



WORLD LEAD AND ZINC STATISTICS

Monthly bulletin
of the International
Lead and Zinc
Study Group

***SAMPLE COPY OF AN OLD ISSUE*
DATA ENCLOSED IS NOT CURRENT**

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The Harmonized Code Trade Definitions applied in the Bulletin are:

Lead concentrate	2607 000
Zinc concentrate	2608 000
Refined lead	7801 100
Antimonial lead alloy	7801 910
Refined zinc ($\geq 99.99\%$)	7901 110
Refined zinc ($\geq 99.95\%$ but $< 99.99\%$)	7901 121
Refined zinc ($\geq 98.5\%$ but $< 99.95\%$)	7901 123
Refined zinc ($< 98.5\%$ but not alloyed)	7901 129

Symbols employed

- nil
 0 above zero
 but less than half of unit employed
 ... not available
 Figures in italics denote estimates
 Tonnes - metric tons
 N.B. In some cases figures may not add up to totals due to rounding.

Lead Mine Production

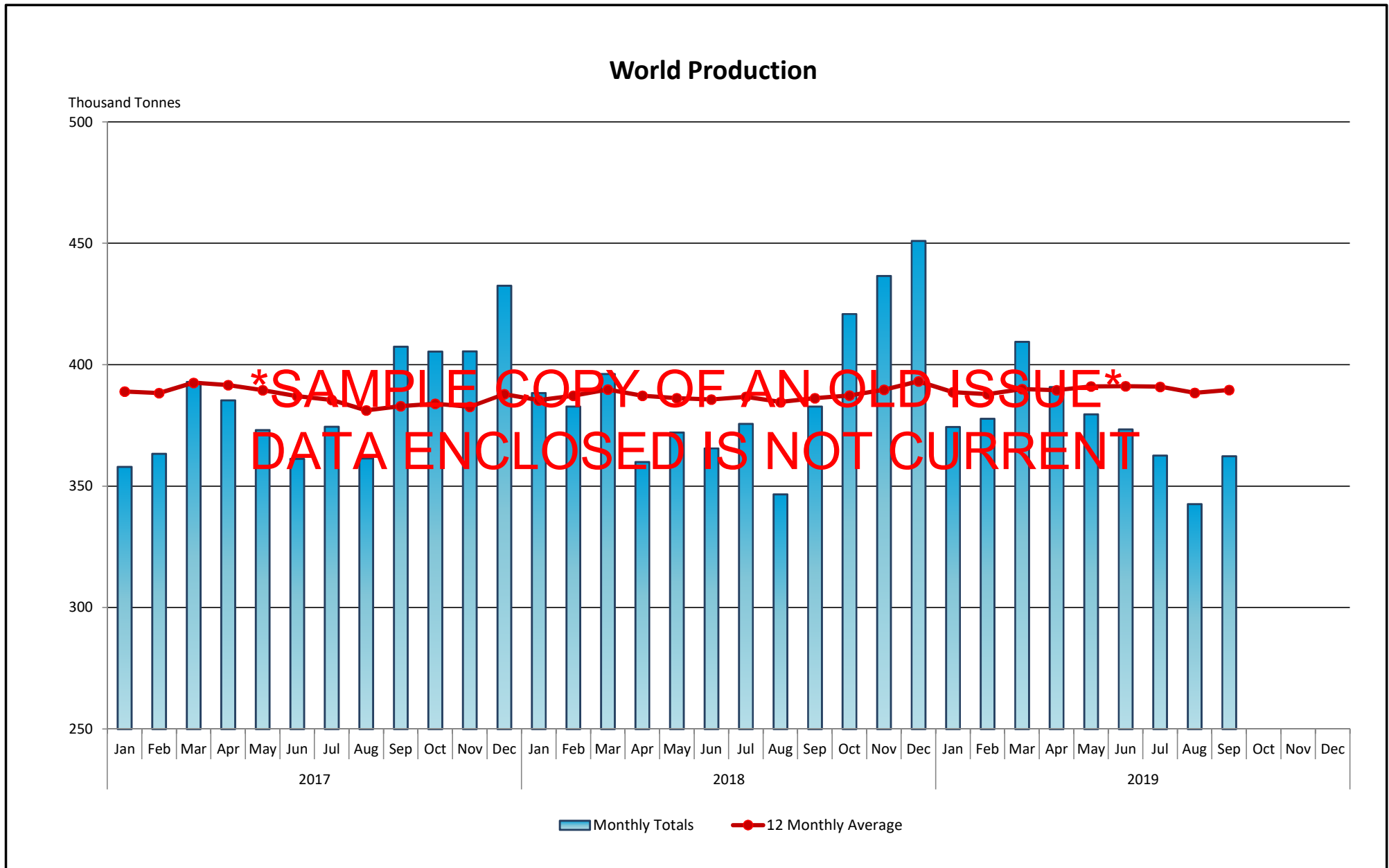


Table 1

Lead Mine Production*

Thousand Tonnes (Lead Content)

	Annual Totals				Year to Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Sep		Apr	May	Jun	Jul	Aug	Sep
Europe	424	444	443	478	357	364	39.9	39.2	41.2	41.9	40.2	40.4
EU 28	189	177	174	198	146	155	16.6	15.9	18.3	18.4	17.0	17.2
Bosnia & Herzegovina	7	7	7	7	5	4	0.5	0.5	0.5	0.5	0.5	0.5
Bulgaria	17	20	21	22	17	16	1.9	1.9	1.9	1.5	1.5	1.5
Greece	9	10	11	14	11	11	1.2	1.2	1.2	1.3	1.3	1.3
Ireland	31	20	17	17	13	12	0.9	0.8	1.3	1.7	1.0	1.8
Montenegro	2	4	3	3	2	0	0,0	0,0	0,0	0,0	0,0	0,0
Macedonia	38	31	40	43	32	32	3.6	3.6	3.3	3.7	3.7	3.6
Poland	42	37	36	38	29	33	3.7	3.7	3.7	3.7	3.7	3.7
Portugal	3	4	5	18	14	15	1.7	1.7	1.7	1.7	1.7	1.7
Russian Federation	180	217	210	220	165	165	18.3	18.3	18.3	18.3	18.3	18.3
Serbia	9	9	8	8	6	8	0.8	0.9	0.8	1.0	0.7	0.8
Spain	2	5	7	21	16	16	1.8	1.8	1.8	1.8	1.8	1.8
Sweden	85	81	77	68	49	52	5.4	4.8	6.7	6.7	6.0	5.4
Africa	82	80	97	98	73	76	8.0	8.5	11.3	9.0	5.9	9.7
Burkina Faso	1	0	0	0	0	0	0,0	0,0	0,0	0,0	0,0	0,0
Morocco	32	30	38	48	37	33	3.7	3.3	6.0	4.6	1.0	4.3
Namibia	9	7	6	4	3	4	0.3	0.4	0.3	0.5	0.4	0.9
Nigeria	5	4	5	10	8	8	0.9	0.9	0.9	0.8	0.8	0.8
South Africa	35	39	48	35	24	32	3.0	3.8	4.1	3.1	3.7	3.7
America	1,088	1,057	1,041	1,004	737	757	86.2	84.9	84.9	84.9	86.8	84.4
Argentina	30	28	28	27	15	15	1.7	1.7	1.7	2.0	2.0	2.0
Bolivia	75	90	113	112	84	72	7.5	6.9	9.8	9.3	7.4	6.8
Brazil	10	9	7	7	5	4	0.4	0.4	0.4	0.5	0.5	0.5
Canada	4	12	17	14	11	17	2.1	1.0	2.1	1.9	2.0	1.3
Chile	3	1	2	1	1	0	0,0	0,0	0,0	0,0	0,0	0,0
Cuba	-	-	3	24	17	23	2.5	2.5	2.5	2.5	2.5	2.5
Guatemala	10	10	4	0	0	0	0,0	0,0	0,0	0,0	0,0	0,0
Honduras	10	5	7	10	7	8	0.9	0.9	0.9	0.9	0.9	0.9
Mexico	261	241	243	240	175	186	21.6	19.8	20.3	20.9	22.5	20.0
Peru	316	314	307	289	213	228	26.9	28.2	24.6	24.3	26.4	27.8
United States	370	347	310	280	206	204	22.6	22.6	22.6	22.6	22.6	22.6
Asia	2,609	2,677	2,648	2,667	1,889	1,819	217.2	207.4	196.4	185.7	168.5	186.7
China	2,217	2,224	2,102	2,104	1470	1394	172.0	160.0	149.0	142.0	124.0	141.0
India	136	139	175	191	145	152	15.8	15.8	15.8	17.3	17.3	17.3
Indonesia	5	5	8	11	9	7	0.8	0.8	0.8	0.8	0.8	1.0
Iran	41	47	48	48	36	38	4.2	4.2	4.2	4.2	4.2	4.2
Kazakhstan	41	71	111	86	62	47	7.2	4.1	2.2	3.9	3.4	3.3
Korea DPR	35	42	35	30	23	20	2.2	2.2	2.2	2.2	2.2	2.2
Mongolia	-	5	7	11	8	9	1.0	1.0	1.0	1.0	1.0	1.0
Myanmar	14	15	20	35	26	30	3.3	3.3	3.3	3.3	3.3	3.3
Pakistan	-	1	3	5	4	5	0.5	0.5	0.5	0.5	0.5	0.5
Tajikistan	40	57	61	53	40	39	4.3	4.3	4.3	4.3	4.3	4.3
Turkey	74	65	68	76	55	58	3.6	8.9	10.8	3.9	5.2	6.2
Uzbekistan	3	5	5	8	6	15	1.7	1.7	1.7	1.7	1.7	1.7
Vietnam	2	1	5	8	6	6	0.7	0.7	0.7	0.7	0.7	0.7
Oceania	654	441	393	432	315	357	39.6	39.6	39.6	41.2	41.2	41.2
Australia	654	441	393	432	315	357	39.6	39.6	39.6	41.2	41.2	41.2
World Total	4,857	4,699	4,621	4,679	3,370	3,373	390.9	379.6	373.4	362.6	342.6	362.4
Monthly Average	405	392	385	390	374	375						

* Lead content by analysis of lead ores and concentrates plus the lead content of other ores and concentrates knowned to be intended for lead recovery.

