a producer, purchaser, user, etc. The specification is developed by interested members of ASTM. The lack of an ASTM specification for a product is not necessarily an indication that the product is of poor quality or that there is no demand for the product. If a request is not made for an ASTM specification for a product, or if ASTM determines that there is insufficient interest, no ASTM specification will be developed. There is no minimum number of producers required to make a product before an ASTM specification can be developed - a specification could be developed when there is only one product producer.[38]

There are many products produced and widely used that do not have an ASTM specification. It is common in the steel industry, for example, that many grades of steel do not have an ASTM specification. In some of these cases, there is a proprietary specification that is used.

[38] Staff contacts with the ASTM, ***, on November 22 and November 27, 2002.

PART II: CONDITIONS OF COMPETITION IN THE U.S. MARKET

U.S. MARKET SEGMENTS, MARKET STRUCTURE, AND CHANNELS OF DISTRIBUTION

Only three firms (Bear, Shieldalloy, and International Specialty Alloys ("ISA")) directly produce ferrovanadium in the United States. Several other firms produce the intermediate product vanadium pentoxide, which is toll converted by Bear into ferrovanadium.[1] (For a more detailed explanation of U.S. producers and tollees in the U.S. market, please see Part III of this report.) In the U.S. market, ferrovanadium is sold primarily to end users, namely steel companies and iron foundries. All U.S. producers and tollees sell nationwide, while importers are more likely to locate their sales in specific regions such as the Midwest and South.

Ferrovanadium is generally sold as 80-percent grade (by contained weight) ferrovanadium and 45-percent grade ferrovanadium. The 80-percent grade ferrovanadium is sold by USV and Gulf, both tolling through Bear, as well as by importers of Chinese and South African product. The 45-percent grade ferrovanadium is sold by Shieldalloy and by importers of Chinese product, as well as possibly by importers of South African product. Six purchasers reported purchasing only 45-percent grade ferrovanadium, 12 purchasers reported purchasing only 80-percent grade ferrovanadium, and 6 purchasers reported purchasing both, though 1 (***) of those 6 reported that most of its purchases were 80-percent grade ferrovanadium.[2] Russian 45-percent grade ferrovanadium has been withdrawn from the U.S. market due to antidumping duties. Ten purchasers felt that this withdrawal had not caused any lack of competition in the U.S. market among suppliers of 45-percent grade ferrovanadium, while three did feel that it had caused some lack of competition.

SUPPLY AND DEMAND CONSIDERATIONS

U.S. Supply

Based on available information, U.S. producers have the ability to respond to changes in prices with moderate to large changes in the quantity of shipments of U.S.-produced ferrovanadium to the U.S. market. The main factors contributing to this degree of responsiveness are excess capacity and amounts

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[1] Among tollees, Gulf owns 49.5 percent of the common stock of Bear, and Gulf retains title and bears all risks when it has Bear toll convert vanadium pentoxide into ferrovanadium for Gulf to sell in the U.S. market. USV stopped ferrovanadium production in 1994, and it is a wholly-owned subsidiary of Strategic Minerals Corp., which is a ***-percent joint-venture partner in a new $*** million start-up facility for vanadium pentoxide production in the United States (petitioners' postconference brief, pp. 19-20).

[2] One of those six, purchaser ***, said it had purchased both but reported pricing data only for ***. Purchaser *** said it had purchased both grades of ferrovanadium in its questionnaire, where it also reported all its purchases from ***. In a further conversation with staff, *** stated it could use either 45-percent grade or 80-percent grade ferrovanadium now that both were generally ***. Purchaser *** said that it could switch back and forth from using 45-percent grade and 80-percent grade ferrovanadium as long as it made appropriate adjustments for ***. Staff conversation with ***. Purchaser *** stated that it could use 45 and 80 percent ferrovanadium interchangeably as long as it accounted for how many canisters of material were being used (with 45-percent grade ferrovanadium requiring more canisters for the same amount of vanadium). It stated that while the larger number or weight of canisters involved in using 45-percent grade ferrovanadium made it prefer 80-percent grade ferrovanadium, it had purchased ***. It also stated that other metallurgical differences between grades of ferrovanadium were "minute" and not an issue in its process. ***. In addition, the lost sales section in Part V ***. An additional allegation involved ***. Another purchaser which purchased 45-percent product noted that this product melted more quickly into the raw steel solution, making it more desirable than 80-percent grade ferrovanadium.

of end-of-period inventories, despite few export markets for U.S. producers. These factors are detailed next.

***.[3] While *** reported *** capital expenditures for ***, *** reported some shutdowns since January 1, 1999.

Industry Capacity

Data reported by Bear and Shieldalloy indicate that there is excess capacity with which to expand production in the event of price changes. ***, domestic capacity utilization steadily declined over 1999-2001 as capacity expanded *** in 2000. Interim data reveal that capacity utilization in the first six months of 2002 is *** its levels in the first six months of 2001.

Inventory Levels

Inventories of domestically-produced ferrovanadium, as a ratio to total shipments, rose steadily over 1999-2001, and remain at levels that indicate that there may be some ability to use inventories as a means of increasing shipments to the U.S. market.

Export Markets

Exports represent a small percentage of total shipments for domestic producers and tollees (***). These low levels suggest that there is little ability to divert shipments to or from alternate markets in response to changes in the price of ferrovanadium.

Subject Imports

Subject imports have risen substantially over the last several years, with an especially strong rise in 2001, even as demand has fallen. Most purchasers were not aware of any new ferrovanadium suppliers, but one mentioned pentoxide producer CS Metals, and three others mentioned various subject and nonsubject importers as new suppliers whom they had become aware of through telephone contact or trade publications.

China

Imports from China were divided among at least five importers. These imports show a strong rise from 1999 to 2000, but fell off in 2001, though remaining above 1999 levels.

South Africa

Imports from South Africa primarily came from two importers, ***. These imports fell from 1999 to 2000, but rose substantially in 2001. Importer *** stated that South African producers had changed their role in the U.S. market, becoming exporters of ferrovanadium rather than exporters of vanadium pentoxide.

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[3] ***.

Nonsubject Imports

Nonsubject imports have also shown a rise in the last several years, though not as substantial as for subject imports. Major nonsubject importing countries include Austria, Belgium, Canada, and the Czech Republic. Nonsubject imports increased substantially in 2000 from 1999, but returned to 1999 levels in 2001. Data for the first six months of 2002 show a definite increase over levels in the first six months of 2001. Importer *** noted that new Australian production has been added to the market recently.[4]

U.S. Demand

Based on available information, the overall demand for ferrovanadium is unlikely to change significantly in response to changes in price. The main factor contributing to the low degree of price sensitivity is the limited availability of substitute products and the small percentage of purchasers' end-use costs accounted for by ferrovanadium. Few purchasers reported that substitute products even exist, and fewer still reported recently using any such products.

Demand Characteristics

Ferrovanadium is primarily used by the steel industry to improve the strength-to-weight ratio and other properties of steel products. It is used especially in HSLA steel where it can impart useful properties without the cost or additional chemistry of using alloys. Thus, ferrovanadium consumption tends to correlate with steel production.

U.S. producers/tollees generally reported that ferrovanadium demand had been down in 2001 due to declining steel production, but they noted that demand may have regained some ground in 2002. *** reported that demand grew during the period examined due in part to the development of thin slab casting.[5] Importers generally agreed that U.S. ferrovanadium demand follows steel production and expressed hope that the steel 201 tariffs would increase ferrovanadium demand.[6]

Substitute Products

Questionnaire responses reveal that there are several possible substitutes for ferrovanadium, but only in limited applications and only when ferrovanadium prices are relatively high. In general, questionnaire responses indicate that substitution away from ferrovanadium is rare.

At the conference, Greg Young of Glencore stated that nitrided vanadium competes with ferrovanadium for use in steel production.[7] *** stated that one petitioner had begun marketing South African-produced nitrided vanadium to the steel industry, taking sales away from ferrovanadium. None of the U.S. producers/tollees reported any U.S. production of nitrided vanadium. Producers/tollees

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[4] In addition, *** attributed a worldwide ferrovanadium glut to high ferrovanadium prices in the 1990s that led to worldwide overbuilding of ferrovanadium capacity. It said that just as much of this new capacity became available, ferrovanadium demand dropped.

[5] *** stated that thin slab casting would not be possible as it exists today without vanadium because vanadium allows steelmakers more flexibility and control over steelmaking operations.

[6] Twelve end-user purchasers reported no change in demand for their steel products, with four reporting demand up, four reporting demand down, and three reporting a cycle of both up and down demand.

[7] Transcript of the Commission's December 17, 2001 conference ("conference transcript"), pp. 68 and 85, and ***. See the discussion of nitrided vanadium in Part I of this report.

generally felt nitrided vanadium would only work as a substitute in certain limited situations, mostly where it was already used. Two purchasers mentioned nitrided vanadium as a substitute for ferrovanadium, but both felt its substitutability was limited. Using nitrided vanadium will add more nitrogen to the steel produced, a result which is usually, though not always, undesirable.

Ferrovanadium, like other additives to steel, imparts its own set of unique properties to the steel in which it is used. Substitution away from ferrovanadium to another material may change the physical properties of the steel produced. When a steel specification calls for a certain amount of vanadium, then no substitution away from vanadium is possible. In some cases, though, a specification may call for certain steel properties, in which case there are potential (though limited) substitutes for vanadium. Seven purchasers, seven importers, and three producers stated that ferrocolumbium (also called ferroniobium) could be substituted for ferrovanadium, but only under special circumstances, or if the price of ferrovanadium were very high. Other potential substitutes listed included moly oxide, ferrotitanium, and ferromolybdenum.[8] Ferrocolumbium and ferromolybdenum prices have been more stable than ferrovanadium prices over the last three years, as seen in appendix D, table D-1.

However, 14 purchasers said that no substitute products exist for ferrovanadium, and only three purchasers reported actually purchasing a ferrovanadium substitute since January 1999. One had purchased a nitrided vanadium trial order that did not work, another some ferrocolumbium because of higher ferrovanadium pricing, and another purchased ferrocolumbium as required by its customers.

End Uses and Cost Share

Ferrovanadium is used in the production of carbon steel, tool steel, and HSLA steel. The steel is then used in automobiles, construction (I-beams, plates, reinforcing bars), transportation, energy transmission (pipes), tools, fencing, and wire.[9] It also improves hardenability and wear resistance. Purchasers were unanimous in stating that the specifications of ferrovanadium do not vary according to end use. Ferrovanadium is a tiny part of the cost of the steel products it is used to produce, with most purchasers estimating it accounts for less than 2 percent (and often less than one percent) of the total cost of the steel produced.

[8] Molybdenum is added to steel to impart greater hardness. It retards softening at elevated temperatures and is therefore used in boiler and pressure vessel steels, as well as in several grades of high speed and other tool steels. Molybdenum also improves the corrosion resistance of stainless steels. Although molybdenum can be supplied as ferromolybdenum (a compound consisting of iron and molybdenum), the trend in the United States has been toward the use of molybdic oxide (a compound consisting of molybdenum and oxygen). While both molybdenum and vanadium can be added to steel to impart greater hardness, vanadium steel differs from molybdenum steel. The vanadium steel is subject to becoming brittle after temper rolling (a type of rolling used to impart certain surface characteristics) and therefore requires higher tempering temperatures.

[9] Demand does depend in part on the type of steel, with an *** reporting demand down while a *** reported their demand was up. However, *** described demand changes due to product mix as slight, with demand changes due to total output as more significant.

SUBSTITUTABILITY ISSUES

U.S. Purchasers

The Commission received responses from 24 purchasers. Table II-1 shows the total reported purchases of end users by country and year.[10]

Table II-1
Ferrovanadium: End user purchasers' purchases by origin

Country and year[1]	All end user purchasers	End user purchasers who purchased from more than one country
	Number of purchasers reporting	Number of purchasers reporting
China 1999	3	3
China 2000	4	4
China 2001	5	5
China 2002	3	3
South Africa 1999	2	2
South Africa 2000	2	2
South Africa 2001	8	8
South Africa 2002	7	7
United States 1999	18	12
United States 2000	20	13
United States 2001	18	11
United States 2002	16	9
Nonsubject 1999	1	1
Nonsubject 2000	3	3
Nonsubject 2001	6	6
Nonsubject 2002	4	4

[1] In the prehearing report, this table showed reported purchases by country and year, but those columns have been omitted here because of staff concerns about the reliability of purchaser data, concerns that are discussed further in footnote 12 on page V-5.

Note.-Data for 2002 reflect only January-to-June purchases.

Source: Compiled from data submitted in response to Commission questionnaires.

[10] *** was a distributor that sold to steel producers and the rest of the purchasers were producers of various steel products (rebar, rounds, billets, wire rod, fine grain structural steel, alloy steel, hot band sheet, and pipe). While table II-1 does not cover all purchases of ferrovanadium in the United States during January 1999-June 2002, it does cover a substantial portion.

In addition to the purchase data in table II-1, purchasers were asked to describe any changes in their relative purchases of ferrovanadium from different countries. Nine purchasers reported purchasing only from U.S. producers since January 1, 1999. Those nine purchasers cited availability, competitive or lower pricing, and quality as reasons for purchasing only U.S. material. Eleven purchasers did report changing their relative purchases from different countries, as summarized in table II-2.[11]

Table II-2
Ferrovanadium: Purchaser explanations for changes in relative shares of purchases, by country

* * * * * * *

Lead Times

U.S. producers all reported lead times of one week or less. Several importers (including ***) did as well, though other importers reported longer lead times of up to 45 days.

Factors Affecting Purchasing Decisions

Available data indicate that quality, price, and availability are the most important factors that influence purchasing decisions for ferrovanadium. Purchasers were asked to list the top three factors that they consider when choosing a supplier of ferrovanadium. Table II-3 summarizes responses to this question. The results depicted in table II-3 are further supported by purchasers' responses to the question on how often their firm's purchasing decisions for ferrovanadium are based on product consistency and quality, as summarized in table II-4.[12] Price was an important factor for every purchaser, but sometimes came after quality and availability in importance. However, since purchasers often defined quality as meeting specifications, and most producers and importers supply ferrovanadium that would regularly meet those specifications, price probably plays a more important role than quality differences in typical competitive situations.

[11] While staff regards table II-1 as more indicative of overall trends in ferrovanadium purchasing, this table does show the dominant role price plays in determining suppliers in the U.S. ferrovanadium market.

[12] In defining the quality of ferrovanadium, purchasers looked most often to chemical specifications (often from the American Society for Testing and Materials ("ASTM") or the Royal Society of Chemistry), company processes (from the International Organization for Standardization ("ISO")), and sizing.

Table II-3
Ferrovanadium: Ranking of purchasing factors by purchasers

Factor	Number of firms reporting		
	Number 1 factor	Number 2 factor	Number 3 factor
Quality/meeting specifications	13	6	2
Price/cost/value	6	7	7
Availability	5	6	1
Service	0	2	1
Traditional supplier/past performance/reputation	0	1	4
Delivery	0	0	5
Credit extension	0	0	2

Note.--Other factors mentioned include packaging and recovery factor.

Source: Compiled from data submitted in response to Commission questionnaires.

Table II-4
Ferrovanadium: Importance of purchasing factors

Factor	Average importance score[1]	Factor	Average importance score[1]
Availability	3.0	Product consistency	3.0
Brand loyalty	1.3	Product quality	3.0
Delivery terms	2.6	Product range	1.9
Delivery time	2.9	Product volume	1.9
Discounts offered	2.4	Reliability of supply	3.0
Lowest price	2.7	Technical support	2.2
Minimum quantity requirements	1.8	Transportation network	2.2
Packaging	2.7	U.S. transportation costs	1.8

[1] 3 = very important, 2 = somewhat important, 1 = not important.

Source: Compiled from data submitted in response to Commission questionnaires.

Seven purchasers said that they "always" purchased ferrovanadium at the lowest price, 14 said they "usually" did, and one said it "sometimes" did.[13] When asked if they knew whether they were purchasing domestic or imported ferrovanadium, 13 purchasers said they were "always" aware, four said they were "usually" aware, five said they were "sometimes" aware, and two said they were "never" aware. Eleven purchasers said they "always" knew the identity of the manufacturer of the ferrovanadium they purchased, six said "usually," four said "sometimes," and three said "never."

Twenty end-user purchasers said that certification is required for 100 percent of purchases, citing mostly chemistry and process specifications (ASTM, ISO, etc.). Qualifying a new supplier depends on quality of product, reliability in trial orders, ISO certification, and size consistency. It can take from a few minutes to eight weeks or more, depending on the purchaser. No purchasers reported any suppliers failing certification since 1999.

[13] In addition, *** than it was with simply buying at the lowest price available at the time.

When asked if they had ever purchased ferrovanadium that was not the lowest price available, few purchasers answered in the affirmative. Most explained that they had not, or that lowest price was preferred if basic specifications (such as those provided by ASTM) were met. Some said they could see purchasing ferrovanadium that was not the lowest priced in the event of an availability or quality problem, but had not done so. The few purchasers who had purchased ferrovanadium that was not at the lowest price available cited reliability of supply, quality, lead time, minimum order size, ***, and Shieldalloy's 45-percent grade ferrovanadium.

When asked if factors other than subject imports had affected the price of ferrovanadium, purchasers either did not know or cited world oversupply, nonsubject imports, and slowing demand from U.S. steel producers. One purchaser cited ***.

Comparisons of Domestic and Imported Ferrovanadium

In general, ferrovanadium from all sources is used in the same manner and interchangeably if it contains roughly the same amount of vanadium (i.e., approximately 45 or 80 percent).

Questionnaire responses reveal that U.S. producers and tollees believe differences other than price between products from various supplying countries are "never" important in the sale of ferrovanadium in the U.S. market, while responding importers who had knowledge of the requested country combinations reported that differences other than price are "sometimes" or "never" important in the sale of ferrovanadium in the U.S. market (table II-5).[14]

Table II-5
Ferrovanadium: Perceived importance of differences in factors other than price between ferrovanadium produced in the United States and in other countries in sales of ferrovanadium in the U.S. market

* * * * * * *

*** noted that one factor other than price is that Shieldalloy makes an "unusual" 40-percent grade ferrovanadium product, and *** added that vendor relationship can also play a role.

