

# Mineral Industry Surveys

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## SULFUR IN NOVEMBER 2007

During the month, production of recovered elemental sulfur was 705,000 metric tons (t), according to the U.S. Geological Survey. November 2007 production was about the same as that of October 2007 and slightly higher than that of November 2006. Sulfur production from January through November 2007 was slightly lower than that in the same period of 2006. Shipments were slightly lower than those of October 2007. Producers' ending stocks for November 2007 were 168,000 t.

Import and export data for November 2007 were not available at the time of publication and will be published in the Sulfur in

December 2007 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for October 2007 were estimated to be 285,000 t; exports were 118,000 t. Imports of sulfuric acid for October 2007 were 201,000 t; exports were 26,000 t.

Significant adjustments have been made to the sulfur import data. Reports from the U.S. Census Bureau appear to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

TABLE 1  
SALIENT SULFUR STATISTICS<sup>1</sup>

(Thousand metric tons)

Period	Production			Shipments, all sources	Ending stocks <sup>3</sup>
	Petroleum <sup>2</sup>	Natural gas	Total		
2006:					
January-December	6,950 <sup>r</sup>	1,430	8,380 <sup>r</sup>	8,280 <sup>r</sup>	XX
January-November <sup>p</sup>	6,320	1,300	7,620	7,550	XX
November	570 <sup>r</sup>	124	694 <sup>r</sup>	684 <sup>r</sup>	205 <sup>r</sup>
December	630 <sup>r</sup>	122	752 <sup>r</sup>	728 <sup>r</sup>	221
2007:					
January	603	119	721	749	185
February	501	110	612	582	211
March	591	97	688	705	207
April	558 <sup>r</sup>	98	656	674	164
May	570 <sup>r</sup>	101	671 <sup>r</sup>	667 <sup>r</sup>	163
June	554 <sup>r</sup>	115	668 <sup>r</sup>	672 <sup>r</sup>	160 <sup>r</sup>
July	597 <sup>r</sup>	106	703 <sup>r</sup>	681 <sup>r</sup>	183
August	612 <sup>r</sup>	107	719 <sup>r</sup>	744 <sup>r</sup>	171 <sup>r</sup>
September <sup>r</sup>	581	104	685	681	190
October	605 <sup>r</sup>	100 <sup>r</sup>	704 <sup>r</sup>	719	166 <sup>r</sup>
November <sup>p</sup>	605	100	705	707	168
Total	6,380	1,160	7,530	7,580	XX

<sup>p</sup>Preliminary. <sup>r</sup>Revised. XX Not applicable.

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

<sup>2</sup>Includes a small quantity from coking operations.

<sup>3</sup>Subject to inventory adjustments.

TABLE 2  
U.S. IMPORTS OF SULFUR<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Venezuela		Total, all countries <sup>2</sup>	
	Quantity <sup>e</sup>	Value <sup>3</sup>	Quantity	Value <sup>3</sup>	Quantity <sup>e</sup>	Value <sup>3</sup>	Quantity <sup>e</sup>	Value <sup>3</sup>
2006:								
January-December	2,100	33,100	476	20,100	359	15,100	2,950	70,400
January-October	1,760	30,800	420	18,200	306	13,200	2,500	63,400
October	170	1,960	43	1,710	32	1,270	246	4,990
November	165	1,210	14	577	18	725	198	2,620
December	170	1,020	43	1,350	36	1,140	250	4,410
2007:								
January	170	2,480	44	1,300	23	695	236	4,600
February	145	1,670	30	1,090	20	503	195	3,290
March	170	2,010	29	661	17	376	216	3,120
April	165	2,260	41	891	22	1,320	230	4,630
May	165	2,170	58	1,460	20	1,360	243	5,030
June	165	1,740	43	1,390	22	714	246 <sup>r</sup>	5,420
July	190	4,480	29	1,030	35	807	254	4,420
August	190	4,480	29	1,000	20	1,010	239	6,490
September	165	4,940	29	1,520	52	1,730	246	8,230
October	190	9,320	33	2,040	62	1,560	285	10,600
Total	1,720	35,500	365	12,400	293	10,100	2,390	55,800

<sup>e</sup>Estimate d. <sup>r</sup>Revised.

