

UNITED STATES TARIFF COMMISSION

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# QUICKSILVER

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REPORT TO THE PRESIDENT

UNDER THE PROVISIONS OF SECTION 3 (e) OF THE  
NATIONAL INDUSTRIAL RECOVERY ACT

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UNITED STATES TARIFF COMMISSION

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III

## LETTER OF TRANSMITTAL

UNITED STATES TARIFF COMMISSION,  
*Washington, March 26, 1934.*

MY DEAR MR. PRESIDENT: I have the honor to transmit herewith the report of an investigation made by the United States Tariff Commission, pursuant to your direction of December 23, 1933, in accordance with the provisions of section 3 (e) of title I of the National Industrial Recovery Act and of Executive Order No. 6353, of October 23, 1933, with respect to quicksilver.

Respectfully,

ROBERT L. O'BRIEN,  
*Chairman.*

The PRESIDENT,  
*The White House.*

IV

## QUICKSILVER

UNITED STATES TARIFF COMMISSION,  
*Washington, March 26, 1934.*

To the PRESIDENT:

The Commission, in response to your request, has made an investigation and held a hearing with respect to quicksilver under the provisions of section 3 (e) of the National Industrial Recovery Act.

### FINDINGS

On the basis of the information obtained, it appears that most of the producers of quicksilver have accepted the President's Reemployment Agreement, pending the formulation of an industrial code. The major portion of the industry was not operating at the time the P. R. A. was adopted, production in the latter part of 1932 and early 1933 having been highly erratic. Many of the inoperative mines remained closed and a considerable proportion of those attempting to resume production subsequently ceased to operate entirely, or ceased to operate as employers of labor, production in the latter instances continuing under a lease system by which individual miners or small groups work on their own account.

The unsatisfactory condition giving rise to the complaint occurred prior to the P. R. A. and was brought about not so much by actual importations of quicksilver as by drop in prices. The situation, instead of becoming more serious as the result of increase in wages and shortening of hours under that agreement, has become less serious because of the advance in the price of quicksilver.

The New York price of quicksilver reached a very low figure in the latter half of 1932, having declined from about \$115 per flask in 1930 to less than \$50 in August 1932. The causes of the price decline were a domestic supply in excess of requirements, occasioned by a combination of increased output at the mines and a decrease in consumption because of the general depression; depreciating foreign currencies which tended to lower the prices in other countries in terms of dollars; and finally, a drastic reduction of foreign prices in an attempt to liquidate some of the enormous surplus stocks which had accumulated abroad during the period (1927-31) of artificially maintained high prices. United States production fell from 25,000 flasks in 1930 to 12,600 in 1932 and to 11,500 in 1933; many of the mines ceased operating entirely. Production in Spain and Italy, which is largely under government control, was greatly curtailed.

The price situation has improved considerably in recent months, chiefly by reason of the advance in the exchange of foreign currencies as compared with the dollar. The New York quoted price of quick-

silver has risen from a low point of \$47 per flask in December 1932 to \$68 per flask in December 1933 and to \$75 per flask in March 1934. This advance in the price exceeds the amount by which domestic producers claim their costs of production are increased as a result of the National Industrial Recovery Act. Under advancing prices there have been small gains in production, but, in view of the irregularity of previous operations, the time during which the increased prices have been in effect has been too short to show what proportion of the domestic industry can operate profitably if these prices continue. The testimony of producers at the hearing was to the effect that the domestic industry, considered as a whole, would be able to operate profitably, under the requirements of the National Industrial Recovery Act, at a price of \$90 per flask. There is, however, a wide range of costs for different producers and a considerable quantity of quicksilver can be produced profitably at prices below \$90.

The deposits of quicksilver-bearing ore in the United States are very inferior in grade to those of certain other countries. Largely for this reason the domestic industry, although protected by the duty, has not in most years since the war produced as much as half of the domestic requirements. There was a marked temporary expansion of production in this country a few years ago as the result of the abnormally high price brought about by combination of foreign producers; the price at that time reached about \$120 per flask at New York. During this period the domestic mines produced the greater proportion of our requirements, and when consumption fell off, as a result of the business depression, the domestic industry for a short time was on an export basis. In 1933 imports were approximately double production in the United States, but the ratio was not materially higher than the average for the 10-year period 1919 to 1928.

In view of the facts brought out in the investigation and the hearing, the Commission does not recommend any restrictive action with respect to imports at this time.

