

Mineral Industry Surveys

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COBALT IN MARCH THROUGH JUNE 2014

U.S. cobalt consumption during January through June 2014 was slightly higher than consumption during the same period in 2013. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals during January through June 2014 was 21% more than that imported during the same period in 2013. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals during January through June 2014 was 31% more than that exported during the same period in 2013.

Prices

Prices for cobalt metal, in dollars per pound, are listed below.

March 2014:

Type	Price range	Average price
U.S. spot ¹	14.50-15.50	15.00
LME cash mean ²	12.97-14.27	13.85

April 2014:

Туре	Price range	Average price
U.S. spot ¹	14.00-15.20	14.74
LME cash mean ²	13.37-13.72	13.52

May 2014:

Type	Price range	Average price
U.S. spot ¹	13.00-14.80	13.86
LME cash mean ²	13.44-13.88	13.62

June 2014:

Туре	Price range	Average price
U.S. spot ¹	13.25-14.20	13.76
LME cash mean ²	13.65-14.02	13.81

¹Source: Platts Metals Daily, minimum 99.8% cobalt cathode.

²London 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).

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 $\label{eq:table 1} \textbf{TABLE 1} \\ \textbf{U.S. REPORTED CONSUMPTION OF COBALT MATERIALS}^1$

	2			
Period	Metal ²	compounds ³	Scrap	Total
2013: ^{r, p}	_			
March	289	167	180	636
April	302	173	180	655
May	276	170	180	626
June	286	162	180	628
July	291	169	180	640
August	280	170	180	630
September	297	164	180	641
October	270	175	180	625
November	289	166	180	634
December	286	160	180	626
January-March	879	500	539	1,920
January-April	1,180	673	719	2,570
January-May	1,460	843	899	3,200
January-June	1,740	1,010	1,080	3,830
January–December ⁴	3,450	2,010	2,160	7,620
2014:	_			
January ^r	303	166	180	649
February ^r	299	166	180	645
March	320	166	180	665
April	285	165	180	630
May	295	164	180	639
June	293	169	180	642
January-March	922	498	539	1,960
January–April	1,210	663	719	2,590
January–May	1,500	827	899	3,230
January-June	1,790	996	1,080	3,870

^pPreliminary. ^rRevised.

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

²Includes metal powder.

³Data may include other cobalt materials.

⁴Based on monthly reports.

$\label{eq:table 2a} {\sf U.S. \ REPORTED \ CONSUMPTION \ OF \ COBALT, \ BY \ END \ USE}^1$

(Metric tons, contained cobalt)

	20	13 ^p	2014		
	January-	January–		January-	
End use	March	December ^{2, 3}	March	March	
Steel	134	536	45	134	
Superalloys	899 ^r	3,540 ^r	325	937	
Magnetic alloys	75 ^r	296 ^r	24	74	
Other alloys ⁴	W	W	W	\mathbf{W}	
Cemented carbides ⁵	176 ^r	705 ^r	60	180	
Chemical and ceramic uses ⁶	523 ^r	2,100 r	173	520	
Miscellaneous and unspecified	111 ^r	443 ^r	38	113	
Total	1,920 ^r	7,620 ^r	665	1,960	

^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data; included with

 ${\it TABLE~2b} \\ {\it U.S. REPORTED~CONSUMPTION~OF~COBALT,~BY~END~USE}^{1}$

	20	13 ^p	2014		
	January-	January-		January-	
End use	April	December ^{2, 3}	April	April	
Steel	179	536	45	179	
Superalloys	1,210 ^r	3,540 ^r	290	1,230	
Magnetic alloys	100 r	296 ^r	24	98	
Other alloys ⁴	W	W	W	W	
Cemented carbides ⁵	235 ^r	705 ^r	60	240	
Chemical and ceramic uses ⁶	703 ^r	2,100 r	173	693	
Miscellaneous and unspecified	148 ^r	443 ^r	38	151	
Total	2,570 ^r	7,620 ^r	630	2,590	

^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data; included with

[&]quot;Miscellaneous and unspecified."

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

²Data based on monthly reports.

³May include revisions to previously published data.

⁴Includes nonferrous alloys, welding materials, and wear-resistant alloys.

⁵Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

⁶Includes catalysts, driers in paints or related usages, feed or nutritive additives, glass decolorizer, ground coat frit, pigments, and other uses.