Questionnaire responses reveal general agreement on the issue of interchangeability between U.S.-produced and subject ferrovanadium. U.S. producers and tollees reported that ferrovanadium from different countries is "always" interchangeable, while importers reported that ferrovanadium from different countries is "always" or "frequently" interchangeable (table II-6).[15]

Table II-6
Ferrovanadium: Perceived degree of interchangeability of ferrovanadium produced in the United States and in other countries

* * * * * * *

Importer *** noted that some U.S. steel producers only use 45-percent grade ferrovanadium, only available from Shieldalloy, and hence will not purchase subject ferrovanadium. It added that some

[14] At the conference, both petitioners and respondents appeared to agree that price is a dominant factor in sales of ferrovanadium in the U.S. market (see conference transcript, pp. 34 and 87).

[15] At the conference, a representative of Glencore stated that U.S.-produced, Chinese, and South African ferrovanadium compete with each other in the U.S. market, and that it is relatively easy for end users to switch between different grades of ferrovanadium (conference transcript, p. 83).

U.S. producers prefer nitrided vanadium, and that even with the same grade ferrovanadium, the amounts of other elements (such as aluminum) can differ and affect purchaser preferences. Few other ferrovanadium sellers or purchasers noted these kinds of differences.

Purchasers generally described U.S., subject, and nonsubject ferrovanadium as comparable in purchasing factors.[16] Seven purchasers said that U.S. and Chinese ferrovanadium are used in the same applications. Eleven purchasers said that U.S. and South African ferrovanadium are used in the same applications. Four purchasers said that U.S. and nonsubject ferrovanadium are used in the same applications. In addition, four purchasers who had only purchased U.S. ferrovanadium since 1999 said that, to their knowledge, U.S. and foreign ferrovanadium are used in the same applications. When asked if they or their customers ever ordered ferrovanadium specifically from one country, 23 purchasers said no, but one said that it does order from the United States in order to have a secure supply with just-in-time deliveries from local stocks. When asked if certain grades of ferrovanadium are only available from a single source, 17 purchasers said no, two said they did not know, four mentioned Shieldalloy's 45-percent grade ferrovanadium (or lack of 80-percent grade ferrovanadium), and one mentioned ***.

Summaries of purchaser comparisons of domestic, subject, and nonsubject ferrovanadium are presented in tables II-7 and II-8.

Table II-7
Ferrovanadium: Number of purchasers' comparisons of U.S. product and subject imports

	U.S. vs. China[1]			U.S. vs. S. Africa[1]			U.S. vs. nonsubject[1]		
Factor	S	C	I	S	C	I	S	C	I
Availability	2	5	0	2	8	0	3	7	0
Delivery terms	2	4	1	2	8	0	1	9	0
Delivery time	2	5	0	2	8	0	1	9	0
Discounts offered	2	5	0	3	5	2	1	9	0
Lowest price[2]	2	5	0	2	6	2	3	7	0
Minimum quantity requirements	1	6	0	2	8	0	1	9	0
Packaging	1	6	0	1	9	0	1	9	0
Product consistency	1	6	0	1	9	0	1	9	0
Product quality	1	6	0	1	9	0	1	9	0
Product range	1	6	0	1	9	0	1	9	0
Product volume	1	6	0	1	9	0	1	9	0
Reliability of supply	3	4	0	2	8	0	1	9	0
Technical support	2	5	0	3	7	0	3	7	0
Transportation network	1	5	1	2	8	0	1	9	0
U.S. transportation costs	1	5	1	2	8	0	1	9	0

[1] S = U.S. superior, C = products comparable, I = U.S. inferior.
[2] A rating of superior means that the price is generally lower. For example, if a firm reports "U.S. superior," it means that the price of the U.S. product is generally lower than the price of the imported product.

Source: Compiled from data submitted in response to Commission questionnaires.

[16] These purchasing factors are the standard Commission factors listed in table II-4.

Table II-8
Ferrovanadium: Number of purchasers' comparisons of subject and nonsubject[1] imports

Factor	China vs. nonsubject[2]			S. Africa vs. nonsubject[2]			China vs. S. Africa[2]		
	S	C	I	S	C	I	S	C	I
Availability	0	1	0	0	4	0	0	1	1
Delivery terms	0	1	0	0	4	0	0	1	1
Delivery time	0	1	0	0	4	0	0	1	1
Discounts offered	0	1	0	0	4	0	0	1	1
Lowest price[3]	0	1	0	0	4	0	0	1	1
Minimum quantity requirements	0	1	0	0	4	0	0	2	0
Packaging	0	1	0	0	4	0	0	2	0
Product consistency	0	1	0	0	4	0	0	2	0
Product quality	0	1	0	0	4	0	0	2	0
Product range	0	1	0	0	4	0	0	2	0
Product volume	0	1	0	0	4	0	0	2	0
Reliability of supply	0	1	0	0	4	0	0	1	1
Technical support	0	1	0	0	4	0	0	1	1
Transportation network	0	1	0	0	4	0	0	2	0
U.S. transportation costs	0	1	0	0	4	0	0	2	0

[1] Nonsubject includes Austria, Belgium, Canada, Czech Republic, and Taiwan.
[2] S = First named source superior, C = products comparable, I =First named source inferior.
[3] A rating of superior means that the price is generally lower. For example, if a firm reports "China superior," it means that the price of the Chinese product is generally lower than the price of the product to which it is compared.

Source: Compiled from data submitted in response to Commission questionnaires.

ELASTICITY ESTIMATES

This section discusses elasticity estimates. Parties were encouraged to comment on these estimates in their prehearing briefs, and none did so.

U.S. Supply Elasticity

The domestic supply elasticity for ferrovanadium measures the sensitivity of the quantity supplied by U.S. producers to changes in the U.S. market price of ferrovanadium. The elasticity of domestic supply depends on several factors, including the level of excess capacity, the ease with which producers can alter capacity, producers' ability to shift production to other products, the existence of inventories, and the availability of alternate markets for U.S.-produced ferrovanadium. U.S. producers have *** unused capacity and *** inventories. Analysis of these factors earlier indicates that the U.S. industry is likely to be able to increase or decrease shipments to the U.S. market significantly; an estimate in the range of 4 to 8 is suggested.

U.S. Demand Elasticity

The U.S. demand elasticity for ferrovanadium measures the sensitivity of the overall quantity demanded to a change in the U.S. market price of ferrovanadium. This estimate depends on factors discussed earlier such as the existence of substitute products and the component share of ferrovanadium in the production of downstream products. There are but a handful of limited substitutes for ferrovanadium, and ferrovanadium is a small part of the cost of overall steel production. Based on available information, the aggregate demand for ferrovanadium is likely to be inelastic; a range of -0.5 to -1.0 is suggested.

Substitution Elasticity

The elasticity of substitution depends upon the extent of product differentiation between the domestic and imported products.[17] Product differentiation, in turn, depends upon such factors as quality and conditions of sale. A majority of purchasers indicated that U.S. and imported products are highly substitutable. Based on available information, the elasticity of substitution between U.S.-produced and imported ferrovanadium is likely to be in the range of 5 to 10.

[17] The substitution elasticity measures the responsiveness of the relative U.S. consumption levels of the subject imports and U.S. like products to changes in their relative prices. This reflects how easily purchasers switch from the U.S. product to the subject products (or vice versa) when prices change.

PART III: U.S. PRODUCERS'/TOLLEES' PRODUCTION, SHIPMENTS, AND EMPLOYMENT

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the margins of dumping was presented earlier in this report and information on the volume and pricing of imports of the subject merchandise is presented in Parts IV and V. Information on the other factors specified is presented in this section and/or Part VI and (except as noted) is based on the questionnaire responses of five firms that accounted for 100 percent of U.S. production and shipments of ferrovanadium during 2001.

The five firms that account for all U.S. production and shipments of ferrovanadium can be divided into two groups. First, there are those firms that either produce the subject product for their own account or toll-process the product for the account of others under a toll agreement. Into this group would fall Bear, Shieldalloy, and International Specialty Alloys ("ISA").[1] Gulf and USV would fall into the second group of firms. These two firms, commonly referred to for Commission purposes as *tollees,* supply the toll-processor with the principal raw material which the toll-processor then converts to the finished product, to which the tollee retains title. The plant locations and the respective shares of reported 2001 U.S. production and U.S. shipments for all five firms are shown in the tabulation that follows.

Firm	Position on petition	Plant location(s)	Percent of reported	
			Production[1]	Shipments
Producers				
Bear	Support	Butler, PA	***	***
ISA	***	Edinburg, PA	([2])	([2])
Shieldalloy	Support	Cambridge, OH	***	***
Tollees				
Gulf	Support	Freeport, TX	***	***
USV	Support	Danbury, CT	***	***

[1] Production of finished product.
[2] Data not reported.

U.S. PRODUCERS

Three firms produced ferrovanadium during the period for which the Commission requested information. Bear and ISA toll-produced ferrovanadium for other firms under tolling agreements, and Shieldalloy produced product for sale to unrelated third-party customers. Company-specific information related to the ferrovanadium operations of these firms is presented below.

[1] Based on information supplied in its response to the Commission's questionnaire, ISA had *** toll production of ferrovanadium over the period for which information was requested. The firm reported production ***. This production totaled *** pounds on behalf of Glencore Ltd.

Bear[2] produces ferrovanadium at its plant in Butler, PA. The company toll coverts raw materials (principally vanadium pentoxide) that are provided to it by ***,[3] ***. The vast majority of Bear's ferrovanadium production is performed on behalf of two companies–Gulf and USV.[4] [5] In addition to ferrovanadium, Bear also is a toll processor of ferromolybdenum and molybdenum oxide pillow briquets, both of which are used in the steel industry.[6] ***. Typically, ***.

ISA had *** production of ferrovanadium during the period for which the Commission requested information. Such production occurred *** and all *** pounds of it was produced for Glencore Ltd. under a toll agreement.[7] All of ISA's ferrovanadium production took place at the firm's Edinburg, PA, facility. An estimated *** percent of the company's total net sales in its most recent fiscal year was derived from the sale of magnetic alloys and other ferroalloys such as ferromolybdenum. When asked in the Commission's questionnaire whether it anticipated any negative impact of imports of ferrovanadium from China and South Africa, ISA replied "***."[8]

Shieldalloy[9] has been a producer of ferrovanadium since 1952. The company's production facility is located in Cambridge, OH.[10] Unlike Bear and ferrovanadium producers in China and South Africa, Shieldalloy does not use vanadium pentoxide as its principal raw material input. Instead, Shieldalloy produces ferrovanadium by a modified reduction process which is capable of utilizing any vanadium-bearing raw materials, such as, for example, petroleum residues, fly ash, hazardous spent catalysts, and iron slag.[11] While Shieldalloy ***,[12] ***.

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[2] Bear produces ferrovanadium in grades containing from 40 percent to 80 percent vanadium; typical sizing is 2 inches x 18 mesh. It also produces ferromolybdenum, molybdic oxide briquettes, and calcium aluminate that is produced as a co-product of its ferrovanadium (*http://www.bearmet.com*). "***." Bear's questionnaire response submitted in connection with the Commission's preliminary phase investigations.

[3] ***. Ferro-Alloy Directory and Databook, 5th edition, 1998.

[4] Gulf is a minority shareholder of Bear, controlling 49.5 percent of the company's stock.

[5] Hearing transcript, p. 14.

[6] Conference transcript, p. 10.

[7] ***.

[8] In a news release dated February 28, 2002, Stratcor announced the formation of a strategic alliance between it and ISA in "moving the production of vanadium-aluminum (an alloy that strengthens titanium used in critical parts of aircraft) alloys to a new state-of-the-art plant being built by International Specialty Alloys in New Castle, PA." As a result of this action, USV, a Stratcor subsidiary, discontinued vanadium-aluminum production at its Niagara Falls, NY, plant.

[9] Shieldalloy and its parent, Metallurg, produce a wide spectrum of ferroalloys, metals, alloys, additives, and powders for the carbon steel, stainless steel, superalloy, welding rod, hard facing, titanium, and related industries. Shieldalloy itself produces ferrovanadium, vanadium chemicals, calcium aluminate slag, and FeNiMo slabs. The latter two products are byproducts of Shieldalloy's ferrovanadium production. Metallurg companies outside the United States produce vanadium aluminum, high purity ferrocolumbium used for the production of superalloys, aluminothermic chromium metal, low-carbon ferrochrome, ferromanganese, ferrosilicon, and other ferroalloys. Shieldalloy's Metals, Alloys and Powders Division is headquartered in Newfield, NJ, and its Vanadium Division is based in Cambridge, OH (*www.shieldalloy.com*).

[10] ***. Shieldalloy's response to the Commission's questionnaire.

[11] Conference transcript, p. 19.

[12] Shieldalloy's *** were reportedly ***.

U.S. TOLLEES

Gulf and USV have no production of ferrovanadium.[13] Instead, each firm operates under a toll agreement whereby it supplies the raw material, vanadium pentoxide, to the toller, in both cases Bear, which then converts the raw material to ferrovanadium.[14] Both firms retain title to the finished product throughout the conversion process and sell the finished product to their customers. *** percent of Gulf's and USV's shipments of ferrovanadium in 2001 was produced under the respective toll agreement that each has with Bear.

U.S. PRODUCTION CAPACITY, PRODUCTION, AND CAPACITY UTILIZATION

The Commission's producers' questionnaire requested U.S. producers to supply the details as to the time, nature, and significance of any changes (i.e., plant openings, relocations, expansions, acquisitions, consolidations, closures, prolonged shutdowns, etc.) that had an effect on the character of their ferrovanadium operations during the period for which information was requested. The responses of U.S. producers Bear and Shieldalloy are presented in appendix E.

Data on U.S. producers' production capacity, production, and capacity utilization are shown in table III-1. Between 1999 and 2001, U.S. ferrovanadium production capacity increased by *** percent while production declined by *** percent and capacity utilization decreased by *** percentage points. Contributing to the decreases, especially between the 2000-2001 period, were the numerous reported shutdowns and reductions in workforces attributed to "***." Between the interim periods (January-June 2001 and January-June 2002), there was little or no change in production capacity, production, or capacity utilization.

Table III-1
Ferrovanadium: Bear's and Shieldalloy's U.S. production capacity, production, and capacity utilization, 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

U.S. PRODUCERS'/TOLLEES' SHIPMENTS

Data on U.S. producers'/tollees' U.S. shipments of ferrovanadium are shown in tables III-2 and III-3 and data on U.S. producers'/tollees' total shipments of ferrovanadium are presented in table III-4. The difference between U.S. shipments and total shipments is export shipments, which, in the case of ferrovanadium, represented only a small share of the volume of U.S. producers'/tollees' total shipments during the period for which the Commission requested information.

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[13] Gulf and USV are subsidiaries of Comilog U.S. Inc. (Baltimore, MD) and Strategic Minerals Corp. (Stratcor) (Danbury, CT), respectively. Gulf also has a sister firm in Belgium, N.V. Sadaci S.A., that is engaged in the production of ferrovanadium. Similarly, USV is affiliated, through its parent company's participation as a joint-venture partner, in a Convent, LA, company, CS Metals of Louisiana, that recovers vanadium in the form of vanadium pentoxide and other metals from listed hazardous spent catalysts used in refining oil. CS Metals supplies USV with a continuing source of low-cost vanadium pentoxide. (See conference transcript, p. 30.) However, USV also operates a vanadium pentoxide facility in Hot Springs, AR. *** of this facility's production of vanadium pentoxide is converted into ferrovanadium by Bear on USV's behalf. Through its parent company, Stratcor, USV also is affiliated with the U.S. importer of ferrovanadium, Nissho Iwai American Corp. (New York, NY), and the South African ferrovanadium producer Vametco Minerals Corp.

[14] Gulf has a 49.5-percent ownership interest in Bear.

Table III-2
Ferrovanadium: U.S. producers'/tollees' U.S. shipments, by firms, 1999-2001, January-June 2001, and January-June 2002

Item	Calendar year			January-June	
	1999	2000	2001	2001	2002
	Quantity (*1,000 pounds of contained vanadium*)				
Bear[1]	***	***	***	***	***
Shieldalloy	***	***	***	***	***
Subtotal	***	***	***	***	***
Gulf[2]	***	***	***	***	***
USV[2]	***	***	***	***	***
Subtotal	***	***	***	***	***
Total	8,716	7,489	6,274	3,502	3,536
	Value (*$1,000*)				
Bear[1]	***	***	***	***	***
Shieldalloy	***	***	***	***	***
Subtotal	***	***	***	***	***
Gulf[2]	***	***	***	***	***
USV[2]	***	***	***	***	***
Subtotal	***	***	***	***	***
Total	43,730	35,533	23,735	13,396	12,249
	Unit value (*per pound*)				
Bear	$***	$***	$***	$***	$***
Shieldalloy	***	***	***	***	***
Average	***	***	***	***	***
Gulf	***	***	***	***	***
USV	***	***	***	***	***
Average	***	***	***	***	***
Average	$5.02	$4.74	$3.78	$3.83	$3.46

[1] To avoid double-counting, the data shown for Bear consist of reported commercial shipments other than reported transfers of product to related and unrelated firms under a toll agreement. Such reported transfers of product under a toll agreement are included in the shipment data as reported by the tollees, i.e., Gulf and USV.
[2] Because firm has no production of ferrovanadium, reported U.S. shipments consist of its U.S. shipments of product that was toll-produced for it by Bear. ***.

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

Source: Compiled from data submitted in response to Commission questionnaires.

Table III-3
Ferrovanadium: U.S. producers'/tollees' U.S. shipments, by shares and by firms, 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

Table III-4
Ferrovanadium: U.S. producers'/tollees' total shipments, by firms, 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

The quantity and value of U.S. producers'/tollees' U.S. shipments of ferrovanadium declined steadily between 1999 and 2001, falling by 28.0 percent on the basis of quantity and decreasing by 45.7 percent on the basis of value. Despite a slight increase in the quantity of such shipments between the interim periods, the value of such U.S. shipments declined by 8.6 percent from interim 2001 to interim 2002 (table III-2). The average unit value of U.S. producers'/tollees' U.S. shipments fell by 24.6 percent from 1999 to 2001 and again by 9.4 percent between the interim periods. Tollees Gulf and USV accounted for *** percent of U.S. producers'/tollees' U.S. shipments in 2001 as compared with a combined average of *** percent for Bear and Shieldalloy (table III-3). When one considers only Bear's U.S. shipments of product not produced under a toll agreement, Bear's share (on the basis of quantity) of U.S. producers'/tollees' total U.S. shipments amounted to *** percent over the period for which the Commission requested information (table III-3).

