

# Mineral Industry Surveys

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## COBALT IN OCTOBER 2022

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals in October 2022 was 12% less than that imported during September 2022. For the first 10 months of 2022, the amount of cobalt contained in imports was 7% more than that imported during the same period in 2021 (table 2). The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals in October 2022 was 67% more than that exported during September 2022 and during the first 10 months of 2022, the amount exported was 5% more than that exported during the same period in 2021 (table 4).

## Prices

During the past 2 years, London Metal Exchange (LME) stocks trended downward and cobalt prices fluctuated but generally trended upward through the second quarter of 2022 before sharply declining to annual year-to-date lows in August and then fluctuating within a narrow range (fig. 1, table 1). In October, the monthly average U.S. spot cobalt price was

unchanged from that in September 2022 and was 3% lower than that in October 2021. The monthly average LME cash mean price was unchanged from that in September 2022 and was 6% lower than that in October 2021. The following listed prices are for cobalt metal in October, in dollars per pound.

Type	Price range	Average price
U.S. spot <sup>1</sup>	24.75–26.80	25.94
LME cash mean <sup>2</sup>	23.25–23.26	23.25

<sup>1</sup>Source: S&P Global Platts Metals Week, minimum 99.8% cobalt cathode.

<sup>2</sup>London Metal Exchange, mean of the cash buyer and cash seller price, minimum 99.3% cobalt briquettes, cathode, ingot, or rounds (converted from dollars per metric ton and rounded to the nearest cent).

## Industry News

Jervois Global Ltd. (Australia) began the first stage of plant commissioning at its Idaho Cobalt Operations (ICO) near Salmon, ID. The ICO will produce separate cobalt and copper

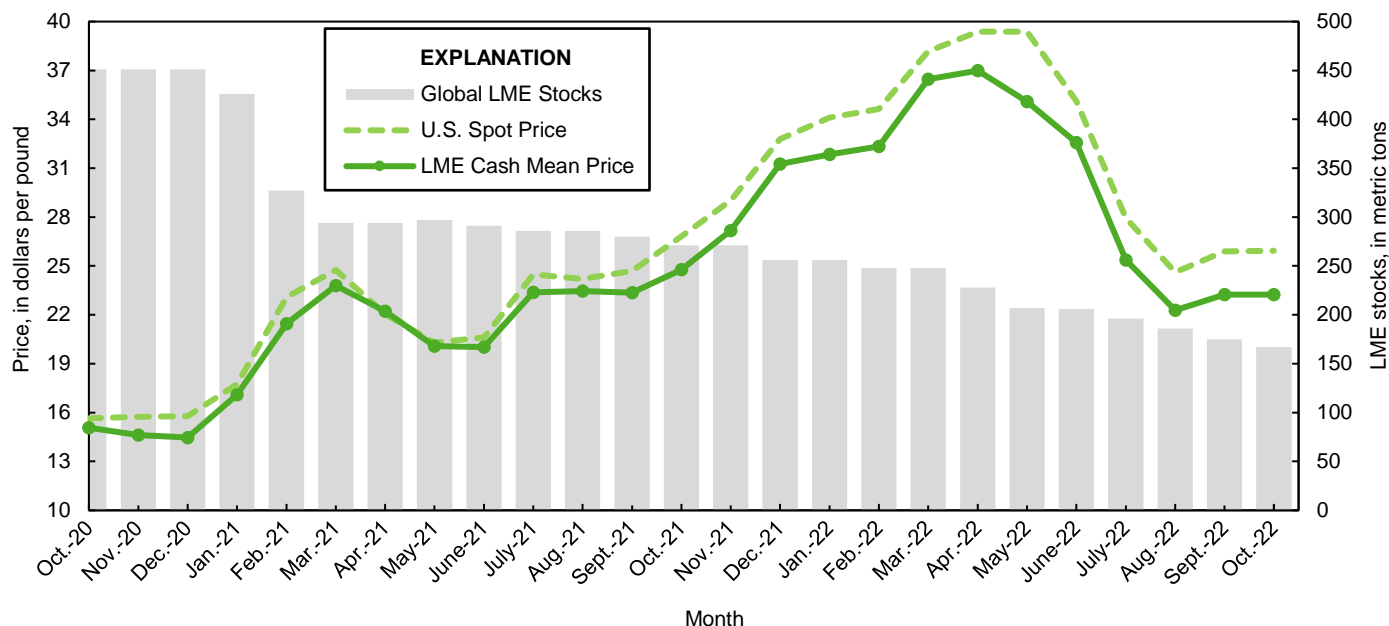


Figure 1. Global LME cobalt stocks, average U.S. spot cobalt prices, and average LME cash mean cobalt prices for October 2020 through October 2022. Sources: S&P Global Platts Metals Week and London Metal Exchange.

concentrates from an underground cobalt-copper-gold mine. The company expected to begin producing commercial concentrates by yearend 2022, and to achieve steady state production at nameplate capacity by the end of March 2023. Production guidance was estimated at 1,500 to 1,700 metric tons (t) of cobalt in concentrate in 2023 and 1,900 to 2,100 t of cobalt in concentrate in 2024. The ICO mine will be one of only two mines in the world where cobalt is the principal product. The other is Compagnie de Tifnout Tiranimine's Bou Azzer Mine in Morocco (Jervois Global Ltd., 2022a, p. 21, 23, 25; 2022b).

