

Mineral Industry Surveys

For information, contact:

Kim B. Shedd, Tungsten Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4974, Fax: (703) 648-7757
E-mail: kshedd@usgs.gov

Eric Seavey (Data)
Telephone: (703) 648-7972
Fax: (703) 648-7975

MINES FaxBack: (703) 648-4999
Internet: <http://minerals.usgs.gov/minerals>

TUNGSTEN IN JUNE 2000

U.S. net production of intermediate tungsten products, including metal powder and tungsten carbide powder produced from hydrogen-reduced metal powder, was 26% higher during January through June 2000 than net production during the same period in 1999, according to the U.S. Geological Survey.

Total U.S. reported consumption of ferrotungsten, tungsten metal powder, tungsten carbide powder, tungsten scrap, and other tungsten materials in January through June 2000 was 9% higher than that during the same period in 1999. These materials were used to make alloys, cemented carbides, mill products, catalysts, and pigments.

Data for U.S. imports and exports for June 2000 will be published in a subsequent issue.

Note

All data in this report have been rounded to no more than three significant digits. Totals and percentages were calculated by using unrounded data.

Updates

Avocet Mining PLC has permanently closed its Bishop, CA, tungsten processing plant. According to the company, while the plant was competitive in some value-added products such as ammonium metatungstate and pressed powders, the basic tungsten conversion business could not compete with Chinese and Russian processing plants (Avocet Mining PLC, 2000). The plant's last production of ammonium paratungstate was in March. Recent

production at Bishop has been from imported concentrates. The nearby Pine Creek Mine, which is owned jointly by Avocet and Strategic Minerals Corp., has been on care and maintenance status since 1991. In July, Avocet held an auction for the Bishop plant and equipment. The property reportedly will be sold at a later date (Ryan's Notes, 2000). With the closure of the Bishop plant, the United States has two remaining plants that process tungsten concentrates—Kennametal Inc.'s tungsten carbide plant in Fallon, NV, and Osram Sylvania Inc.'s tungsten processing plant in Towanda, PA.

Prices for tungsten ore concentrates in dollars per metric ton unit from Metal Bulletin are listed below. Prices in dollars per short ton unit were converted from metric ton unit prices and rounded to the nearest dollar. These prices represent combined prices for wolframite and scheelite ore concentrates with a minimum tungsten trioxide (WO₃) content of 65%. The prices for July 1 to 31, 2000, are as follows:

Low—\$36/metric ton unit WO₃ (\$33/short ton unit WO₃)
High—\$48/metric ton unit WO₃ (\$44/short ton unit WO₃)

References Cited

Avocet Mining PLC, 2000, Preliminary audited results for the year ending 31 March 2000: London, Avocet Mining PLC press release, July 13, 4 p.
Ryan's Notes, 2000, Assets at sole US tungsten mine liquidated: Ryan's Notes, v. 6, no. 30, July 24, p. 2-3.

TABLE 1
U.S. SALIENT TUNGSTEN STATISTICS 1/

(Metric tons, tungsten content)

Period	Concentrate				Intermediate products				
	Reported consumption	Imports for consumption	Stocks, end of period		Reported scrap consumption	Net production 4/	Reported consumption 5/	Stocks, end of period	
			Industry 2/	U.S. Government 3/				Industry 6/	U.S. Government 3/
1999:									
June	313	662	W	34,600	460	685	665	1,100	2,700
July	333	232	531	34,600	383	621	671	1,160	2,700
August	323	145	513	34,600	450	728	707	1,070	2,700
September	395	94	W	34,600	411	836	747	1,080	2,700
October	W	133	W	34,600	490	854	741	1,190	2,700
November	W	71	W	34,600	398	600	661	1,070	2,700
December	W	66	W	34,600	316	720	722	1,070	2,700
January-December 7/	2,100	2,870	XX	XX	5,220	8,500	8,320	XX	XX
2000:									
January	W	267	W	34,600	480 r/	765	747 r/	1,040	2,700
February	W	56	W	34,600	442 r/	775	688 r/	1,100	2,650
March	W	209	W	34,600	459 r/	905	751 r/	1,140	2,600
April	W	277	W	34,600	486 r/	914	744 r/	1,250	2,480
May	W	336	W	33,900	490 r/	929 r/	762 r/	1,240 r/	2,320
June	W	NA	W	33,900	484	938	761	1,240	2,320
Total	W	NA	XX	XX	2,840	5,230	4,450	XX	XX

