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THE DOMESTIC STRATEGIC MINERALS SITUATION[1]

By

S. H. Williston[2]

[3]Thank you, Mr. Chairman and General Robins. I might say that this is like coming home, and after Washington, anything that seems like home is quite a relief. I have here today a rather divided audience. I know that a good many of you are mining engineers interested in the exact situation in Washington and what the Government is doing in regard to strategic and critical metals. Another large proportion of you is interested not as producers but as consumers of those very same metals. I am going to try to answer the questions that I think you would ask if you had the opportunity. In regard to the general metal situation in the United States, probably some of you don't realize that at the present time there are one-fourth as many underground metal mines operating as there were ten years ago. There are far less than half as many people engaged in underground metal mining now as there were in 1940.

During the war years, we increased the production of many of the strategic and critical metals in the United States to a rather phenomenal extent, but since those war years, most of our strategic metal industry has died and even the productive capacity of our critical metals has seriously declined. With another serious emergency upon us, we are faced with the necessity to bring back the production of both the critical and strategic metals. You who are consumers of metals, whether as civilians or whether as members of industries, have seen the recent restrictions on the use of copper, of zinc, of aluminum, of molybdenum, and you wondered what is going to happen and how tight the restrictions will become.

The copper industry prior to 1940 was almost on an export basis in the United States. We are able to produce most of our requirements, but not all. During World War II, we were heavy importers of copper. At the present time even with all available imports there is an insufficient amount of copper to supply the requirements of civilian life and the requirements of the Department of Defense. The same thing applies to zinc and, to a much lesser extent, the supply of lead.

Insofar as the strategic metals are concerned, most of you as consumers are a little concerned. You think of tungsten, if you think of it at all, as something that industry requires and does not affect the everyday life of those of you who are merely civilian buyers, although if you are an industrial manufacturer, the shortage in tungsten-carbide tools and high-speed steel probably has you rather worried. I might say in that respect, if you are not worried now, you had better be. The same thing applies to others of the strategic metals.

1/ Talk delivered to joint meeting of Raw Materials Survey and Portland Chamber of Commerce, February 12, 1951.

2/ Formerly Director Supply Division, Defense Minerals Administration, Washington, D.C.

3/ From recording reproduced without corrections by the speaker.

Chrome, of course, the people of the State of Oregon are quite familiar with. You realize the application of chrome in the steel industry and realize the importance in matters of defense. Chrome largely comes from Africa, at the present time, with somewhat lesser amounts from Caledonia, Philippines, Cuba, and Turkey. The chrome deposits of the United States are limited and you in Oregon feel much more interested in them because Southern Oregon and Northern California have a considerable portion of those chrome reserves.

Your interest in manganese is probably entirely casual, although without manganese our steel industry could not exist for any appreciable length of time. Antimony is a very inconspicuous metal. You hardly realize that without it you would have no storage battery for your automobile. Beryllium you have heard of probably, but its importance in the defense of the United States would appear to be a very minor matter. It doesn't seem that way to the Atomic Energy Commission, and it doesn't seem that way to many users of beryllium in the form of beryllium-copper where nothing will serve as a substitute. Most of you are not familiar with columbium; it has another name - niobium - and to most of you it would be merely a metallurgical curiosity, but the essentiality of columbium for the defense effort is probably greater than any other single metal. We do not produce it in the United States and the world supply is insufficient for our requirements.

I could go on speaking about these various metals at considerable length, but their importance, both as to the civilian economy and to war economy, can hardly be over-emphasized. I mentioned tungsten briefly. Tungsten has in the past been imported largely from Korea, from China, and from Indonesia, and to some extent, from South America. Since the change in the political complexion in the Far East, we have lost some 75 percent of the world's capacity to produce tungsten; whereas we in the United States require some 75 percent of the world's tungsten to carry on our civilian and military activities. I think you can see that if we are forced to get 75 percent of the tungsten from 25 percent of the world's capacity to produce, the tungsten problem is, to say the least, a very serious one.

Let us leave these few strategic metals I have mentioned (there are many more such as mica and mercury), and go on to the commoner metals, copper, zinc, and lead. Thirty percent cut-backs in the civilian use of copper certainly brings to the attention of the civilian the fact that we need more copper. A 40-cent gray market price for zinc before the price freeze indicates the importance of zinc in the national economy. If we are to take care of both civilian and military requirements, it is quite plain that we are going to have to expand not only the domestic production of this metal wherever it is possible to expand it, but we are also going to have to import from foreign sources where we can and when we can.