*** each reported export shipments of ferrovanadium during the period for which information was requested.[15] However, as shown in the tabulation that follows, the total of such export shipments represented only *** percent of U.S. producers'/tollees' total ferrovanadium shipments in 1999 and 2000, *** percent of the total in 2001, and *** percent of total shipments in interim 2002.

* * * * * * *

U.S. PRODUCERS'/TOLLEES' PURCHASES

Three firms reported purchases of ferrovanadium during the period for which the Commission requested information. ***. Lastly, ***. Firms indicated that they purchased ferrovanadium to ***.[16]

Data on U.S. producers'/tollees' purchases of ferrovanadium are shown in table III-5. As the data show, *** accounted for the vast majority of all such purchases over the period for which data were requested. As measured against their U.S. shipments, the quantity and value of U.S. producers'/tollees' ferrovanadium purchases were relatively small, accounting for not more than *** percent of the quantity and *** percent of the value of their combined U.S. shipments between 1999 and 2001 and between interim 2001 and interim 2002.

[15] ***.

[16] For example, ***.

Table III-5
Ferrovanadium: U.S. producers'/tollees' purchases, by firms, 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

U.S. PRODUCERS'/TOLLEES' INVENTORIES

Data on U.S. producers'/tollees' end-of-period inventories of ferrovanadium are shown in table III-6. The data are for inventories resulting from production as reported by Bear and Shieldalloy, including those end-of-period inventories of ferrovanadium that were reported by Gulf and USV but that were toll-produced for these firms by Bear. The combined ratio of inventories to production for Bear and Shieldalloy rose from *** percent in 1999 to *** percent in 2001 and increased from *** percent in interim 2001 to *** percent in interim 2002. The ratio of inventories to total shipments increased similarly, increasing by *** percentage points between 1999 and 2001 and increasing by *** percentage points between the interim periods.

Table III-6
Ferrovanadium: U.S. producers'/tollees' end-of-period inventories, by firms, as of December 31, 1999-2001, and as of June 30, 2001 and June 30, 2002

* * * * * * *

U.S. EMPLOYMENT

The employment data presented in this section of the report for Bear and Shieldalloy are applicable to production and related workers ("PRWs") employed in the production of ferrovanadium. The data shown for Gulf and USV are applicable to these firms' PRWs employed in the production of the raw material vanadium pentoxide, which according to Gulf and USV, accounts for between *** percent and *** percent of the cost of the ferrovanadium that is produced for them under tolling agreements. As was mentioned earlier in this part of the report, information on any changes in the character of U.S. producers' operations that may have affected U.S. producers'/tollees' employment during the period for which the Commission requested information is presented in appendix E. As noted, most of the reported changes were shutdowns and closures that affected both the number of PRWs employed in the production of ferrovanadium as well as the number of hours worked by such workers. A large share of these reduced levels of employment occurred in calendar year 2001, as evidenced by the ***-percent decrease in the number of PRWs employed by Bear and Shieldalloy between 1999 and 2001 (table III-7). The number of hours worked by those same PRWs, as well as the wages paid to such workers, decreased similarly over the same period, declining by *** percent and by *** percent, respectively. Hours worked, wages paid, and hourly wages increased between the interim periods.

Table III-7
Ferrovanadium: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, by firms, 1999-2001, January-June 2001, and January-June 2002

Item	Calendar year			January-June--	
	1999	2000	2001	2001	2002
	PRWs (*number*)				
Bear	***	***	***	***	***
Shieldalloy	***	***	***	***	***
Subtotal	***	***	***	***	***
Gulf[1]	***	***	***	***	***
USV[1]	***	***	***	***	***
Subtotal	***	***	***	***	***
Total	187	222	199	204	205
	Hours worked (*1,000*)				
Bear	***	***	***	***	***
Shieldalloy	***	***	***	***	***
Subtotal	***	***	***	***	***
Gulf[1]	***	***	***	***	***
USV[1]	***	***	***	***	***
Subtotal	***	***	***	***	***
Total	395	473	421	215	234
	Wages paid (*$1,000*)				
Bear	***	***	***	***	***
Shieldalloy	***	***	***	***	***
Subtotal	***	***	***	***	***
Gulf[1]	***	***	***	***	***
USV[1]	***	***	***	***	***
Subtotal	***	***	***	***	***
Total	7,937	9,525	8,718	4,359	4,804

See footnotes at end of table.

Table III-7--*Continued*
Ferrovanadium: Average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, by firms, 1999-2001, January-June 2001, and January-June 2002

Item	Calendar year			January-June--	
	1999	2000	2001	2001	2002
	Hourly wages				
Bear	$***	$***	$***	$***	$***
Shieldalloy	***	***	***	***	***
Average	***	***	***	***	***
Gulf	***	***	***	***	***
USV	***	***	***	***	***
Average	***	***	***	***	***
Average	20.09	20.14	20.71	20.27	20.53
	Productivity (*pounds per hour*)				
Bear	***	***	***	***	***
Shieldalloy	***	***	***	***	***
Average	***	***	***	***	***
Gulf	(2)	(2)	(2)	(2)	(2)
USV	(2)	(2)	(2)	(2)	(2)
Average	(2)	(2)	(2)	(2)	(2)
Average	***	***	***	***	***
	Unit labor costs (*per pound*)				
Bear	$***	$***	$***	$***	$***
Shieldalloy	***	***	***	***	***
Average	***	***	***	***	***
Gulf	(2)	(2)	(2)	(2)	(2)
USV	(2)	(2)	(2)	(2)	(2)
Average	(2)	(2)	(2)	(2)	(2)
Average	***	***	***	***	***

[1] Data shown applies to PRWs employed in the production of the raw material vanadium pentoxide, which accounts for between *** percent and *** percent of the total cost of ferrovanadium for Gulf and between *** percent and *** percent of the total cost for USV.
[2] Not applicable, since firm had no ferrovanadium production of its own.

Source: Compiled from data submitted in response to Commission questionnaires.

PART IV: U.S. IMPORTS,[1] APPARENT CONSUMPTION, AND MARKET SHARES

U.S. IMPORTERS

In these investigations the Commission sent importers' questionnaires to 25 firms believed to import ferrovanadium into the United States. In response, 10 firms supplied usable questionnaire information regarding their U.S. imports of the subject merchandise, and nine firms reported that they did not import ferrovanadium at any time during the period for which the Commission requested information. Two firms indicated that the information requested was being provided by other firms with which they had affiliations and which responded to the Commission's questionnaire. Four firms did not respond to the Commission's request for information.

In addition to the 10 firms that supplied usable information on their U.S. imports of ferrovanadium, *** also provided the Commission with information on their U.S. imports of the subject product. *** stated in its questionnaire response that it "typically" does not import ferrovanadium except that *** the company imported *** pounds of ferrovanadium from *** owing to "***."[2] *** questionnaire response shows that it imported ferrovanadium in all periods covered by the Commission's questionnaire. When asked in the questionnaire to indicate its reasons for importing ferrovanadium ***, *** stated the following: "***." The company's imports of ferrovanadium were from ***.[3]

The names of firms that supplied the Commission with information on their U.S. imports of ferrovanadium and their reported sources of such U.S. imports are shown in table IV-1.

U.S. IMPORTS

Because of the less-than-complete coverage of U.S. imports as reported in Commission questionnaires by 10 firms, U.S. imports based on official Commerce data are relied upon in this section of the report. The leading sources of U.S. imports of ferrovanadium include Austria, Belgium, Canada, China, the Czech Republic, and South Africa. Together, these six countries accounted for 97.6 percent of the volume of total U.S. ferrovanadium imports in 2001. Individual 2001 shares were as follows: Austria, 6.9 percent; Belgium, 6.0 percent; Canada, 9.7 percent; China, 17.7 percent, the Czech Republic, 13.1; and South Africa, 44.1 percent.

Data on the quantity and value of U.S. imports of ferrovanadium are presented in tables IV-2 and IV-3. Table IV-2 shows the quantity of U.S. imports on the basis of gross weight, whereas the quantity data shown in table IV-3 are on the basis of contained vanadium. On a contained-vanadium basis, the volume of U.S. imports of ferrovanadium from all sources increased steadily between 1999 and 2001, rising by 32.2 percent overall, and increased further between the interim periods, rising by 2.8 percent. On the basis of value, U.S. imports of ferrovanadium rose unevenly by 0.9 percent from 1999 to 2001,

---

[1] Imports are compiled from official Commerce statistics.

[2] ***.

[3] From ***, *** reported that it imported *** pounds of ferrovanadium in 2000, *** pounds in 2001, and *** pounds in January-June 2001. The firm's U.S. imports from *** totaled *** pounds in 1999, *** pounds in 2000, *** pounds in 2001, and *** pounds in January-June 2001. The *** product imported in 1999 and 2000 was produced by ***. *** indicated that the *** producer of the ferrovanadium that it imported from 2001 is unknown. Its U.S. imports of ferrovanadium from all other sources totaled *** pounds in 2000, *** pounds in 2001, *** pounds in January-June 2001, and *** pounds in January-June 2002. As a share of ***, subject imports from *** comprised *** percent of such U.S. shipments in 1999, *** percent in 2000, *** percent in 2001, *** percent in interim 2001, and *** percent in interim 2002.

Table IV-1
Ferrovanadium: U.S. importers and their reported sources of U.S. imports, January 1999-June 2002

U.S. importer	Source(s) of imported product		
	China	South Africa	Other[1]
***	X		
***			X
***	X		
***	X		X
***		X	X
***[2]			X
***	X		
***	X	X	X
***	X		X
***		X	
***	X		
***[2]	X	X	X

[1] Consists of Belgium, Canada, the Czech Republic, and Japan.
[2] ***.

Source: Compiled from data submitted in response to Commission questionnaires.

Table IV-2
Ferrovanadium: Official U.S. import statistics based on the first unit of measurement (i.e., gross weight), by sources, 1999-2001, January-June 2001, and January-June 2002

Source	Calendar year			January-June	
	1999	2000	2001	2001	2002
			Quantity (*1,000 pounds*)		
China[1]	1,102	1,989	1,323	940	176
South Africa[1]	1,822	1,303	3,068	1,149	508
Subtotal	2,924	3,292	4,391	2,089	684
Other sources[2]	2,841	4,180	2,942	1,518	2,883
Total	5,766	7,472	7,333	3,607	3,567
			Value (*1,000 dollars*)[3]		
China	3,861	6,270	3,744	2,691	349
South Africa	6,991	5,536	9,588	3,659	1,479
Subtotal	10,852	11,806	13,333	6,350	1,829
Other sources[2]	10,657	14,399	8,362	4,314	7,485
Total	21,509	26,205	21,695	10,664	9,314
			Unit value (*per pound*)[3]		
China	$3.50	$3.15	$2.83	$2.86	$1.98
South Africa	3.84	4.25	3.12	3.19	2.91
Average	3.71	3.59	3.04	3.04	2.67
Other sources[2]	3.75	3.44	2.84	2.84	2.60
Average	3.73	3.51	2.96	2.96	2.61
			Share of quantity (*percent*)		
China	19.1	26.6	18.0	26.1	4.9
South Africa	31.6	17.4	41.8	31.8	14.2
Subtotal	50.7	44.1	59.9	57.9	19.2
Other sources	49.3	55.9	40.1	42.1	80.8
Total	100.0	100.0	100.0	100.0	100.0

See footnotes at end of table.

Table IV-2--*Continued*
Ferrovanadium: Official U.S. import statistics based on the first unit of measurement (i.e., gross weight), by sources, 1999-2001, January-June 2001, and January-June 2002

Source	Calendar year			January-June	
	1999	2000	2001	2001	2002
	Share of value (*percent*)				
China	18.0	23.9	17.3	25.2	3.8
South Africa	32.5	21.1	44.2	34.3	15.9
Subtotal	50.5	45.1	61.5	59.5	19.6
Other sources	49.5	54.9	38.5	40.5	80.4
Total	100.0	100.0	100.0	100.0	100.0

[1] Subject imports exceeded 3 percent of total U.S. imports for the last 12 months.
[2] Other sources include principally Austria, Canada, and the Czech Republic.
[3] Landed, duty-paid.

Source: Compiled from official Commerce statistics.

Table IV-3
Ferrovanadium: Official U.S. import statistics based on the second unit of measurement (i.e., contained vanadium), by sources, 1999-2001, January-June 2001, and January-June 2002

Source	Calendar year			January-June	
	1999	2000	2001	2001	2002
	Quantity (*1,000 pounds of contained vanadium*)				
China[1]	826	1,469	992	712	109
South Africa[1]	1,483	1,059	2,475	931	405
Subtotal	2,309	2,528	3,466	1,644	514
Other sources[2]	1,941	2,995	2,150	1,114	2,319
Total	4,249	5,523	5,617	2,758	2,834
	Value (*1,000 dollars*)[3]				
China	3,861	6,270	3,744	2,691	349
South Africa	6,991	5,536	9,588	3,659	1,479
Subtotal	10,852	11,806	13,333	6,350	1,829
Other sources[2]	10,657	14,399	8,362	4,314	7,485
Total	21,509	26,205	21,695	10,664	9,314
	Unit value (*per pound*)[3]				
China	$4.67	$4.27	$3.78	$3.78	$3.20
South Africa	4.72	5.23	3.87	3.93	3.65
Average	4.70	4.67	3.85	3.86	3.55
Other sources[2]	5.49	4.81	3.89	3.87	3.23
Average	5.06	4.74	3.86	3.87	3.29
	Share of quantity (*percent*)				
China	19.4	26.6	17.7	25.8	3.9
South Africa	34.9	19.2	44.1	33.8	14.3
Subtotal	54.3	45.8	61.7	59.6	18.2
Other sources	45.7	54.2	38.3	40.4	81.8
Total	100.0	100.0	100.0	100.0	100.0

See footnotes at end of table.

Table IV-3--*Continued*
Ferrovanadium: Official U.S. import statistics based on the second unit of measurement (i.e., contained vanadium), by sources, 1999-2001, January-June 2001, and January-June 2002

Source	Calendar year			January-June	
	1999	2000	2001	2001	2002
	Share of value (*percent*)				
China	18.0	23.9	17.3	25.2	3.8
South Africa	32.5	21.1	44.2	34.3	15.9
Subtotal	50.5	45.1	61.5	59.5	19.6
Other sources	49.5	54.9	38.5	40.5	80.4
Total	100.0	100.0	100.0	100.0	100.0

[1] Subject imports exceeded 3 percent of total U.S. imports in the last 12 months.
[2] Other sources include principally Austria, Belgium, Canada, and the Czech Republic.
[3] Landed, duty-paid.

Source: Compiled from official Commerce statistics.

and decreased by 12.7 percent between the interim periods. The average unit value of such U.S. imports declined from $5.06 per pound of contained vanadium in 1999 to $3.86 per pound of contained vanadium in 2001, and decreased from $3.87 per pound of contained vanadium in interim 2001 to $3.29 per pound of contained vanadium in interim 2002. The change from 1999 to 2001 represented a decrease of 23.7 percent while the interim-period change represented a decrease of 15.0 percent.

The quantity of U.S. imports of ferrovanadium from China and South Africa rose unevenly by 20.1 percent and 66.9 percent, respectively, between 1999 and 2001 and decreased by 84.7 percent and by 56.5 percent, respectively, between the interim periods (table IV-3). The value of U.S. imports from China fell unevenly by 3.0 percent between 1999 and 2001, and decreased by 87.0 percent between the interim periods. The value of U.S. imports from South Africa, on the other hand, rose by 37.1 percent between 1999 and 2001, but then decreased by 59.6 percent between the interim periods. With the exception of a spike in the average unit value of U.S. imports from South Africa in 2000, the average unit value of U.S. imports from China and South Africa combined declined by 18.2 percent between 1999 and 2001 and dropped by 8.0 percent between the interim periods.

The quantity of U.S. imports of ferrovanadium from China and South Africa, by month, from January to June 2002 is shown in the tabulation that follows (in *1,000 pounds of contained vanadium*):

Source	January	February	March	April	May	June	Total
China	0	0	0	55	27	28	109
South Africa	339	66	0	0	0	0	405
Total	339	66	0	55	27	28	514

APPARENT U.S. CONSUMPTION

Data on apparent U.S. consumption of ferrovanadium are shown in table IV-4. On the basis of quantity, apparent U.S. consumption of ferrovanadium fell unevenly by 8.3 percent from 1999 to 2001, and increased by 1.8 between the interim periods. The value of apparent U.S. consumption fell sharply between 1999 and 2001, falling by 30.4 percent, and decreased between the interim periods by 10.4 percent.

MARKET SHARES

U.S. market share data for ferrovanadium are shown in table IV-5. On the basis of apparent U.S. consumption quantity, U.S. producers'/tollees' ferrovanadium market share declined from 67.2 percent in 1999 to 57.6 percent in 2000, dropped to 52.8 percent in 2001, and decreased from 55.9 percent in interim 2001 to 55.5 percent in interim 2002. U.S. imports from China, as a share of the volume of apparent U.S. consumption, increased from a market share of 6.4 percent in 1999 to 11.3 percent in 2000, dropped to 8.3 percent in 2001, and declined from a market share of 11.4 percent in interim 2001 to a market share of 1.7 percent in interim 2002. South Africa's market share decreased from 11.4 percent of the volume of apparent U.S. consumption in 1999 to 8.1 percent in 2000, increased sharply to 20.8 percent in 2001, and fell from 14.9 percent in interim 2001 to 6.4 percent in interim 2002. The 18.2-percentage-point drop in China's and South Africa's combined market share between the interim periods was completely offset by an 18.6-percentage-point gain in market share attributed to U.S. imports from all other sources.

Table IV-4
Ferrovanadium: U.S. shipments of domestic product, U.S. imports, by sources, and apparent U.S. consumption, 1999-2001, January-June 2001, and January-June 2002

Source	Calendar year			January-June	
	1999	2000	2001	2001	2002
	Quantity (*1,000 pounds of contained vanadium*)				
U.S. producers'/tollees' U.S. shipments[1]	8,716	7,489	6,274	3,502	3,536
U.S. imports from--					
China	826	1,469	992	712	109
South Africa	1,483	1,059	2,475	931	405
Subtotal	2,309	2,528	3,466	1,644	514
Other sources[2]	1,941	2,995	2,150	1,114	2,319
Total	4,249	5,523	5,617	2,758	2,834
Apparent consumption	12,965	13,012	11,891	6,260	6,370
	Value (*1,000 dollars*)				
U.S. producers'/tollees' U.S. shipments[1]	43,730	35,533	23,735	13,396	12,249
U.S. imports from--					
China	3,861	6,270	3,744	2,691	349
South Africa	6,991	5,536	9,588	3,659	1,479
Subtotal	10,852	11,806	13,333	6,350	1,829
Other sources[2]	10,657	14,399	8,362	4,314	7,485
Total	21,509	26,205	21,695	10,664	9,314
Apparent consumption	65,239	61,738	45,430	24,060	21,563

[1] To avoid double-counting, Bear's shipments to Gulf and USV of ferrovanadium that was produced for each firm under a toll agreement is excluded from the data. Such toll-produced product was reported as a U.S. shipment by Gulf and USV when sold in arms-length transactions to related and unrelated U.S. customers.
[2] Other sources include principally Austria, Belgium, Canada, and the Czech Republic.