[&]quot;Miscellaneous and unspecified."

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

²Data based on monthly reports.

³May include revisions to previously published data.

⁴Includes nonferrous alloys, welding materials, and wear-resistant alloys.

⁵Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

⁶Includes catalysts, driers in paints or related usages, feed or nutritive additives, glass decolorizer, ground coat frit, pigments, and other uses.

$\label{eq:table 2c} \text{U.S. REPORTED CONSUMPTION OF COBALT, BY END USE}^{\text{I}}$

(Metric tons, contained cobalt)

	20	13 ^p	20	14
	January-	January–		January–
End use	May	December ^{2, 3}	May	May
Steel	224	536	45	224
Superalloys	1,490 ^r	3,540 ^r	300	1,530
Magnetic alloys	124 ^r	296 ^r	24	122
Other alloys ⁴	W	W	W	W
Cemented carbides ⁵	294 ^r	705 ^r	60	300
Chemical and ceramic uses ⁶	881 ^r	2,100 r	171	865
Miscellaneous and unspecified	184 ^r	443 ^r	38	189
Total	3,200 ^r	7,620 ^r	639	3,230

^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data; included with

TABLE 2d U.S. REPORTED CONSUMPTION OF COBALT, BY END USE 1

	20	13 ^p	2014		
	January-	January–		January-	
End use	June	December ^{2, 3}	June	June	
Steel	268	536	45	268	
Superalloys	1,780 ^r	3,540 ^r	298	1,830	
Magnetic alloys	149 ^r	296 ^r	25	147	
Other alloys ⁴	W	W	W	W	
Cemented carbides ⁵	353 ^r	705 ^r	60	360	
Chemical and ceramic uses ⁶	1,050 r	2,100 r	177	1,040	
Miscellaneous and unspecified	221 ^r	443 ^r	38	227	
Total	3,830 ^r	7,620 r	642	3,870	

^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data; included with

[&]quot;Miscellaneous and unspecified."

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

²Data based on monthly reports.

³May include revisions to previously published data.

⁴Includes nonferrous alloys, welding materials, and wear-resistant alloys.

⁵Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

⁶Includes catalysts, driers in paints or related usages, feed or nutritive additives, glass decolorizer, ground coat frit, pigments, and other uses.

[&]quot;Miscellaneous and unspecified."

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

²Data based on monthly reports.

³May include revisions to previously published data.

⁴Includes nonferrous alloys, welding materials, and wear-resistant alloys.

⁵Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

⁶Includes catalysts, driers in paints or related usages, feed or nutritive additives, glass decolorizer, ground coat frit, pigments, and other uses.

 $\label{eq:table 3} \text{U.s. Reported Stocks of Cobalt Materials}^1$

	U.	S. industry ^{p, 2}					
	_	Oxide and		U.S.		LME,3 metal	
	Metal and	other chemical		Government,	U.S.	Non-U.S.	
Period	scrap ⁴	compounds ⁵	Total	metal ⁶	warehouse	warehouse	Total
2013:							
March	576 r	173 ^r	749 ^r	301	44	407	451
April	553 ^r	176 ^r	729 ^r	301	46	392	438
May	547 ^r	173 ^r	720 r	301	46	369	415
June	557 ^r	168 ^r	725 ^r	301	46	418	464
July	540 ^r	169 ^r	709 ^r	301	46	436	482
August	542 ^r	169 ^r	711 ^r	301	46	497	543
September	530 ^r	203 ^r	733 ^r	301	46	488	534
October	521 ^r	210 ^r	731 ^r	301	46	487	533
November	511 ^r	226 r	738 ^r	301	41	481	522
December	557 ^r	229 r	785 ^r	301	41	519	560
2014:							
January	646 r	161 ^r	808 r	301	41	517	558
February	660 r	162 ^r	822 r	301	36	548	584
March	644	160	804	301	36	530	566
April	642	161	803	301	34	514	548
May	638	161	799	301	22	517	539
June	624	161	784	301	20	527	547

^pPreliminary. ^rRevised.

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

²Stocks reported by cobalt processors and consumers.

³London Metal Exchange.

⁴Includes metal powder.

⁵Data may include other cobalt materials.

⁶Data from Defense Logistics Agency, DLA Strategic Materials; uncommitted material only.