Refined Lead Metal Production

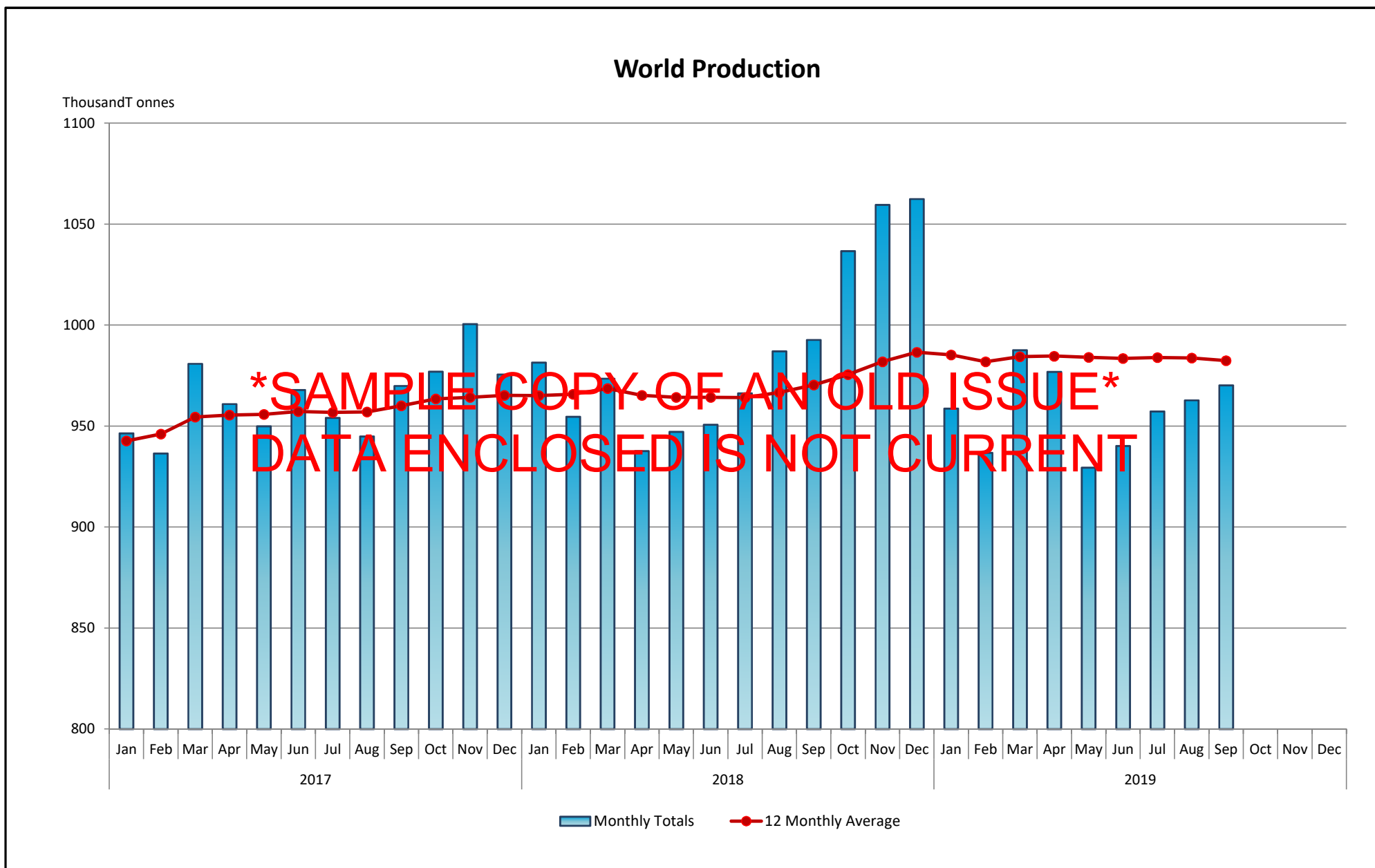


Table 2

Refined Lead Metal Production*

Thousand Tonnes

	Annual Totals				Year to Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Sep		Apr	May	Jun	Jul	Aug	Sep
Europe	1,979	1,986	2,040	2,034	1,522	1,494	168.7	167.9	166.9	165.6	163.9	163.4
EU 28	1,777	1,755	1,785	1,788	1,338	1,322	150.7	149.9	148.9	144.3	142.6	142.0
Austria	24	25	26	27	20	20	2.3	2.3	2.3	2.3	2.3	2.3
Belgium	120	133	131	129	103	108	13.5	12.8	12.6	12.5	9.1	10.0
Bulgaria	97	101	103	103	77	78	8.9	8.9	8.9	8.3	8.3	8.3
Croatia	-	4	4	60	45	5	0.5	0.5	0.5	0.5	0.5	0.5
Czech Rep.	44	43	43	43	32	32	3.6	3.6	3.6	3.6	3.6	3.6
Estonia	11	12	13	12	9	9	1.0	1.0	1.0	1.0	1.0	1.0
France	72	70	70	70	52	52	5.8	5.8	5.8	5.8	5.8	5.8
Germany	378	339	354	315	233	245	27.7	27.7	27.7	27.2	27.2	27.2
Greece	24	28	28	30	23	23	2.5	2.5	2.5	2.5	2.5	2.5
Hungary	7	12	15	16	12	14	1.5	1.5	1.5	1.5	1.5	1.5
Ireland	18	18	18	15	11	12	1.4	1.4	1.4	1.3	1.3	1.3
Italy	208	187	174	168	127	129	14.6	14.6	14.6	13.7	13.7	13.7
Netherlands	32	33	36	36	27	27	3.0	3.0	3.0	3.0	3.0	3.0
Poland	153	154	160	160	120	115	12.9	12.9	12.9	12.7	12.7	12.7
Portugal	8	8	10	9	7	8	0.8	0.8	0.8	0.8	0.8	0.8
Romania	20	17	24	21	16	17	1.8	1.8	1.8	1.8	1.8	1.8
Russian Federation	165	193	206	201	151	138	14.2	14.2	14.2	17.5	17.5	17.5
Serbia	6	6	15	15	11	12	1.3	1.3	1.3	1.3	1.3	1.3
Slovak Rep	9	8	9	9	7	7	0.8	0.8	0.8	0.8	0.8	0.8
Slovenia	12	12	12	12	9	8	1.0	1.0	1.0	1.0	1.0	1.0
Spain	165	166	168	173	131	131	14.6	14.6	14.6	14.6	14.6	14.6
Sweden	71	74	79	76	54	54	7.2	7.1	6.2	4.1	5.8	4.3
Ukraine	30	32	34	30	23	23	2.5	2.5	2.5	2.5	2.5	2.5
United Kingdom	304	310	309	303	212	229	25.4	25.4	25.4	25.4	25.4	25.4
Africa	113	121	122	125	94	102	11.2	11.4	11.4	11.5	11.5	11.5
Algeria	9	8	9	9	7	7	0.8	0.8	0.8	0.8	0.8	0.8
Egypt	24	25	26	26	20	21	2.3	2.3	2.3	2.3	2.3	2.3
Kenya	1	1	1	1	1	1	0.1	0.1	0.1	0.1	0.1	0.1
Morocco	14	11	8	8	6	6	0.7	0.7	0.7	0.7	0.7	0.7
Nigeria	2	9	9	6	4	9	0.9	1.1	1.1	1.1	1.1	1.1
South Africa	52	54	55	56	42	42	4.7	4.7	4.7	4.7	4.7	4.7
Zambia	5	5	4	5	4	4	0.4	0.4	0.4	0.4	0.4	0.4
Other Africa	6	8	10	14	11	13	1.4	1.4	1.4	1.5	1.5	1.5
America	2,074	2,147	2,187	2,179	1,631	1,620	180.7	178.5	177.7	176.7	178.9	178.7
Argentina	42	38	44	40	30	23	2.5	2.5	2.5	2.5	2.5	2.5
Bolivia	2	3	3	3	2	2	0.3	0.3	0.3	0.3	0.3	0.3
Brazil	190	195	195	195	146	146	16.3	16.3	16.3	16.3	16.3	16.3
Canada	269	274	277	251	188	180	21.7	19.5	18.6	16.6	18.9	18.7
Chile	10	11	12	14	11	11	1.2	1.2	1.2	1.2	1.2	1.2
Colombia	41	42	43	44	33	33	3.7	3.7	3.7	3.7	3.7	3.7
Costa Rica	7	8	10	10	8	8	0.8	0.8	0.8	0.8	0.8	0.8
Cuba	5	5	5	5	4	4	0.4	0.4	0.4	0.4	0.4	0.4
Dominican Republic	6	8	7	7	5	5	0.6	0.6	0.6	0.6	0.6	0.6
Guatemala	12	12	12	12	9	9	1.0	1.0	1.0	1.0	1.0	1.0
Honduras	-	-	5	5	4	4	0.4	0.4	0.4	0.4	0.4	0.4
Mexico	414	401	423	433	322	333	36.0	36.0	36.0	37.0	37.0	37.0
Peru	7	10	15	15	11	11	1.3	1.3	1.3	1.3	1.3	1.3
United States	1,050	1,123	1,121	1,136	852	846	94.0	94.0	94.0	94.0	94.0	94.0
Venezuela	20	16	16	9	7	6	0.7	0.7	0.7	0.7	0.7	0.7

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Refined Lead Metal Production*

Thousand Tonnes

	Annual Totals				Year to Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Sep		Apr	May	Jun	Jul	Aug	Sep
Asia	6,670	6,830	7,047	7,324	5,297	5,330	602.4	567.9	582.1	598.7	605.9	614.1
China	4,700	4,603	4,726	4,910	3,506	3,495	396.2	363.9	382.1	395.9	401.7	409.1
India	501	519	570	623	462	496	55.1	56.2	52.5	50.8	56.3	56.3
Indonesia	46	48	46	54	41	41	4.5	4.5	4.5	4.5	4.5	4.5
Iran	78	86	90	85	64	60	6.7	6.7	6.7	6.7	6.7	6.7
Israel	25	27	34	38	29	29	3.2	3.2	3.2	3.2	3.2	3.2
Japan	232	240	239	238	175	178	19.9	18.5	17.7	22.8	21.5	21.5
Kazakhstan	120	133	152	153	116	101	13.1	11.2	11.8	12.3	9.4	10.2
Korea DPR	1	2	2	2	2	2	0.3	0.3	0.3	0.3	0.3	0.3
Korea Rep	641	831	800	801	593	609	68.0	68.0	68.0	67.0	67.0	67.0
Malaysia	25	30	35	35	26	26	2.9	2.9	2.9	2.9	2.9	2.9
Myanmar	1	1	6	12	9	9	1.0	1.0	1.0	1.0	1.0	1.0
Oman	-	-	5	10	8	8	0.8	0.8	0.8	0.8	0.8	0.8
Pakistan	0	0	1	18	11	18	2.0	2.0	2.0	2.0	2.0	2.0
Philippines	28	14	10	10	8	8	0.8	0.8	0.8	0.8	0.8	0.8
Saudi Arabia	37	50	72	68	51	51	5.7	5.7	5.7	5.7	5.7	5.7
Sri Lanka	7	7	8	8	6	6	0.7	0.7	0.7	0.7	0.7	0.7
Taiwan, China	46	48	48	58	44	43	4.8	4.8	4.8	4.8	4.8	4.8
Thailand	86	86	88	85	64	64	7.1	7.1	7.1	7.1	7.1	7.1
Turkey	56	58	58	58	44	42	4.8	4.8	4.8	4.7	4.7	4.7
United Arab Emirates	18	22	25	25	19	19	2.1	2.1	2.1	2.1	2.1	2.1
Vietnam	22	25	31	32	24	25	2.8	2.8	2.8	2.8	2.8	2.8
Oceania	223	224	168	189	147	74	13.8	3.7	2.0	4.7	2.5	2.5
Australia	223	224	168	189	147	74	13.8	3.7	2.0	4.7	2.5	2.5
World Total	11,059	11,308	11,565	11,856	8,601	8,620	976.9	920.4	940.2	957.3	962.8	970.2
Monthly Average	922	942	964	987	965	958						

* Total production by smelters or refineries of refined lead, including the lead content of antimonial lead - including production on toll in the reporting country regardless of the type of source material, i.e. whether ores, concentrates, lead bullion, lead alloys, mattes, residues, slag or scrap. Pig lead and lead alloys recovered from secondary materials by remelting alone without undergoing further treatment before re-use are excluded.