Source: Compiled from official Commerce statistics.

Table IV-5
Ferrovanadium: Apparent U.S. consumption and market shares, 1999-2001, January-June 2001, and January-June 2002

Source	Calendar year			January-June	
	1999	2000	2001	2001	2002
	Quantity (*1,000 pounds of contained vanadium*)				
Apparent consumption	12,965	13,012	11,891	6,260	6,370
	Value (*$1,000*)				
Apparent consumption	65,239	61,738	45,430	24,060	21,563
	Share of quantity (*percent*)				
U.S. producers'/tollees' U.S. shipments	67.2	57.6	52.8	55.9	55.5
U.S. imports from--					
China	6.4	11.3	8.3	11.4	1.7
South Africa	11.4	8.1	20.8	14.9	6.4
Subtotal	17.8	19.4	29.2	26.3	8.1
Other sources	15.0	23.0	18.1	17.8	36.4
Total imports	32.8	42.4	47.2	44.1	44.5
	Share of value (*percent*)				
U.S. producers'/tollees' U.S. shipments	67.0	57.6	52.2	55.7	56.8
U.S. imports from--					
China	5.9	10.2	8.2	11.2	1.6
South Africa	10.7	9.0	21.1	15.2	6.9
Subtotal	16.6	19.1	29.3	26.4	8.5
Other sources	16.3	23.3	18.4	17.9	34.7
Total imports	33.0	42.4	47.8	44.3	43.2

Source: Compiled from data submitted in response to Commission questionnaires and from official Commerce statistics.

PART V: PRICING AND RELATED INFORMATION

FACTORS AFFECTING PRICES

Raw Material Costs

U.S. producers/tollees have varying material costs, ***.[1]

U.S. Inland Transportation Costs and Geographic Markets

Transportation costs of ferrovanadium for delivery within the United States vary from firm to firm but tend to account for a relatively small percentage of the total cost of the product. For the one U.S. producer and two tollees who responded to this question, these costs accounted for between *** and *** percent of the total cost of ferrovanadium. For the nine importers who provided usable responses to this question, these costs accounted for between 1.0 and 15.0 percent of the total cost of the product. Both producers/tollees and importers reported arranging transportation for purchasers.

Firms were also requested to provide estimates of the percentages of their shipments that were made within specified distance ranges. Two U.S. producers and two tollees reported that *** percent occurred within 100 miles, *** percent occurred within 101 to 1,000 miles, and *** percent occurred at distances over 1,000 miles. For the five *** subject importers that provided usable responses to this question, an average of 73.2 percent of shipments occurred within 100 miles, 22.6 percent occurred within 101 to 1,000 miles, and 4.3 percent occurred at distances over 1,000 miles.[2] Eighteen purchasers reported that transportation costs were not a significant factor in their purchasing decisions because they buy delivered. Purchasers estimated inland transportation costs to be 2 percent or less.

Transportation Costs to the U.S. Market

Transportation costs for the subject ferrovanadium from China and South Africa (excluding U.S. inland costs) are estimated to be approximately 1.2 and 2.4 percent, respectively, of the export value of ferrovanadium.[3]

Exchange Rates

Quarterly data reported by the International Monetary Fund indicate that the nominal value of the Chinese yuan remained essentially unchanged and the South African rand depreciated nearly 40 percentage points relative to the U.S. dollar from January 1999 through September 2002. Real values for the Chinese yuan cannot be calculated due to the unavailability of the relevant Chinese producer price information. Similarly, real values for the South African rand are not available after the third quarter of 2000 (figures V-1 and V-2).

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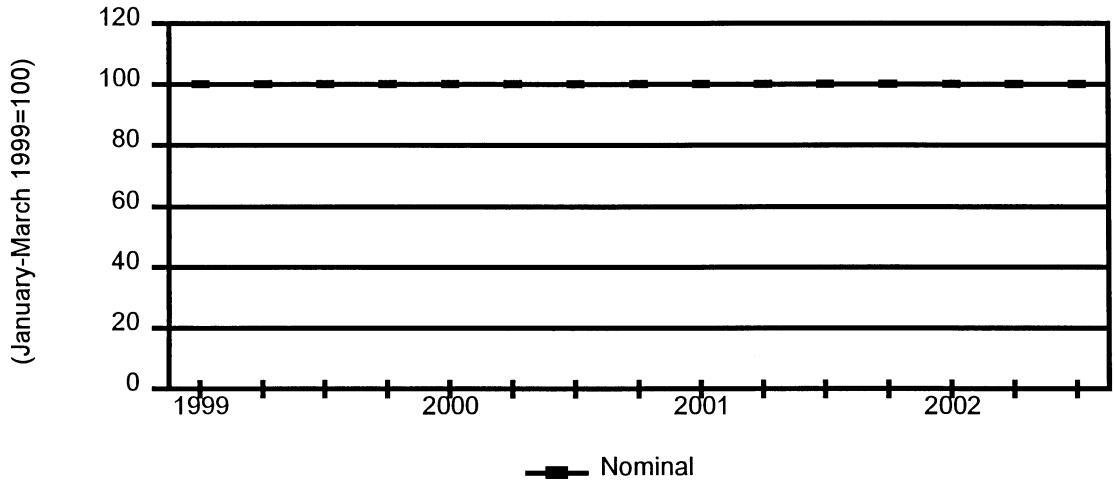
[1] Staff conversation with Cheryl Ellsworth, November 25, 2002. Different U.S. firms obtain their raw materials from different sources, with Gulf using primarily spent catalysts, which it can obtain *** from oil refineries. Hearing transcript, pp. 17, 22-24, 28, 35, 91-95, 100-101. ***.

[2] Answers to the question were weighted by the quantity of 2001 U.S. commercial shipments.

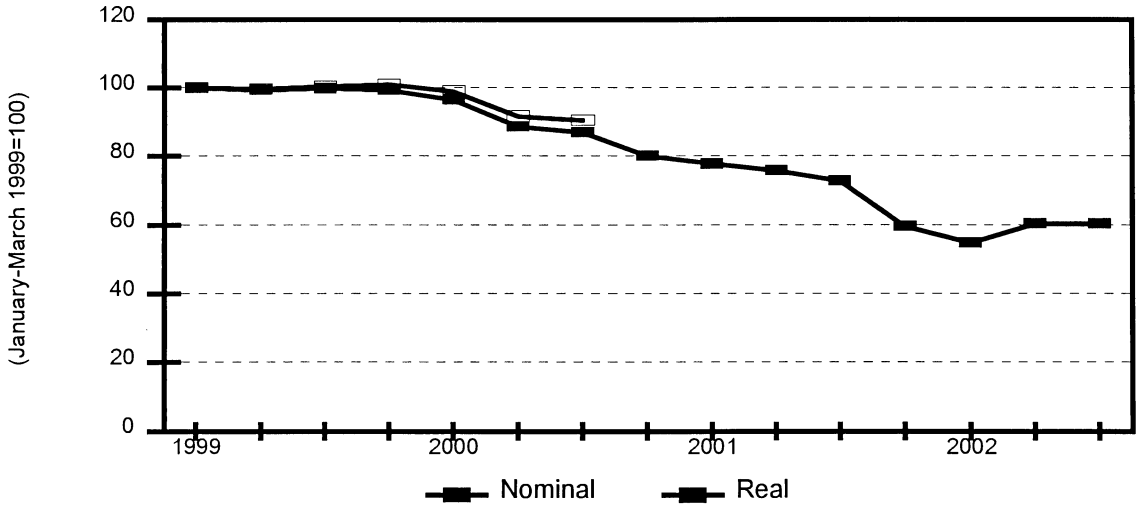
[3] These estimates are derived from August 2001 to July 2002 import data for HTSUS subheading 7202.92.00, and represent the transportation and other charges on imports on a c.i.f. basis, as compared with customs value.

Figure V-1
Exchange rates: Index of the nominal values of the Chinese yuan relative to the U.S. dollar, by quarters, January 1999-September 2002



Source: International Monetary Fund, *International Financial Statistics*, December 2002.

Figure V-2
Exchange rates: Indices of the nominal and real values of the South African rand relative to the U.S. dollar, by quarters, January 1999-September 2002



Note.–Real values not available after third quarter 2000.

Source: International Monetary Fund, *International Financial Statistics*, December 2002.

PRICING PRACTICES

Pricing Methods

Producers/tollees and importers reported that prices are determined by transaction-by-transaction negotiations and by contracts for multiple shipments. When contracts for multiple shipments are used for long-term sales, formula pricing based on industry publications (such as Ryan's Notes and American Metal Market) is often used as a benchmark. Sixteen purchasers reported experience with using published prices as contract benchmarks. On spot trades, these industry publications can also have an influence, with other purchasers reporting that they used the published prices as negotiating guidelines. Appendix D summarizes quarterly prices for ferrovanadium from American Metal Market. Because prices are often indexed to a published source, purchasers reported that prices change frequently, though the recent changes are often moderate compared to the years before 1999.

Producers/tollees were generally more inclined toward contract sales while importers' sales were more weighted toward spot sales. Among producers/tollees, ***. Four importers (***) reported 100 percent spot sales while ***.[4] Producers/tollees reported contracts of *** in duration, while importers reported contracts of three to six months. Producers/tollees indicated that while price may be agreed on a formula basis, quantity may be left open, or with some form of indication or "requirements" basis. Few producers/tollees or importers reported any meet-or-release requirements, standard quantity requirements, or price premiums for sub-minimum shipments. Sales terms were comparable (typically net 30 days delivered) for producers/tollees and importers. While neither producers/tollees nor importers reported formal discount policies, *** did report some price lowering for larger bids or early payment.

Purchasers reported a wide variety of frequency of purchases, with one reporting weekly purchases, 11 reporting monthly purchases, seven reporting bi-monthly or quarterly purchases, and four reporting annual or bi-annual purchases. Other purchasers reported purchasing when needed or at varying frequencies. Twenty purchasers reported that their purchasing pattern had not changed since January 1999. Purchasers typically contacted between two and 15 suppliers before purchasing, and generally did not communicate competing bids to other suppliers. Purchasers also generally reported changing suppliers infrequently, though they typically review the situation at contract renewal time. Fourteen purchasers reported changing suppliers since January 1999, with 10 citing price or cost as a reason, and the other four citing company specific reasons including availability, credit issues, expanding supplier pool, and a desire for fixed price contracts. Nineteen purchasers said that terms are negotiable while four said that their supplier sets terms. One said that for ***.[5]

Price Trends

Published U.S. prices for ferrovanadium have fallen over 1999-2001, with some stabilization slightly above 2001 levels in 2002. As causes of depressed U.S. ferrovanadium prices, importers cited lower world demand, substitute products, nonsubject imports, ferrovanadium overcapacity built during a period of higher ferrovanadium prices in the 1990s, and 2001 long-term contracts not allowing one importer to adjust its prices upwards as ferrovanadium prices rebounded slightly in 2002. However, U.S. producers/tollees felt that all these causes were less important than the role played by the alleged dumping of Chinese and South African ferrovanadium.

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[4] ***. Twelve purchasers reported using entirely long-term contracts, and eight reported buying entirely in the spot market in 2001, although two of these reported having purchased under long-term contracts before. The other four reported a mix of spot and contract purchases.

[5] In addition, ***.

Producers and importers agreed that worldwide prices for ferrovanadium can have an effect on U.S. prices. Producers generally stated that European ferrovanadium prices had been lower than U.S. prices since at least 1999, and that this difference was encouraging other world suppliers to ship to the United States.[6] (Appendix D, table D-2, compares U.S. and European ferrovanadium prices.) Importers were more likely to characterize the effect of international prices on U.S. prices as more demand driven, due to market awareness of lower prices elsewhere.

Seven purchasers felt that there was no price leader in the U.S. ferrovanadium market. Six cited Shieldalloy as a price leader and two cited USV, both as price leaders up and down. Three more purchasers cited Gulf as a price leader. One purchaser cited importers Larson Sales and Considar as price leaders. Purchasers stated that leaders lead through initiation of and resistance to price changes, and through sheer volume.[7]

In comparing prices of U.S. and imported ferrovanadium, one purchaser said that U.S. ferrovanadium was priced higher than Chinese ferrovanadium, and two said that U.S. and Chinese ferrovanadium prices were comparable. Three purchasers said that U.S. ferrovanadium was more expensive than South African ferrovanadium, and three said that U.S. and South African ferrovanadium was priced the same. Three purchasers also stated that U.S. ferrovanadium was more expensive than nonsubject ferrovanadium.[8]

PRICE DATA

The Commission requested quarterly data for the total quantity (in pounds of contained vanadium) and value of commercial shipments of two ferrovanadium products. Data were requested for the period January 1999 through June 2002 from sellers, and January 2000 through June 2002 from purchasers. The products for which pricing data were requested are as follows:

Product 1. **– Grade 40-60 percent ferrovanadium, 2" by down**
Product 2. **– Grade 78-82 percent ferrovanadium, 2" by down**

Two U.S. producers, two U.S. tollees, and nine importers provided usable pricing data for sales of the requested products in the U.S. market, although not all firms reported pricing data for all products for all quarters.[9] The reported price data accounted for *** percent of the 2001 quantity of domestically-produced commercial shipments of ferrovanadium, as well as *** percent of the 2001 quantity of imports of ferrovanadium from China and *** percent of the 2001 quantity of imports of ferrovanadium from South Africa. Data on reported weighted-average selling prices and quantities for products 1 and 2 are presented in tables V-1 and V-2, and figures V-3 through V-6. Twenty-one purchasers provided usable purchase pricing data. Data on reported weighted-average purchase prices and quantities for products 1

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[6] European prices are showing a rise in November 2002, but U.S. prices have not yet followed suit. "Ferrovanadium firm in US, lacks Europe Spark," *American Metal Market*, Alloying Metals News, November 25, 2002.

[7] While ferrovanadium sales over the internet are rare, some producers, importers, and purchasers all made reference to ***. Purchaser *** confirmed that its 2002 contract was done on the internet this way, but purchaser *** described internet sales as a "total waste of time and funds" and no other purchasers had experience with internet sales.

[8] These purchaser responses came in response to a different question than the one that formed the basis for table II-7. When asked how prices of U.S. ferrovanadium had changed relative to imported ferrovanadium, purchasers responded with a wide variety of answers, making no clear trend apparent.

[9] ***.

and 2 are presented in tables V-3 and V-4, and figures V-7 and V-8. As is evident from the tables and figures, ferrovanadium prices have fallen sharply during the period examined.

As shown in table V-1 and figures V-3 and V-4, U.S. product 1 was undersold by Chinese product 1 in 5 quarters by margins ranging from 1.9 to 18.0 percent, while U.S. product 1 undersold Chinese product 1 in 8 quarters by margins of 0.8 to 13.1 percent. Both U.S. and Chinese prices for product 1 show a decline over January 1999 - June 2002. However, Chinese volumes show a rise from early 1999 compared to later quarters (though not large relative to U.S. volumes), while U.S. volumes generally fall after the fourth quarter of 1999. Purchasers reported the same general price decline (table V-3 and figure V-7). However, purchasers had Chinese product 1 underselling U.S. product 1 in three quarters by margins ranging from 5.4 to 12.2 percent, and U.S. product underselling Chinese product in six quarters by margins ranging from less than 0.05 percent to 9.9 percent.[10]

As shown in table V-2 and figures V-5 and V-6, U.S. product 2 was undersold by Chinese product 2 in 5 quarters by margins ranging from 0.2 to 3.1 percent, while U.S. product 2 undersold Chinese product 2 in 9 quarters by margins of 0.1 to 5.6 percent. U.S. product 2 undersold South African product 2 in 14 quarters by margins ranging from 2.0 to 44.7 percent. Sellers' data show South African volumes generally rising until the first quarter of 2002, with U.S. producers' volumes declining from 1999 levels before starting to rise again in 2002. Sellers' data also show U.S. producers' product 2 prices falling, while purchaser prices show a less pronounced decline. Purchaser data show South African product 2 overselling U.S. product 2 in 10 quarters by margins of 0.8 to 41.0 percent (table V-4).

While the pricing data are generally consistent with anecdotal information and published pricing data, there are some anomalies. Data from all sources show price declines over the period, and some hint of U.S. volume declines concurrent with subject volume increases. Data also show generally close prices from all sources, with only 8 of 41 margins in tables V-1 and V-2 (seller data) being greater than 10 percent in magnitude. The seller and purchaser price data also show South African product 2 as consistently more expensive than U.S. product 2.[11] [12]

Respondents allege that *** led U.S. prices down. ***.[13]

Table V-1
Ferrovanadium: Weighted-average delivered selling prices and quantities for product 1, and margins of underselling/(overselling), by quarters, January 1999-June 2002

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Table V-2
Ferrovanadium: Weighted-average delivered selling prices and quantities for product 2, and margins of underselling/(overselling), by quarters, January 1999-June 2002

* * * * * * *

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[10] ***. In addition, ***.

[11] Regarding product 2 from South Africa, ***.

[12] The purchaser data are often as large in volume as the seller data, and even sometimes over 100 percent. While in general the purchaser and seller data show the same trends, there is some evidence (***) of possible purchaser confusion regarding where their purchases fall under Commission product and source categories. Purchasers' reported purchases and pricing quantities of subject imports for the first six months of 2002 are larger than Commission import data and pricing quantities of subject imports.

[13] Respondents also allege that product 1 is *** product 2. In 13 of 14 quarters, U.S. product 1 is *** U.S. product 2; however, in *** of those quarters, the difference is ***.