With the Defense Production Act that was passed in September of 1950, broad powers were given by Congress to the President to take care of these and a great many other matters. Those powers were delegated by the President through various defense organizations to the Department of Interior, and in the Department of Interior those authorities were transferred to a Defense Minerals Administration setup in that department. Mr. James Boyd, Director of the Bureau of Mines, took leave from the Bureau and was made administrator of the Defense Minerals Administration.

I know a good many of you have felt that the progress made in Washington has been very slow in very many cases, but I would like to mention at this point that although Mr. Boyd was made administrator of this department back in October or November, he really didn't get the powers and the authority delegated to him to take care of this job until very recently, and many of the powers are still very indistinct. There are certain problems, for example, in connection with the Defense Minerals Administration's work in foreign fields that even now have not been spelled out so that the Defense Minerals Administration may know to what extent its authority may stretch in the procurement of strategic and critical metals from foreign sources. In the Defense Act of 1950, there were certain tools granted to the defense agency for the expansion of production and I might briefly set forth the tools that the Defense Minerals Administration has to work with.

First, it can make procurement contracts. At least it can approve procurement contracts. Actually the Defense Minerals Administration has no money, and all it can do is certify to other agencies of the Government its opinion as to whether certain steps should be taken and the form those steps should take. In speaking of procurement in the event that a supply of strategic or critical metal is offered to the Defense Minerals Administration and if after study by the Bureau and the Survey who are advisers to the Defense Minerals Administration, it seems quite feasible to obtain this metal from this particular source, a contract would be drawn up in the Plant Expansion Division of the Defense Minerals Administration and certified to the Defense Production Administration, to the National - I get mixed up on these alphabets just as badly as you do - to the NPA, from there to the DPA and then come back to us and would be sent to the Emergency Procurement Division of the General Supply and which would enter into the contract.

A second tool which can be used under the 1950 Defense Act are loans to industry for plant expansion and that, insofar as our shop is concerned, means the opening of new mines. Those loans can take only one form if it means plant expansion or mine reopening. They might take another form if they were merely connected with the procurement contracts. I'll speak of the first half before I go into the second half. In the event that an owner of mining property felt that his reserves were sufficiently large, that his deposit was sufficiently promising to justify a mill, he can make application to DMA setting out the information he has on that property. That would normally go to the Commodity Group in the Supply Division most familiar with that commodity. If it's copper, it would go to the copper desk. After checking with the Geological Survey for any information which they might have on the geology of the deposit and after checking with the Bureau of Mines on any information they might have on ore reserves, if the project were feasible, it would be referred to Plant Expansion with the recommendation that a contract be entered into and that a loan be granted. After the legal aspects were worked out, that contract would then go to the NPA, the DPA, and then over to Emergency and then in this case, RFC with a certification that the loan be granted, and after that has been taken care of, the loan would be granted and the operator could build his mill.

A third tool is the "V" type loan which can be made through private banking with Government guarantee and these are more or less restricted to assistance in connection with procurement loans. If a company entered into a contract guaranteeing delivery of certain metals to the Government and then finds that they don't have enough working capital, or they need minor help in plant expansion, etc., they can go to their own bank, put in application for a "V" type loan which will be referred to the Federal Reserve Bank which will be referred to the Defense Minerals Administration, and then through the other agencies and finally receive guarantee of that loan by the Government for the purpose mentioned. To date, none of the "V" type loans have gone through and candidly I couldn't say just exactly all the procedures that might be necessary. But it's a tool of the DMA and it can be used by the mining industry.

In the Defense Act, there were further authorizations in connection with the encouragement of exploration and development of strategic and critical metals. Until December 31 of this last year, it was impossible for the Defense Minerals Administration to give any help for exploration or for development because under the tax laws it was impossible for us even to give money away without it being considered taxable income to the recipient, and if the loan granted was made on the 29th of December, the recipient would have had to pay 45 percent back to the Treasury on the 15th day of March. Fortunately, that particular problem was eliminated in the excess profit tax act which was signed on the second of January, so that now it is possible for DMA to assist in exploration by grants or by loan which might be cancelled if unsuccessful, and so that field is open now to aid in exploration where just a little over a month ago it was almost impossible.