 $\label{table 4a} \mbox{U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY}^1$

	M	etals ²	Oxides an	d hydroxides	Salts and	compounds ³	Total cobalt	Cobalt content,
Period and country		Value ⁴	-	Value ⁴	-	Value ⁴	content for	year to
of origin	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	the period ⁵	date ^{5, 6}
2013:			•		•		F	
March	677	\$17,400	225	\$4,490	117	\$923	873	2,610
April	861	22,500	187	4,060	120	1,310	1,030	3,640
May	581	15,300	191	4,000	124	1,300	759	4,400
June	525	14,100	262	5,910	118	1,350	757	5,160
July	887	24,600	224	5,060	147	1,580	1,100	6,250
August	729	20,800	212	4,860	234	2,680	963	7,220
September	680	19,800	197	4,430	91	1,380	858	8,070
October	647	17,700	283	6,630	103	1,230	887	8,960
November	476	13,700	202	4,640	63	773	645	9,610
December	729	19,900	148	3,600	27	380	845	10,500
January-March	2,120	53,300	515	10,400	365	4,030	2,610	XX
January-December	8,230	222,000	2,420	53,600	1,390	16,000	10,500	XX
2014:	=							
January	708	19,000	183	4,130	83	730	864	864
February	465	12,500	192	4,150	124	1,410	648	1,510
March:								•
Australia	57	1,420					57	166
Austria	- 							1
Belgium	3	77	45	1,130			35	91
Brazil	- 				5	58	1	3
Canada	10	505					10	32
China	281	7,270	26	642	10	101	302	632
Congo (Kinshasa)	20	568	25	468			38	43
Finland	81	2,680	59	1,440	126	1,350	167	316
France	2	108					2	8
Germany	2	106			2	18	2	4
India								6
Ireland								(7)
Japan	100	2,720	(7)	4			100	278
Korea, Republic of								(7)
Madagascar	84	2,310					84	168
Mexico					11	65	5	9
Morocco	20	597					20	30
Norway	384	10,500					384	540
Peru					1	31	1	1
Russia	94	2,780					94	244
South Africa	49	1,510					49	102
Sweden								1
Taiwan					48	338	13	21
United Kingdom	1	26	104	2,320	21	319	83	204
Zambia	60	1,610					60	120
Total	1,250	34,800	259	6,010	224	2,280	1,510	3,020
January-March	2,420	66,400	634	14,300	432	4,420	3,020	XX

XX Not applicable. -- Zero.

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

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

³Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

⁴Customs value.

⁵Estimated from gross weights.

 $^{^6\}mathrm{May}$ include revisions to previously published data.

⁷Less than ½ unit.

 $\label{table 4b} \textbf{U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY}^1$

	M	etals ²	Oxides an	d hydroxides	Salts and	alts and compounds ³ Total cobalt		Cobalt content,
Period and country	-	Value ⁴	-	Value ⁴		Value ⁴	content for	year to
of origin	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	the period ⁵	date ^{5, 6}
2013:					•			
April	861	\$22,500	187	\$4,060	120	\$1,310	1,030	3,640
May	581	15,300	191	4,000	124	1,300	759	4,400
June	525	14,100	262	5,910	118	1,350	757	5,160
July	887	24,600	224	5,060	147	1,580	1,100	6,250
August	729	20,800	212	4,860	234	2,680	963	7,220
September	680	19,800	197	4,430	91	1,380	858	8,070
October	647	17,700	283	6,630	103	1,230	887	8,960
November	476	13,700	202	4,640	63	773	645	9,610
December	729	19,900	148	3,600	27	380	845	10,500
January–April	2,980	75,800	702	14,500	485	5,340	3,640	XX
January-December	8,230	222,000	2,420	53,600	1,390	16,000	10,500	XX
2014:								
January	708	19,000	183	4,130	83	730	864	864
February	465	12,500	192	4,150	124	1,410	648	1,510
March	1,250	34,800	259	6,010	224	2,280	1,510	3,020
April:							Í	
Australia	78	2,220					78	244
Austria		·						1
Belgium	3	94	45	1,090			35	126
Brazil	20	568	14	144	15	171	34	38
Canada	9	539					9	42
China	154	4,620	41	790	48	422	199	831
Congo (Kinshasa)		·	33	1,260			23	66
Finland	35	1,500	32	824	163	1,830	112	428
France	3	157					3	11
Germany	5	181					5	9
India					40	334	11	17
Ireland								(7)
Japan	77	2,230					77	354
Korea, Republic of	(7)	3					(7)	(7)
Madagascar	84	2,590					84	252
Mexico								9
Morocco	10	305					10	40
Norway	74	2,250					74	614
Peru								1
Russia	120	3,580					120	364
South Africa	100	2,990					100	202
Sweden	4	239					4	5
Taiwan					21	152	6	27
United Kingdom	1	56	94	2,210	11	111	72	276
Zambia	81	2,260					81	201
Total	857	26,400	258	6,330	298	3,020	1,140	4,160
January–April	3,280	92,800	892	20,600	730	7,440	4,160	XX

XX Not applicable. -- Zero.