The Commission is aware that the quicksilver industry presents certain broad problems, such as the possibility of exhausting the known deposits in this country if production should be unduly stimulated, the possession of proper ore reserves being important not only for military reasons but also as a safeguard against excessive prices which might be charged by foreign monopolies; the necessity of keeping in production enough of the mines to provide for an immediate supply of quicksilver in case of war; the possible effect upon international trade relations of imposing additional restrictions upon quicksilver imports; the relation between the duty on quicksilver and the duties on certain chemical products derived from it, and the possibility of substituting other materials for quicksilver and its products in many important uses.

These problems, however, are of long standing and are not affected by the President's Reemployment Agreement. The Tariff Commission, therefore, is not empowered to discuss them in connection

with a complaint referred to it under section 3 (e) of the National Industrial Recovery Act.

Appended to this statement of findings is a summary of information obtained in the investigation.

Respectfully submitted.

ROBERT L. O'BRIEN,  
*Chairman.*  
THOMAS WALKER PAGE,  
*Vice Chairman.*  
JOHN LEE COULTER,  
*Commissioner.*

NOTE.—Commissioner Brossard is submitting an alternative suggestion.

## ALTERNATIVE SUGGESTED BY COMMISSIONER EDGAR B. BROSSARD

Under section 3 (e) of the National Industrial Recovery Act it is the President who is to decide what should be done, after the Tariff Commission has made an investigation and reported its findings to him. All relevant facts therefore should be submitted to him. To help the President visualize conditions in this industry I want to point out more clearly than they are stated in the Commission's report some facts which I think he may find useful in his consideration of this investigation.

With prices and unemployment in the domestic quicksilver industry what they are at present, the President may decide that something should be done to save the domestic industry. I realize that this is a relatively small industry and that it may not have powerful political backing or support. It should not, however, be neglected or abandoned because of that. Certain policies are involved in the case that deserve consideration.

There are three phases of the problem: 1. Can the President, in view of all the facts developed in this quicksilver investigation, take action under section 3 (e) of the National Industrial Recovery Act? 2. Should he take action under that section to preserve the industry and aid the unemployed? and 3. What action should he take?

## I

The facts found to exist in the quicksilver industry show that the President can act in this investigation under section 3 (e). That statute provides for action by the President if imports are in substantial quantities or increasing ratio to domestic production of any competitive article or articles and on such terms or under such conditions as to render ineffective or seriously to endanger the maintenance of any code or agreement entered into under the act.

The evidence available to the Commission, from statistics of production, imports, and prices, and from the hearing in this investigation shows that the domestic quicksilver industry cannot now operate under the President's Reemployment Agreement or under any code containing similar provisions so long as imports come in at the present rate of duty without quantitative or other restrictions.

Imports of quicksilver are in substantial quantities and are in increasing ratio to domestic production. In 1933 imports for consumption of quicksilver were 20,299 flasks or double domestic production despite the fact that during the 5-year period 1928-33 domestic production had been nearly 3 times as great as imports. Since September 1933, when the industry signed the President's Reemployment Agreement, imports by months show a decided increase both actual and relative to domestic production.

Available information indicates also that unless prices increase considerably the domestic industry cannot and will not resume normal operations under the President's Reemployment Agreement or a code embodying the provisions of that agreement that increase the costs of production of the domestic producers.

The conditions found in the quicksilver industry apparently are such conditions as the Congress had in mind when it passed the law. Under section 3 (e) of the National Industrial Recovery Act the way is open therefore for the President to act to save the quicksilver industry of this country and to put back to work at least some of the unemployed of the industry.

## II

Some facts the President should carefully consider in deciding whether he should take action in this investigation are as follows:

1. The domestic quicksilver industry may be classified as an essential domestic industry but one that produces at some disadvantages in comparison with the most important foreign competitors. The disadvantage of high cost of production in the domestic industry was made greater by the President's Reemployment Agreement which the industry is now under.

2. The uses to which quicksilver is put make it imperative both in times of war and peace that the United States have an adequate supply of the product at a reasonable price. Domestic consumers therefore should be protected against exorbitant monopoly prices, and the domestic producers should be protected against destructively low monopoly prices.

3. The greater part of our imports come from Spain and Italy where the quicksilver industry is largely under government control.

4. Producers in Spain and Italy are bound together in an international cartel which influences greatly if it does not exercise complete control over sales and prices of quicksilver. Without the domestic industry the United States would be largely at the mercy of this foreign cartel with respect to both domestic supplies and prices.