Because there is currently no capacity to refine cobalt concentrates in the United States, the cobalt concentrate produced at ICO will be exported for refining. Jervois has the option to refine the concentrate at its 100%-owned São Miguel Paulista refinery in São Paulo, Brazil, after the addition of pressure oxidative leaching. Jervois is also in negotiations with third-party processors for the sale of its concentrate (Jervois Global Ltd., 2022a, p. 21, 45; 2022b).

## References Cited

- Jervois Global Ltd., 2022a, Building a leading independent cobalt and nickel company—São Miguel Paulista restart—Final investment decision and equity capital raising: Cremorne, Victoria, Australia, Jervois Global Ltd. presentation, November 10, 64 p. (Accessed December 28, 2022, at <https://wcsecure.weblink.com.au/pdf/JRV/02596266.pdf>.)
- Jervois Global Ltd., 2022b, Jervois commences commissioning at Idaho Cobalt Operations in the U.S.: Cremorne, Victoria, Australia, Jervois Global Ltd. news release, October 10, 5 p. (Accessed December 28, 2022, at <https://www.sedar.com/GetFile.do?lang=EN&docClass=8&issuerNo=00047809&issuerType=03&projectNo=03444480&docId=5290941>.)

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TABLE 1  
REPORTED STOCKS OF COBALT METAL, END OF PERIOD

(Metric tons, contained cobalt)

Period	U.S. Government <sup>1</sup>	LME <sup>2</sup>		Total
		U.S. warehouse	Non-U.S. warehouse	
2021:				
October	302	50	221	271
November	302	50	221	271
December	302	50	206	256
2022:				
January	302	50	206	256
February	302	54	194	248
March	302	54	194	248
April	302	54	174	228
May	302	39	168	207
June	302	39	167	206
July	302	39	157	196
August	302	39	147	186
September	302	34	141	175
October	302	34	133	167

<sup>1</sup>Data from Defense Logistics Agency Strategic Materials.

<sup>2</sup>London Metal Exchange.

TABLE 2  
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY OR LOCALITY<sup>1</sup>

Period and country or locality of origin	Metals <sup>2</sup>		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt content for the period <sup>4</sup> (metric tons)	Cobalt content, year to date <sup>4,5</sup> (metric tons)
	Gross weight (metric tons)	Value <sup>6</sup> (thousands)	Gross weight (metric tons)	Value <sup>6</sup> (thousands)	Gross weight (metric tons)	Value <sup>6</sup> (thousands)		
2021:								
October	722	\$35,200	168	\$6,040	269	\$3,710	926	8,380
November	475	25,500	267	10,100	230	3,310	736	9,120
December	440	25,500	169	6,410	410	5,070	679	9,800
January–October	6,300	272,000	1,790	58,200	2,680 <sup>r</sup>	32,000 <sup>r</sup>	8,380 <sup>r</sup>	XX
January–December	7,210	323,000	2,220	74,700	3,320	40,400	9,800	XX
2022:								
January	754	44,600	84	3,540	148	2,860	859	859
February	440	24,800	161	7,460	382	3,790	667	1,530
March	648	42,400	256	11,400	1,040	6,200	1,110	2,640
April	343	24,000	193	10,100	487	4,040	624	3,260
May	900	68,900	211	10,800	1,290	6,910	1,410	4,670
June	504	38,300	160	8,640	992	5,750	890	5,560
July	685	50,500	193	10,500	1,430	7,190	1,210	6,770
August	530	36,900	134	6,130	153	2,010	671	7,440
September	578	34,600	200	7,120	310	4,410	827	8,270
October:								
Australia	5	223	--	--	--	--	5	53
Belgium	50	2,710	22	913	--	--	66	241
Brazil	--	--	--	--	--	--	--	194
Canada	106	5,500	--	--	--	--	106	1,000
China	5	371	2	87	18	178	12	138
Finland	5	270	29	1,020	90	1,520	57	1,960
Germany	5	400	--	--	--	--	5	139
Hong Kong	--	--	--	--	--	--	--	49
India	--	--	--	--	--	--	--	24
Italy	--	--	(7)	6	--	--	(7)	5
Japan	106	6,000	--	--	--	--	106	1,020
Korea, Republic of	(7)	4	--	--	--	--	(7)	68
Madagascar	--	--	--	--	--	--	--	231
Mexico	--	--	--	--	--	--	--	30
Morocco	20	1,050	--	--	--	--	20	155
Netherlands	--	--	--	--	--	--	--	17
Norway	176	9,460	--	--	--	--	176	2,290
Russia	63	2,620	--	--	--	--	63	436
South Africa	24	192	--	--	--	--	24	145
Spain	--	--	--	--	--	--	--	6
Taiwan	--	--	28	1,560	57	403	34	210
Turkey	--	--	--	--	--	--	--	24
United Kingdom	4	362	36	1,450	34	428	41	494
Zambia	8	417	--	--	--	--	8	54
Other	(7)	37	--	--	1	27	1	10
Total	579	29,600	117	5,030	200	2,550	725	8,990
January–October	5,960	395,000	1,710	80,700	6,440	45,700	8,990	XX

<sup>r</sup>Revised. XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder; may include intermediate products of cobalt metallurgy.