Table V-3
Ferrovanadium: Weighted-average delivered purchase prices and quantities for product 1, and margins of underselling/(overselling), by quarters, January 2000-June 2002

* * * * * * *

Table V-4
Ferrovanadium: Weighted-average delivered purchase prices and quantities for product 2, and margins of underselling/(overselling), by quarters, January 2000-June 2002

* * * * * * *

Figure V-3
Weighted-average delivered selling prices for product 1, by quarters, January 1999-June 2002

* * * * * * *

Figure V-4
Selling volumes for product 1, by quarters, January 1999-June 2002

* * * * * * *

Figure V-5
Weighted-average delivered selling prices for product 2, by quarters, January 1999-June 2002

* * * * * * *

Figure V-6
Selling volumes for product 2, by quarters, January 1999-June 2002

* * * * * * *

Figure V-7
Weighted-average delivered purchase prices for product 1, by quarters, January 2000-June 2002

* * * * * * *

Figure V-8
Weighted-average delivered purchase prices for product 2, by quarters, January 2000-June 2002

* * * * * * *

LOST SALES AND LOST REVENUES

The Commission requested that U.S. producers of ferrovanadium report any instances of lost sales and lost revenues they experienced due to competition from imports from China and South Africa since January 1998. All the lost sales and lost revenues allegations are presented in tables V-5 and V-6, and are discussed in more detail below. Total lost sales allegations were more than $*** million and involved over *** million pounds of ferrovanadium.

During the preliminary phase of these investigations, there were *** lost sales allegations totaling over $*** million and involving *** million pounds of ferrovanadium for January 1998 through December 2001. The *** new lost sales allegations for January-August 2002 totaled $*** million and

involved *** million pounds of ferrovanadium. The *** new lost revenues allegations totaled $*** million and involved *** million pounds for ferrovanadium. In addition to summary information provided in tables V-5 and V-6, more detailed descriptions of the allegations follow.

Allegations from the Final Phase of the Investigations

* * * * * * *

Table V-5
Ferrovanadium: U.S. producers' lost sales allegations

* * * * * * *

Table V-6
Ferrovanadium: U.S. producers' lost revenue allegations

* * * * * * *

Allegations from the Preliminary Phase of the Investigations

*** and *** provided information on allegations of lost sales due to imports of ferrovanadium from China and South Africa.[14] The reported allegations of lost sales total nearly $*** and involved just over *** pounds contained vanadium, of which $*** and *** pounds were confirmed by purchasers. The lost sales allegations are reported in table V-5. Additional information provided by purchasers follows.

* * * * * * *[15] [16]

[14] No lost revenues allegations were reported by U.S. producers.

[15] ***.

[16] In addition to questionnaires and the lost sales fax from ***.

PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS/TOLLEES

BACKGROUND

The same four companies (Bear, Gulf, Shieldalloy, and USV) that reported trade and pricing data provided usable financial data on their operations producing ferrovanadium and/or vanadium pentoxide.[1] [2] As noted earlier in this report and the preliminary phase report, Bear and Shieldalloy[3] use differing production processes to produce ferrovanadium; likewise, Gulf and USV use different production processes to produce vanadium pentoxide.

Gulf produces vanadium pentoxide (and molybdenum, which is reused as catalyst) by processing spent catalysts from petroleum hydrocracking for other chemical companies. Because Gulf has no facilities for converting vanadium pentoxide to ferrovanadium, which would enable the vanadium to be commercially usable, it has entered into the tolling arrangement with Bear, and *** of its vanadium pentoxide is sent to Bear.

USV produces vanadium pentoxide at its facility in Hot Springs, AR, and at a joint venture facility at Convent, LA, that recycles spent catalysts.[4] Like Gulf, it has contracted for Bear[5] to toll-process vanadium pentoxide into ferrovanadium.

Bear produces ferrovanadium at its plant in Butler, PA, using an *** in which it combines the vanadium pentoxide that is supplied to it by its tolling partners together with raw materials that it

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[1] No verification has been made with respect to ferrovanadium and none is anticipated given the company financial documents attached to questionnaire responses and the consistency of results of operations of each company. Of the four companies, only ***; the other companies reported on a calendar-year basis. Sales are reported on a delivered basis whereas shipments are reported on an f.o.b. basis, resulting in minor differences between sales and shipments.

[2] A fifth company, ISA, located in Edinburg, PA, provided limited data on its toll-production of ferrovanadium on behalf of Glencore. The company reported ***. The company stated that Glencore supplied it with vanadium pentoxide of ***. Its tolling results have not been consolidated with the other companies because they do not represent the full costs of production (e.g., raw materials costs are not provided), nor do they represent commercial sales to end users. Moreover, its tolling fees are not material to the results of the other companies with respect to ferrovanadium. ***.

[3] Shieldalloy's production process, which does not use vanadium pentoxide as its raw material input, is a modified 2-stage reduction process using various vanadium-containing raw materials. These include iron slag, residues from the refining of petrochemical products, and ash from the burning of fuel oil by electric utilities. Conference transcript, p. 19.

[4] In 1999, USV and CRI Metal Products (a wholly-owned member of the Royal Dutch/Shell Group) entered into a joint venture to construct a spent catalyst recovery plant, known as CS Metals, located at Convent, LA. Production at CS Metals is to supplement the production of vanadium pentoxide at USV's plant in Hot Springs, AR. See CRI International, Inc. press release, June 29, 1998. Although CS Metals reportedly started operations in 2000, ***. USV's producers' questionnaire, p. 13. According to a company spokesman, USV is the sole company that receives vanadium pentoxide from CS Metals. Conference transcript, p. 30, and petitioners' posthearing brief, p. 6, note 23.

[5] A spokesman for USV stated that the company ceased producing ferrovanadium at its plant in Niagara Falls, NY because it could not be as cost efficient as Bear's toll conversion. Likewise, a spokesman for Gulf stated that using Bear's conversion services *** is part of Gulf's business model to have an outlet to recycle spent hazardous waste. Bear's president also stated that his company's business model is to do conversion for others. Conference transcript, pp. 57-59. A copy of USV's tolling contract with Bear was provided in petitioners' posthearing brief, attachment E.

purchases ***. Its commercial shipments accounted for a *** on ferrovanadium, which are oriented toward tolling for other parties,[6] primarily Gulf and USV,[7] and Bear reportedly is the largest independent processor of ferroalloys in the United States. During the tolling process, Gulf and USV and other companies provide vanadium pentoxide to Bear for tolling and receive back ferrovanadium for sale to end users without relinquishing title to the contained vanadium. Bear arranges packaging in bags or cans marked with the tollee's name and the tollee arranges shipment to its customer. These tolling operations accounted for *** the commercial sales of ferrovanadium of the four companies. Bear also produces ferromolybdenum, which accounted for ***. Bear is owned *** and 49.5 percent by Gulf.

FERROVANADIUM OPERATIONS

The fully-consolidated results of operations of these four U.S. companies are presented in table VI-1.[8] Bear's own commercial sales to independent parties, ***, are included in the consolidated totals for the four companies; likewise, Bear's tolling costs relating to its processing on behalf of Gulf and USV are reflected in the consolidated results to achieve a fair presentation of the results as a whole by reflecting the full cost of production of ferrovanadium, and by matching sales revenues with full costs. Bear's operating profit has been deducted from the tolling costs reported in order to calculate the consolidated cost of goods sold. Complete individual firm data are shown in order to allow the disaggregation of any firm(s) from the consolidated industry group. Information regarding Bear's tolling operations is in appendix F. Likewise, combined financial data for commercial operations on ferrovanadium for Bear with Shieldalloy; the consolidation of Bear, Gulf, and Shieldalloy; and the combined commercial results of Gulf and USV (including the full costs of Bear's toll conversion processing) are presented in appendix F.[9]

Table VI-1
Ferrovanadium: Consolidated results of operations of Bear, Gulf, Shieldalloy, and USV, fiscal years 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

[6] In its questionnaire response, Bear described itself as ***. Producers' questionnaire response, p. 7.

[7] Conference transcript, p. 11. Bear provided data on its tolling for each of its partners during the periods investigated. Besides Gulf and USV, which accounted for ***, Bear provided tolling services to ***. There are differences of up to ***.

[8] This presentation of the consolidated financial experience of Shieldalloy, toller Bear, and tollees Gulf and USV views the results of financial operations from the total perspective of an operating income statement -- production to the gross profit level and distribution to the operating income level -- including all related sales revenues, production costs, and distribution expenses to unrelated purchasers. Matching revenue with the full costs of production, including raw materials, labor, and other production-related costs as well as selling, general, and administrative expenses, is a basic tenet of generally accepted accounting principles (GAAP). This approach is also consistent with that used in other parts of this report where aggregate data include tollee operations (apparent consumption, market shares, pricing, and the like).

[9] Respondents argue that the Commission should not consider the financial performance of Gulf and USV, characterizing the production-related activities of those two companies as "merely supply{ing} the raw materials and pay{ing} a fabrication fee;" and, "the only activity...{they} conduct...is sales of finished ferrovanadium." Hearing transcript, pp. 117-118. Petitioners discuss the production-related activities of Gulf and USV extensively in their prehearing brief, pp. 4-12, and in their posthearing brief, pp. 5-6.

The quantity and value of sales fell between 1999 and 2001; the combined operating losses improved irregularly during that period, but increased between January-June 2001 and the same period in 2002. These changes in operating and net income were due primarily to lower volume and decreased average unit sales values. Total COGS also decreased during this period because of the lower quantity of sales and decreased unit costs of raw materials, while overhead production costs ("other factory costs") increased due to increased downtime[10] and higher costs for reagents and natural gas.[11] The unit value of COGS is shown in table VI-2 by company.

Table VI-2
Ferrovanadium: Unit values of cost of goods sold, by firms, fiscal years 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

Tables VI-3 through VI-6 present the results of operations by firm. These data are consistent with those in table VI-1.

Table VI-3
Ferrovanadium: Results of operations of Bear on its commercial sales, fiscal years 1999-2001, December 2000-May 2001, and December 2001-May 2002

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Table VI-4
Ferrovanadium: Results of operations of Gulf, fiscal years 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

Table VI-5
Ferrovanadium: Results of operations of Shieldalloy, fiscal years 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

Table VI-6
Ferrovanadium: Results of operations of USV, fiscal years 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

Changes in the companies' operating income are further evidenced by a variance analysis that shows the effects of price and volume changes on their net sales of ferrovanadium, and of costs and volume changes on their total costs (table VI-7). This analysis shows that the decline in the combined

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[10] See production cost reports attached to ***, for example.

[11] Reagents and natural gas are consumed in the hydrometallurgical process of leaching and roasting spent catalysts to produce vanadium pentoxide. These costs rose significantly during 2000-01. Moreover, ***, this may explain some of the differences in costs. Telephone conversation with ***, on September 16, 2002.

firms' operating loss of $4.3 million between 1999 and 2001 was due predominantly to an unfavorable price variance while variances on volume and net cost/expense were favorable. Between 2000 and 2001, the unfavorable price variance also was larger than favorable variances of net cost/expense and volume. Between January-June 2001 and the same period in 2002, an unfavorable price variance offset a favorable variance on net cost/expense.

Table VI-7
Ferrovanadium: Variance analysis, fiscal years 1999-2001, and January-June 2001-2002

* * * * * * *

INVESTMENT IN PRODUCTIVE FACILITIES, CAPITAL EXPENDITURES, AND RESEARCH AND DEVELOPMENT EXPENSES

Capital expenditures and the value of fixed assets, by firm, are shown in table VI-8, as is the value of total research and development ("R&D") expenses. U.S. producers have invested in plant and equipment, as they testified at the staff conference, allowing them to utilize lower cost raw materials,[12] which are seen in these firms' favorable variances on cost of sales, for example.

Table VI-8
Ferrovanadium: Value of assets, capital expenditures, and R&D expenses of Bear, Gulf, Shieldalloy, and USV, fiscal years 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

CAPITAL AND INVESTMENT

The Commission requested firms that responded to the U.S. producers' questionnaire to describe any actual or potential negative effects of imports of ferrovanadium from China and South Africa on their firms' growth, investment, and ability to raise capital or development and production efforts (including efforts to develop a derivative or more advanced version of the product). The responses of Bear, Gulf, Shieldalloy, and USV are shown in appendix G.

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[12] Conference transcript, p. 22, and *** in Shieldalloy's questionnaire response. Shieldalloy also has incurred expenses for environmental remediation for decommissioning waste piles of slag at its plant in Cambridge, OH, as a settlement obligation to the Ohio EPA. The yearly expenses are shown as a deduction for calculating operating income; it also has accrued additional balance sheet liabilities of $10.9 million which are expected to be expended during the five years beginning in 2002. As an accounting issue, these liabilities are accrued when incurrence is probable and the amounts may reasonably be estimated, usually at the time when the remediation study is completed, and they are not discounted to present value; recoveries from other parties are not recognized realized. With respect to these liabilities, Cyprus Foote Mineral Co., the former owner of the Cambridge, OH plant, "has agreed to provide a substantial portion of the financial assurance required by the State of Ohio." Shieldalloy has purchased an annuity contract which reportedly will provide the maintenance and operating funds for the site remediation efforts for the next 100 years. Metallurg 2001 Form 10-K, pp. 15, 21-22, 30, and 48-49. It should be noted that the coverage, focus, and projected cost of these activities differ significantly from that indicated in respondents' prehearing brief, p. 29.

PART VII: THREAT CONSIDERATIONS

The Commission analyzes a number of factors in making threat determinations (see 19 U.S.C. § 1677(7)(F)(I)). Information on the volume and pricing of imports of the subject merchandise is presented in Parts IV and V and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in Part VI. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows.

THE INDUSTRY IN CHINA

Three firms are identified in the petition as principal producers in China of ferrovanadium. They are Chengde Xinghua Vanadium Chemical Co., Ltd. ("Chengde"); Jinzhou Ferroalloy (Group) Co., Ltd. ("Jinzhou");[1] and Panzhihua Iron & Steel Group ("Panzhihua").[2] Both Chengde and Panzhihua provided the Commission with information in the Commission's foreign producers' questionnaire on their operations pertaining to ferrovanadium. Together, these two firms estimate that they accounted for *** percent of China's total ferrovanadium production in 2001.[3] [4] Based on Chinese export statistics, Panzhihua accounted for nearly all ferrovanadium exported directly from China to the United States.[5] The Commission's foreign producers' questionnaire asked firms to indicate what percentage of their firm's total sales in its most recent fiscal year was represented by sales of ferrovanadium. Chengde provided no response. Panzhihua, on the other hand, indicated that sales of ferrovanadium represented *** percent of its total establishment sales in its most recent fiscal year.[6]

Data pertaining to Chengde and Panzhihua's combined ferrovanadium operations in China are shown in table VII-1.[7] These data generally show decreasing trends in production capacity, production, total exports, and total shipments between 1999 and 2001. The firms' sales of ferrovanadium in the

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[1] Jinzhou's annual capacity to produce ferrovanadium is reportedly 4,000 metric tons (4,409 short tons). *Www.jzthj.com.cn/english/english.htm.*

[2] The 1998 edition of the Ferro-Alloy Directory and Databook, 5th ed., identify 91 firms as being Chinese producers of ferroalloys. Of the 91 firms, only five were specifically identified as producers of ferrovanadium. These five firms included: Emei Ferroalloy Joint-Stock Co., Ltd.; Emeishan Aluminium Industry Ferroalloy Clique Co., Ltd.; Hebei Chengde General Chemical Plant; Jinzhou Ferro-Alloy (Group) Co., Ltd.; and Metalink International Co., Ltd. Emei Ferroalloy Joint-Stock Co., Ltd., is listed in the directory as having ferrovanadium capacity of 1,200 tons annually, and Hebei Chengde General Chemical Plant is listed as having ferrovanadium output in 1997 of 1,000 tons. No ferrovanadium capacity data or production output data are mentioned for any of the other firms.

[3] Chengde estimated that its production amounted to *** percent of China's total ferrovanadium production, and Panzhihua estimated that its production amounted to *** percent of total production.

[4] According to testimony presented at the Commission's hearing, Chengde and Panzhihua also account for the vast majority of China's production of vanadium raw material, i.e., vanadium pentoxide. Reportedly, there are other companies in China that merely process ferrovanadium from raw materials that they obtain from Chengde and Panzhihua. Because these firms are dependent on Chengde and Panzhihua for the raw material, their production of ferrovanadium is deemed to be somewhat limited. (See hearing transcript, pp. 134 and 135.)

[5] Hearing transcript, p. 134.

[6] The Panzhihua group of companies are significant steel producers in China.

[7] Some reported exports to non-U.S. markets may subsequently have been sold by traders into the U.S. market; respondents' prehearing brief, p. 4.

Table VII-1
Ferrovanadium: Chengde's and Panzhihua's combined production capacity, production, shipments, and inventories, 1999-2001, January-June 2001, January-June 2002, and projected 2002-03

* * * * * * *

Chinese market increased by *** percent over the same period. Between the interim periods, capacity was unchanged, production was up by *** percent, home market sales rose by *** percent, total exports fell by *** percent, and total shipments increased by *** percent. Both firms ***. According to testimony presented at the Commission's hearing, Panzhihua's exports to the United States have decreased significantly since 2001 and are expected to continue to decrease as the firm seeks to keep pace with the rise in ferrovanadium demand in its home market.[8]

THE INDUSTRY IN SOUTH AFRICA

To the best of petitioners' knowledge, there are two producers of ferrovanadium in South Africa that export significant quantities of ferrovanadium to the United States. The two producers are identified as Highveld Steel & Vanadium Corp., Ltd. ("Highveld"), and Xstrata South Africa (Pty) Ltd. ("Xstrata").[9] The petition makes mention of a third South African producer of ferrovanadium, Vametco Minerals Corp. ("Vametco"), but minimizes its importance by stating that the company has exported only insignificant quantities of ferrovanadium to the United States ***.[10] The Commission received completed foreign producers' questionnaire responses from all three firms. Aggregate data for the three firms are shown in table VII-2. Reported exports to the United States exceeded official U.S. imports in 1999 *** in 2001.

Table VII-2
Ferrovanadium: South Africa's production capacity, production, shipments, and inventories, 1999-2001, January-June 2001, January-June 2002, and projected 2002-03

* * * * * * *

Between them, Highveld and Xstrata estimate that they account for about *** percent of total ferrovanadium production in South Africa and for about *** percent of all ferrovanadium exports from South Africa to the United States. In terms of ferrovanadium's contribution to total establishment sales, Highveld estimates that ferrovanadium accounted for *** percent of its total establishment sales in its most recent fiscal year, while Vametco and Xstrata estimated their percentage of ferrovanadium sales to total sales as *** percent and *** percent, respectively, in each of their most recent fiscal years. When asked in the Commission's questionnaire to describe any plans to add, expand, curtail, or shut down production capacity and/or production of ferrovanadium in South Africa, Highveld and Xstrata responded as follows:

* * * * * * *

[8] Hearing transcript, p. 137.