Refined Lead Metal Usage

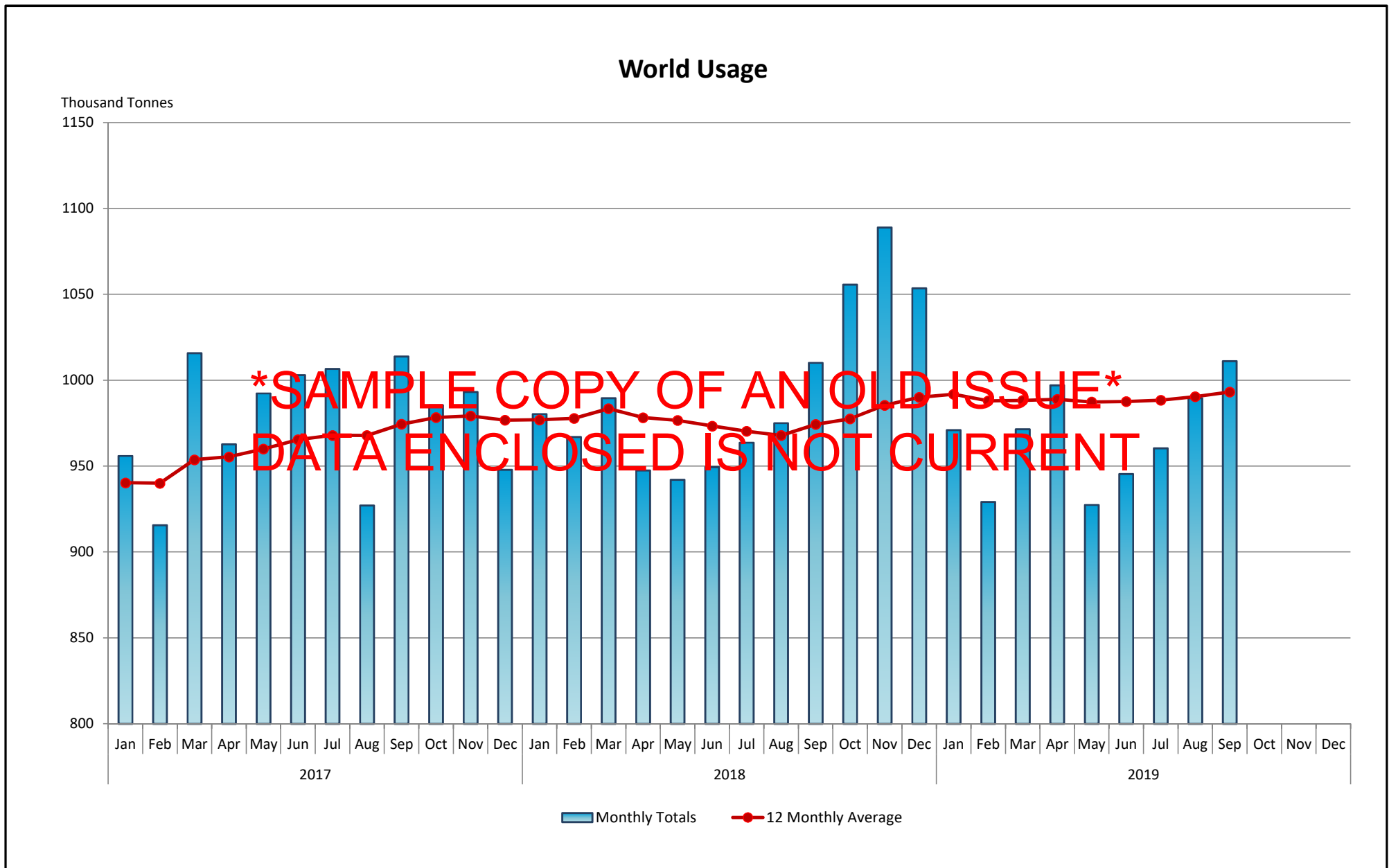


Table 3

Refined Lead Metal Usage*

Thousand Tonnes

	Annual Totals				Year to Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Sep		Apr	May	Jun	Jul	Aug	Sep
Europe	1,773	1,953	2,003	2,041	1,529	1,488	170.0	166.1	164.7	164.6	162.4	161.7
EU 28	1,614	1,786	1,841	1,878	1,409	1,362	156.3	152.7	150.9	150.6	148.0	148.0
Albania	1	1	1	1	1	1	0.1	0.1	0.1	0.1	0.1	0.1
Austria	39	35	37	42	31	30	3.1	3.5	3.8	2.8	3.5	3.5
Belgium	31	30	26	27	20	21	2.3	2.3	2.3	2.3	2.3	2.3
Bosnia & Herzegovina	1	1	1	1	1	1	0.1	0.1	0.1	0.1	0.1	0.1
Bulgaria	29	36	37	37	27	28	3.1	3.1	3.1	3.2	3.2	3.2
Croatia	0	0	0	54	41	1	0.1	0.1	0.1	0.1	0.1	0.1
Czech Rep.	130	144	135	110	84	87	10.3	9.1	14.8	7.3	9.3	9.3
Denmark	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Estonia	1	0	0	0	0	1	0.1	0.1	0.1	0.3	0.1	0.1
Finland	4	5	7	7	5	6	0.8	0.8	0.3	0.3	0.8	0.8
France	77	78	84	76	57	56	5.6	6.5	6.2	7.1	5.9	5.9
Germany	357	370	398	405	300	287	32.6	33.5	29.3	36.0	31.2	31.2
Greece	26	26	38	33	27	27	3.0	3.1	3.1	2.9	3.0	3.0
Hungary	20	20	20	26	20	19	2.2	2.1	2.0	2.1	2.3	2.3
Ireland	21	22	23	21	16	16	1.7	1.7	1.7	1.8	1.8	1.8
Italy	230	248	245	249	191	181	20.2	20.2	20.2	19.9	19.9	19.9
Macedonia	4	4	4	4	2	4	0.5	0.5	0.4	0.4	0.4	0.4
Netherlands	18	20	20	21	16	16	1.8	1.8	1.8	1.8	1.8	1.8
Norway	0	1	1	1	1	0	0.0	0.0	0.0	0.0	0.0	0.1
Poland	151	186	195	202	150	145	15.3	16.4	16.0	15.6	16.6	16.6
Portugal	18	17	18	21	16	19	1.9	2.4	1.9	2.3	1.9	1.9
Romania	14	19	17	15	10	12	1.4	1.3	0.8	1.1	1.2	1.2
Russian Federation	114	123	115	111	84	86	9.5	9.5	9.1	9.7	9.7	9.7
Serbia	9	9	9	11	8	6	0.7	0.7	0.6	0.5	0.7	0.5
Slovak Rep	7	6	7	7	5	6	0.6	0.7	0.5	0.6	0.9	0.9
Slovenia	27	35	35	35	25	31	3.8	3.5	4.1	4.0	2.9	2.9
Spain	231	263	263	258	190	193	22.4	20.3	20.2	21.4	21.6	21.6
Sweden	8	6	7	7	5	5	0.5	0.5	0.5	0.5	0.5	0.5
Switzerland	1	2	2	3	2	3	0.3	0.1	0.2	0.3	0.4	0.4
Ukraine	23	21	22	25	17	20	2.0	1.9	2.4	2.4	2.6	2.0
United Kingdom	176	220	227	226	164	176	23.2	19.8	17.4	17.3	17.4	17.4
Other CIS (E)	5	6	6	6	5	5	0.5	0.5	0.5	0.5	0.5	0.5
Africa	127	121	116	123	90	91	10.2	9.9	9.9	10.0	9.6	10.6
Algeria	13	10	10	10	7	7	0.8	0.8	0.8	0.8	0.8	0.8
Egypt	28	25	23	24	18	18	2.1	2.1	2.3	2.2	2.2	2.2
Kenya	1	2	1	1	1	1	0.1	0.2	0.1	0.1	0.1	0.1
Morocco	9	11	8	6	5	6	0.3	0.3	0.7	0.7	0.7	0.9
Nigeria	2	3	3	5	4	3	0.5	0.7	0.5	0.3	0.3	0.3
South Africa	65	57	58	57	42	40	4.6	4.0	3.8	4.2	3.8	4.6
Tunisia	1	2	2	2	2	2	0.2	0.2	0.2	0.2	0.2	0.2
Zambia	1	3	2	3	2	3	0.3	0.3	0.3	0.3	0.3	0.3
Other Africa	6	8	8	14	11	11	1.3	1.3	1.3	1.3	1.3	1.3

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Refined Lead Metal Usage*

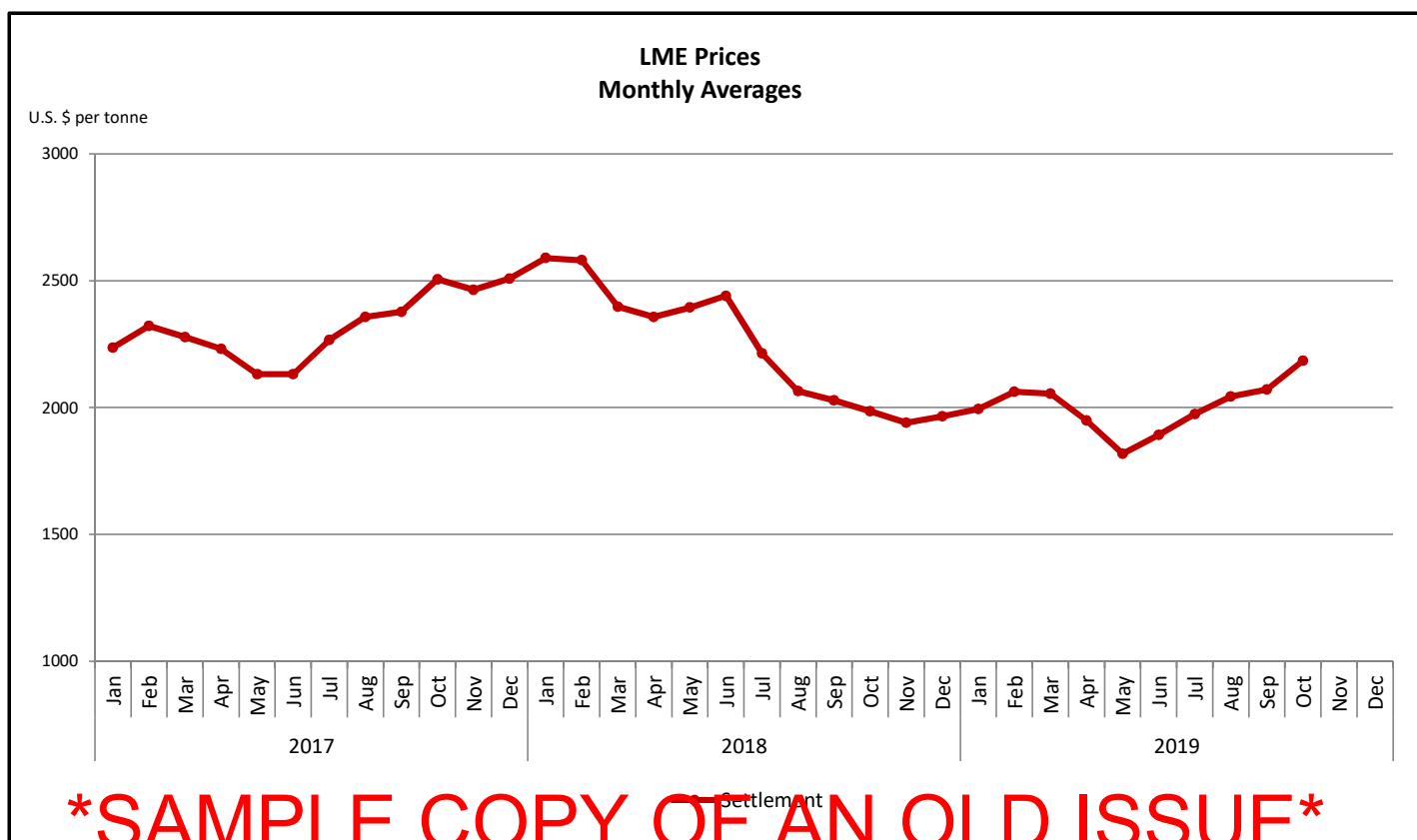
Thousand Tonnes

	Annual Totals				Year to Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Sep		Apr	May	Jun	Jul	Aug	Sep
America	2,238	2,299	2,447	2,366	1,805	1,750	203.4	186.1	190.3	183.2	212.0	197.0
Argentina	21	22	19	23	18	12	1.4	1.4	1.5	1.7	0.5	1.6
Bolivia	2	2	2	3	2	2	0.3	0.1	0.3	0.3	0.3	0.2
Brazil	254	249	245	248	190	186	20.5	19.3	19.9	21.2	22.8	20.7
Canada	16	15	16	16	12	12	1.3	1.3	1.3	1.3	1.3	1.3
Chile	3	4	4	3	2	3	0.3	0.3	0.4	0.3	0.3	0.4
Colombia	54	55	52	53	40	39	3.8	4.2	3.8	4.0	4.2	4.3
Costa Rica	1	1	1	1	1	2	0.2	0.7	0.2	0.0	0.2	0.1
Cuba	5	5	5	5	4	4	0.4	0.4	0.4	0.4	0.4	0.4
Dominican Republic	6	7	7	7	5	6	0.7	0.7	0.7	0.7	0.7	0.7
Guatemala	12	12	12	12	9	9	1.0	1.0	0.8	1.0	1.0	1.0
Mexico	295	312	314	318	232	237	23.6	26.7	25.3	26.3	27.1	26.5
Peru	8	6	4	7	5	6	0.6	1.2	1.0	0.6	0.8	0.6
United States	1,535	1,587	1,751	1,655	1,274	1,222	148.2	127.6	133.5	124.2	151.4	138.0
Venezuela	20	17	12	9	7	6	0.7	0.7	0.7	0.7	0.7	0.7
Other America	5	5	4	6	5	5	0.5	0.5	0.5	0.5	0.5	0.5
Asia	6,894	6,878	7,139	7,377	5,288	5,362	612.4	563.5	579.1	601.5	604.4	640.8
China	4,708	4,577	4,791	4,978	3,515	3,528	405.4	365.5	381.7	390.8	404.9	423.4
India	543	578	557	597	450	488	50.9	56.1	57.6	59.0	56.4	50.6
Indonesia	95	106	108	109	79	80	10.4	7.9	8.6	8.5	8.7	9.9
Iran	18	20	22	22	17	17	1.8	1.8	1.8	1.8	1.8	1.8
Israel	19	17	17	18	14	11	1.5	1.5	1.6	1.5	1.5	1.5
Japan	266	265	287	271	196	200	22.0	20.3	20.9	23.7	24.7	24.7
Kazakhstan	9	12	12	14	11	12	1.3	1.3	1.3	1.3	1.3	1.3
Korea DPR	3	2	3	3	2	2	0.3	0.3	0.3	0.3	0.3	0.3
Korea Rep	575	605	623	613	417	454	34.2	44.0	46.1	53.7	44.3	62.1
Malaysia	23	24	24	25	19	20	2.2	2.2	2.2	2.2	2.2	2.2
Oman	-	-	5	8	6	6	0.7	0.7	0.7	0.7	0.7	0.7
Pakistan	46	45	41	46	37	25	2.7	2.6	2.7	3.3	3.3	3.3
Philippines	39	42	42	47	34	37	4.5	3.7	4.1	4.7	3.1	4.1
Saudi Arabia	49	53	47	53	37	41	4.6	4.6	4.6	4.6	4.6	4.6
Singapore	12	11	11	12	9	9	1.0	1.0	1.0	1.0	1.0	1.0
Sri Lanka	7	7	8	8	6	6	0.7	0.7	0.7	0.7	0.7	0.7
Taiwan, China	105	109	114	114	90	95	11.8	11.0	10.9	7.9	8.3	11.1
Thailand	144	157	153	159	117	124	14.4	14.4	12.1	13.6	13.9	13.9
Turkey	146	155	173	181	130	127	13.8	15.6	12.0	13.2	13.7	14.7
United Arab Emirates	18	22	25	22	17	17	1.8	1.8	1.8	1.8	1.8	1.8
Vietnam	52	56	56	58	43	46	4.9	4.9	4.9	5.6	5.6	5.6
Other Asia	12	12	12	12	9	11	1.2	1.2	1.2	1.2	1.2	1.2
Other CIS (A)	3	3	5	5	4	4	0.4	0.4	0.4	0.4	0.4	0.4
Oceania	17	17	16	16	12	12	1.1	1.8	1.5	1.2	1.2	1.2
Australia	16	17	16	16	12	12	1.1	1.8	1.5	1.2	1.2	1.2
New Zealand	0	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
World Total	11,049	11,268	11,720	11,923	8,725	8,703	997.1	927.4	945.5	960.4	989.6	1011.2
Monthly Average	921	939	977	994	969	967						