5. This combination of foreign producers, without the safeguard of the domestic industry, might run up the prices to consumers in the United States to such abnormal levels as \$120 or \$125 a flask. Such prices actually existed between 1927 and 1930 until the domestic industry expanded its production to more fully meet the domestic demand, when shipments by the foreign cartel brought domestic prices down to their recent disastrously low level of around \$45 to \$50 a flask. With this European cartel still functioning, the average value of imports in 1933 was only \$33.97 a flask, and as stated above 20,299 flasks were brought into this country at that low average figure.

6. Testimony of the domestic producers under oath at the public hearing was that at a price of \$90 per flask they could produce sufficient quicksilver to supply the demands of the domestic market. Evidence before the Commission indicates that about 80 percent of our normal output is produced at a cost of around \$90 or less per flask. The average domestic price for the 10 years 1923-32 was \$100 per flask. Therefore \$90 or something less than that does not

seem to be an unreasonably high price for the product. Apparently only about 8,500 flasks can be produced at domestic properties at a cost of \$75 or less, the present price per flask.

7. Information obtained by the Commission reveals that there is now, as reported by about 10 percent of the properties, a visible quantity of quicksilver ore at those mines sufficient to supply the total domestic market with quicksilver for a period of 2 to 7 years. For this type of mine and mining, and assuming equal reserves at the other properties not reporting, experts consider that a satisfactory future supply. Furthermore, the representatives of the industry are confident that in the future adequate domestic quantities can and will be produced to supply the future demands of this market at a reasonable price provided the industry is allowed to operate at a reasonable profit.

8. It requires a period of from 1 to 2 years for the quicksilver industry to gain or lose the momentum of a given scale of output. The nature of the mines and the mining processes show that the industry should be maintained at a relatively even output to obtain the most economical production.

These facts indicate the advisability of some action by the President under the National Industrial Recovery Administration to maintain this domestic industry on a more or less normal operating basis.

### III

The Commission is in a position to suggest specific ways of handling the problem if the President should decide to take some action in this matter under section 3 (e).

Respectfully submitted.

EDGAR B. BROSSARD,  
*Commissioner.*

## SUMMARY OF INFORMATION OBTAINED IN THE INVESTIGATION

### Scope of Investigation

Upon the institution of the investigation the agents of the Commission visited the principal importers of quicksilver and several of the large manufacturers of quicksilver products and obtained information regarding prices, stocks, uses, distribution of imports, channels of trade, and general economic conditions for recent periods. Data on production and wages were obtained from representatives of the National Quicksilver Producers Association who were in Washington prior to and following the public hearing. A questionnaire sent to domestic producers through the Association produced scattered replies. Data on the extent and the past performance of the domestic producing industry were secured from the Commission's files and from the Bureau of Mines.

### Rate of Duty

Under the last two tariff acts the rate of duty on quicksilver has been 25 cents per pound, equivalent to about \$19 per 76-pound flask, and on the iron containing flasks it has been 25 percent ad valorem equivalent to from 12 to 30 cents each.

### Uses and Substitutes

Industrial and pharmaceutical chemicals comprise the largest single use (36 to 40 percent) of quicksilver. The bichloride can be substituted by other disinfectants for industrial use, but not generally in hospitals. To this extent bichloride is of military importance. Calomel may be substituted by other purgatives in medicinal use and by various substances as an insecticide.

Fulminates of quicksilver for military use are said to be substituted by organic chemicals, but are not so substituted for industrial explosives to any extent. Fulminates supply about 18 percent of the market for quicksilver. Vermilion pigments (7 to 10 percent of use) compete with those made from cadmium red. Red oxide for painting ship bottoms (8 to 9 percent of total consumption) is substituted by copper oxide paint for merchant vessels but not for naval use. Minor uses offer less opportunity for substitution.

The sporadic purchase of quicksilver for use in mercury vapor-boilers does not yet provide a dependable demand, and the quicksilver so utilized is not consumed and can be made again available in emergency.

### Domestic Industry

1. *Extent.*—There are over a hundred properties which have produced in the last 5 years. At one or another period during 1933 there were known to have been 55 producing mines.

2. *Production.*—Production records from 1850 to 1930 show an average annual output of over 30,000 flasks. The maximum quantity was 79,000 flasks in 1877 and the minimum was 6,200 flasks in 1926.

Average production by decades reached its peak from 1870 to 1880 with 520,000 flasks at an average value of \$57 per flask and declined each decade thereafter to its low point from 1920 to 1930 with 120,000 flasks at an average value of \$90 per flask.