<sup>3</sup>Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

<sup>4</sup>Estimated from gross weights.

<sup>5</sup>May include revisions to previously published data.

<sup>6</sup>Customs value.

<sup>7</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY OR LOCALITY<sup>1</sup>

Period and country or locality of origin	Unwrought cobalt alloys		Cobalt waste and scrap		Wrought cobalt and cobalt articles	
	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)
2021:						
October	20	\$1,110	160	\$2,300	27	\$4,470
November	17	838	188	2,710	24	4,150
December	30	1,460	135	1,200	32	4,710
January–October	163	7,500	1,230	15,900	259	36,600 <sup>r</sup>
January–December	210	9,800	1,560	19,800	315	45,500
2022:						
January	51	2,440	163	1,840	53	5,770
February	19	1,020	79	1,390	16	3,060
March	6	326	189	2,980	44	4,830
April	21	1,240	192	2,830	27	3,200
May	24	1,400	175	2,340	42	4,720
June	25	1,690	155	2,070	44	4,980
July	29	1,760	99	2,060	38	4,080
August	33	1,730	152	2,530	27	3,940
September	35	1,780	200	2,850	33	4,210
October:						
Belgium	9	461	4	162	--	--
Canada	(3)	4	12	277	11	904
France	--	--	19	530	11	568
Germany	--	--	13	123	1	286
Ireland	--	--	45	244	(3)	29
Japan	--	--	4	42	(3)	12
Spain	--	--	7	204	--	--
Taiwan	--	--	6	232	--	--
Tunisia	--	--	12	109	2	73
United Kingdom	23	1,270	9	252	16	1,590
Other	--	--	2	31	2	325
Total	32	1,730	133	2,200	42	3,790
January–October	275	15,100	1,540	23,100	365	42,600

<sup>r</sup>Revised. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Customs value.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF COBALT MATERIALS<sup>1</sup>

Period	Unwrought cobalt, powders, matte, waste and scrap <sup>2</sup>		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt content for the period <sup>4</sup> (metric tons)	Cobalt content, year to date <sup>4,5</sup> (metric tons)
	Gross weight (metric tons)	Value <sup>6</sup> (thousands)	Gross weight (metric tons)	Value <sup>6</sup> (thousands)	Gross weight (metric tons)	Value <sup>6</sup> (thousands)		
2021:								
October	493	\$15,600	2	\$85	(7)	\$10	494	4,170
November	424	10,400	2	101	--	--	426	4,600
December	333	10,000	2	96	--	--	335	4,930
January–October	4,140	118,000	38	867	9	133	4,170	XX
January–December	4,900	139,000	43	1,060	9	133	4,930	XX
2022:								
January	454	14,400	2	83	--	--	456	456
February	293	11,600	1	50	--	--	293	749
March	597	16,600	3	94	--	--	599	1,350
April	378	13,200	1	44	(7)	5	379	1,730
May	493	17,600	7	304	--	--	498	2,220
June	400	12,200	2	79	(7)	6	402	2,630
July	381	14,600	3	145	--	--	384	3,010
August	410	12,000	7	297	(7)	4	416 <sup>r</sup>	3,430
September	344	12,200	7	298	--	--	349	3,780
October	584	16,900	2	64	--	--	585	4,360
January–October	4,330	141,000	35	1,460	1	16	4,360	XX

<sup>1</sup>Revised. XX Not applicable. -- Zero.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

<sup>4</sup>Cobalt acetates and cobalt chlorides.

<sup>5</sup>Estimated from gross weights.

<sup>6</sup>May include revisions to previously published data.

<sup>7</sup>Free alongside ship (f.a.s.) value.

<sup>8</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 5  
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE,  
AND CONCENTRATES<sup>1</sup>

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Gross weight (metric tons)	Value <sup>2</sup> (thousands)	Gross weight (metric tons)	Value <sup>2</sup> (thousands)
2021:				
October	274	\$22,500	--	--
November	139	13,400	--	--
December	217	18,600	(3)	\$4
January–October	1,470 <sup>r</sup>	138,000 <sup>r</sup>	2	22 <sup>r</sup>
January–December	1,820	170,000	2	26
2022:				
January	139	15,400	--	--
February	103	13,300	--	--
March	105	15,300	--	--
April	204	19,200	(3)	4
May	143	16,600	--	--
June	164	16,400	--	--
July	201	23,000	--	--
August	114	18,500	--	--
September	185	25,500	(3)	8
October	121	17,200	--	--
January–October	1,480	181,000	(3)	12

<sup>r</sup>Revised. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Free alongside ship (f.a.s.) value.

<sup>3</sup>Less than ½ unit.

Source: U.S. Census Bureau.