r/ Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; not included in total. XX Not applicable.

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

2/ Reported by consumers.

3/ Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

4/ Net production of tungsten metal powder, tungsten carbide powder, chemicals, and other products.

5/ Includes estimates and scrap.

6/ Reported by producers.

7/ Does not include withheld data.

TABLE 2
U.S. PRODUCTION, CONSUMPTION, AND STOCKS OF
AMMONIUM PARATUNGSTATE, BY MONTH 1/

(Metric tons, tungsten content)

Period	Production	Consumption	Stocks, end of period 2/
1999:			
June	663	554 r/	601
July	611	681 r/	451
August	647	584 r/	449
September	554	570 r/	389
October	670	717 r/	432
November	499	604 r/	363
December	500	490 r/	376
January-December	7,330	7,490 r/	XX
2000:			
January	552	641 r/	452
February	575	695 r/	337
March	740	729 r/	W
April	W	730 r/	273
May	W	731 r/	W
June	W	W	W
Total 3/	1,870	3,530	XX

r/ Revised. W Withheld to avoid disclosing company proprietary data; not included in total. XX Not applicable.

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

2/ Producers and consumers.

3/ Does not include withheld data.

TABLE 3
U.S. PRODUCTION AND STOCKS OF TUNGSTEN PRODUCTS 1/

(Metric tons, tungsten content)

Product	Net production 2/				Stocks at end of period		
	1999	2000		Year to date	1999	2000	
		May	June			May	June
Metal powder	4,540	534 r/	543	2,980	626	636	632
Tungsten carbide powder (made from metal powder)	3,960	395 r/	395	2,250	441	487 r/	490
Cast and crystalline carbide powder; other	W	W	W	W	W	W	W
Chemicals	W	W	W	W	W	116	115
Total 3/	8,500	929 r/	938	5,230	1,070	1,240 r/	1,240

r/ Revised. W Withheld to avoid disclosing company proprietary data; not included in total.

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

2/ Gross production less quantity used to make other products in table.

3/ Does not include withheld data.

TABLE 4
U.S. REPORTED CONSUMPTION OF TUNGSTEN, BY END USE IN 2000 1/ 2/ 3/

(Metric tons, tungsten content)

End use	May	June	Year to date
Steels	43	40	265
Superalloys	31	29	174
Other alloys (excludes steels and superalloys) 4/	W	W	W
Cemented carbides 5/	497 r/	501	2,950
Mill products made from metal powder	W	W	W
Chemical uses	W	W	W
Miscellaneous and unspecified	191 r/	192	1,060
Total	762 r/	761	4,450

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

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

2/ Does not include materials used in making primary tungsten products.

3/ Includes estimates.

4/ Includes welding and hard-facing rods and materials, wear- and corrosion-resistant alloys, and nonferrous alloys.