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

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

³Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

⁴Customs value.

⁵Estimated from gross weights.

⁶May include revisions to previously published data.

⁷Less than ½ unit.

 $\label{eq:table 4c} TABLE~4c\\ U.S.~IMPORTS~FOR~CONSUMPTION~OF~COBALT,~BY~COUNTRY^1$

	Me	etals ²	Oxides an	Oxides and hydroxides		Salts and compounds ³		Cobalt content, year to
Period and country	Value ⁴		Value ⁴		-	Value ⁴	Total cobalt content for	
of origin	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	the period ⁵	date ^{5, 6}
2013:	<u> </u>	(1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<u> </u>	(* 1)	<u> </u>	(* * * * * * * * * * * * * * * * * * *	ine periou	uuro
May	581	\$15,300	191	\$4,000	124	\$1,300	759	4,400
June	525	14,100	262	5,910	118	1,350	757	5,160
July	887	24,600	224	5,060	147	1,580	1,100	6,250
August	729	20,800	212	4,860	234	2,680	963	7,220
September	680	19,800	197	4,430	91	1,380	858	8,070
October	647	17,700	283	6,630	103	1,230	887	8,960
November	476	13,700	202	4,640	63	773	645	9,610
December	729	19,900	148	3,600	27	380	845	10,500
January–May	3,560	91,100	893	18,500	610	6,640	4,400	XX
January-December	8,230	222,000	2,420	53,600	1,390	16,000	10,500	XX
2014:	-,	,	,	,	,	.,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
January	708	19,000	183	4,130	83	730	864	864
February	465	12,500	192	4,150	124	1,410	648	1,510
March	1,250	34,800	259	6,010	224	2,280	1,510	3,020
April	857	26,400	258	6,330	298	3,020	1,140	4,160
May:				-,,,,,,,		-,	-,	.,
Australia	171	4,960					171	415
Austria	(7)	18					(7)	1
Belgium	2	103	88	2,290	127	573	99	226
Brazil					(7)	3	(7)	38
Canada	8	412	(7)	3			8	50
China	85	2,610	61	1,430			129	959
Congo (Kinshasa)		_,						66
Finland	49	1,760	31	757	45	764	91	519
France	2	105					2	13
Germany	3	223					3	12
India					20	180	5	22
Ireland							- <u>-</u> -	(7)
Japan	77	2,180					77	431
Korea, Republic of								(7)
Madagascar	84	2,620					84	336
Mexico					3	15	1	11
Morocco	10	292					10	50
Norway	182	5,560					182	796
Peru					2	38	1	1
Russia	60	1,700					60	423
South Africa	26	774					26	228
Sweden								5
Taiwan								27
United Kingdom	2	82	76	1,800	24	350	65	341
Zambia	132	3,650		1,800			132	333
Total	894	27,100	255	6,280	220	1,920	1,150	5,300
January–May	4,170	120,000	1,150	26,900	949	9,360	5,300	3,300 XX

XX Not applicable. -- Zero.

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

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

³Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

⁴Customs value.

⁵Estimated from gross weights.

⁶May include revisions to previously published data.

⁷Less than ½ unit.