For the entire period of domestic production California has produced about 90 percent of the total output but in the last two decades, under a gradually increasing price which stimulated the exploitation of scattered small mines, California has been a lesser factor although remaining the principal source of the output.

In 1924 and 1925 between 400 and 500 men were employed at about a dozen mines, and in 1932 roughly the same number of employed men were dispersed over 95 scattered producing properties.

Although the United States led the world in mercury output 50 years ago, during the last decade the United States produced only about 12 percent of the world output, and stood third among the world's producing countries. Eventual exhaustion of known domestic reserves depends on the margin remaining between cost of production and domestic price.

Production statistics, by years, follow.

Domestic production, 1919 to 1933

[Flasks of 76 pounds]

Year	California	Texas	Oregon	Nevada	Washington	Other <sup>1</sup>	Total quantity	Value	
								Total	Per flask
1919	15,005	4,953	429	746			21,133	\$1,933,560	\$91
1920	9,719	3,391	24	32			13,216	1,066,807	81
1923	5,375	2,407	20	20		10	7,832	521,302	67
1924	7,861	1,951	40	50		20	9,932	692,739	70
1925	7,514	1,398		100		41	9,053	762,616	84
1926	5,651	1,138		194	482	76	7,541	702,323	93
1927	5,672	2,263	2,055	419	559	130	11,128	1,314,782	118
1928	6,977	3,096	3,710	2,867	980	240	17,870	2,207,003	123
1929	10,139	3,215	3,657	4,764	1,397	510	23,682	2,892,638	122
1930	11,451	2,612	2,919	3,282	1,079	210	21,553	2,478,789	115
1931	13,448	3,481	5,011	2,217	560	230	24,947	2,179,145	87
1932	5,172	3,896	2,523	474	407	150	12,622	731,129	58
10 years, 1923-32	79,260	25,517	19,935	14,387	5,464	1,617	146,180	13,751,337	103
1933	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	11,500	681,000	59

<sup>1</sup> Alaska, Arizona, Arkansas, Idaho.

<sup>2</sup> Not available.

<sup>3</sup> Estimated.

3. *Process.*—Quicksilver is produced by the furnace treatment (usually at the mines) of ore containing cinnabar, the natural sulfide of mercury.

4. *Trend.*—The rate of domestic production is a function of price, but the incidence of higher production shows a time lag of from 1 to 2 years behind the incidence of higher price. This may be taken as a rough measure of the period needed for the industry to gain or lose the momentum of a given scale of output.

Exports

Before the war the domestic industry exported a considerable portion of its production. These conditions had passed by 1911 when exports had dwindled to less than 3 percent of imports. In

the single year 1917, during the war, exports again exceeded imports, but this situation did not again prevail until the cartel had held foreign prices to an absurd height, even above the cost of production of the high-cost mines in the United States, when in 1931 exports again temporarily exceeded imports.

Domestic exports, 1919 to 1933

[76-pound flasks]

Year	Quantity	Value	Unit value	Percentage of production	Year	Quantity	Value	Unit value	Percentage of production
1919	8,986	\$817,328	\$90.96	42.5	1928	( <sup>1</sup> )			
1920	1,532	129,993	84.85	11.6	1929	( <sup>1</sup> )			
1923	313	25,195	80.50	4.0	1930	( <sup>1</sup> )			
1924	205	14,333	69.92	2.1	1931	4,918	\$433,596	\$88.16	19.7
1925	201	15,930	79.25	2.2	1932	214	13,121	61.31	1.7
1926	114	10,319	90.52	1.5	1933	( <sup>1</sup> )			
1927	( <sup>1</sup> )								

<sup>1</sup> Not available.

Imports

Spain generally furnishes over half the imports, with Italy and Mexico trailing. Small imports from England are generally of Spanish origin.

Mercurio Europeo, a cartel covering the combined output of Spain and Italy, started officially in October 1928, and controls the price and quantities of sales. Its failure to control also the production of its adherents permitted the accumulation of huge stocks, which in turn threatened the cartel's dissolution in the middle of 1932 by the withdrawal of the Italian producers. The cartel stocks approximated a year's supply. A London syndicate acquired a considerable portion of the stocks and the cartel's dissolution was thus avoided.