The Defense Minerals Administration under Mr. Boyd has worked out several plans for the encouragement of exploration and development. Those plans have not received the final approval nor have appropriations been made in final forms necessary to carry them out.

I cannot say when they may come out, but I do feel that you may expect word from Washington in the very near future which will spell out an aid for exploration and development of the strategic and critical metals and which I hope will be of considerable assistance to the mining industry.

Another tool which was granted to the Defense Minerals Administration as well as to industry as a whole to aid in the development of materials for the war effort, is the five-year amortization of or a certificate of necessity which would empower private industry to put in facilities and then charging off those facilities against their other income in a period of five years. The general intent of Congress was similar to that of the Certificate of Necessity in World War I where it was realized that plants would have to be built, chiefly by private industry, which might have no value after the emergency was over. Those certificates of necessity are under the law available now. It takes considerable time to process that type of thing, and one of the reasons is that the law provided that any value of this facility after the five-year period must be taken into account in the granting of accelerated amortization. That takes the whole problem of the certificates of necessity into the type of study which required the evaluation of the plant 7½ or 15 years from now, and I think you can all realize that such evaluation is subject to considerable argument depending upon whether you are a conservative or liberal; whether you feel the country is in a rising economy or that it may be near its peak. It involves a study of the national income 15 years from now and a good many other economic questions. For that reason, the granting of Certificates of Necessity has been very slow.

I might give you some idea of the channel through which they have to pass when I say that the Certificate of Necessity is filed by the National Security Resources Board and immediately gets transferred to Mr. Harrison's shop and from there it goes to the defense agency most directly concerned. In this case if it were mining, it would go to the Defense Minerals Administration and after the technical details have been studied by the engineers and geologists of the Supply Division, it is given further study by the economists who estimate what the general picture will be some years from now. After they have seconded the technical men, it goes over to the Defense National Production Administration where they add their ideas, possibly changing the percentage which may be amortized up or down and then it follows up the line before it is finally certified to by one of the officials of the (again I'll get my alphabet straight) DPA and finally sent to the Treasury. The problem involved with those five steps put a rather tremendous job on the Defense Minerals Administration because first, it has been in existence only a little bit more than a month so far as its authority is concerned, and second, the policies and the backing of some of it has not been completed.

I know that all of you have felt that progress in Washington has been entirely too slow. I agree with you, and I think that possibly I'm to a great extent to blame. The Supply Division leads the job of planning and programming not for one of those metals, but for all 60. The personnel is far too few, the job is a big one. Under the law each of these arrangements for each expansion in each mineral must be done by individual contract, and as yet the trend of those contracts isn't clear. I hope that all of these things will work much faster in the future than they do now, but I do want to assure you that under the very able leadership of Mr. Boyd of the Bureau, who incidentally is working many hours trying to get the job done, and also with the capable assistance of Deputy Administrator Jim Douglas, a well-known mining man and most competent, that the job will be done and it will be done as soon as it is physically possible to do it.

The confusion in Washington you have heard about. In Washington, we say we have three kinds of confusion - "confused-confusion," "organized confusion," and "departmental confusion." I don't know which the DMA may be; I am a little proud of it. I think we might say that we have "organized confusion" at the DMA. It's a big job. The men in Washington are doing the best they can; I hope you will be patient with them, because if you try to drive them much more, they won't live much longer.