$\label{table 4d} \textbf{U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY}^{1}$

(Metric tons, gross weight of material, except as noted)

	Me	etals ²	Oxides an	Oxides and hydroxides		Salts and compounds ³		Cobalt content,
Period and country	Value ⁴		Value ⁴		Value ⁴		content for	year to
of origin	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	the period ⁵	date ^{5, 6}
2013:								
June	525	\$14,100	262	\$5,910	118	\$1,350	757	5,160
July	887	24,600	224	5,060	147	1,580	1,100	6,250
August	729	20,800	212	4,860	234	2,680	963	7,220
September	680	19,800	197	4,430	91	1,380	858	8,070
October	647	17,700	283	6,630	103	1,230	887	8,960
November	476	13,700	202	4,640	63	773	645	9,610
December	729	19,900	148	3,600	27	380	845	10,500
January-June	4,090	105,000	1,160	24,400	727	8,000	5,160	XX
January-December	8,230	222,000	2,420	53,600	1,390	16,000	10,500	XX
2014:		,	,	,	Ź	,	,	
January	708	19,000	183	4,130	83	730	864	864
February	465	12,500	192	4,150	124	1,410	648	1,510
March	1,250	34,800	259	6,010	224	2,280	1,510	3,020
April	857	26,400	258	6,330	298	3,020	1,140	4,160
May	894	27,100	255	6,280	220	1,920	1,150	5,300
June:		27,100	200	0,200	220	1,520	1,100	2,500
Australia	- 							415
Austria								1
Belgium	- -		76	1,840			55	280
Brazil	20	551			9	119	23	60
Canada	- 19	963	(7)	13		117	20	69
China	68	1,880	14	319	47	568	95	1,050
Congo (Kinshasa)	=	1,000	20	360			14	1,030
Finland	65	2,150		3	33	238	73	592
France	=	2,130 54	(7)					14
	_ 1						1	
Germany	_ 4	170					4	16
India								22
Ireland								(7)
Italy	_ 1	36					1	1
Japan	_ 77	2,260					77	508
Korea, Republic of	(7)	5					(7)	(7
Madagascar	21	634					21	357
Mexico	_ 							11
Morocco	_ 10	288					10	60
Netherlands					4	6	1	1
Norway	254	7,620					254	1,050
Peru	_ 							1
Philippines	_ _		10	179			7	7
Russia	97	2,810					97	521
South Africa	_ 							228
Sweden	_ _							5
Taiwan								27
United Kingdom	1	35	131	2,940	9	88	97	439
Zambia	60	1,670					60	393
Total	698	21,100	251	5,650	102	1,020	911	6,210
January-June	4,870	141,000	1,400	32,500	1,050	10,400	6,210	XX

XX Not applicable. -- Zero.

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

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

 $^{^3\}mbox{Includes}$ cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

 $^{^4}$ Customs value.

⁵Estimated from gross weights.

⁶May include revisions to previously published data.

 $^{^7}Less$ than $^1\!\!/_2$ unit.

 $\label{eq:table 5a} \text{U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY}^1$

	Unwrough	t cobalt alloys	Cobalt was	ste and scrap	-	cobalt and articles
Period and country	Value ²		-	Value ²	-	Value ²
of origin	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)
2013:	. ,	,		,		,
March	50	\$1,470	45	\$635	17	\$1,960
April	89	2,890	52	1,230	26	2,470
May	87	3,260	65	985	15	1,680
June	59	1,830	63	840	21	2,000
July	37	1,310	50	637	26	2,580
August	128	4,000	58	1,170	16	2,320
September	112	3,270	64	1,040	43	3,020
October	87	2,900	63	821	20	2,690
November	93	2,790	33	335	20	2,190
December	59	1,630	104	1,940	21	2,420
January-March	216	6,420	145	1,910	47	5,430
January-December	967	30,300	698	10,900	254	26,800
2014:	:					
January	86	2,640	69	1,040	20	1,990
February	63	1,870	54	723	24	2,310
March:	- 1					
Austria					(3)	12
Belgium	11	351				
Canada	35	1,110	4	56	9	775
China	5	145			2	348
Denmark					(3)	4
Finland	(3)	19				
France	(3)	14	24	458	3	187
Germany			19	247	2	436
Ireland			38	375		
Japan			12	129	(3)	27
Korea, Republic of			7	89		
Norway	2	84	15	632		
Switzerland					(3)	8
Taiwan			3	64	(3)	11
United Kingdom	(3)	7	30	264	3	231
Total	54	1,730	151	2,320	19	2,040
January-March	203	6,240	274	4,080	63	6,330

⁻⁻ Zero

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

²Customs value.

³Less than ½ unit.