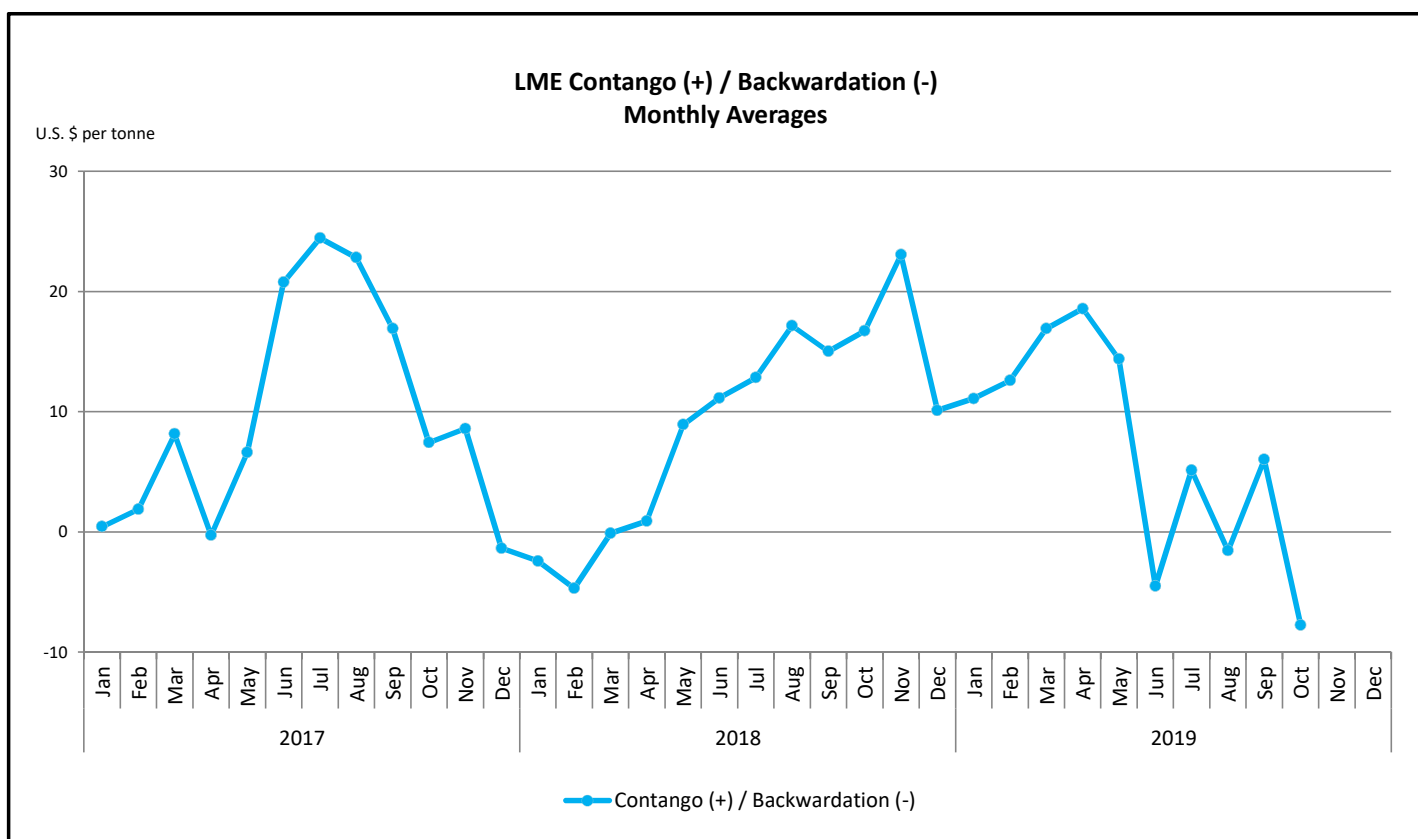
* Total usage of refined lead, including the lead content of antimonial lead, regardless of the type of source material from which produced, i.e. whether ores, concentrates, lead bullion, lead alloys, residues, slag or scrap. Pig lead and lead alloys recovered from secondary materials by remelting alone without undergoing further treatment before re-use are excluded.

Lead Price trends

London Metal Exchange (LME)



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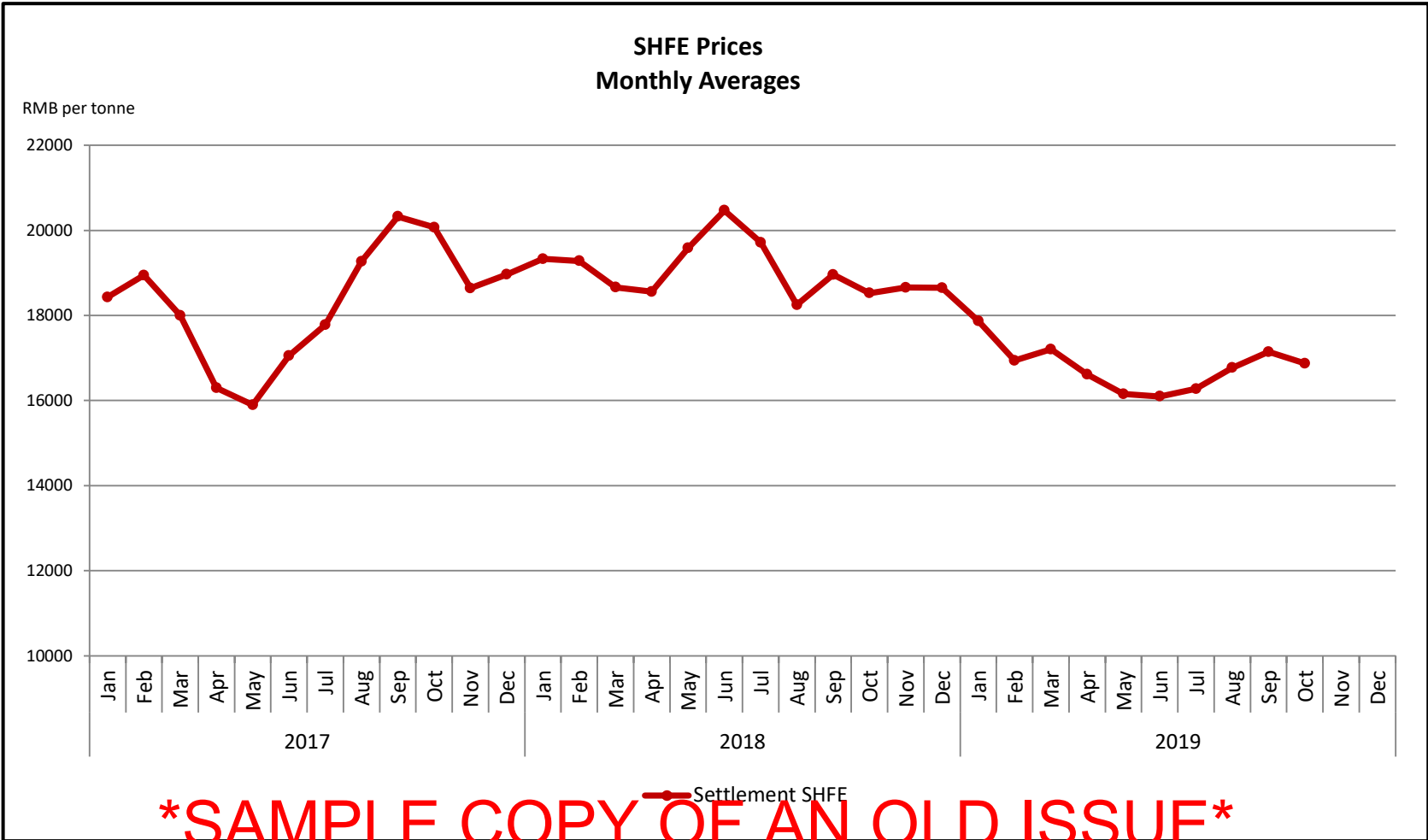
Refined Lead Average Prices
London Metal Exchange (LME)

		Settlement		3 Months		Contango (+) Backwardation (-)
		US \$ per tonne	US cents per lb.	US \$ per tonne	US cents per lb.	US \$ per tonne
Annual Averages						
2015		1782.83	80.868	1793.24	81.340	10.41
2016		1871.58	84.893	1878.17	85.192	6.59
2017		2317.46	105.118	2327.46	105.572	10.01
2018		2244.96	101.829	2254.19	102.248	9.23
Monthly Averages						
2018	August	2064.86	93.660	2082.02	94.439	17.16
	September	2028.23	91.998	2043.25	92.680	15.03
	October	1985.15	90.045	2001.87	90.803	16.72
	November	1940.16	88.004	1963.23	89.050	23.07
	December	1965.47	89.152	1975.58	89.610	10.11
2019	January	1994.16	90.453	2005.25	90.956	11.09
	February	2062.08	93.534	2074.68	94.105	12.60
	March	2054.57	93.193	2071.48	93.960	16.90
	April	1948.85	88.398	1967.43	89.241	18.58
	May	1817.21	82.427	1831.60	83.079	14.38
	June	1891.50	85.717	1887.00	85.595	-4.50
	July	1974.02	89.540	1979.15	89.773	5.13
	August	2043.19	92.677	2041.72	92.606	-1.97
	September	2070.86	93.992	2076.88	94.205	6.02
	October	2184.30	99.078	2176.54	98.726	-7.76
Weekly Averages*						
4th October		2108.75	95.651	2115.25	95.946	6.50
11th October		2166.60	98.275	2167.80	98.329	1.20
18th October		2169.40	98.402	2163.30	98.125	-6.10
25th October		2231.90	101.237	2214.10	100.430	-17.80
1st November		2176.00	98.701	2165.00	98.202	-11.00
8th November		2138.60	97.005	2131.30	96.674	-7.30

2018	Settlement	3 Months		Settlement	3 Months
Highest Daily Price	\$3020.50	\$3045.00	Lowest Daily Price	\$1867.00	\$1887.00
Date	14 May	14 May	Date	31 October	31 October
2019	Settlement	3 Months		Settlement	3 Months
Highest Daily Price	\$2267.00	\$2242.00	Lowest Daily Price	\$1768.00	\$1788.00
Date	29 October	29 October	Date	14 May	14 May

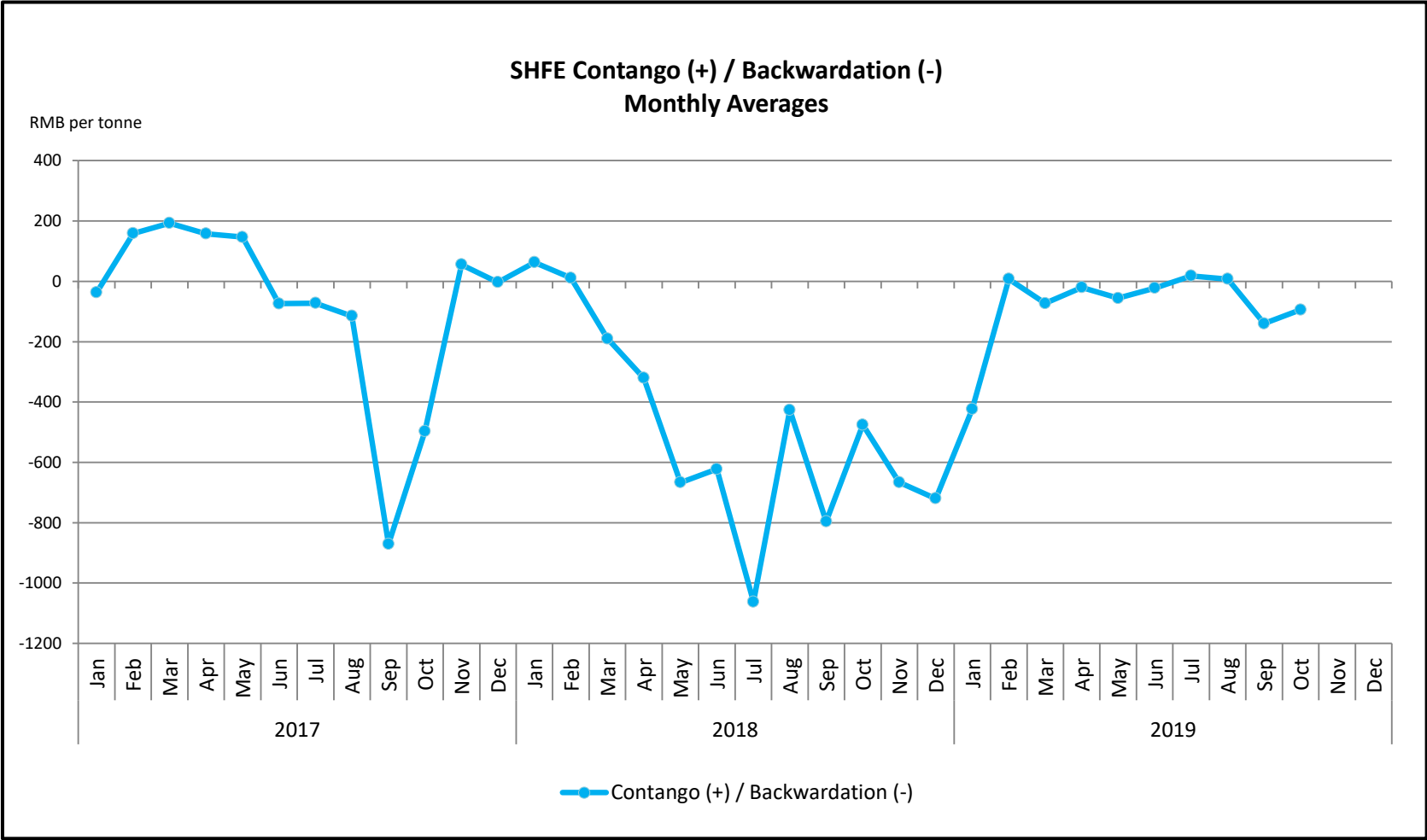
* Week ending

Lead Price trends
Shanghai Futures Exchange (SHFE)