[9] Petition, p. 25.

[10] Id., p. 26.

Due largely to ***, South African ferrovanadium producers experienced *** increases in production capacity, production, and shipments over the period for which the Commission requested information.[11] Aggregate production capacity rose by *** percent between 1999 and 2001 and increased by *** percent between the interim periods. Aggregate production increased by *** percent over the earlier period and rose by *** percent between the interim periods. Similarly, total exports rose by *** percent from 1999 to 2001 and increased by *** percent from interim 2001 to interim 2002. Exports to the United States *** between 1999 and 2001 but decreased by *** percent between the interim periods. As a share of total shipments, exports to the United States increased from *** percent of the total in 1999 to *** percent in 2001 and decreased from *** percent in interim 2001 to *** percent in interim 2002. With the exception of ***, South African producers generally expect *** from their ferrovanadium operations in 2003 as compared with projected full-year 2002 results.[12]

U.S. IMPORTERS' INVENTORIES

Data on U.S. importers' end-of-period inventories of imported ferrovanadium are shown in table VII-3. The data are for seven firms that reported having inventories of ferrovanadium during the period for which the Commission requested information. Four firms reported inventories of imported Chinese ferrovanadium, while two reported having inventories of the subject product produced in South Africa. The combined volume of U.S. importers' inventories of Chinese and South African ferrovanadium rose by *** percent from yearend 1999 to yearend 2001 and decreased by *** percent from June 30, 2001, to June 30, 2002. The combined ratio of inventories to imports fluctuated from a low of *** percent in 2000 to a high of *** percent in 2001. South African ferrovanadium accounted for *** of U.S. importers' inventories in 1999 and 2001, and inventories of Chinese and South African product were *** in the interim 2002 period.

U.S. IMPORTERS' CURRENT ORDERS

In the Commission's questionnaire, U.S. importers were asked if they had imported or arranged for the importation of ferrovanadium from China or South Africa for delivery after June 30, 2002. No firm responded in the affirmative to this question.

ANTIDUMPING DUTY ORDERS IN THIRD-COUNTRY MARKETS

U.S. importers reported that they have no knowledge that ferrovanadium has been the subject of any import relief investigations in any other country. As for the United States, there is currently an antidumping duty order in effect with respect to ferrovanadium and nitrided vanadium from Russia.[13]

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[11] Due to the construction of a new ferrovanadium production facility and improvements in efficiency and recovery, Xstrata's production capability increased *** between 1999 and 2001. Its production over the same period *** percent. ***.

[12] In its posthearing brief, respondent Xstrata stated that it has no plans to expand ferrovanadium production or to increase ferrovanadium exports to the United States. Furthermore, Xstrata states that ***. (Posthearing brief, p. 14.)

[13] See the Commission's public report *Ferrovanadium and Nitrided Vanadium from Russia* (Inv. No. 731-TA-702 (Review)), USITC Pub. 3420, May 2001.

Table VII-3
Ferrovanadium: U.S. importers' end-of-period inventories of imports from China, South Africa, and all other sources, 1999-2001, January-June 2001, and January-June 2002

Item/source	Calendar year			January-June	
	1999	2000	2001	2001	2002
Imports from China:					
Inventories (*1,000 pounds of contained vanadium*)	***	***	***	***	***
Ratio to imports[1] (*percent*)	***	***	***	***	***
Ratio to U.S. shipments of imports[1] (*percent*)	***	***	***	***	***
Imports from South Africa:					
Inventories (*1,000 pounds of contained vanadium*)	***	***	***	***	***
Ratio to imports[1] (*percent*)	***	***	***	***	***
Ratio to U.S. shipments of imports[1] (*percent*)	***	***	***	***	***
Imports from subject sources:					
Inventories (*1,000 pounds of contained vanadium*)	***	***	***	***	***
Ratio to imports[1] (*percent*)	***	***	***	***	***
Ratio to U.S. shipments of imports[1] (*percent*)	***	***	***	***	***
Imports from all other sources:					
Inventories (*1,000 pounds of contained vanadium*)	***	***	***	***	***
Ratio to imports[1] (*percent*)	***	***	***	***	***
Ratio to U.S. shipments of imports[1] (*percent*)	***	***	***	***	***
Imports from all sources:					
Inventories (*1,000 pounds of contained vanadium*)	627	705	1,257	670	1,980
Ratio to imports[1] (*percent*)	23.8	16.4	28.1	16.9	32.7
Ratio to U.S. shipments of imports[1] (*percent*)	25.2	17.5	32.1	16.7	46.3

[1] Calculated from the data of firms that supplied both numerator and denominator data.
[2] Not applicable.

Note.–Partial-year ratios are calculated using annualized import data.

Source: Compiled from data submitted in response to Commission questionnaires.

APPENDIX A

FEDERAL REGISTER NOTICES

INTERNATIONAL TRADE COMMISSION

[Investigations Nos. 731–TA–986 and 987 (Final)]

Ferrovanadium From China and South Africa

AGENCY: International Trade Commission.

ACTION: Scheduling of the final phase of antidumping investigations.

SUMMARY: The Commission hereby gives notice of the scheduling of the final phase of antidumping investigations Nos. 731–TA–986 and 987 (Final) under section 735(b) of the Tariff Act of 1930 (19 U.S.C. 1673d(b)) (the Act) to determine whether an industry in the United States is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of less-than-fair-value imports from China and South Africa of ferrovanadium, provided for in subheading 7202.92.00 of the Harmonized Tariff Schedule of the United States.[1]

For further information concerning the conduct of this phase of the investigations, hearing procedures, 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 and C (19 CFR part 207).

EFFECTIVE DATE: July 8, 2002.

FOR FURTHER INFORMATION CONTACT: Woodley Timberlake (202–205–3188), 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*). The public record for these investigations may be viewed on the Commission's electronic docket (EDIS–ON-LINE) at *http://dockets.usitc.gov/eol/public.*

SUPPLEMENTARY INFORMATION:

Background.—The final phase of these investigations is being scheduled as a result of affirmative preliminary determinations by the Department of Commerce that imports of ferrovanadium from China and South Africa are being sold in the United

[1] For purposes of these investigations, the Department of Commerce has defined the subject merchandise as all ferrovanadium produced in China and South Africa, regardless of the grade, chemistry, form, shape, or size. Ferrovanadium is an alloy of iron and vanadium that is used chiefly as an additive in the manufacture of steel. The merchandise is commercially and scientifically identified as ferrovanadium. The scope of these investigations specifically excludes vanadium additives other than ferrovanadium, such as nitrided vanadium, vanadium-aluminum master alloys, vanadium chemicals, vanadium oxides, vanadium waste and scrap, and vanadium-bearing raw materials such as slag, boiler residues, and fly ash. Merchandise classifiable in the Harmonized Tariff Schedule of the United States subheadings 2850.00.20, 8112.40.30, and 8112.40.60 is specifically excluded.

States at less than fair value within the meaning of section 733 of the Act (19 U.S.C. 1673b). The investigations were requested in a petition filed on November 26, 2001, by the Ferroalloys Association Vanadium Committee and its members: Bear Metallurgical Co., Butler, PA; CS Metals of Louisiana LLC, Convent, LA; Gulf Chemical & Metallurgical Corp., Freeport, TX; Shieldalloy Metallurgical Corp., Cambridge, OH; and U.S. Vanadium Corp., Danbury, CT.

Participation in the investigations and public service list.—Persons, including industrial users of the subject merchandise and, if the merchandise is sold at the retail level, representative consumer organizations, wishing to participate in the final phase of these investigations as parties must file an entry of appearance with the Secretary to the Commission, as provided in section 201.11 of the Commission's rules, no later than 21 days prior to the hearing date specified in this notice. A party that filed a notice of appearance during the preliminary phase of the investigations need not file an additional notice of appearance during this final phase. The Secretary will maintain a public service list containing the names and addresses of all persons, or their representatives, who are parties to the investigations.

Limited disclosure of business proprietary information (BPI) under an administrative protective order (APO) and BPI service list.—Pursuant to section 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in the final phase of these investigations available to authorized applicants under the APO issued in the investigations, provided that the application is made no later than 21 days prior to the hearing date specified in this notice. Authorized applicants must represent interested parties, as defined by 19 U.S.C. 1677(9), who are parties to the investigations. A party granted access to BPI in the preliminary phase of the investigations need not reapply for such access. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

Staff report.—The prehearing staff report in the final phase of these investigations will be placed in the nonpublic record on November 8, 2002, and a public version will be issued thereafter, pursuant to section 207.22 of the Commission's rules.

Hearing.—The Commission will hold a hearing in connection with the final phase of these investigations beginning at 9:30 a.m. on November 22, 2002, at the U.S. International Trade Commission Building. Requests to appear at the hearing should be filed in writing with the Secretary to the Commission on or before November 12, 2002. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the hearing. All parties and nonparties desiring to appear at the hearing and make oral presentations should attend a prehearing conference to be held at 9:30 a.m. on November 15, 2002, at the U.S. International Trade Commission Building. Oral testimony and written materials to be submitted at the public hearing are governed by sections 201.6(b)(2), 201.13(f), and 207.24 of the Commission's rules. Parties must submit any request to present a portion of their hearing testimony *in camera* no later than 7 days prior to the date of the hearing.

Written submissions.—Each party who is an interested party shall submit a prehearing brief to the Commission. Prehearing briefs must conform with the provisions of section 207.23 of the Commission's rules; the deadline for filing is November 18, 2002. Parties may also file written testimony in connection with their presentation at the hearing, as provided in section 207.24 of the Commission's rules, and posthearing briefs, which must conform with the provisions of section 207.25 of the Commission's rules. The deadline for filing posthearing briefs is December 3, 2002; witness testimony must be filed no later than three days before the hearing. In addition, any person who has not entered an appearance as a party to the investigations may submit a written statement of information pertinent to the subject of the investigations on or before December 3, 2002. On December 16, 2002, the Commission will make available to parties all information on which they have not had an opportunity to comment. Parties may submit final comments on this information on or before December 18, 2002, but such final comments must not contain new factual information and must otherwise comply with section 207.30 of the Commission's rules. All written submissions must conform with the provisions of section 201.8 of the Commission's rules; any submissions that contain BPI must also 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 201.16(c) and 207.3 of the Commission's rules, each document filed by a party to the investigations must be served on all other parties to the investigations (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.

Authority: These investigations are being conducted under authority of title VII of the Tariff Act of 1930; this notice is published pursuant to section 207.21 of the Commission's rules.

Issued: July 23, 2002.

By order of the Commission.

Marilyn R. Abbott,

Secretary to the Commission.

[FR Doc. 02–19026 Filed 7–26–02; 8:45 am]

BILLING CODE 7020–02–P

DEPARTMENT OF COMMERCE

International Trade Administration

[A-791-815]

Notice of Final Determination of Sales at Less Than Fair Value: Ferrovanadium from the Republic of South Africa

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

ACTION: Notice of Final Determination of Sales at Less Than Fair Value.

EFFECTIVE DATE: November 29, 2002.

FOR FURTHER INFORMATION CONTACT: Crystal Crittenden or Mark Manning at (202) 482-0989 or (202) 482-5253, respectively; AD/CVD Enforcement, Office IV, Group II, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC 20230.

SUPPLEMENTARY INFORMATION:

The Applicable Statute and Regulations

Unless otherwise indicated, all citations to the statute are references to the provisions effective January 1, 1995, the effective date of the amendments made to the Tariff Act of 1930, as amended (the Act), by the Uruguay Round Agreements Act (URAA). In addition, unless otherwise indicated, all citations to the Department of Commerce's (the Department's) regulations refer to the regulations codified at 19 CFR part 351 (April 2002).

Final Determination

We determine that ferrovanadium from the Republic of South Africa (South Africa) is being sold, or is likely to be sold, in the United States at less than fair value (LTFV), as provided in section 735 of the Act. The estimated margins of sales at LTFV are shown in the *Final Determination of Investigation* section of this notice.

Background

On June 25, 2002, the Department preliminarily determined that imports of ferrovanadium from South Africa are being, or are likely to be, sold in the United States at LTFV, as provided in section 733 of the Act. *See Notice of Preliminary Determination of Sales at Less Than Fair Value and Postponement of Final Determination: Ferrovanadium from the Republic of South Africa*, 67 FR 45083 (July 8, 2002) (*Preliminary Determination*). Since the preliminary determination, the following events have occurred.

On July 9, 2002, one of the respondents, Xstrata South Africa (Proprietary) Limited (Xstrata), timely filed an allegation that the Department made several ministerial errors in its preliminary determination. In addition, during July 2002, Xstrata and Highveld Steel and Vanadium Corporation, Ltd. (Highveld), the other respondent in this investigation, separately submitted letters refusing to allow the Department to verify their responses. On September 12, 2002, the Department found that the preliminary determination contained certain ministerial errors. *See Notice of Amended Preliminary Determination of Sales at Less Than Fair Value; Ferrovanadium from the Republic of South Africa*, 67 FR 59050 (September 19, 2002). The petitioners[1] filed their case brief on September 26, 2002. The respondents did not file case or rebuttal briefs.

Scope of The Investigation

The scope of this investigation covers all ferrovanadium regardless of grade, chemistry, form, shape, or size. Ferrovanadium is an alloy of iron and vanadium that is used chiefly as an additive in the manufacture of steel. The merchandise is commercially and scientifically identified as vanadium. It specifically excludes vanadium additives other than ferrovanadium, such as nitride vanadium, vanadium-aluminum master alloys, vanadium chemicals, vanadium oxides, vanadium waste and scrap, and vanadium-bearing raw materials such as slag, boiler residues and fly ash. Merchandise under the following Harmonized Tariff Schedule of the United States (HTSUS) item numbers 2850.00.2000, 8112.40.3000, and 8112.40.6000 are specifically excluded. Ferrovanadium is classified under HTSUS item number 7202.92.00. Although the HTSUS item number is provided for convenience and Customs purposes, the Department's written description of the scope of this proceeding remains dispositive.

Period of Investigation (POI)

The POI is October 1, 2000, through September 30, 2001.

Analysis of Comments Received

All issues raised in the case and rebuttal briefs by parties to this proceeding and to which we have responded are listed in the Appendix to this notice and addressed in the Memorandum from Bernard T. Carreau to Faryar Shirzad, Issues and Decision Memorandum for the Antidumping Duty Investigation of Ferrovanadium from the Republic of South Africa, (*Decision Memorandum*), dated concurrently with this notice, which is hereby adopted by this notice. Parties can find a complete discussion of the issues raised in this proceeding and the corresponding recommendations in this public memorandum which is on file in the Central Records Unit (CRU), room B-099, of the main Department building. In addition, a complete version of the *Decision Memorandum* can be accessed directly on the Web at *http://ia.ita.doc.gov*. The paper copy and electronic version of the *Decision Memorandum* are identical in content.

Use of Total Adverse Facts Available

We have assigned Highveld and Xstrata a margin based upon total adverse facts available because they refused to allow the Department to verify their responses. We are using as total adverse facts available the initiation rate of 116.00 percent, which is based on information contained in the petition. For a discussion of our application of total adverse facts available, see the *Decision Memorandum* which is on file in the CRU. In addition, see the Memorandum from Mark Manning to Holly A. Kuga regarding corroboration of secondary information used as total adverse facts available, dated concurrently with this notice.

[1] The petitioners in this case are The Ferroalloys Association Vanadium Committee (TFA Vanadium Committee) and its members: Bear Metallurgical Company, Shieldalloy Metallurgical Corporation, Gulf Chemical & Metallurgical Corporation, U.S. Vanadium Corporation, and CS Metals of Louisiana LLC.

Changes Since the Preliminary Determination

The Department was unable to verify the information placed on the record of this investigation by the respondents because they did not allow the Department to conduct sales and cost verifications. Therefore, rather than using the reported information which we could not verify to calculate margins for the respondents, as was done in the preliminary determination, we are basing the dumping margin for Highveld and Xstrata upon total adverse facts available.

All Others Rate

Section 735(c)(5)(B) of the Act provides that, where the estimated weighted-average dumping margins established for all exporters and producers individually investigated are zero or *de minimis* margins, or are determined entirely under section 776 of the Act, the Department may use any reasonable method to establish the estimated "all others" rate for exporters and producers not individually investigated. This provision contemplates that the Department may weight-average margins other than the zero, *de minimis*, or facts available margins to establish the "all others" rate. When the data do not permit weight-averaging such other margins, the Statement of Administrative Action (SAA) provides that the Department may use any other reasonable methods. *See* the SAA accompanying the URAA, H.R. Rep. No. 103–316 at 873 (1994). Because the petition contained only one estimated dumping margin, there are no additional estimated margins available with which to create the "all others" rate. Therefore, we are using the initiation margin of 116 percent as the "all others" rate.

Continuation of Suspension of Liquidation

Pursuant to section 735(c)(1)(B) of the Act, we are instructing the U.S. Customs Service (Customs) to continue to suspend liquidation of all entries of ferrovanadium from South Africa that are entered, or withdrawn from warehouse, for consumption on or after July 8, 2002 (the date of publication of the *Preliminary Determination* in the **Federal Register**). Customs shall continue to require a cash deposit or the posting of a bond equal to the estimated amount by which the normal value exceeds the U.S. price as shown below. The suspension of liquidation instructions will remain in effect until further notice.

Final Determination of Investigation

We determine that the following weighted-average percentage margins exist for the period October 1, 2000, through September 30, 2001:

Manufacturer/exporter	Margin (percent)
Highveld Steel and Vanadium Corporation, Ltd.	116.00
Xstrata South Africa (Proprietary) Limited	116.00
All Others	116.00

International Trade Commission Notification

In accordance with section 735(d) of the Act, we have notified the International Trade Commission (ITC) of our determination. As our final determination is affirmative, the ITC will determine, within 45 days, whether these imports are causing material injury, or threat of material injury, to an industry in the United States. If the ITC determines that material injury, or threat of injury, does not exist, the proceeding will be terminated and all securities posted will be refunded or canceled. If the ITC determines that such injury does exist, the Department will issue an antidumping order directing Customs officials to assess antidumping duties on all imports of the subject merchandise entered, or withdrawn from warehouse, for consumption on or after the effective date of the suspension of liquidation.