 $\label{table 5b} \textbf{U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY}^1$

	Unwrought	Unwrought cobalt alloys Cobalt waste and scrap			Wrought cobalt and cobalt articles		
Period and country		Value ²		Value ²	-	Value ²	
of origin	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	
2013:				,			
April	89	\$2,890	52	\$1,230	26	\$2,470	
May	87	3,260	65	985	15	1,680	
June	- 59	1,830	63	840	21	2,000	
July	37	1,310	50	637	26	2,580	
August	128	4,000	58	1,170	16	2,320	
September	112	3,270	64	1,040	43	3,020	
October	87	2,900	63	821	20	2,690	
November	93	2,790	33	335	20	2,190	
December	- 59	1,630	104	1,940	21	2,420	
January-April	305	9,310	198	3,140	73	7,900	
January-December	967	30,300	698	10,900	254	26,800	
2014:	_	ŕ					
January	- 86	2,640	69	1,040	20	1,990	
February	63	1,870	54	723	24	2,310	
March	54	1,730	151	2,320	19	2,040	
April:	_	<u> </u>		<u> </u>		<u> </u>	
Austria	(3)	10			(3)	38	
Belgium	6	193	(3)	12	(3)	18	
Canada	42	1,350	17	242	3	798	
China	- 				2	246	
Finland	(3)	20					
France	1	21	8	134	1	111	
Germany	- 		11	164	4	587	
Ireland	(3)	3	19	190			
Japan	- 		4	36	1	46	
New Zealand	- 		(3)	3			
Norway	25	1,040					
Poland	- 				(3)	5	
Singapore	- 		4	45			
Switzerland	- 				(3)	23	
Taiwan	- 				(3)	9	
United Kingdom	- 		31	513	4	256	
Total	73	2,640	95	1,340	15	2,140	
January-April	276	8,880	368	5,420	78	8,470	

⁻⁻ Zero.

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

²Customs value.

³Less than ½ unit.

 $\label{eq:table 5c} TABLE~5c$ U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1

	Unwrough	t cobalt alloys	Cohalt was	ste and scrap	_	cobalt and articles
D. J. L. J.	Unwrough		Cobait was		Cobait	Value ²
Period and country	0	Value ²	0	Value ²	0	
of origin	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)
2013:		e2 2 0	65	0005	1.5	61.600
May	87	\$3,260	65	\$985	15	\$1,680
June	59	1,830	63	840	21	2,000
July	37	1,310	50	637	26	2,580
August	128	4,000	58	1,170	16	2,320
September	112	3,270	64	1,040	43	3,020
October	87	2,900	63	821	20	2,690
November	93	2,790	33	335	20	2,190
December	59	1,630	104	1,940	21	2,420
January–May	393	12,600	262	4,120	88	9,570
January-December	967	30,300	698	10,900	254	26,800
2014:	-					
January	86	2,640	69	1,040	20	1,990
February	63	1,870	54	723	24	2,310
March	54	1,730	151	2,320	19	2,040
April	73	2,640	95	1,340	15	2,140
May:		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		
Austria	- 				(3)	16
Belgium	9	316	9	479	1	36
Canada	75	2,270	7	90	3	701
China	- 				4	438
Finland	2	97				
France	1	13	14	275	1	125
Germany	- 		8	137	2	483
Ireland	- 		23	250		
Israel			1	23		
Japan			11	128	(3)	9
Korea, Republic of			4	58		
Mexico	-		(3)	2		
Norway			13	549		
			3	49		
Singapore Switzerland	- -					18
					(3)	
Taiwan			3	64	(3)	8
United Kingdom	(3)	13	26	183	1	108
Total	88	2,710	123	2,290	12	1,940
January–May	364	11,600	491	7,710	91	10,400

⁻⁻ Zero.

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

²Customs value.

³Less than ½ unit.

 $\label{table 5d} TABLE~5d$ U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1