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

TABLE 5
U.S. REPORTED CONSUMPTION AND CONSUMER STOCKS OF TUNGSTEN MATERIALS 1/ 2/ 3/

(Metric tons, tungsten content)

Period	Ferro-tungsten	Tungsten metal powder	Tungsten carbide powder	Tungsten scrap	Other tungsten materials 4/	Total
Consumption:						
1999:						
June	35	101	496	24	8	665
July	36	104	495	28	8	671
August	36	144	498	21	8	707
September	51	169	498	21	8	747
October	41	172	498	21	8	741
November	39	87	499	26	11	661
December	43	146	495	28	10	722
January-December	473	1,500	5,930	317	103	8,320
2000:						
January	41	182	486	28	8	747 r/
February	42	120	489 r/	29	9	688 r/
March	52	152	507 r/	32	8	751 r/
April	41	178	481 r/	34	11	744 r/
May	41	180 r/	495 r/	37	9	762 r/
June	38	182	500	31	10	761
January-June	256	994	2,960	191	55	4,450
Stocks:						
1999:						
June	33	11	525	27	11	606
July	31	13	495	24	11	575
August	36	15	485	28	11	575
September	22	12	491	28	11	564
October	27	15	498	32	11	582
November	25	17	494	26	13	575
December	33	15	475	22	12	557
2000:						
January	33	18	413	22	12	498
February	27	14	415 r/	27	11	495 r/
March	38	16	413 r/	29	14	510 r/
April	37	16	418 r/	33	11	515 r/
May	29	17 r/	418 r/	31	13	508 r/
June	52	17	416	27	16	527

r/ Revised.

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

2/ Does not include materials used in making primary tungsten products.

3/ Includes estimates.

4/ Includes tungsten chemicals.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF TUNGSTEN, BY COUNTRY 1/

(Metric tons, tungsten content)

Period and country of origin	Ores and concentrates	Ammonium tungstates	Ferro-tungsten	Metal powder	Tungsten carbide powder	Other 2/	Total	Total year to date
1999	2,870	1,920	669	310	790	3,100	9,670	XX
2000:								
March	209	201	61	54	61	174	762	2,220
April	277	156	60	69	86	456	1,100	3,320
May:								
Australia	--	--	--	--	--	--	--	(3/)
Austria	--	--	--	--	1	3	4	22
Belgium	--	--	--	1	--	(3/)	1	2
Bolivia	11	--	--	--	--	--	11	176
Canada	--	--	--	--	37	--	37	223
China	268	72	74	9	23	8	453	2,200
Estonia	--	--	--	--	--	--	--	8
France	--	--	--	--	(3/)	(3/)	1	4
Germany	--	18	--	18	9	8	53	160
Hong Kong	--	--	--	--	--	--	--	8
Hungary	--	--	--	--	--	1	1	5
India	--	--	--	--	--	(3/)	(3/)	(3/)
Ireland	--	--	--	--	(3/)	--	(3/)	(3/)
Israel	--	--	--	18	5	1	25	76
Italy	--	--	--	--	--	(3/)	(3/)	1
Japan	--	--	--	(3/)	3	1	5	18
Korea, Republic of	--	--	--	--	1	(3/)	1	1
Luxembourg	--	--	--	--	--	--	--	2
Mexico	--	--	--	--	--	(3/)	(3/)	(3/)
Mongolia	--	--	--	--	--	--	--	14
Netherlands	--	--	--	(3/)	1	1	2	10
Netherlands Antilles	--	--	--	--	--	--	--	(3/)
Peru	12	--	--	--	--	--	12	75
Portugal	20	--	--	--	--	--	20	157
Russia	--	--	15	--	--	80	95	776
Rwanda	25	--	--	--	--	--	25	25
Singapore	--	--	--	--	--	(3/)	(3/)	(3/)
Spain	--	--	--	--	--	(3/)	(3/)	(3/)
Sweden	--	--	--	--	--	(3/)	(3/)	(3/)
Switzerland	--	--	--	--	--	(3/)	(3/)	1
Taiwan	--	--	--	--	--	--	--	(3/)
Thailand	--	--	--	--	--	(3/)	(3/)	(3/)
United Kingdom	--	--	--	20	(3/)	1	21	126
Total	336	90	89	66	80	106	766	4,090
Total, year to date	1,150	791	269	260	406	1,210	4,090	XX

XX Not applicable. -- Zero.