Notification Regarding Administrative Protective Order (APO)

This notice also serves as a reminder to parties subject to APO of their responsibility concerning the disposition of proprietary information disclosed under APO in accordance with 19 CFR 351.305. Timely notification of return/destruction of APO materials or conversion to judicial protective order is hereby requested. Failure to comply with the regulations and the terms of an APO is a sanctionable violation.

This determination is issued and published in accordance with sections 735(d) and 777(i)(1) of the Act.

Dated: November 20, 2002.

Bernard Carreau,

Acting Assistant Secretary for Import Administration.

Appendix Issues in Decision Memorandum

1. Application of Total Adverse Facts Available new file.

[FR Doc. 02–30305 Filed 11–27–02; 8:45 am]

BILLING CODE 3510–DS–S

DEPARTMENT OF COMMERCE

International Trade Administration

[A–570–873]

Notice of Final Determination of Sales at Less Than Fair Value: Ferrovanadium from the People's Republic of China

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

ACTION: Notice of Final Determination of Sales at Less Than Fair Value.

EFFECTIVE DATE: November 29, 2002.

FOR FURTHER INFORMATION CONTACT: Karine Gziryan or Howard Smith, AD/CVD Enforcement, Office 4, Group II, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, N.W., Washington, DC 20230; telephone: (202) 482–4081, and (202) 482–5193, respectively.

SUPPLEMENTARY INFORMATION:

The Applicable Statute and Regulations

Unless otherwise indicated, all citations to the statute are references to the provisions effective January 1, 1995, the effective date of the amendments made to the Tariff Act of 1930, as amended (the Act), by the Uruguay Round Agreements Act (URAA). In addition, unless otherwise indicated, all citations to the Department of Commerce's regulations refer to the regulations codified at 19 CFR part 351 (April 2002).

Final Determination

We determine that ferrovanadium from the People's Republic of China (PRC) is being sold, or is likely to be sold, in the United States at less than fair value (LTFV), as provided in section 735 of the Act. The estimated margins of sales at LTFV are shown in the *Final Determination of Investigation section of this notice.*

Background

On July 8, 2002, the Department of Commerce (the Department) published the preliminary determination of sales at less-than-fair-value in the antidumping duty investigation of ferrovanadium from the PRC. *See Notice of Preliminary Determination of Sales at Less Than Fair Value and Postponement of Final Determination: Ferrovanadium from the People's Republic of China*, 67 FR 45088 (July 8, 2002) (*Preliminary Determination*). Since the preliminary determination, the following events have occurred.

On July 17, 2002, the respondent, Pangang Group International Economic and Trading Corporation (Pangang), reported for the first time that one of its affiliates for which it had not reported factors of production information had produced ferrovanadium during the period of investigation (POI). However, in its July 17 submission, Pangang noted that none of the ferrovanadium produced by this company was sold or exported to the United States during the POI. In response to Pangang's July 17 submission, on July 19, 2002, the Department issued a memorandum to the file noting that we require Pangang to report factors of production only from the factory or factories which produced ferrovanadium that was sold to customers in the United States during the POI.

During July 2002, the Department conducted a verification of Pangang's sales and factors of production information. *See* Memorandum from Timothy P. Finn and Karine Gziryan to the File, "Verification of Sales and Factors of Production Information Reported By Pangang Group International Economic & Trading Corporation," dated September 24, 2002. On July 15, 2002, Pangang filed a request for a public hearing in this investigation. However, no hearing was held in this investigation because Pangang withdrew its request for a hearing on September 30, 2002. Both the petitioners and Pangang filed surrogate value information and data on August 26, 2002.[1] On September 5, 2002, Pangang filed information purportedly rebutting petitioners' August 26 factor value submission. On September 24, 2002, the Department rejected Pangang's September 5 rebuttal submission as untimely filed factual information.

Parties filed case and rebuttal briefs on October 1 and October 7, 2002, respectively. Pursuant to the Department's instructions, the petitioners removed certain untimely filed factual information from their rebuttal brief and resubmitted it on November 12, 2002.

Scope of the Investigation

The scope of this investigation covers all ferrovanadium regardless of grade, chemistry, form, shape, or size. Ferrovanadium is an alloy of iron and vanadium that is used chiefly as an additive in the manufacture of steel. The merchandise is commercially and scientifically identified as vanadium. It specifically excludes vanadium additives other than ferrovanadium, such as nitride vanadium, vanadium-aluminum master alloys, vanadium chemicals, vanadium oxides, vanadium waste and scrap, and vanadium-bearing raw materials such as slag, boiler residues and fly ash. Merchandise under the following Harmonized Tariff Schedule of the United States (HTSUS) item numbers 2850.00.2000, 8112.40.3000, and 8112.40.6000 are specifically excluded. Ferrovanadium is classified under HTSUS item number 7202.92.00. Although the HTSUS item number is provided for convenience and Customs purposes, the Department's written description of the scope of this investigation remains dispositive.

Period of Investigation

The POI is April 1, 2001, through September 30, 2001.

Analysis of Comments Received

All issues raised in the case and rebuttal briefs by parties to this proceeding and to which we have responded are listed in the Appendix to this notice and addressed in the Memorandum from Holly A. Kuga to Bernard T. Carreau, "Issues and Decision Memorandum for the Antidumping Duty Investigation of Ferrovanadium from the People's Republic of China," dated concurrently with this notice (*Decision Memorandum*), which is hereby adopted by this notice. Parties can find a complete discussion of the issues raised in this investigation and the corresponding recommendations in this public memorandum which is on file in the Central Records Unit (CRU), room B–099 of the main Department building. In addition, a complete version of the *Decision Memorandum* can be accessed directly on the Web at *http://ia.ita.doc.gov*. The paper copy and electronic version of the *Decision Memorandum* are identical in content.

Non-Market Economy

The Department has treated the PRC as a non-market economy (NME) country in all its past antidumping investigations. *See Notice of Final Determination of Sales at Less Than Fair Value: Honey from the People's Republic of China*, 66 FR 50608 (October 4, 2001); *Notice of Final Determination of Sales at Less Than Fair Value: Certain Folding Gift Boxes from the People's Republic of China*, 66 FR 58115 (November 20, 2001). A designation as an NME country remains in effect until it is revoked by the Department. *See* section 771(18)(C) of the Act. The respondent in this investigation has not requested a revocation of the PRC's NME status. Therefore, we have continued to treat the PRC as a NME in this investigation. For further details, *see* the *Preliminary Determination*.

Separate Rates

In our Preliminary Determination, we found that the only responding company, Pangang, met the criteria for the application of separate, company-specific antidumping duty rates. We have not received any other information since the preliminary determination which would warrant reconsideration of our separates rates determination with respect to this company. For a complete discussion of the Department's determination that the respondent is entitled to a separate rate, *see* the *Preliminary Determination*.

The PRC-Wide Rate

In the *Preliminary Determination*, we found that the use of adverse facts available for the PRC-wide rate was appropriate for other exporters in the PRC based on our presumption that those respondents who failed to demonstrate entitlement to a separate rate constitute a single enterprise under common control by the Chinese government. The PRC-wide rate applies to all entries of the merchandise under investigation except for entries from Pangang.

When analyzing the petition for purposes of the initiation, the Department reviewed all of the data upon which the petitioners relied in calculating the estimated dumping margin and determined that the margin in the petition was appropriately calculated and supported by adequate evidence in accordance with the statutory requirements for initiation. In order to corroborate the petition margin for purposes of using it as adverse facts available, we examined the price and cost information provided in the petition in the context of our preliminary determination. For further details, *see* Memorandum from Mark Manning to Holly A. Kuga, "Corroboration of Secondary Information," dated June 25, 2002. We received no comments on this decision and continue to find in this final determination that the rate contained in the petition, as recalculated, has probative value. Since we have received no comments regarding our decision to apply, as adverse facts available, the PRC-wide rate to all entries of the merchandise under investigation except for entries from Pangang, we have

[1] The petitioners in this case are the Ferroalloys Association Vanadium Committee (TFA Vanadium Committee) and its members: Bear Metallurgical Company, Shieldalloy Metallurgical Corporation, Gulf Chemical & Metallurgical Corporation, U.S. Vanadium Corporation, and CS Metals of Louisiana LLC.

continued to apply this rate in the final determination. For further discussion, *see Preliminary Determination.*

Since the preliminary determination, we have obtained new information regarding several surrogate values. In order to take into account the more recent information, we recalculated the petition margin using, where possible, revised surrogate values to value the petitioners' consumption rates. As a result of this recalculation, the PRC-wide rate is, for the final determination, 66.71 percent. *See* Memorandum from Mark Manning to the File, "Corroboration of Secondary Information," dated November 20, 2002.

Surrogate Country

For purposes of the final determination, we continue to find that South Africa remains the appropriate surrogate country for the PRC. We received comments from the petitioners in their brief, which are discussed in the accompanying *Decision Memorandum* at Comment 6. For further discussion and analysis regarding the surrogate country selection for the PRC, *see* the *Preliminary Determination.*

Verification

As provided in section 782(i) of the Act, we verified the information submitted by the respondent for use in our final determination. We used standard verification procedures including examination of relevant accounting and production records, and original source documents provided by the respondents. For changes from the Preliminary Determination as a result of verification, *see* the *Changes Since the Preliminary Determination* section below.

Changes Since the Preliminary Determination

Based on our findings at verification and on our analysis of the comments received, we have made adjustments to the calculation methodologies used in the preliminary determination. These adjustments are listed below and discussed in detail in the (1) Decision Memorandum, (2) Memorandum from the Team to the File, "Final Factors of Production Valuation Memorandum," dated November 20, 2002, and (3) Memorandum from the Team to the File, "Calculation Memorandum for the Final Determination," dated November 20, 2002.

1. We accepted all changes identified by Pangang in its July 19, 2002, submission and all minor corrections presented at verification. For our final calculations, we used the updated consumption rates and factors of production that incorporate the changes identified in the documents listed above, submitted by Pangang on August 28, 2002.
2. We reviewed the import data used in the preliminary determination to calculate surrogate values and removed from our calculations (1) data from NME countries, (2) data from countries with export subsidies (*i.e.*, Indonesia, South Korea, and Thailand), (3) data with aberrational per-unit values, and (4) data attributed to South Africa from the South African import statistics. Furthermore, where possible, we based our surrogate values on data from the months covering the POI.
3. We included in our calculation of normal value certain auxiliary materials found during verification.
4. We calculated the surrogate value for vanadium slag from South African export data contemporaneous with the POI obtained from the World Trade Atlas (WTA), rather than the South African import data reported by the United Nations which was used for the preliminary determination.
5. We recalculated the per-unit amount of vanadium slag consumed in the production process based on the actual chemical content of the material, rather than the theoretical content as was done in the preliminary determination.
6. We removed the "soda" factor from the production of FeV50 and FeV80 because we verified that soda was actually consumed in the production of the intermediate products V2O3 and V2O5.
7. We renamed the "lime" factor consumed in the production of V2O3 and V2O5 to "soda" and valued this factor with a surrogate value derived from South African import statistics contemporaneous with the POI obtained from the WTA for the HTSUS category for disodium carbonate.
8. We granted Pangang an offset for its sales of V2O3 slag and V2O5 slag and valued these by-products with the same surrogate value used to value vanadium slag. We adjusted the surrogate value to account for the difference in the vanadium content.
9. We granted Pangang an offset for its sales of aluminum oxide slag and valued this by-product with the same surrogate value used to value vanadium slag. We adjusted the surrogate value to account for the difference in the vanadium content.
10. We valued iron drums with South African import statistics contemporaneous with the POI obtained from the WTA, rather than with South African import data for 2000 reported by the United Nations, which was used in the preliminary determination.
11. We calculated separate surrogate values for wooden boxes and wooden pallets from the South African import statistics contemporaneous with the POI obtained from the WTA. We identified separate HTSUS categories for wooden boxes and wooden pallets rather than relying solely on the HTSUS category for wooden pallets as the surrogate value for both factors as was done in the preliminary determination.
12. We revised our calculation of the surrogate value for natural gas and used gas prices obtained from the International Energy Agency that are contemporaneous with the POI rather than prices from a period before the POI as was done in the preliminary determination.
13. We inflated surrogate values from periods before the POI with inflator factors derived from producer price index data from South Africa.
14. We revised the surrogate value for labor and are using the 2000 wage rate for China rather than the 1999 wage rate as was done in the preliminary determination.
15. We calculated the surrogate value for sulfuric acid from South African export data contemporaneous with the POI obtained from the WTA rather than South African import data which was used for the preliminary determination.
16. We revised our calculation of freight costs for the factors of production to include the revised distances identified during verification.
17. We revised our calculation of the net U.S. price to deduct marine insurance where appropriate.

Continuation of Suspension of Liquidation

In accordance with section 735(c)(1)(B)(ii) of the Act, we are directing the Customs Service to continue suspension liquidation of entries of subject merchandise from the PRC that are entered, or withdrawn from warehouse, for consumption on or after July 8, 2002 (the date of publication of the Preliminary Determination in the **Federal Register**). We will instruct the Customs Service to require a cash deposit or the posting of a bond equal to the weighted-average amount by which the normal value exceeds the U.S. price, as indicated in the chart below. These suspension-of-liquidation instructions will remain in effect until further notice.

Final Determination of Investigation

We determine that the following weighted-average percentage margins exist for the period April 1, 2001, through September 30, 2001:

Manufacturer/exporter	Weighted-average margin (percent)
Pangang Group International Economic & Trading Corporation	13.03
PRC-Wide Rate	66.71

The PRC-wide rate applies to all entries of the subject merchandise except for entries from Pangang.

International Trade Commission Notification

In accordance with section 735(d) of the Act, we have notified the International Trade Commission (ITC) of our determination. As our final determination is affirmative, the ITC will determine, within 45 days, whether these imports are materially injuring, or threaten material injury to, the U.S. industry. If the ITC determines that material injury, or threat of material injury does not exist, the proceeding will be terminated and all securities posted will be refunded or canceled. If the ITC determines that such injury does exist, the Department will issue an antidumping duty order directing Customs officials to assess antidumping duties on all imports of subject merchandise entered for consumption on or after the effective date of the suspension of liquidation.

Notification Regarding Administrative Protective Order (APO)

This notice also serves as a reminder to parties subject to APO of their responsibility concerning the disposition of proprietary information disclosed under APO in accordance with 19 CFR 351.305. Timely notification of return/destruction of APO materials or conversion to judicial protective order is hereby requested. Failure to comply with the regulations and the terms of an APO is a sanctionable violation.

This determination is issued and published in accordance with sections 735(d) and 777(i)(1) of the Act

Dated: November 20, 2002.

Bernard T. Carreau,

Acting Assistant Secretary for Import Administration.

Appendix Issues in Decision Memorandum

Comment 1: Whether Pangang Group International Economic & Trading Corporation (Pangang) Should Have Reported Factors of Production for All of its Production Facilities
Comment 2: Unreported Factors of Production
Comment 3: Whether Pangang Incorrectly Reported the Consumption Quantity of a Major Input
Comment 4: Whether the Department Should Continue to Use South Africa as the Surrogate Market Economy Country
Comment 5: Whether the Department Should Calculate the Surrogate Value for Vanadium Slag Using World Trade Atlas (WTA) Data or United Nations Commodity Trade Statistics (UNCTS) Data
Comment 6: Whether the Department Should Value Vanadium Slag Using Actual or Theoretical Consumption Quantities
Comment 7: Whether the Department Should Continue to Add Soda Consumption Quantities to the Reported Factors of Production
Comment 8: Whether the Department Should Value Soda as Sodium Hydroxide or Sodium Carbonate
Comment 9: Whether the Department Should Make a Concentration Adjustment to its Surrogate Value for Ammonium Sulphate
Comment 10: Whether the Department Should Allow an Offset for Aluminum Oxide Slag
Comment 11: Whether the Department Should Use Petitioners' Suggested Methodology to Value Pangang's Vanadium Slag Offset
Comment 12: Whether the Department Should Value the Consumption of Iron Drums Using WTA Data
Comment 13: Whether the Department Should Revise the Surrogate Value for Wooden Pallets and Wooden Boxes
Comment 14: Whether the Department Should Continue to Value Natural Gas Using IEA Data
Comment 15: Whether the Department Made a Ministerial Error in Calculating the Surrogate Value for Water
Comment 16: Whether the Department Should Use the Wholesale Price Index (WPI) or Producer Price Index (PPI) to Inflate Factor Values
Comment 17: Whether the Department Should Revise its Profit Ratio Calculation
Comment 18: Whether the Department Should Revise its Labor Rate Calculation
Comment 19: Whether the Surrogate Value for Sulfuric Acid is Based On Aberrational Data
Comment 20: Whether the Department Should Include in Normal Value the Value of the Factors of Production for Grinding Raw Vanadium Slag
Comment 21: Whether to Correct Certain Information Relating to Inland Freight
Comment 22: Whether to Deduct Marine Insurance in Calculating the Net Price for One U.S. Sale

[FR Doc. 02–30306 Filed 11–27–02; 8:45 am]
BILLING CODE 3510–DS–S

APPENDIX B

CALENDAR OF THE PUBLIC HEARING

CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject: Ferrovanadium from China and South Africa

Inv. Nos.: 731-TA-986 and 987 (Final)

Date and Time: November 22, 2002 - 9:30 a.m.

Sessions were held in connection with these investigations in the Main Hearing Room (room 101), 500 E Street, SW, Washington, DC.