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Refined Lead Average Prices
Shanghai Futures Exchange (SHFE)

		Settlement		3 Months		Contango (+) Backwardation (-)
		RMB per tonne	RMB per lb.	RMB per tonne	RMB per lb.	RMB per tonne
Annual Averages						
	2015	13,021.89	5.907	12,886.82	5.845	-135.06
	2016	14,624.57	6.634	14,520.76	6.587	-103.81
	2017	18,303.34	8.302	18,225.49	8.267	-77.85
	2018	19,052.80	8.642	18,553.00	8.415	-499.79
Monthly Averages						
2018	August	18,247.17	8.277	21,365.43	9.691	3,118.26
	September	18,961.32	8.601	21,815.53	9.895	2,854.21
	October	18,525.00	8.403	22,766.11	10.327	4,241.11
	November	18,659.09	8.464	21,502.73	9.753	2,843.64
	December	18,646.75	8.458	21,406.00	9.710	2,759.25
2019	January	17,872.27	8.107	21,411.36	9.712	3,539.09
	February	16,937.33	7.683	21,754.67	9.868	4,817.33
	March	17,207.62	7.805	22,105.71	10.027	4,898.10
	April	16,613.33	7.536	22,332.14	10.130	5,718.81
	May	16,153.00	7.327	21,100.25	9.571	4,947.25
	June	16,097.37	7.302	20,556.84	9.524	4,459.47
	July	16,275.00	7.382	19,449.78	8.822	3,174.78
	August	16,770.58	7.607	18,802.78	8.529	2,032.05
	September	17,145.00	7.777	18,925.00	8.584	1,780.00
	October	16,871.94	7.653	18,883.89	8.566	2,011.94
Weekly Averages*						
	4th October	17,005.00	7.713	16,835.00	7.636	-170.00
	11th October	16,987.50	7.705	16,953.75	7.690	-33.75
	18th October	16,961.00	7.693	16,769.00	7.606	-192.00
	25th October	16,839.00	7.638	16,729.00	7.588	-110.00
	1st November	16,665.00	7.559	16,641.00	7.548	-24.00
	8th November	16,384.00	7.432	16,213.00	7.354	-171.00

	2018	Settlement	3 Months		Settlement	3 Months
Highest Daily Price		21,230.00	20,330.00	Lowest Daily Price	17,690.00	17,205.00
Date		3 July	7 June	Date	20 August	20 August
	2019	Settlement	3 Months		Settlement	3 Months
Highest Daily Price		18,565.00	17,750.00	Lowest Daily Price	15,800.00	15,750.00
Date		2 January	2 January	Date	9 July	14 November

* Week ending

Principal imports and exports of lead ores and concentrates

Thousand Tonnes (Lead Content)

	Annual Totals				Year To Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Aug		Mar	Apr	May	Jun	Jul	Aug
Imports												
Europe												
Belgium	97	102	67	27	20 ⁽⁷⁾	14 ⁽⁷⁾	1.8	0.8	4.4	2.0	1.6	...
Bulgaria	44	45	40	43	24 ⁽⁷⁾	23 ⁽⁷⁾	4.1	3.4	3.7	3.7	1.7	...
Germany	155	141	135	115	62 ⁽⁷⁾	58 ⁽⁷⁾	6.4	5.4	6.3	4.2	7.1	...
Italy	54	49	41	24	14 ⁽⁷⁾	37 ⁽⁷⁾	1.8	12.3	-	1.8	5.2	...
Spain	0	0	0	30	10 ⁽⁷⁾	28 ⁽⁷⁾	4.7	5.4	1.9	2.9	3.4	...
Africa												
Morocco	0	-	-	0	-	-	-	-	-	-	-	-
America												
Canada	105	121	92	114	70	89	26.6	20.4	14.0	10.8	1.4	6.2
Mexico	3	6	10	20	18	19	2.8	-	0.1	0.0	0.1	6.9
Asia												
China	1028	771	699	690	430	606	65.1	75.4	70.2	90.8	81.5	102.7
India	10	4	2	1	1	1	0.1	0.1	0.3	0.0	0.1	0.1
Japan	58	89	85	84	50	48	1.1	7.6	5.6	5.3	11.8	5.5
Kazakhstan	20	59	62	72	32	73	16.4	3.6	8.2	5.5	1.7	-
Korea Rep	240	360	347	384	249	250	16.9	35.1	37.4	21.7	39.8	37.5
Exports												
Europe												
Belgium	148	80	29	0	- ⁽⁷⁾	1 ⁽⁷⁾	-	0.1	0.3	-	-	...
Bulgaria	3	5	8	8	3 ⁽⁷⁾	6 ⁽⁷⁾	1.7	0.0	-	3.5	1.2	...
Ireland	25	23	18	19	11 ⁽⁷⁾	3 ⁽⁷⁾	2.5	-	-	-	-	...
Poland	48	36	37	22	14 ⁽⁷⁾	30 ⁽⁷⁾	4.5	1.2	6.2	2.9	5.6	...
Romania	0	0	1	2	2 ⁽⁷⁾	0 ⁽⁷⁾	0.0	0.2	-	-	-	...
Russian Federation	170	231	227	235	136	137	24.1	10.8	12.0	25.8	13.2	2.9
Serbia	8	9	9	10	6	7	0.8	0.8	0.9	0.3	1.0	0.7
Spain	34	41	38	66	40 ⁽⁷⁾	78 ⁽⁷⁾	15.2	19.5	1.5	21.6	-	...
Sweden	45	42	33	31	15 ⁽⁷⁾	17 ⁽⁷⁾	2.2	3.5	3.6	4.1	2.9	...
Africa												
Morocco	29	37	41	50	35	29	4.6	3.7	3.3	6.0	4.6	1.0
Namibia	4	3	7	3	2	1	-	-	-	1.5	-	-
South Africa	33	35	41	29	20	28	4.8	3.3	-	4.9	-	4.2
America												
Argentina	12	15	24	-	-	-	-	-	-	-	-	-
Bolivia	89	87	108	114	75	65	7.3	7.5	6.9	9.8	9.3	7.4
Brazil	12	11	9	10	7	6	0.5	1.0	0.7	0.5	0.7	0.4
Canada	3	0	2	3	2	6	0.8	-	1.6	1.8	-	0.9
Honduras	5	3	1	7	5	3	1.4	-	-	-	1.6	-
Mexico	155	143	172	164	104	113	18.3	12.1	11.1	15.0	17.7	9.5
Peru	311	339	293	287	175	180	26.9	22.5	23.7	26.3	23.0	20.7
United States	349	341	269	245	148	134	15.6	1.3	26.1	11.8	31.6	21.1
Asia												
China	-	-	-	1	0	1	0.3	-	-	-	-	0.5
Iran	23	37	34	33	11 ⁽⁴⁾	5 ⁽⁴⁾	1.7	0.0	...	...	...	...
Kazakhstan	12	31	6	5	3	2	1.0	-	0.3	0.4	0.4	-
Turkey	74	65	68	76	49	52	8.2	3.6	8.9	10.8	3.9	5.2
Oceania												
Australia	271	102	84	132	50 ⁽⁶⁾	95 ⁽⁶⁾	8.3	21.0	14.9	24.2	...	...

Principal imports and exports of lead metal

Thousand Tonnes

	Annual Totals				Year To Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Aug		Mar	Apr	May	Jun	Jul	Aug
Imports												
Europe												
Austria	24	18	17	21	12 ⁽⁷⁾	10 ⁽⁷⁾	1.4	1.4	1.7	1.9	0.9	...
Belgium	18	20	16	18	7 ⁽⁷⁾	5 ⁽⁷⁾	0,0	0.6	0.4	0.1	0.2	...
Czech Rep.	106	115	117	67	43 ⁽⁷⁾	51 ⁽⁷⁾	6.7	8.6	6.7	12.1	4.6	...
France	39	39	55	52	29 ⁽⁷⁾	33 ⁽⁷⁾	7.1	3.7	4.8	4.7	5.4	...
Germany	111	117	149	163	97 ⁽⁷⁾	93 ⁽⁷⁾	12.0	14.3	14.9	10.9	15.3	...
Hungary	13	8	5	10	5 ⁽⁷⁾	4 ⁽⁷⁾	0.8	0.7	0.6	0.5	0.7	...
Italy	72	65	76	84	52 ⁽⁷⁾	41 ⁽⁷⁾	5.1	6.0	6.3	5.3	5.6	...
Poland	72	69	71	83	49 ⁽⁷⁾	48 ⁽⁷⁾	5.6	5.8	8.6	8.3	5.9	...
Spain	77	105	105	92	54 ⁽⁷⁾	53 ⁽⁷⁾	8.4	9.6	5.8	6.3	7.7	...
United Kingdom	18	19	31	26	17 ⁽⁷⁾	26 ⁽⁷⁾	4.1	11.2	4.6	1.2	0.8	...
Africa												
South Africa	17	14	11	9	6	6	-	0.6	1.0	0.3	0.7	0.4
America												
Brazil	65	64	71	67	49	40	4.4	4.7	3.6	4.3	4.9	6.8
United States	523	533	657	563	382	351	38.1	55.1	34.9	41.4	32.0	58.5
Asia												
China	8	5	86	150	50	104	14.2	9.7	11.8	8.1	10.4	6.9
India	109	121	121	131	82	87	10.7	7.1	8.9	12.5	15.2	16.1
Indonesia	60	65	70	62	37	41	5.2	6.2	5.1	4.8	4.9	5.1
Japan	36	30	46	51	35	33	3.3	3.2	3.1	9.2	3.1	2.2
Korea Rep	144	115	108	121	80	59	7.0	10.0	8.4	6.9	4.9	6.4
Malaysia	24	45	17	23	17	10	2.0	3.3	0.8	1.1	0.8	1.5
Philippines	11	29	37	39	25	29	3.2	3.6	3.2	3.6	4.4	2.6
Taiwan, China	77	76	82	70	52	69	25.8	6.2	6.5	4.9	5.1	5.1
Thailand	72	81	45	51	62	57	6.5	7.1	7.8	5.4	7.0	7.3
Turkey	91	97	116	124	78	76	9.9	9.1	10.9	7.6	8.9	9.1
Exports												
Europe												
Belgium	156	122	114	101	56 ⁽⁷⁾	79 ⁽⁷⁾	11.9	13.6	8.2	5.8	7.5	...
Bulgaria	80	74	77	74	44 ⁽⁷⁾	39 ⁽⁷⁾	3.4	4.4	6.5	5.8	5.2	...
France	34	31	41	47	27 ⁽⁷⁾	30 ⁽⁷⁾	4.4	4.0	4.1	4.3	4.2	...
Germany	132	86	90	88	49 ⁽⁷⁾	59 ⁽⁷⁾	7.0	9.3	9.0	9.2	6.5	...
Italy	50	35	35	30	17 ⁽⁷⁾	19 ⁽⁷⁾	2.1	3.3	2.6	3.2	2.5	...
Netherlands	11	22	28	53	32 ⁽⁷⁾	18 ⁽⁷⁾	0.8	3.7	2.3	2.6	3.0	...
Poland	74	37	36	41	24 ⁽⁷⁾	26 ⁽⁷⁾	4.6	3.3	3.5	4.5	2.9	...
Russian Federation	96	124	117	99	66	39	5.6	5.1	3.7	5.0	7.1	3.6
Sweden	60	68	76	71	41 ⁽⁷⁾	43 ⁽⁷⁾	6.4	6.1	6.3	5.6	5.4	...
United Kingdom	158	109	98	103	63 ⁽⁷⁾	56 ⁽⁷⁾	5.9	6.4	9.2	8.3	7.9	...
Africa												
Morocco	5	0	-	2	1	1	-	0.3	0.3	-	-	-
America												
Canada	190	205	187	180	120	125	16.8	17.6	15.0	14.6	14.7	14.8
Mexico	129	98	122	123	86	88	11.2	12.8	9.8	11.2	11.2	10.1
Peru	4	6	12	10	6	6	1.2	0.7	0.5	0.3	0.7	0.6
United States	56	43	24	65	25	20	1.8	0.9	1.3	1.9	1.8	1.1
Asia												
China	50	15	8	26	25	3	0.1	0,0	0.1	0.1	2.2	0.1
Kazakhstan	84	121	123	84	50	72	20.6	9.7	7.9	3.3	7.1	-
Korea Rep	224	323	291	306	194	210	24.7	22.8	32.4	27.7	20.2	31.1
Oceania												
Australia	231	242	219	192	79 ⁽⁶⁾	72 ⁽⁶⁾	11.1	16.0	9.3	3.5	...	...