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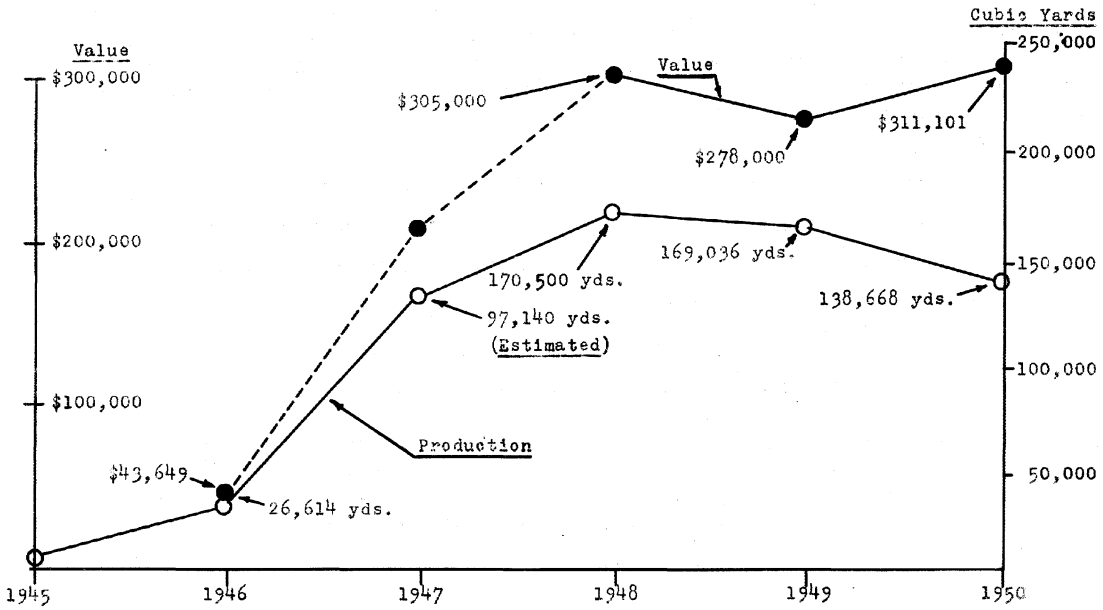
PUMICE INDUSTRY IN OREGON

Progress Report for 1950

By

N. S. Wagner*

Pumice production in Oregon during 1950 was characterized by a moderate falling off of production on a yardage basis, and a substantial increase in value of the various products sold. A total of 138,668 cubic yards valued at $311,101.50 was produced by six operators in central Oregon. Production figures from two small operations were not obtained but the above figures represent all but a small fraction of the material handled. The accompanying graph shows the trend for both yardage and value of pumice mined and processed from 1945 to 1950.



Originally the pumice industry almost exclusively produced an aggregate for precast concrete blocks. More recently, the producers have diversified their production somewhat in utilizing the inherent value of the lightweight material, and today they are producing not only block aggregate but ready-mix aggregate, poultry litter, florists' bedding material, and plaster aggregate. The unit value of plaster aggregate is, of course, much higher than that of the other products and accounts largely for the nearly 12 percent increase in value of products sold despite the 16 percent reduction in yardage. Production of ready-mix aggregate increased to roughly 15 times the 1949 level and that of plaster aggregate to more than $2\frac{1}{2}$ times. No survey has been made of the types of construction that are using monolithic pumice concrete, and it is not known whether this trend will continue at its present accelerated rate of increase.

Competition from expanded shale aggregate has resulted in a reduction of pumice-block aggregate. In 1949, 162,899 cubic yards were produced while only 90,152 yards were sold in 1950. Producers are making strenuous efforts to improve their product. Research work is now being conducted at Washington State College Institute of Technology, at Oregon State College, and in the laboratories of the Oregon Department of Geology and Mineral Industries.

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* Field geologist, State Department of Geology and Mineral Industries, Baker, Oregon.

This research is directed mainly toward eliminating or minimizing the shrinkage of precast pumice blocks. Not enough work has been done yet to determine what improvements might be expected from this research, and progress by these organizations is being watched closely by the industry. The producers of concrete blocks using pumice for an aggregate have greatly improved their plant practice during the last year or so, and the production of inferior blocks characteristic of the period five years ago has been replaced by a much improved product.

One new operation located near Gilchrist was reported to have commenced production during the year, and one operator in the Bend area apparently closed down permanently. The six remaining plants produced steadily during the year with no change in ownership or management. Nearly all of the producers have improved their plant facilities and as a result their products are being turned out with greater control and are being tailored to meet specific consumer requirements.

The pumice industry seems to have secured a solid foothold for itself, and continuing production of a variety of processed and semiprocessed pumice fractions may be expected. During 1950 a total of three operators marketed plaster aggregate while five reported a ready-mix aggregate production. All but one reported a block aggregate production and three sold pit-run material. The producers who supplied the above production information, and whose production accounts for all but a small percentage of the total production, are as follows:

Chester T. Lackey, Deschutes Concrete Products Company, Redmond, Oregon.