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

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentaSul North America Sulphur Service.

TABLE 3  
U.S. IMPORTS OF SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Canada			Mexico			Total, all countries <sup>2</sup>		
	Quantity	Sulfur content	Value <sup>3</sup>	Quantity	Sulfur content	Value <sup>3</sup>	Quantity	Sulfur content	Value <sup>3</sup>
2006:									
January-December	1,980	647	79,200	200	64	5,100	2,430	795	91,100
January-October	1,820	595	70,000	161	51	3,880	2,140	709	78,800
October	93	30	4,650	19	6	464	122	40	5,320
November	93	31	5,440	21	7	512	154	50	6,740
December	65	21	3,710	18	6	713	109	36	5,530
2007:									
January	216	71	8,930	22	7	510	238	78	9,440
February	160	52	6,600	23	8	548	182	60	7,150
March	208	68	8,320	33	11	874	240	79	9,200
April	203	66	8,580	25	8	678	228	74	9,260
May	193	45	8,740	30	10	1,090	223	55	9,820
June	208	68	9,050	7	2	204	216	71	9,360
July	190	62	9,260	33	11	879	240	78	11,500
August	194	14	8,350	22	7	581	237	77	9,360
September	176	58	8,310	10	3	293	187	61	8,630
October	190	43	8,300	11	4	295	201	66	8,710
Total	1,940	547	84,400	216	71	5,950	2,190	699	92,500

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

<sup>2</sup>May include other countries not listed.

<sup>3</sup>Declared customs valuation.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF SULFUR AND SULFURIC ACID<sup>1</sup>

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value <sup>2</sup>	Quantity	Sulfur content	Value <sup>2</sup>
2006:					
January-December	635	43,800	249	80	21,800
January-October	502	36,600	207	67	17,500
October	84	4,910	20	6	1,730
November	48	2,980	9	3	1,040
December	85	4,250	32	10	3,270
2007:					
January	82	5,510	42 <sup>r</sup>	5	2,960
February	37	3,420	17	6	1,610
March	80	4,750	28 <sup>r</sup>	7	2,980
April	83	4,570	33 <sup>r</sup>	8	3,290
May	71	5,730	26	8	3,340
June	13	1,720	21	7	2,610
July	116 <sup>r</sup>	7,440	34	11	3,660
August	83	8,190	50 <sup>r</sup>	16 <sup>r</sup>	4,660
September	61 <sup>r</sup>	7,890 <sup>r</sup>	27 <sup>r</sup>	8	2,700
October	118	14,100	26	8	2,510
Total	744	63,300	304	84	30,300

<sup>r</sup>Revised.

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

<sup>2</sup>Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5  
U.S. CONSUMPTION OF SULFUR<sup>1</sup>

(Thousand metric tons)

Period	Domestic sources <sup>2</sup>	Imports <sup>e</sup>	Consumption
<b>2006:</b>			
January-December	7,660	2,950	10,600
January-October	6,380	2,500	8,880
October	608	246	854
November	642	198	840
December	638	250	888
<b>2007:</b>			
January	667	236	903
February	545	195	740
March	625	216	841
April	590	230	818
May	603	243	846
June	668	246 <sup>r</sup>	898
July	602	254	856
August	657	239	896
September	556 <sup>r</sup>	246	802 <sup>r</sup>
October	589	285	874
Total	6,100	2,390	8,470

<sup>e</sup>Estimate d. <sup>r</sup>Revised.

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

<sup>2</sup>Calculated as shipments minus exports.