(6) January-June (7) January-July

Lead World Supply and Demand Current Trends

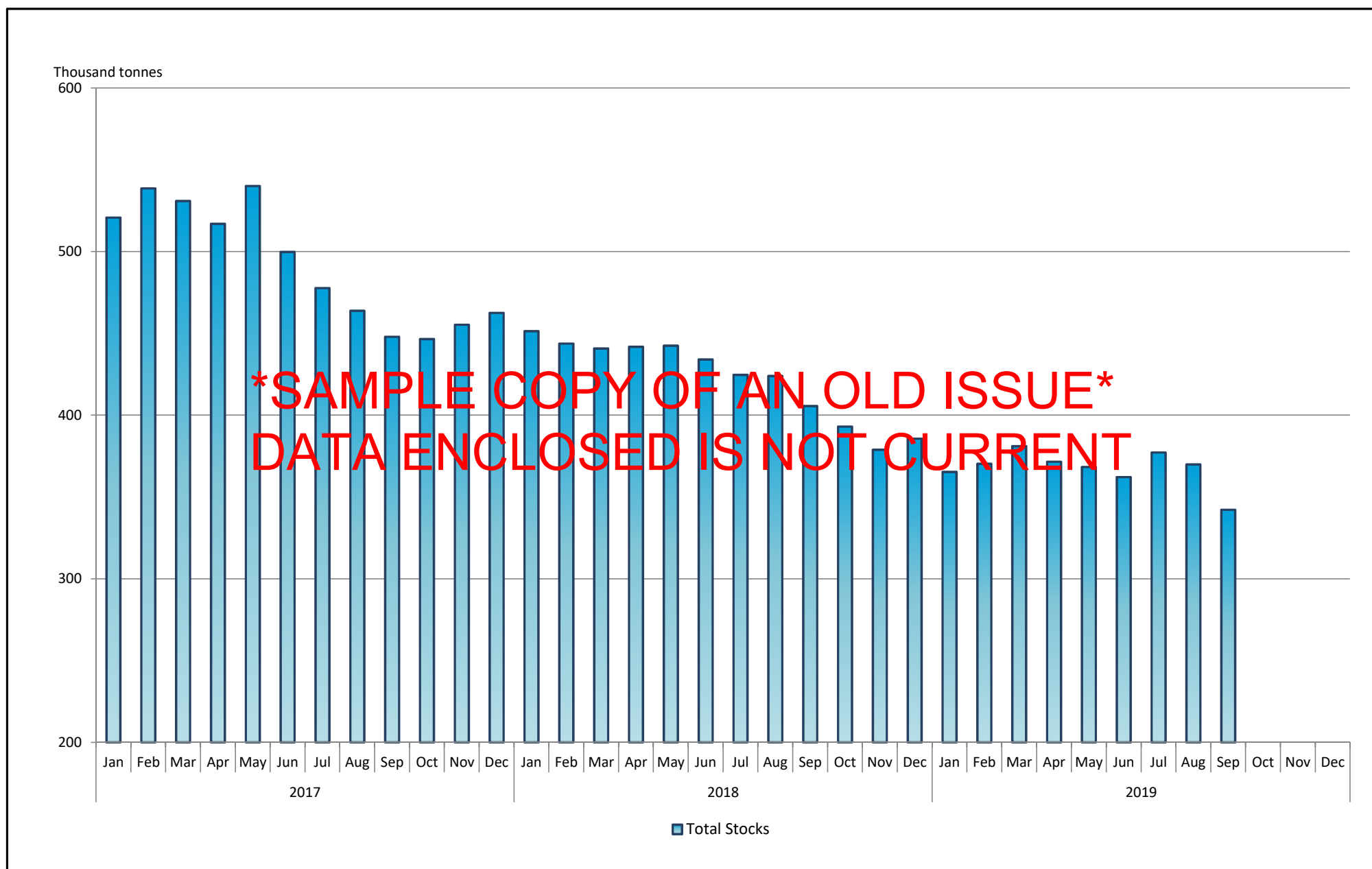
Thousand Tonnes

	Annual Totals					Quarterly Totals							
	2014	2015	2016	2017	2018	2017		2018		2019			
						Oct - Dec	Jan - Mar	Apr - June	Jul - Sep	Oct - Dec	Jan - Mar	Apr - June	Jul - Sep
Concentrates (lead content)													
Production	4955	4857	4699	4621	4679	1244	1167	1098	1105	1309	1162	1144	1068
Europe	449	424	444	443	478	115	121	117	119	122	121	120	122
Africa	75	82	80	97	98	27	23	27	23	25	24	28	25
Mexico	250	261	241	243	240	63	58	58	59	66	61	62	63
Peru	278	316	314	307	289	79	68	69	77	76	70	80	79
United States	379	370	347	310	280	77	67	67	73	73	68	68	68
China	2301	2217	2224	2102	2104	596	547	479	444	634	506	481	407
Australia	728	654	441	393	432	102	95	102	118	117	115	119	124
Other	493	534	607	727	758	186	191	180	191	197	197	187	180
Refined Metal Production*													
Primary	4682	4645	4576	4335	4387	1166	1080	1007	1068	1233	1065	1040	992
Secondary	6453	6414	6732	7230	7462	1787	1830	1829	1878	1926	1818	1807	1898
Total	11135	11059	11308	11565	11850	2953	2910	2835	2946	3159	2883	2846	2890
Europe	1901	1979	1986	2040	2034	507	520	505	498	512	498	503	493
Canada	281	269	274	277	251	66	64	67	57	63	66	60	54
Mexico	434	414	401	423	433	106	102	112	109	111	113	108	111
United States	1128	1050	1123	1121	1136	275	284	284	284	284	282	282	282
China	4704	4700	4603	4726	4310	1245	1140	1119	1207	1404	1146	1142	1207
India	477	501	519	570	623	147	157	149	150	161	169	164	163
Japan	242	232	240	239	238	67	58	60	56	64	56	56	66
Korea Rep	659	641	831	800	801	200	193	193	208	208	204	204	201
Australia	226	223	224	168	189	46	46	38	63	42	45	20	10
Other	1103	1051	1107	1200	1235	299	307	308	309	310	304	307	304
Usage	11111	11049	11268	11720	11923	2927	2937	2839	2949	3198	2872	2870	2961
Europe	1776	1773	1953	2003	2041	482	528	502	499	512	498	501	489
United States	1671	1535	1587	1751	1655	403	451	418	405	381	399	409	414
China	4709	4708	4577	4791	4978	1231	1170	1120	1225	1464	1156	1153	1219
India	521	543	578	557	597	150	140	147	163	148	158	165	166
Japan	256	266	265	287	271	77	68	65	64	75	64	63	73
Korea Rep	565	575	605	623	615	163	164	131	153	168	149	144	160
Other	1613	1649	1703	1708	1764	419	416	457	441	450	448	435	441
Metal Balance	24	10	40	-155	-73	26	-27	-4	-3	-40	11	-24	-71
Reported Metal Stocks													
Producers	187	154	165	148	152	148	157	170	161	152	153	155	146
Consumers	113	96	124	130	110	130	128	124	117	110	112	109	110
Merchants	0	0	0	0	0	0	0	0	1	0	1	1	2
LME	222	192	195	142	107	142	129	132	116	107	79	66	70
SHFE	64	13	29	42	16	42	26	7	12	16	37	31	16
Total	586	455	512	463	386	463	441	434	406	386	381	362	342
Stock Ratio **	3	2	2	2	2	2.1	1.9	2.0	1.7	1.6	1.7	1.7	1.5

* Including lead content of refined lead alloys

** Weeks of consumption

Lead Stocks of Refined Metal



World Refined Lead Metal Stocks

Thousand Tonnes

		End of Year				End of Month						
		2015	2016	2017	2018	2019						
Commercial Stocks						Mar	Apr	May	Jun	Jul	Aug	Sep
Producers		154	165	148	152	153.1	155.8	157.1	155.5	151.7	149.9	145.8
Europe		61	60	60	61	57.8	59.1	59.7	59.9	58.8	59.0	56.9
Canada		5	6	3	3	3.1	3.1	3.1	3.1	3.1	3.1	3.1
United States		25	25	25	25	25.4	25.4	25.4	25.4	25.4	25.4	25.4
Japan		24	19	10	14	13.0	12.9	14.9	14.5	13.9	13.9	13.9
Australia		3	4	5	4	4.8	5.3	4.0	1.5	1.5	1.5	1.5
Other Countries		35	51	45	45	49.0	50.0	50.0	51.0	49.0	47.0	45.0
Consumers		96	124	130	110	111.6	111.5	110.3	109.1	109.8	109.8	109.8
Europe		32	32	32	32	32.0	32.0	32.0	32.0	32.0	32.0	32.0
United States		49	76	79	58	57.6	57.6	57.6	57.6	57.6	57.6	57.6
Japan		10	10	13	14	15.4	15.3	14.1	12.9	13.6	13.6	13.6
Other Countries		5	6	7	7	6.6	6.6	6.6	6.6	6.6	6.6	6.6
London Metal Exchange		192	195	142	107	78.8	74.4	69.4	65.8	78.5	77.5	69.5
Belgium	Antwerp	0	8	9	36	26.9	25.2	24.6	24.1	20.5	17.3	12.0
	Bremen	-	-	-	-	-	-	-	-	-	-	-
Germany	Hamburg	1	0	0	0	-	-	-	-	-	-	-
Italy	Genoa	0	-	-	-	-	-	-	-	-	-	-
	Leghorn	0	3	5	6	5.2	5.0	4.8	4.5	5.0	5.0	5.9
	Trieste	-	0	1	1	1.5	2.1	1.8	1.3	1.3	1.3	1.3
Korea Rep.	Pusan	46	41	20	9	10.6	10.6	9.9	8.6	7.1	5.7	5.7
	Gwangyang	-	-	-	-	-	-	-	-	-	-	-
	Incheon	-	-	-	-	-	-	-	-	-	-	-
Malaysia	Johor	7	3	0	-	-	-	-	-	-	-	-
	Port Klang	53	55	26	7	6.9	6.9	6.9	6.9	2.9	0.0	0.0
Netherlands	Moerdijk	0	-	1	1	1.4	1.4	0.9	0.9	1.7	1.7	1.7
	Rotterdam	18	23	32	20	12.4	9.7	8.6	7.9	13.0	11.8	11.8
	Vlissingen	57	68	38	15	1.0	0.8	0.7	0.7	1.7	2.4	2.4
Singapore	Singapore	-	-	-	2	0.8	0.7	0.4	0.2	-	-	-
Spain	Barcelona	2	8	3	4	3.4	3.4	3.4	3.4	3.2	3.0	2.9
	Bilbao	6	5	3	4	5.0	4.9	4.1	4.0	4.3	4.3	4.3
Sweden	Helsingborg	-	-	-	-	-	-	-	-	-	-	-
Taiwan, China	Kaohsiung	0	0	3	4	4.0	3.9	3.5	3.4	17.9	23.8	21.7
United Arab Emirates	Dubai	-	-	-	-	-	-	-	-	-	-	-
United Kingdom	Hull	-	-	-	-	-	-	-	-	-	-	-
	Liverpool	-	-	-	-	-	-	-	-	-	-	-
United States	Baltimore	-	-	-	-	-	-	-	-	-	-	-
	Chicago	-	-	-	-	-	-	-	-	-	-	-
	Detroit	-	-	-	-	-	-	-	-	-	-	-
	Long Beach	-	-	-	-	-	-	-	-	-	-	-
	Los Angeles	0	-	-	-	-	-	-	-	-	-	-
	Mobile	-	-	-	-	-	-	-	-	-	-	-
	New Orleans	-	-	-	-	-	-	-	-	-	-	-
	St. Louis	-	-	-	-	-	-	-	-	-	-	-
SHFE		13	29	42	16	36.9	29.0	30.7	30.8	35.7	31.1	15.5
Total		454	512	462	385	380.3	370.6	367.4	361.1	375.7	368.3	340.6
Stock Ratio ^		2	2	2	2	1.7	1.6	1.7	1.7	1.7	1.6	1.5

^ Total of reported stocks expressed as number of weeks of metal usage.