William E. Miller, Central Oregon Pumice Company, 644 Franklin Street, Bend, Oregon.

Thomas Philipsen, Western Pumice Sand Company, 2321 Eberlien Street, Klamath Falls, Oregon.

Don Robbins, Harney Concrete Tile Company, Burns, Oregon.

Merle Sleeper, Pumice Engineering Company, Box 808, Bend, Oregon.

Lloyd A. Williamson, 114 Oregon Avenue, Bend, Oregon.

The accompanying graph of the production of pumice in the State during the past five years shows the impact of the specialized products that the State has produced during the past year. These products have a higher unit value than the material formerly supplied the market, and it is believed that this tendency will continue.

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CANADA INCREASES GOLD MINE SUBSIDY

The Canadian Government announced from Ottawa on March 9 a new subsidy formula for gold mines. The Government officials said that it will add about $3,000,000 to the 1951 aid previously decided upon for the industry.

The main point of the new plan is that mines with a production cost of more than $22 an ounce will be subsidized on not less than half their 1951 production that is sold. In the previous plan the minimum was one-third.

As reported in the Victoria, B.C., Colonist, Mr. D. C. Abbott, Finance Minister, announced the new assistance formula as follows: The rate of subsidy per ounce will be one-half the amount by which the average cost of production per ounce from any mine exceeds $22 with the maximum assistance per ounce of $11.50. This rate will apply to the number of ounces by which 1951 production exceeds half the production of the base year of 1949. It will be paid on not less than half the amount produced and sold from any mine in 1951.

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FOR SALE

Number 1-S LeRoi powered gasoline Boyles Brothers Diamond Drill, including 800 feet of AX rods in 10-foot sections and 60 feet of EX rod, one 10-foot and three 5-foot AX core barrels, pump, and a full complement of normal accessories. This outfit was purchased new in November 1947 and used for less than 1000 feet of drilling. Correspond with Wm. Phelan, Durkee, Oregon.

MERCURY IN THE FOURTH QUARTER OF 1950
(Including summary for the entire year)

Consumption of mercury trended upward throughout 1950 and in the fourth quarter was at the highest rate since the second quarter of 1948, according to the Bureau of Mines, United States Department of the Interior. Consumption in the final quarter was almost entirely for dissipative uses, whereas that in April-June 1948 was influenced to a notable degree by the installation of two chlorine and caustic soda plants using mercury cells. Imports in October-December 1950 fell sharply from the high level of the third quarter but nonetheless were larger than most earlier three-month periods. Domestic production, on the other hand, dropped to a rate unprecedented in the past 100 years. Prices, after lagging far behind those for commodities in general, turned upward in the third quarter of 1950 and moved forward at an accelerated rate in the fourth; the advance was unchecked at the year end.

In all of 1950 imports were an outstanding feature, falling short of those for 1949 and 1945 only. Receipts in 1949, however, were largely for the Government strategic stockpile, which did not influence the 1950 entries. Consumption in all of 1950 was at a new peacetime peak despite the fact that the large chlorine and caustic soda and mercury boiler installations of the past two years did not characterize 1950. A new large chlorine and caustic soda plant will be put into operation in Virginia in 1951 and industry inventories on December 31, 1950, reflected the accumulation of stocks for the opening of this plant. Three additional chlorine and caustic soda installations are in prospect for the near future.

According to foreign data available when this report was written output in Spain and Italy continued far below their production potential; output in the former being reported as 50,025 flasks and in the latter as 47,705 flasks. Imports into the United Kingdom jumped from 9,242 flasks in the first 11 months of 1949 to 54,199 in the similar period of 1950. Deducting reexports of 3,667 and 13,310 flasks, respectively, for the two periods, the quantities that remained for consumption or subsequent reexportation were 5,575 in the first 11 months of 1949 and 40,889 in 1950. Thus, it would appear that a large part of the surplus stocks of mercury in the world moved to the United Kingdom in 1950. The restricted sales in Spain and Italy at the year end, may actually indicate as reported that little metal was available for sale.

Domestic production: Mercury production in the fourth quarter of 1950 was 630 flasks or a reduction of 50 percent from the quarterly average of 1,270 flasks for January-September. Chief producing property in the fourth quarter was the Mt. Jackson (including Great Eastern) mine, Sonoma County, California, but at least a half dozen other properties had some production.