TABLE 6  
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,  
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT<sup>1</sup>

(Thousand metric tons)

District and source	November 2007 <sup>p</sup>		October 2007		January-November 2007 <sup>2</sup>		January-November 2006 <sup>2</sup>	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
<b>PAD 1:</b>								
Petroleum and coke	22	23	23	23	246	249	210	209
Natural gas	1	1	1	1	13	12	35	34
Total	24	24	24	24	259	261	245	243
<b>PAD 2:</b>								
Petroleum and coke	73	73	73 <sup>r</sup>	76 <sup>r</sup>	854	861	928 <sup>r</sup>	930 <sup>r</sup>
Natural gas	--	--	--	1	31	31	36	36
Total	73	73	73 <sup>r</sup>	77 <sup>r</sup>	886	892	964 <sup>r</sup>	967 <sup>r</sup>
<b>PAD 3:<sup>3</sup></b>								
Petroleum and coke	417	416	409	416	4,210	4,260	3,930	3,900
Natural gas	31	32	34	36	412	416	445 <sup>r</sup>	450 <sup>r</sup>
Total	448	448	443	452	4,620	4,670	4,380 <sup>r</sup>	4,350 <sup>r</sup>
<b>PAD 4 and 5:<sup>4</sup></b>								
Petroleum and coke	93	91	100 <sup>r</sup>	100 <sup>r</sup>	1,070	1,050	1,250	1,210
Natural gas	68	71	67	67 <sup>r</sup>	700	707	788 <sup>r</sup>	787
California	75	72	80 <sup>r</sup>	79 <sup>r</sup>	857	827	1,040	1,000
Total	161	162	164 <sup>r</sup>	167 <sup>r</sup>	1,770	1,760	2,040	1,990 <sup>r</sup>
Grand total	705	707	705 <sup>r</sup>	719	7,530	7,580	7,620 <sup>r</sup>	7,550 <sup>r</sup>

<sup>p</sup>Preliminary. <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>May include revisions.

<sup>3</sup>Includes the U.S. Virgin Islands.

<sup>4</sup>Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7  
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS<sup>1</sup>

(Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

	2007			2006
	November	October	Total	Total
Production	8.58 <sup>p</sup>	8.30 <sup>r</sup>	8.23 <sup>r</sup>	8.38
Shipments	8.60 <sup>p</sup>	8.47	8.30 <sup>r</sup>	8.29
Exports of sulfur	NA	1.39	0.86	0.63
Imports of sulfur:				
Canada	NA	2.23	2.10 <sup>e</sup>	2.09 <sup>e</sup>
Mexico	NA	0.40	0.44	0.47
Venezuela	NA	0.73	0.35 <sup>e</sup>	0.36 <sup>e</sup>
Total <sup>2</sup>	NA	3.36	2.85 <sup>e</sup>	2.95 <sup>e</sup>
Exports of H <sub>2</sub> SO <sub>4</sub>	NA	0.31	0.30	0.25
Imports of H <sub>2</sub> SO <sub>4</sub> :				
Canada	NA	2.24	2.33	1.98
Mexico	NA	0.13	0.26	0.20
Total <sup>2</sup>	NA	2.37	2.63	2.43
Consumption: <sup>3</sup>				
Domestic sources	NA	6.93	7.33	7.66
Imports	NA	3.36	2.85 <sup>e</sup>	2.95 <sup>e</sup>
Total	NA	10.30	10.17	10.10
Sulfur export values <sup>4</sup>	NA	119	88	69
Sulfur import values: <sup>4</sup>				
Canada	NA	50	21	16
Mexico	NA	62	34	42
Venezuela	NA	25	34	42
Average <sup>2</sup>	NA	37	24	24
H <sub>2</sub> SO <sub>4</sub> export values <sup>4</sup>	NA	97	122	88
H <sub>2</sub> SO <sub>4</sub> import values: <sup>4</sup>				
Canada	NA	44	44	40
Mexico	NA	27	28	26
Average <sup>2</sup>	NA	43	42	37

<sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised. NA Not available.

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

<sup>2</sup>Includes other countries not listed.

<sup>3</sup>Because November trade data were not available, November consumption was not determined.

<sup>4</sup>Average value per ton for most recent data available.