SHFE: Shanghai Futures Exchange

World Recovery of Secondary Lead

Thousand Tonnes

	Annual Totals				Year to Date		Quarterly Totals					
	2015	2016	2017	2018	2018	2019	2018	2019				
					Jan - Sep		Apr - June	Jul - Sep	Oct - Dec	Jan - Mar	Apr - June	Jul - Sep
Refined Lead and Lead Alloys*												
Europe	1,511	1,529	1,625	1,636	1,231	1,194	415	399	406	397	403	394
Austria	24	25	26	27	20	20	7	7	7	7	7	7
Belgium	120	133	131	129	103	108	38	27	27	37	39	32
Bulgaria	41	43	47	43	32	37	11	11	11	13	13	12
Croatia	-	4	4	60	45	5	15	15	15	2	2	2
Czech Rep.	44	43	43	43	32	32	11	11	11	11	11	11
Estonia	11	12	13	12	9	9	3	3	3	3	3	3
France	72	70	70	70	52	52	17	17	17	17	17	17
Germany	248	222	240	217	161	168	53	56	56	55	58	56
Greece	24	28	28	30	23	23	8	8	8	8	8	8
Hungary	7	12	15	16	12	14	4	4	4	5	5	5
Ireland	18	18	18	15	11	12	4	4	4	4	4	4
Italy	158	140	143	135	103	100	36	32	32	35	35	30
Netherlands	32	33	36	36	27	27	9	9	9	9	9	9
Poland	114	115	119	120	90	86	30	30	30	29	29	28
Portugal	8	8	10	9	7	8	2	2	2	3	3	3
Romania	20	17	24	21	16	17	5	5	5	6	6	6
Russian Federation	145	178	206	201	151	138	50	50	50	43	43	53
Serbia	5	5	14	15	11	11	4	4	4	4	4	4
Slovak Rep.	9	8	9	9	7	7	2	2	2	2	2	2
Slovenia	12	12	12	12	9	9	3	3	3	3	3	3
Spain	165	166	168	175	131	131	44	44	44	44	44	44
Sweden	45	46	50	47	33	35	12	7	14	12	14	9
Ukraine	30	32	34	30	23	23	8	8	8	8	8	8
United Kingdom	160	160	165	165	124	124	41	41	41	41	41	41
Africa	113	121	122	125	94	102	31	31	31	34	34	35
Algeria	9	8	9	9	7	7	2	2	2	2	2	2
Egypt	24	25	26	26	20	21	7	7	7	7	7	7
Kenya	1	1	1	1	1	1	0	0	0	0	0	0
Morocco	14	11	8	8	6	6	2	2	2	2	2	2
Nigeria	2	9	9	6	4	9	1	1	1	3	3	3
South Africa	52	54	55	56	42	42	14	14	14	14	14	14
Zambia	5	5	4	5	4	4	1	1	1	1	1	1
Other Africa	6	8	10	14	11	13	4	4	4	4	4	5

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World Recovery of Secondary Lead

Thousand Tonnes

	Annual Totals				Year to Date		Quarterly Totals					
	2015	2016	2017	2018	2018	2019	2018	2019				
					Jan - Sep		Apr - June	Jul - Sep	Oct - Dec	Jan - Mar	Apr - June	Jul - Sep
Refined Lead and Lead Alloys*												
America	1,819	1,881	1,936	1,951	1,461	1,460	491	483	490	488	488	485
Argentina	29	26	30	26	20	23	7	7	7	8	8	8
Bolivia	2	3	3	3	2	2	1	1	1	1	1	1
Brazil	190	195	195	195	146	146	49	49	49	49	49	49
Canada	142	132	152	141	103	105	38	30	38	36	36	33
Chile	10	11	12	14	11	11	4	4	4	4	4	4
Colombia	41	42	43	44	33	33	11	11	11	11	11	11
Costa Rica	7	8	10	10	8	8	3	3	3	3	3	3
Cuba	5	5	5	5	4	4	1	1	1	1	1	1
Dominican Republic	6	8	7	7	5	5	2	2	2	2	2	2
Guatemala	12	12	12	12	9	9	3	3	3	3	3	3
Honduras	-	-	5	5	4	4	1	1	1	1	1	1
Mexico	300	290	310	329	247	248	82	82	82	83	83	83
Peru	5	10	15	15	11	11	4	4	4	4	4	4
United States	1,050	1,123	1,121	1,136	852	846	284	284	284	282	282	282
Venezuela	20	16	16	9	7	6	2	2	2	2	2	2
Asia	2,926	3,161	3,503	3,717	2,727	2,745	883	957	991	891	875	980
China	1,552	1,698	2,009	2,140	1,552	1,535	493	561	588	492	477	566
India	353	386	405	428	321	349	107	107	107	116	116	116
Indonesia	46	48	46	54	41	41	14	14	14	14	14	14
Iran	60	72	70	68	51	48	17	17	17	16	16	16
Israel	25	27	34	38	29	29	10	10	10	10	10	10
Japan	147	155	152	160	127	117	40	39	43	38	36	43
Kazakhstan	66	48	20	20	15	13	5	5	5	4	5	4
Korea Rep	350	390	380	390	290	295	95	100	100	95	95	105
Malaysia	21	26	35	35	26	26	9	9	9	9	9	9
Myanmar	1	1	6	12	9	9	3	3	3	3	3	3
Oman	-	-	5	10	8	8	3	3	3	3	3	3
Pakistan	0	0	1	18	11	18	4	6	8	6	6	6
Philippines	28	14	10	10	8	8	3	3	3	3	3	3
Saudi Arabia	37	50	72	68	51	51	17	17	17	17	17	17
Sri Lanka	7	7	8	8	6	6	2	2	2	2	2	2
Taiwan, China	46	48	48	58	44	43	15	15	15	14	14	14
Thailand	86	86	88	85	64	64	21	21	21	21	21	21
Turkey	56	58	58	58	44	42	15	15	15	14	14	14
United Arab Emirates	18	22	25	25	19	19	6	6	6	6	6	6
Vietnam	22	25	31	32	24	25	8	8	8	8	8	8
Oceania	45	41	43	33	25	21	8	8	8	9	7	5
Australia	45	41	43	33	25	21	8	8	8	9	7	5
Total	6,414	6,732	7,230	7,462	5,537	5,523	1,829	1,878	1,926	1,818	1,807	1,898

* Refined lead and lead alloys (lead content) produced from secondary materials (scraps, wastes and residues).

Table 11

Lead Country table - China

Thousand Tonnes

	Annual Totals				Year To date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Sep		Apr	May	Jun	Jul	Aug	Sep
Ores/Concentrates (Lead Content)												
Production	2217	2224	2102	2104	1470	1394	172.0	160.0	149.0	142.0	124.0	141.0
Imports	1028	771	699	690	500	699	75.4	70.2	90.8	81.5	102.7	94.0
Australia	156	24	11	35	18	90	4.2	7.4	7.7	17.7	13.7	13.1
Bolivia	7	4	6	9	6	6	0.4	-	0.3	0.4	-	2.5
Brazil	10	8	7	7	6	4	-	0.4	1.1	-	0.3	0.5
Germany	34	27	23	3	3	-	-	-	-	-	-	-
Indonesia	5	4	6	11	8	5	-	0.6	0.6	0.9	0.7	0.5
Iran	24	26	35	22	20	2	-	0.2	0.3	0.1	0.3	0.3
Ireland	18	14	5	-	-	2	2.4	-	-	-	-	-
Kazakhstan	12	28	6	14	9	5	0.4	-	-	1.1	-	-
Korea DPR	38	43	37	-	-	-	-	-	-	-	-	-
Mexico	44	16	15	7	6	18	5.2	1.9	2.8	1.8	1.8	0.6
Morocco	14	17	21	18	14	16	2.0	1.8	0.5	2.7	2.3	2.5
Myanmar	11	17	24	45	29	48	7.0	4.9	5.3	5.7	5.5	6.6
Namibia	14	10	10	9	9	3	-	-	-	-	3.3	-
Nigeria	17	14	23	16	14	14	0.5	1.3	1.5	2.7	2.4	2.8
Peru	128	78	64	58	49	75	4.9	5.0	8.9	10.5	16.2	3.5
Poland	47	28	30	11	10	13	1.7	1.3	2.4	2.7	1.7	2.5
Russian Federation	106	125	131	137	84	129	12.1	19.9	22.4	12.6	19.4	18.0
South Africa	28	18	18	23	22	22	10.3	4.5	3.0	-	4.4	-
Spain	8	16	9	17	15	6	2.9	8.0	16.0	1.1	8.8	8.1
Thailand	3	3	2	0	0	0	-	-	-	-	-	-
Turkey	46	42	34	48	38	45	6.7	3.5	6.8	4.0	7.8	3.1
United States	89	111	19	71	60	25	2.8	-	-	-	1.7	17.5
Vietnam	2	1	4	14	10	8	0.9	0.4	0.5	2.2	1.1	1.0
Other	56	58	59	104	70	99	10.8	9.2	11.0	13.8	10.4	10.1
Refined Lead												
Production	4700	4603	4726	4910	3506	3495	396.2	363.9	382.1	395.9	401.7	409.1
Primary Metal	3148	2905	2717	2770	1954	1959	237.0	209.1	218.7	205.4	207.1	228.0
Secondary Metal	1552	1698	2009	2140	1552	1535	159.2	154.8	163.5	190.5	194.7	181.1
Imports	8	5	86	150	65	112	9.7	11.8	8.1	10.4	6.9	7.7
Australia	1	-	39	18	3	24	2.4	-	-	0.2	-	-
Canada	4	3	1	2	2	0	-	-	-	-	-	-
Japan	0	0	0	0	0	0	0,0	0,0	0,0	0,0	-	0,0
Korea Rep	0	1	3	31	22	41	4.0	7.4	2.1	4.6	3.9	3.8
Taiwan, China	-	0	1	2	1	2	0,0	0.1	0.3	0.4	0,0	0.3
Other	4	2	41	97	36	44	3.2	4.3	5.7	5.3	3.0	3.6
Exports	50	15	8	26	25	4	0,0	0.1	0.1	2.2	0.1	0.6
India	0	0	0	-	-	-	-	-	-	-	-	-
Indonesia	7	4	-	1	1	-	-	-	-	-	-	-
Korea Rep	0	-	2	0	0	-	-	-	-	-	-	-
Malaysia	2	1	0	5	5	0	-	-	-	-	0.1	-
Taiwan, China	11	3	4	4	4	-	-	-	-	-	-	-
Other	25	8	1	2	2	2	0,0	0.1	0.1	1.4	0.0	0.1
Usage	4708	4577	4791	4978	3515	3528	405.4	365.5	381.7	390.8	404.9	423.4
SHFE Stocks	13	29	42	16			29.0	30.7	30.8	35.7	31.1	15.5