	Unwrough	t cobalt alloys	Cobalt was	ste and scrap		cobalt and articles
Period and country		Value ²	-	Value ²	-	Value ²
of origin	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)
2013:					•	,
June	59	\$1,830	63	\$840	21	\$2,000
July	37	1,310	50	637	26	2,580
August	128	4,000	58	1,170	16	2,320
September	112	3,270	64	1,040	43	3,020
October	87	2,900	63	821	20	2,690
November	93	2,790	33	335	20	2,190
December	59	1,630	104	1,940	21	2,420
January-June	451	14,400	326	4,960	109	11,600
January-December	967	30,300	698	10,900	254	26,800
2014:	•					
January	86	2,640	69	1,040	20	1,990
February	63	1,870	54	723	24	2,310
March	54	1,730	151	2,320	19	2,040
April	73	2,640	95	1,340	15	2,140
May	88	2,710	123	2,290	12	1,940
June:						
Austria					(3)	13
Belgium	13	426			(3)	18
Brazil			4	40		
Canada	31	915	3	28	5	580
China			1	3	2	145
Czech Republic			1	7		
Finland	4	167				
France			2	27	3	288
Germany			4	78	(3)	249
Ireland	(3)	4	15	190		
Italy					(3)	5
Japan			8	154	(3)	3
Mexico			2	18		
Norway	4	118				
United Kingdom			23	189	7	243
Total	51	1,630	61	734	17	1,540
January-June	415	13,200	553	8,440	108	12,000

⁻⁻ Zero

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

²Customs value.

³Less than ½ unit.

 $\label{eq:table 6} \text{U.S. EXPORTS OF COBALT MATERIALS}^1$

	•	obalt, powders,				. 2	Total cobalt	Cobalt
	matte, was	matte, waste and scrap ²		Oxides and hydroxides		Salts and compounds ³		content,
		Value ⁴		Value ⁴		Value ⁴	content for	year to
Period	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	the period ⁵	date ^{5, 6}
2013:	_							
March	319	\$9,270	48	\$875	23	\$189	360	919
April	281	8,050	3	88	19	162	288	1,210
May	343	9,570	3	92	24	225	351	1,560
June	264	7,090	52	713	2	34	302	1,860
July	265	7,110	20	520	1	13	279	2,140
August	346	7,770	53	118	39	359	393	2,530
September	250	7,060	35	83	39	332	285	2,820
October	283	7,710	16	324	38	334	303	3,120
November	314	9,880	110	649	19	173	399	3,520
December	305	8,440	31	600	20	169	332	3,850
January-March	847	24,300	86	1,060	42	353	919	XX
January-April	1,130	32,400	89	1,150	61	515	1,210	XX
January-May	1,470	41,900	92	1,240	85	740	1,560	XX
January-June	1,740	49,000	145	1,960	87	774	1,860	XX
January-December	3,500	97,000	409	4,250	243	2,150	3,850	XX
2014:								
January	245	7,200	(7)	13	58	486	260	260
February	359	10,500	15	251	21	105	375	635
March	345	9,570	72	1,070	43	349	407	1,040
April	399	10,800	62	851	20	180	448	1,490
May	505	9,600	27	538			524	2,010
June	379	9,360	51	529	1	9	415	2,430
January-March	949	27,300	87	1,340	122	940	1,040	XX
January–April	1,350	38,100	149	2,190	142	1,120	1,490	XX
January–May	1,850	47,700	176	2,730	142	1,120	2,010	XX
January-June	2,230	57,000	227	3,260	142	1,130	2,430	XX

XX Not applicable.

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

²May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

³Cobalt acetates and cobalt chlorides.

⁴Free alongside ship (f.a.s.) value.

⁵Estimated from gross weights.

⁶May include revisions to previously published data.

⁷Less than ½ unit.

 $\label{eq:table 7} \mbox{U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE,} \\ \mbox{AND CONCENTRATES}^1$

	Wrough	t cobalt and	Cobalt ore and concentrates		
	cobal	t articles			
	-	Value ²		Value ²	
Period	Quantity	(thousands)	Quantity	(thousands)	
2013:					
March	236	\$11,900	63	\$95	
April	155	8,080			
May	229	10,900	85	121	
June	197	10,100	(3)	4	
July	174	9,160			
August	260	11,900			
September	119	7,300			
October	158	8,790	157	355	
November	154	9,080			
December	153	8,950	150	330	
January-March	594	29,600	64	125	
January-April	749	37,600	64	125	
January-May	978	48,600	149	246	
January-June	1,170	58,700	149	250	
January-December	2,190	114,000	456	935	
2014:					
January	109	6,630	(3)	26	
February	152	9,370	1	5	
March	184	9,860	(3)	4	
April	150	9,020	281	365	
May	126	8,060	(3)	4	
June	160	9,190	165	688	
January-March	444	25,900	1	35	
January-April	594	34,900	282	400	
January–May	720	43,000	282	404	
January-June	880	52,100	447	1,090	

⁻⁻ Zero

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

²Free alongside ship (f.a.s.) value.

³Less than ½ unit.