Imports for consumption, 1919 to 1933

[Flasks of 76 pounds]

Calendar year	Rate of duty	Quantity	Value	Unit value	Computed duty	Actual or computed	
						Ad valorem rate	Specific rate
1919	10 percent	10,495	\$791,226	\$75.39	\$79,123	Percent	Per flask
1920	do	13,982	971,510	69.48	97,151		\$7.54
1923	25 cents per pound equivalent to \$19 per 76-pound flask.	17,835	816,043	45.75	338,862	41.5	6.95
1924	do	12,996	566,820	43.92	246,930	43.6	
1925	do	20,580	1,200,878	58.35	391,028	32.6	
1926	do	25,634	1,784,250	69.60	487,042	27.3	
1927	do	19,941	1,780,134	89.27	378,534	21.3	
1928	do	14,562	1,437,153	98.63	276,654	19.2	
1929	do	14,917	1,513,197	101.44	283,430	18.7	
1930	do						
Jan. 1-June 17, 1931	do	2,407	238,084	98.91	45,730	10.2	
June 18-Dec. 31, 1931	do	1,318	123,725	93.87	25,042	20.2	
1932	do	549	48,540	88.41	10,433	21.0	
1933	do	3,887	107,528	27.66	73,837	68.7	
	do	20,299	689,568	33.97	385,981	56.0	

In 1933 there were virtually no imports in January or February and only a hundred-odd flasks in March. For the next 4 months they averaged over 1,800 flasks per month. In both August and September they were over 5,000 flasks, dropping to 2,800 in October and to under 300 in November, and rising to 1,100 in December.

For the 11 years 1923 to 1933 imports and domestic production were about equal for the period taken as a whole, but with imports twice the size of production for the first 5 years, production nearly three times imports the second 5 years, and imports again double production in 1933.

#### Prices

The foreign invoice values, around \$30 per flask from January to May, 1933, rose about \$2 per month to \$42 in November and December. New York quotations for either domestic or duty-paid foreign quicksilver rose steadily from around \$49 in January and February to around \$67 during the last 3 months of 1933 and to \$75 in March 1934. The United States prices have stiffened despite the increase in warehouse stocks from 3,600 flasks in January to 6,000 in December 1933. The increment in stocks, however, is accounted for almost wholly by supplies destined for use in mercury boilers whose installation is still incomplete.

The upward price curve is roughly parallel to that of the United States value of the Spanish peseta.

#### Wages

The minimum wage of the President's Reemployment Agreement applies to an almost negligible type of employment in quicksilver production; e. g., a force of 50 men might include only a dishwasher or a watchman at the minimum \$3.25 wage. The miners, millmen, furnacemen, and truck drivers generally have received from \$4 to \$5 and mechanics over \$5 per 8-hour day. Muckers usually get 50 cents per day less than miners. As depression wages declined to around two-thirds of these rates employees generally chose to leave the wage basis and work where possible on a partnership basis which involved leasing of the property on a royalty and dividing the income as earnings. These conditions apply to the producing districts other than Texas.

In the Texas field wages have probably always been close to a subsistence level, common labor receiving \$1 and semiskilled labor \$1.25 to \$1.50 per day. The fields are some 80 miles from railroad in the Big Bend district of the Rio Grande near the Mexican border. The labor is native to the district and its efficiency is rated by operators at about one-fourth of that in California.

#### Costs

1. Before the President's Reemployment Agreement under company operation:

In the northern districts costs seem to have ranged from \$55 to \$118 including capital charges of \$20 to \$30 per flask.

In Texas inadequate data indicate a cost within the above range.

2. Under the President's Reemployment Agreement:

(a) Company operation. Fragmentary information shows an estimated increase of from \$8 to \$18 in cost per flask at individual properties.

(b) Cooperative operation. Without an analysis sufficiently extended to show the relation between workers' earnings and proposed P. R. A. wages, costs under leasing conditions would have little meaning. The cost of compensation insurance is avoided, however, and instances have been alleged of defaulting on royalty payments indicating that capital charges are inadequately met.

#### Competitive Conditions

The domestic industry labors under the handicap of scattered properties of low-grade ore and generally small extent.

A few properties, however, because of the concentration of portions of their ore-deposits or their favorable location with respect to low-priced labor have continued production even in times of abnormally low prices, and properties on a leasing or development basis always contribute a substantial portion of output at a cost which may not be economic. The marketing of the domestic product is not organized.

The Spanish industry operates a single property of extremely rich ore and whose extent has already given it a life of over 1,000 years. Its product is handled by a cartel of Spanish-Italian producers which has at times fixed the world market.





## APPENDIX

### QUICKSILVER

On the basis of the recommendation made in this report, the President directed that no action be taken under section 3 (e) of the National Industrial Recovery Act.

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