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DOMINION BUREAU OF STATISTICS - CANADA
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## METALS OF THE PLATINUM GROUP, 1932

Finally revised statistics on the output of the metals of the platinum group, as reported by the Mining, Metallurgical and Chemical Branch of the Dominion Bureau of Statistics at Ottawa, show that 64,956 fine ounces of new platinum, palladium and other platinum group metals valued at \$2,001,283 were recovered from Canadian ores in 1932 as compared with 91,693 fine ounces worth \$2,814,617 in 1931 and 68,116 fine ounces at \$2,439,128 in 1930.

Imports of platinum, including manufactures thereof, and palladium, iridium, osmium, ruthenium and rhodium were valued at \$38,408 as against \$54,428 in 1931. During the year 14,570 ounces of platinum contained in concentrates or other forms and valued at \$1,155,705 and 50 ounces of scrap worth \$2,374 were exported.

Production of Canadian platinum metals comes almost entirely from the coppernickel ores of the Sudbury district in Ontario. Small quantities of these metals are
also obtained in alluvial gold mining operations in British Columbia. The British
Columbia Department of Mines reports that during 1932 continued interest was shown in the
search for gold and platinum on the Tulameen and Similkameen rivers, as well as on
Granite Creek and adjacent streams, and many small lots of these metals were recovered
from different locations.

International Nickel Company of Canada, Ltd., report sales of platinum metals at 19,300 ounces in 1932. Owing to the reduced scale of operations at Port Colborne and Clydach, the supply of precious metals concentrates which form the raw material for the English refinery at Acton was greatly reduced, entailing a corresponding reduction in the output of platinum andpalladium. Platinum production was 26,213 ounces compared with 44,725 ounces for 1931 and the production of palladium fell from 39,315 ounces in 1931 to 29,496 ounces in 1932. The purity of the metals has consistently improved. Experimental work looking to the increased use of the platinum metals has been actively prosecuted throughout the year and further progress made in the electro-plating of palladium. Falconbridge Nickel Mines Ltd. continuously operated the department for concentrating precious metal slimes in its Norwegian refinery and shipments of concentrated slimes took place at suitable intervals.

Chas. Engelhard, President, Baker & Co. Inc., states in "Metal and Mineral Markets" that: "Though the platinum metals, taken as a group, suffered during 1932 under the world-wide depression in business, efforts to expand the market met with success in a number of instances. Platinum actually has improved its position in the jewellery trade ... Of equal importance was the realization by the jewellery trade that iridium-platinum could be drawn and spun with relative ease, and that its surface had a distinctive and interesting appearance ... Madically new types of plating baths, for the deposition of platinum and palladium were developed and the already highly successful rhodium baths were further improved. Rhodium was increasingly used where a white, highly reflective, non-tarnishing electroplate was required. Platinum metals in dental alloys received further attention. Recognition of the fact that the high palladium content dental alloys, which are white in colour, are less conspicuous than gold, led to the development and marketing of such alloys by several of the

leading manufacturers of dental supplies. During 1932 considerable interest was shown in the development of long-life platinum wound furnaces, in the form of small laboratory and dental equipment as well as commercial furnaces. Platinum as a catalyst in the production of sulphuric acid was given more attention in 1932. Tests of corrosion-resisting alloys containing platinum were begun in chemical plant equipment in which base metals proved to be inadequate.

The United States Bureau of Mines state that reports from refiners of crude platinum, gold bullion and copper indicate that 17,616 ounces of new platinum metals were recovered in the United States in 1932, a decrease of 51 per cent as compared with 1931; platinum metals sold by refiners in the United States during1932 were as follows:

То		Platinum	ARTON CONTRACTOR CONTR	Iridium oy ounces)	Others	TOTAL
	Chemical Industry	5,157	495	52	218	5,922
	Electrical	3,456	6,309	431.	23	10,219
	Dental	8,683	12,900	73	9	21,665
	Jewellery	33,376	5,817	1,719	314	41,226
	Miscellaneous	3,896	204	274	27	4,401
	TUTAL	54,568	25,725	2,549	591	83,433

Stocks of platinum metals in the hands of United States refiners on December 31, 1932, amounted to 75,911 ounces, a decrease of 14 per cent from 1931.

According to a "keuter" message from Moscow the Soviet Finance Commissariat was believed in May, 1933, to be considering the introduction of a platinum currency to meet the increase of output of the metal and, at the same time, for the convenience of foreigners. The currency, according to the report, would be purchasable only for foreign "valuta" in order not to restrict the supply of dollars and sterling essential for meeting commitments abroad.

"Metallwirtschaft" states that an electric resistance furnace using rhodium wire as a heating element was being developed at the Institute of Technology, Berlin, in 1932, the new furnace equipped with a rhodium resistance wire of 0.6 mm. diameter, operated at 14.5 amps. and 35 volts. The results obtained showed that a temperature of above 1700 degrees 0. could be safely obtained.