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

2/ Includes other unwrought tungsten, wrought tungsten, calcium and other tungstates, tungsten oxides, tungsten chlorides, other tungsten compounds, ash and compounds, ash and residues containing mainly tungsten, and other mixtures of inorganic compounds containing tungsten. Tungsten content estimated in part.

3/ Less than 1/2 unit.

Note: Imports of waste and scrap in May 2000 totaled 136 metric tons, tungsten content.

Source: U.S. Census Bureau.

TABLE 7
U.S. EXPORTS OF TUNGSTEN, BY COUNTRY 1/

(Metric tons, tungsten content)

Period and country of destination	Ores and concentrates 2/	Ammonium tungstates	Metal powder 2/	Tungsten carbide powder	Other 3/	Total	Total, year to date
1999	26	103	711	701	498	2,040	XX
2000:							
March	5	--	37	42	37	121	332
April	4	16	34	71	46	171	502
May:							
Argentina	--	--	--	--	(4/)	(4/)	(4/)
Australia	--	--	(4/)	1	(4/)	1	4
Belgium	--	--	--	--	1	1	4
Bolivia	--	--	--	--	--	--	(4/)
Brazil	--	--	2	--	(4/)	2	9
Canada	--	--	5	30	3	38	136
Chile	--	--	--	--	--	--	(4/)
China	--	--	(4/)	(4/)	--	1	1
Colombia	--	--	--	--	--	--	(4/)
Denmark	--	--	--	--	--	--	14
Finland	--	--	--	--	--	--	(4/)
France	(4/)	--	1	1	4	6	10
Germany	--	--	20	11	25	57	200
Hong Kong	--	--	--	--	--	--	2
Hungary	--	--	--	--	2	2	12
India	--	--	--	--	1	1	8
Indonesia	--	--	--	--	1	1	3
Ireland	--	--	--	--	(4/)	(4/)	2
Israel	--	--	--	(4/)	(4/)	(4/)	1
Italy	--	--	1	8	1	10	40
Japan	(4/)	--	1	1	1	2	21
Korea, Republic of	--	--	--	(4/)	(4/)	(4/)	3
Kuwait	--	--	--	--	--	--	(4/)
Luxembourg	--	--	--	--	--	--	1
Macao	--	--	--	--	--	--	(4/)
Malaysia	--	--	--	--	(4/)	(4/)	3
Mexico	--	--	1	--	2	3	27
Monaco	--	--	--	--	--	--	(4/)
Netherlands	2	--	--	(4/)	(4/)	2	32
Norway	--	--	--	--	--	--	(4/)
Peru	--	--	--	--	--	--	(4/)
Philippines	--	--	--	--	--	--	(4/)
Saint Lucia	--	--	--	--	--	--	(4/)
Saudi Arabia	--	--	4	--	--	4	5
Singapore	--	--	(4/)	(4/)	(4/)	(4/)	3
Slovakia	--	--	--	--	--	--	(4/)
South Africa	--	--	--	--	--	--	5
Spain	--	--	(4/)	--	--	(4/)	1
Sweden	(4/)	--	(4/)	29	--	29	52
Switzerland	--	--	--	--	(4/)	(4/)	1
Taiwan	--	--	1	(4/)	(4/)	1	7
Thailand	--	--	--	--	--	--	(4/)
Turkey	--	--	--	--	--	--	2
United Arab Emirates	--	--	--	--	(4/)	(4/)	(4/)
United Kingdom	--	--	3	4	(4/)	8	62
Venezuela	--	--	--	--	--	--	2
Total	3	--	38	86	42	169	672
Total, year to date	33	23	159	271	186	672	XX

XX Not applicable. -- Zero.

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

2/ Tungsten content estimated from reported gross weight.

3/ Includes wrought tungsten, ferrotungsten, and other tungstates. Tungsten content estimated in part.

4/ Less than 1/2 unit.

Note: Estimated exports of waste and scrap in May 2000 totaled 30 metric tons, tungsten content.

Source: U.S. Census Bureau.