In Support of the Imposition of Antidumping Duties:

Harris Ellsworth & Levin
Washington, DC
on behalf of

The Ferroalloys Association Vanadium Committee
(TFA Vanadium Committee)

Kevin H. Jones, President and CEO, Bear Metallurgical Company
Allan R. Orr, Vice President, Sales and Marketing, Gulf Chemical & Metallurgical Corporation
Robert M. Bunting, Vice President, U.S. Vanadium Corporation
John W. Hilbert III, Senior Vice President, The Ferroalloys Association
R. James Carter, Director, Sales and Marketing, Shieldalloy Metallurgical Corporation

Cheryl Ellsworth)
Jennifer de Laurentiis) – OF COUNSEL

In Opposition to the Imposition of Antidumping Duties:

Alston & Bird LLP
Washington, DC
on behalf of

Glencore Ltd. ("Glencore")
Xstrata South Africa (Proprietary) Limited ("Xstrata")

Michael O'Connell, Product Manager, Glencore Ltd.
Brian Becker, President, Precision Economics

Kenneth G. Weigel)
Laura Fraedrich) – OF COUNSEL
Robert W. Irish)

Dorsey & Whitney LLP
Washington, DC
on behalf of

Pangang Group International Economic & Trading Corporation ("Pangang")

Zhang Zusheng, Assistant President, Panzhihua Iron & Steel Group
Xie Tunliang, General Manager, Panhong Vanadium Products Corporation, Panzhihua Iron & Steel Group
Zhang Tao, Accountant, New Steel and Vanadium Corporation, Panzhihua Iron & Steel Group
Song Liqiong, Business Manager, Pangang Group International Economic and Trading Corporation, Panzhihua Iron & Steel Group

Philippe M. Bruno)
Rosa Jeong) – OF COUNSEL
Weimo Liu)

APPENDIX C

SUMMARY DATA

Table C-1
Ferrovanadium: Summary data concerning the U.S. market, 1999-2001, January-June 2001, and January-June 2002

(Quantity=1,000 pounds of contained vanadium; value=1,000 dollars, unit values, unit labor costs, and unit expenses are per pound; period changes=percent, except where noted)

	Reported data					Period changes			
				January-June					Jan.-June
Item	1999	2000	2001	2001	2002	1999-2001	1999-2000	2000-2001	2001-2002
U.S. consumption quantity:									
Amount	12,965	13,012	11,891	6,260	6,370	-8.3	0.4	-8.6	1.8
Producers' share (1)	67.2	57.6	52.8	55.9	55.5	-14.5	-9.7	-4.8	-0.4
Importers' share (1):									
China	6.4	11.3	8.3	11.4	1.7	2.0	4.9	-2.9	-9.7
South Africa	11.4	8.1	20.8	14.9	6.4	9.4	-3.3	12.7	-8.5
Subtotal	17.8	19.4	29.2	26.3	8.1	11.3	1.6	9.7	-18.2
Other sources	15.0	23.0	18.1	17.8	36.4	3.1	8.1	-4.9	18.6
Total imports	32.8	42.4	47.2	44.1	44.5	14.5	9.7	4.8	0.4
U.S. consumption value:									
Amount	65,239	61,738	45,430	24,060	21,563	-30.4	-5.4	-26.4	-10.4
Producers' share (1)	67.0	57.6	52.2	55.7	56.8	-14.8	-9.5	-5.3	1.1
Importers' share (1):									
China	5.9	10.2	8.2	11.2	1.6	2.3	4.2	-1.9	-9.6
South Africa	10.7	9.0	21.1	15.2	6.9	10.4	-1.7	12.1	-8.3
Subtotal	16.6	19.1	29.3	26.4	8.5	12.7	2.5	10.2	-17.9
Other sources	16.3	23.3	18.4	17.9	34.7	2.1	7.0	-4.9	16.8
Total imports	33.0	42.4	47.8	44.3	43.2	14.8	9.5	5.3	-1.1
U.S. imports from:									
China:									
Quantity	826	1,469	992	712	109	20.1	77.8	-32.5	-84.7
Value	3,861	6,270	3,744	2,691	349	-3.0	62.4	-40.3	-87.0
Unit value	$4.67	$4.27	$3.78	$3.78	$3.20	-19.2	-8.7	-11.5	-15.3
Ending inventory quantity	***	***	***	***	***	***	***	***	***
South Africa:									
Quantity	1,483	1,059	2,475	931	405	66.9	-28.6	133.8	-56.5
Value	6,991	5,536	9,588	3,659	1,479	37.1	-20.8	73.2	-59.6
Unit value	$4.72	$5.23	$3.87	$3.93	$3.65	-17.8	10.9	-25.9	-7.1
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Subtotal:									
Quantity	2,309	2,528	3,466	1,644	514	50.1	9.5	37.1	-68.7
Value	10,852	11,806	13,333	6,350	1,829	22.9	8.8	12.9	-71.2
Unit value	$4.70	$4.67	$3.85	$3.86	$3.55	-18.2	-0.6	-17.7	-8.0
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All other sources:									
Quantity	1,941	2,995	2,150	1,114	2,319	10.8	54.4	-28.2	108.2
Value	10,657	14,399	8,362	4,314	7,485	-21.5	35.1	-41.9	73.5
Unit value	$5.49	$4.81	$3.89	$3.87	$3.23	-29.2	-12.5	-19.1	-16.7
Ending inventory quantity	***	***	***	***	***	***	***	***	***
All sources:									
Quantity	4,249	5,523	5,617	2,758	2,834	32.2	30.0	1.7	2.8
Value	21,509	26,205	21,695	10,664	9,314	0.9	21.8	-17.2	-12.7
Unit value	$5.06	$4.74	$3.86	$3.87	$3.29	-23.7	-6.3	-18.6	-15.0
Ending inventory quantity	627	705	1,257	670	1,980	100.5	12.4	78.3	195.5

Table continued on next page.

Table C-1--Continued
Ferrovanadium: Summary data concerning the U.S. market, 1999-2001, January-June 2001, and January-June 2002

(Quantity=1,000 pounds of contained vanadium; value=1,000 dollars, unit values, unit labor costs, and unit expenses are per pound; period changes=percent, except where noted)

	Reported data					Period changes			
				January-June					Jan.-June
Item	1999	2000	2001	2001	2002	1999-2001	1999-2000	2000-2001	2001-2002
U.S. producers': (2)									
Average capacity quantity	***	***	***	***	***	***	***	***	***
Production quantity	***	***	***	***	***	***	***	***	***
Capacity utilization (1)	***	***	***	***	***	***	***	***	***
U.S. shipments:									
Quantity	8,716	7,489	6,274	3,502	3,536	-28.0	-14.1	-16.2	1.0
Value	43,730	35,533	23,735	13,396	12,249	-45.7	-18.7	-33.2	-8.6
Unit value	$5.02	$4.74	$3.78	$3.83	$3.46	-24.6	-5.4	-20.3	-9.4
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Inventories/total shipments (1)	***	***	***	***	***	***	***	***	***
Production workers (3)	187	222	199	204	205	6.4	18.7	-10.4	0.5
Hours worked (1,000s) (3)	395	473	421	215	234	6.6	19.7	-11.0	8.8
Wages paid ($1,000s) (3)	7,937	9,525	8,718	4,359	4,804	9.8	20.0	-8.5	10.2
Hourly wages (3)	$20.09	$20.14	$20.71	$20.27	$20.53	3.1	0.2	2.8	1.3
Productivity (pounds per hour) (4)	***	***	***	***	***	***	***	***	***
Unit labor costs (4)	***	***	***	***	***	***	***	***	***
Net sales:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***
Gross profit or (loss)	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***
COGS/sales (1)	***	***	***	***	***	***	***	***	***
Operating income or (loss)/ sales (1)	***	***	***	***	***	***	***	***	***

(1) "Reported data" are in percent and "period changes" are in percentage points.
(2) Capacity and production data are for two firms: Bear and Shieldalloy. All other data are for Bear, Gulf, Shieldalloy, and USV. To avoid double-counting, U.S. shipments exclude Bear's reported shipments of toll-produced product. Instead, such shipments are reported as U.S. commercial shipments by the tollees.
(3) Includes data as reported by Gulf and USV for their production and related workers involved in the production of vanadium pentoxide.
(4) Calculated using data supplied by Bear and Shieldalloy only.

Note.--Financial data are reported on a fiscal year basis and may not necessarily be comparable to data reported on a calendar year basis. Because of rounding, figures may not add to the totals shown. Unit values and shares are calculated from the unrounded figures.

Source: Compiled from data submitted in response to Commission questionnaires.

Table C-2
Ferrovanadium: Summary data for Bear and Shieldalloy, 1999-2001, January-June 2001, and January-June 2002

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APPENDIX D

ADDITIONAL PRICE AND PURCHASE DATA

Table D-1
Prices of ferrovanadium, ferrocolumbium, and ferromolybdenum from American Metal Market, January 1999-September 2002

Period	Ferrovanadium *(Per pound V)*	Ferrocolumbium *(Per pound Co)*	Ferromolybdenum *(Per pound Mb)*
1999:			
January-March	$13.10	$6.88	$5.03
April-June	12.15	6.88	4.85
July-September	5.26	6.88	3.67
October-December	5.18	6.88	3.65
2000:			
January-March	5.20	6.88	3.31
April-June	5.39	6.88	3.55
July-September	5.31	6.88	3.55
October-December	4.37	6.88	3.55
2001:			
January-March	4.11	6.88	3.25
April-June	4.30	6.88	3.23
July-September	4.13	6.88	3.20
October-December	3.82	6.88	3.11
2002:			
January-March	3.59	6.88	3.29
April-June	3.93	6.64	4.90
July-September[1]	4.84	6.60	6.42

[1] The price for U.S. ferrovanadium in October 2002 was $4.68 per pound.

Source: American Metal Market and staff calculations.

Table D-2
Prices of U.S. and European ferrovanadium from American Metal Market and Metal Bulletin, January 1999-September 2002

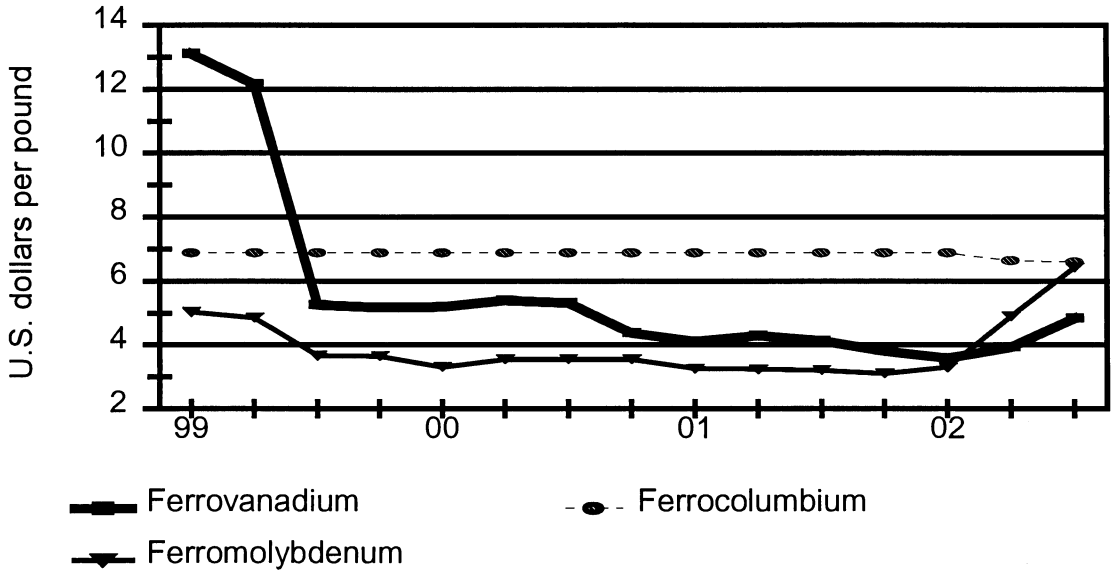
Period	U.S. price *(Per pound V)*	European price *(Per pound V)*
1999:		
January-March	$13.10	$5.74
April-June	12.15	4.85
July-September	5.26	4.65
October-December	5.18	3.80
2000:		
January-March	5.20	4.75
April-June	5.39	5.09
July-September	5.31	4.24
October-December	4.37	3.63
2001:		
January-March	4.11	3.66
April-June	4.30	3.85
July-September	4.13	3.58
October-December	3.82	3.13
2002:		
January-March	3.59	2.85
April-June	3.93	3.75
July-September	4.84	3.86

Source: Staff calculations based on U.S. price data from American Metal Market and European price data from Metal Bulletin.

Table D-3
***** purchases of ferrovanadium, by date, country, and vendor, January 1999-May 2002**

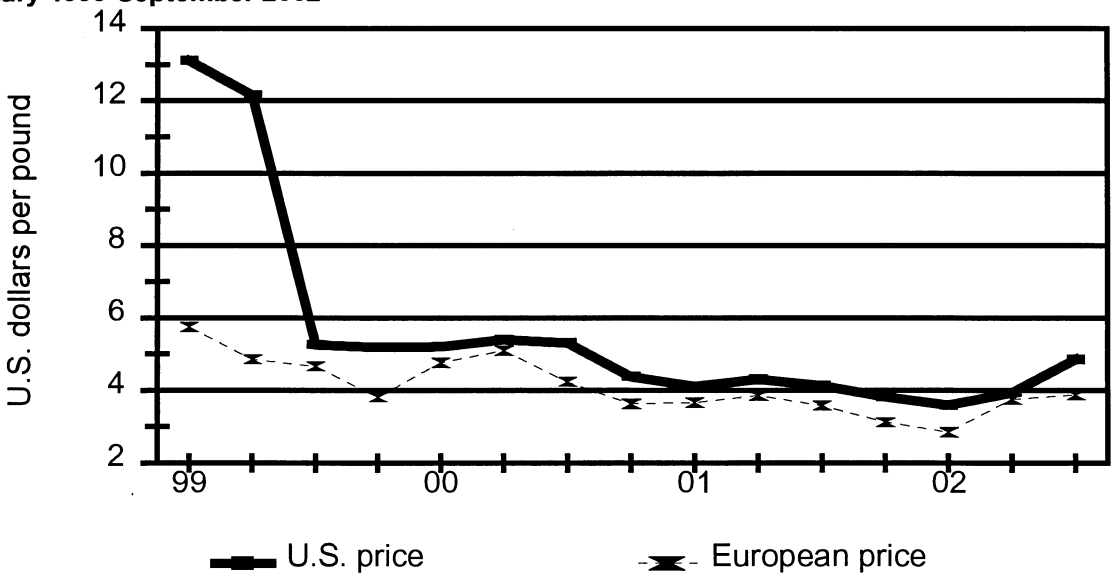
* * * * * * *

Figure D-1
Prices of ferrovanadium, ferrocolumbium, and ferromolybdenum from American Metal Market, January 1999-September 2002



Source: Table D-1.

Figure D-2
Prices of U.S. and European ferrovanadium from American Metal Market and Metal Bulletin, January 1999-September 2002



Source: Table D-2.

APPENDIX E

CHANGES IN THE CHARACTER OF FIRMS' OPERATIONS OR ORGANIZATION RELATING TO THE PRODUCTION OF FERROVANADIUM

The Commission requested U.S. producers to supply details as to the time, nature, and significance of any changes in the character of their operations or organization (e.g., plant openings, relocations, expansions, acquisitions, consolidations, closures, or prolonged shutdowns because of strikes or equipment failure, or curtailment of production because of shortages of materials) relating to the production of ferrovanadium. Their responses are as follows:

Bear
"***."

Shieldalloy

1) "***."

2) "***."

3) "***."

4) "***."

5) "***."

6) "***."

APPENDIX F

INFORMATION ON BEAR'S TOLLING OPERATIONS, VALUE-ADDED CALCULATIONS, AND CONSOLIDATIONS

Table F-1 presents information on Bear's ferrovanadium tolling operations.

Table F-1
Ferrovanadium: Results of Bear's tolling operations, fiscal years 1999-2001, December 2000-May 2001, and December 2001-May 2002

* * * * * * *

As stated at the staff conference, Bear's business model does not envision competing with its suppliers of vanadium pentoxide for sales of ferrovanadium to downstream customers. Its own commercial sales account for a *** of its overall production and tolling of ferrovanadium, and its ***; also, Bear's operating results on its tolling ***. There are several reasons for this, including the ***.

As noted earlier, Bear receives vanadium pentoxide from its tolling partners and returns a ***[1] in the form of ferrovanadium. It does not take title to the vanadium contained within the vanadium pentoxide provided to it by its tolling partners. However, if ***, it is able to use or sell those excess vanadium units for its own purposes ***. Bear ***, and performs certain other services, including packing the ferrovanadium in bags marked with the company names of its tolling partners (such bags were shown at the staff conference). The tolling partners who actually sell the ferrovanadium in the commercial market arrange for shipment and delivery to their customers in the steel industry, and handle the billing and other paperwork related to the sale.

Table F-2 presents value-added ratios for each of the four firms separately and for Bear's tolling operations on behalf of Gulf and USV. The value-added calculation shows two ratios: (1) the sum of direct factory labor and factory overhead costs (conversion costs) to cost of goods sold (COGS), labeled Ratio A, and (2) conversion costs plus selling, general, and administrative expenses (SG&A) to the sum of COGS and SG&A, labeled Ratio B.

Table F-2
Ferrovanadium: Value-added ratios, by firm, 2001

* * * * * * *

Table F-3 presents the combined results of commercial operations on ferrovanadium of Shieldalloy and Bear, calculated from tables VI-3 and VI-5 (this presentation does not include data for Gulf, USV, or any tolling on their behalf by Bear). Table F-4 presents the consolidated results of commercial operations on ferrovanadium of Shieldalloy, Bear, and Gulf (in consolidating Bear with Gulf, Bear's tolling profit has been deducted from total COGS). Table F-5 presents combined results of commercial operations on ferrovanadium of Gulf and USV, including Bear's full tolling costs.

Table F-3
Ferrovanadium: Combined results of commercial operations of Bear and Shieldalloy, fiscal years 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

[1] According to USV's tolling contract with Bear (attachment E to petitioners' posthearing brief), ***.

Table F-4
Ferrovanadium: Consolidation of results of operations of Bear, Gulf, and Shieldalloy, fiscal years 1999-2001, January-June 2001, and January-June 2002

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Table F-5
Ferrovanadium: Combined financial data for Gulf and USV, fiscal years 1999-2001, January-June 2001, and January-June 2002

* * * * * * *

APPENDIX G

ALLEGED EFFECTS OF IMPORTS ON PRODUCERS' EXISTING DEVELOPMENT AND PRODUCTION EFFORTS, GROWTH, INVESTMENT, AND ABILITY TO RAISE CAPITAL

Responses of U.S. firms with respect to ferrovanadium to the following question: Since January 1, 1999, has your firm experienced any actual negative effects on its return on investment or its growth, investment, ability to raise capital, existing development and production efforts (including efforts to develop a derivative or more advanced version of the product), or the scale of capital investments as a result of imports of ferrovanadium from China and South Africa?

* * * * * * *

Responses of U.S. firms with respect to ferrovanadium to the following question: Does your firm anticipate any negative impact of imports of ferrovanadium from China and South Africa?

* * * * * * *