It is announced that operations will be resumed in South Africa at an early date at the mine of Rustenburg Platinum Mines Ltd., in which the Potgietersrust Platinums Ltd., is largely interested. This company commenced production on September 1, 1931, but owing to the unsatisfactory condition of the market for platinum and allied metals, stocks accumulated to such an extent that suspension of operations were necessitated in April, 1932.

The United States Department of Commerce reports that during 1932 Colombia exported 16,055 ounces of platinum from Cartagena and Buenaventura, the bulk going from the former port. Export figures for platinum may usually be considered as production figures since there is no domestic consumption, but it is understood that much of the 1932 output was not exported.

The International Platinum Cartel appears to have become more active, and it may now be able to make its effectiveness felt in the trade in a higher degree than before. Recent trade movements indicate that the Soviets are co-operating with the Cartel.

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Production	of Platinum Grou	p Metals in Can			RHGDT DM		
	PLATI	N U M	~ * * * * * * * * * * * * * * * * * * *	PALLADIUM, RHGDIUM, IRIDIUM, ETC.			
	Fine ounces \$			Fine ounces \$			
1931	11 795	1 505 177	16	,918	1 6177	777	
Ontario	· · · · · · · · · · · · · · · · · · ·		1,595,117 46 1,783		1,217,	(11)	
TOTAL	the same of the sa	1,596,900	46	918	1,217,	717	
					The sales		
1932	97 994	1 007 691	77	61.6	001	000	
Ontario	27,284	1,097,021	٥١,	,613	901,890		
TOTAL			37,613		901,890		
	THE RESERVE		a simon and				
Imports :	into Canada and		inum, 1931 g	and 1932.	9 3	2	
		Fine oz.	THE RESIDENCE OF THE PERSON NAMED IN	Fine oz.	the second second second second	6	
		- LIIC OZA	<del>Y</del>	- 1110 021			
EXPORTS - Contained in concent Platinum, old and so	n bars, strips,	etc 14,202 81	1,520 45,802 7,106 54,428 1,135,388 2,070 1,137,458	14,570 50	2,374	And	
	D	IRECTOR	<u>Y</u>				
Canadian Min	ning and Smeltin	g Companies Pro	ducing Plati	inum Metal	Ls, 1932.		
Name		Head Office		Log	cation of R	efinery	
International Nickel Co. of Canada, Ltd. Copper Cliff, Unt. Falconbridge Nickel Mines Ltd. 100 Adelaide St. W., Toronto, Unt.				Acton, England Kristiansand, Norway			
The following shipments of osmiridi	ng table shows um and platinum						

		1 9 3 1 Corrected		3 2 mated
	Ounces -	Value(pounds)	Ounces	Value(pounds)
Osmiridium	6,199 36,545(x)	63,174 217,807	4,998 7,086(x)	<b>3</b> 9,9 <b>3</b> 6 42,352

<sup>(</sup>x) According to the Government Mining Engineer's table, from which these figures are quoted, they include "other metals of the platinum group and some gold."

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## WORLD PRODUCTION OF PLATINUM METALS, 1929-1931.

(Troy Ounces)					
Producing Country	1929	1930	1931		
BRITISH EMPIRE					
DAGE LEBOTE SENSE SENSE					
Sierre Leone -					
Creae	26	542	594		
union of South Africa -	04.004	40 777	43 686		
Cruae (content)	24,084	49,375	41,220		
Concentrates (content)	5,730	5,967	5,943		
Osmiridium	5,810	5,732	6,306		
Platinum from placers (content)	28	17	20		
hecovered from Untario nickel-copper matte:-					
Platinum	12,491	34,007	44,775		
Palladium	12,408	29,959)	46,918		
Other metals	4,910	4,133)	40,9TO		
New South Wales -					
Platinum from placers	128	155	283		
Tasmania -	2 500	OFF	3 000		
Osmiridium from placers	1,360	953	1,280		
New Zealand -	7	3	1		
Platinum from placers	,	0	1		
o. iridium from placers	29	11	20		
On till datum fracers	20		NO		
FOREIGN COUNTRIES					
Constitution of the Consti					
Russia -		Marine Marine			
Crude platinum from placers (estimated)	100,000	(a)	(a)		
Abyssinia -	E 0.40	T 005			
Platinua	3,842	3,805	(a)		
United States -	797	527	88.5		
Platinum from placers	516	797	446		
New platinum metals recovered by refineries(b)	47,977	43,502	36,205		
Colombia -	21,011	20,000			
Pl: tinum from placers	45,576(e)	42,381(e)	35,793		
Japan -		THE STATE OF			
Platinum from placers	147	128	(a)		

<sup>(</sup>a) Information not available.

<sup>(</sup>b) These figures include recoveries from imported concentrates, etc.

<sup>(</sup>c) Figures as published by U.S. Bureau of Mines.

Complete data for 1932 not available.

The above table on world production was taken from the Imperial Institute's publication "The Mineral Industry of the British Empire and Foreign Countries."