In all of 1950, as has already been stated, output was the smallest in the 100 years covered by the production record. The Mt. Jackson mine likewise dominated annual production. The other most important producer during the year was the Cordero, Humboldt County, Nevada, which, however, was in operation to February 15 only. Some other contributors to domestic supply in 1950 were: Juniper, New Idria, and North Star mines, San Benito County; Almaden Placers, Santa Clara County; Culver-Baer and Dewey Geyser in Sonoma County, California.

Salient Statistics of Mercury in 1950 in flasks of 76 pounds

Domestic	
Production	4,440
General imports	60,564
Exports	447
Consumption	49,600
Stocks at end of period	
Consumers and dealers	33,100
Producers	2,719

Imports into the United States by Countries	
Canada and Newfoundland	107
Denmark	300
Italy	18,073
Japan	793
Mexico	3,986
Netherlands	825
Spain	29,439
Sweden	1,061
Yugoslavia	5,980
TOTAL	60,564

(From Mineral Report 27)

BAKER MINING MEETING MARCH 26

Eastern Oregon Mining association will perfect the organization at a meeting, Monday, March 26, at 7:30 p.m. in the court house.

Officers will be elected and members enrolled.

At the preliminary meeting held March 14, B. F. Kulis acted as temporary chairman and Nadie Strayer, temporary secretary.

Plans and immediate objectives were discussed informally and will be molded into a definite pattern at the forthcoming meeting.

One point definitely settled upon was that the organization would secure speakers of competent authority to outline the future of the mining industry and that the organization would sponsor legislation that would provide encouragement, aid, and assistance to the mining industry that is basic for the common defense and the general welfare.

(From Baker Record Courier, March 22, 1951.)

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MINING CLAIMS NO GOOD AS TIMBER GRABS

Claimants in recent large-scale mineral-claims stakings in Jackson and Josephine counties are in for a shock if they are after timber.

That is the announcement of Raw Materials Survey, a nonprofit corporation dedicated to the study of industrial raw materials problems, with headquarters in Portland.

The statement by Thomas M. Robins, Survey president, is as follows:

> "There are no loopholes in the mining laws that will allow 'timber grabs' and this fact should be made known so that the rush of claim staking will stop.
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> "A mineral claimant cannot sell a single stick of timber from his claim until he has received a patent from the federal government, and such patents are difficult to obtain. As a matter of record, in Oregon in the last 20 years, patents have been granted to only 15 groups of claims comprising 1228 acres - less than four-thousandths of one percent of the total of Oregon's federally held land."

The Survey, an industry-sponsored fact-finding organization, has just released a comprehensive study made by its managing engineer, A. O. Bartell, on the Pacific Northwest timber resources in relation to the mining laws. Bartell's report shows that the claimants who have filed in the Union Creek area are wasting their time. The claims are staked as placer locations in an area that is nearly devoid of valuable mineral. In the past, the courts have made it clear that on placer claims in a forest preserve, mere mineral discovery alone is not sufficient, and that nothing short of a probable commercially valuable mine will suffice to qualify for a patent.

The Board of directors of the Raw Materials Survey has gone on record as urging that the administrative officers of the Department of the Interior initiate cancelation proceedings against the claimants of the apparently invalid mining claims recently located en masse in the timber-covered Union Creek area.

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(Editorial in the Grants Pass Courier, March 21, 1951.)

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METAL PRICES

Copper, per pound	24½ cents
Lead, New York, per pound .	17 cents
Zinc, East St. Louis, per pound	17½ cents
Tin, per pound	$1.34
Quicksilver, per flask of 76 pounds	$218 to $221
Antimony, per pound, in bulk car lots Laredo . .	42 cents
Bismuth, per pound, ton lots . . .	$2.25
Cobalt, per pound, in 100-pound containers	$2.10
Iridium, per ounce troy	$200.00
Nickel, per pound electrolytic cathodes f.o.b. Port Colborne, Ont., U.S. import duty included	15½ cents
Palladium, per ounce troy	$24.00
Platinum, per ounce troy	$90.00

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(From E&MJ Metal and Mineral Markets, March 22, 1951.)