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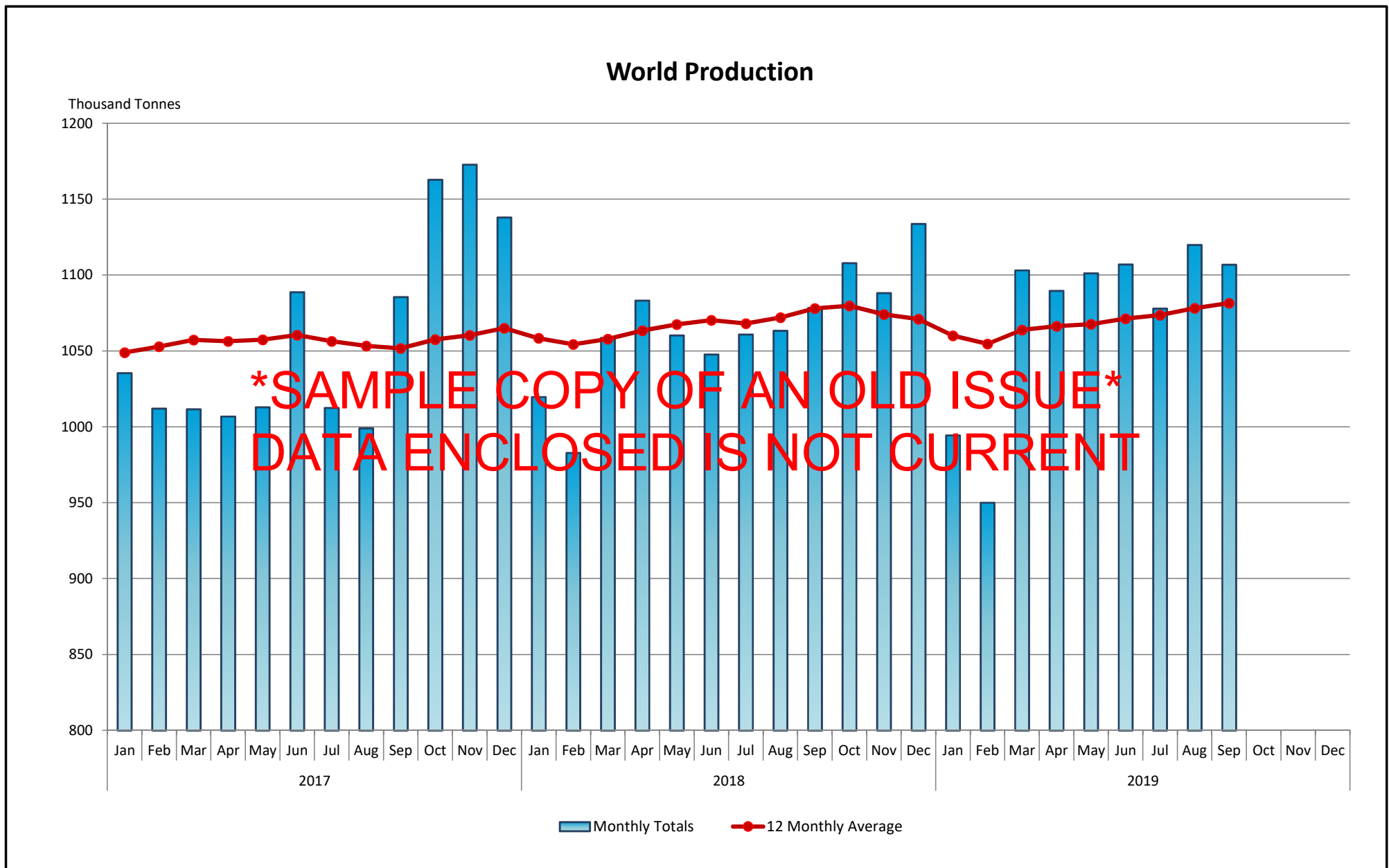
Production and Usage of Lead Annual Totals

Thousand Tonnes

World	Mine Production*		Metal Production		Metal Usage	
		+/- %		+/- %		+/- %
1989	3123	-0.6	5750	1.1	5724	0.6
1990	3187	2.0	5523	-4.1	5476	-2.9
1991	3149	-2.4	5374	-1.6	5367	-1.4
1992	3050	-2.9	5488	1.9	5325	-0.7
1993	2700	-11.5	5485	-0.1	5233	-1.6
1994	2704	0.5	5460	-0.4	5498	5.5
1995	2754	2.1	5738	5.6	5826	5.7
1996	3010	9.5	5854	1.3	5996	3.0
1997	3028	0.8	6064	3.3	6123	1.4
1998	2990	-1.2	6064	-0.1	6136	0.2
1999	2966	-0.7	6347	4.5	6242	2.9
2000	3094	4.3	6744	6.3	6679	7.0
2001	3097	0.1	6761	0.1	6697	0.0
2002	2875	-7.2	6900	2.1	6869	2.6
2003	3142	9.3	7029	1.9	7052	2.8
2004	3162	0.6	7284	3.6	7583	7.4
2005	3445	9.0	7948	9.1	8027	5.9
2006	3538	2.7	8272	4.1	8376	4.3
2007	3658	3.4	8524	3.0	8525	1.8
2008	3817	4.3	9337	9.5	9350	9.7
2009	3811	-0.1	9368	0.3	9368	0.2
2010	4167	9.3	9984	6.6	9943	6.1
2011	4618	10.8	10787	8.1	10617	6.8
2012	4851	5.0	10748	-0.4	10664	0.4
2013	5090	4.9	11318	5.3	11302	6.0
2014	4955	-2.6	11135	-1.6	11111	-1.7
2015	4857	-2.0	11059	-0.7	11049	-0.6
2016	4699	-3.2	11308	2.2	11268	2.0
2017	4621	-1.7	11565	2.3	11720	4.0
2018	4679	1.2	11850	2.5	11923	1.7

* Metal content by analysis

Zinc Mine Production



Zinc Mine Production*

Thousand Tonnes (Zinc Content)

	Annual Totals				Year To Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan -Sep		Apr	May	Jun	Jul	Aug	Sep
Europe	968	986	1,019	1,156	863	854	92.2	89.4	91.7	98.5	96.4	96.6
EU 28	709	685	682	782	583	583	63.3	60.5	62.6	66.2	64.1	64.2
Bosnia & Herzegovina	9	9	10	9	7	7	0.8	0.8	0.8	0.8	0.8	0.8
Bulgaria	17	15	16	16	12	12	1.5	1.5	1.5	1.2	1.2	1.2
Finland	25	46	66	86	64	54	6.3	5.0	4.9	6.1	6.2	5.9
Greece	12	17	17	20	15	17	1.8	1.8	1.8	2.0	2.0	2.0
Ireland	236	148	131	132	103	89	7.6	8.3	9.0	11.9	8.6	10.6
Macedonia	29	25	28	30	22	24	2.6	2.7	2.7	2.7	2.7	2.7
Montenegro	7	8	9	10	7	7	0.8	0.7	1.0	0.8	0.8	0.9
Poland	53	50	49	42	32	30	3.4	3.4	3.4	3.1	3.1	3.1
Portugal	62	70	71	145	109	114	12.7	12.7	12.7	12.7	12.7	12.7
Romania	3	2	1	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Russian Federation	206	248	275	310	233	220	23.3	23.3	23.3	26.7	26.7	26.7
Serbia	8	11	16	16	12	12	1.3	1.3	1.3	1.3	1.3	1.3
Spain	49	76	74	101	76	79	8.8	8.8	8.8	8.8	8.8	8.8
Sweden	252	262	256	239	172	188	21.3	19.1	20.6	20.5	21.7	20.1
Africa	309	341	411	425	310	389	41.4	44.2	47.9	42.6	47.2	51.3
Burkina Faso	69	81	79	83	62	57	7.0	7.0	7.0	6.1	6.1	6.1
Congo DR	14	13	12	1	1	1	0.1	0.1	0.1	0.1	0.1	0.1
Congo R	-	-	4	4	3	3	0.3	0.3	0.3	0.3	0.3	0.3
Eritrea	-	41	95	125	96	85	9.1	9.1	9.1	10.0	10.0	10.0
Morocco	47	49	52	36	44	41	5.6	6.3	6.6	3.0	3.3	5.3
Namibia	146	126	133	110	77	95	10.9	10.8	10.5	9.9	9.7	9.9
Nigeria	4	5	5	12	9	8	0.8	0.8	0.8	0.8	0.8	0.8
South Africa	19	27	31	23	18	101	7.5	9.7	13.1	12.4	16.7	18.7
America	3,958	3,851	4,061	4,088	3,076	2,954	334.4	337.1	337.0	332.0	339.4	322.4
Argentina	31	26	27	22	17	8	0.8	0.8	0.8	1.0	1.0	1.0
Bolivia	447	487	527	520	390	408	44.3	51.8	46.8	52.6	40.6	41.0
Brazil	156	157	156	167	125	126	14.0	14.0	14.0	14.5	14.5	14.5
Canada	292	301	344	287	217	241	30.0	24.8	31.4	27.4	31.0	19.9
Chile	48	43	29	27	20	5	0.5	0.5	0.5	0.5	0.5	0.5
Cuba	-	-	6	42	30	38	4.2	4.2	4.2	4.2	4.2	4.2
Dominican Republic	6	6	4	5	4	5	0.5	0.5	0.5	0.5	0.5	0.5
Guatemala	15	15	6	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Honduras	23	19	20	28	22	21	2.3	2.3	2.3	2.3	2.3	2.3
Mexico	695	661	671	691	510	509	59.0	56.3	56.2	57.6	58.1	55.0
Peru	1,422	1,337	1,473	1,475	1,125	1,027	116.6	118.6	116.0	106.9	122.2	119.1
United States	825	798	796	824	618	567	62.3	63.3	64.3	64.4	64.4	64.4

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Zinc Mine Production*

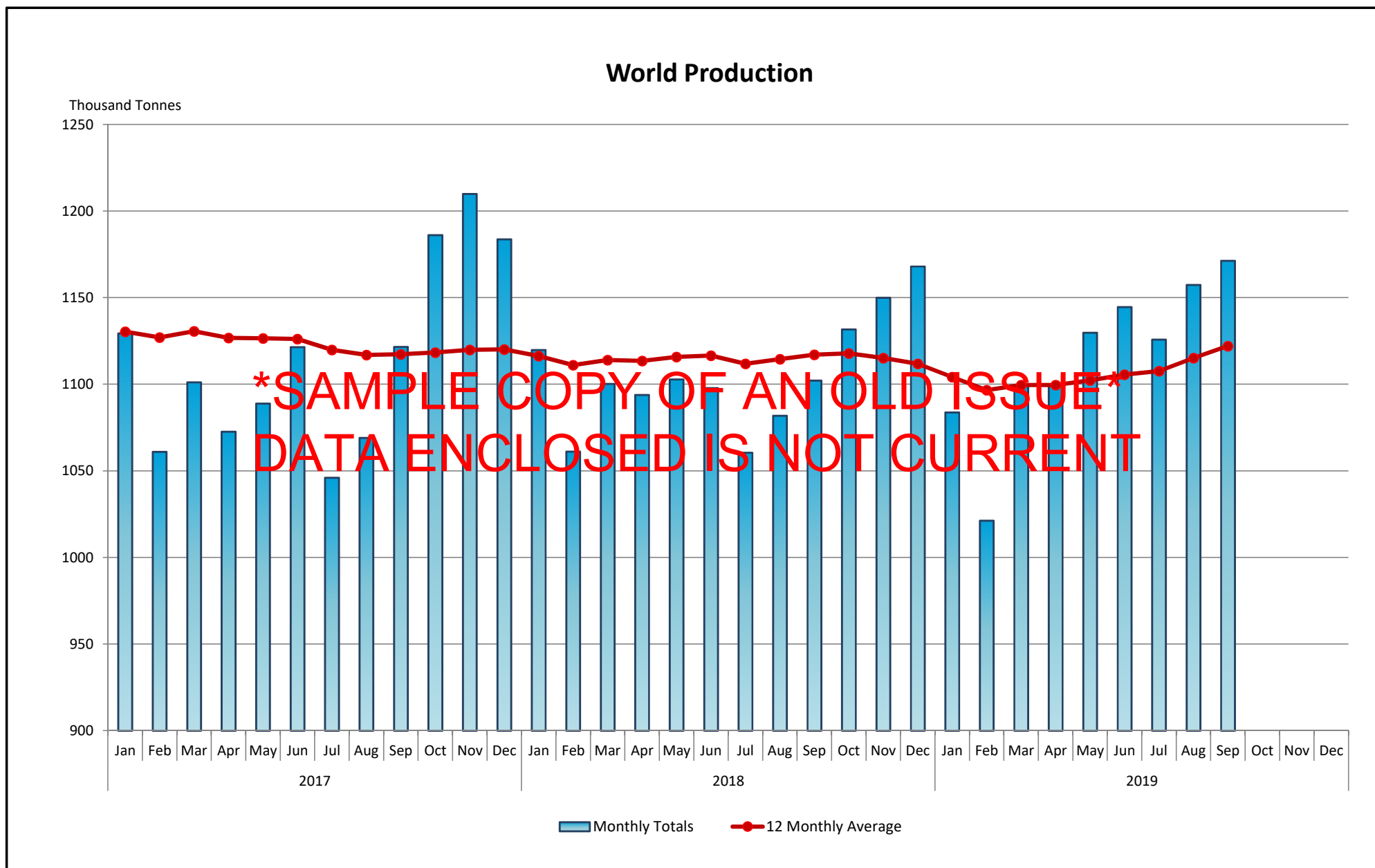
Thousand Tonnes (Zinc Content)

	Annual Totals				Year To Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan -Sep		Apr	May	Jun	Jul	Aug	Sep
Asia	6,811	6,539	6,395	6,005	4,422	4,390	501.6	510.4	510.4	482.7	514.8	514.5
Armenia	5	5	5	5	4	0	0.0	0.0	0.0	0.0	0.0	0.0
China	5,140	5,081	4,696	4,327	3174	3209	375.0	378.0	384.0	349.0	383.0	381.0
India	821	646	827	757	558	545	55.3	55.3	55.3	62.3	62.3	62.3
Indonesia	19	9	14	20	15	18	2.0	2.0	2.0	2.0	2.0	2.0
Iran	124	135	140	130	98	101	11.3	11.3	11.3	11.3	11.3	11.3
Kazakhstan	369	351	345	346	260	210	22.9	27.2	26.5	22.5	23.9	25.0
Korea DPR	26	35	20	15	11	10	1.1	1.1	1.1	1.1	1.1	1.1
Mongolia	45	50	41	53	40	42	4.7	4.7	4.7	4.7	4.7	4.7
Myanmar	5	6	11	13	10	11	1.3	1.3	1.3	1.3	1.3	1.3
Pakistan	-	8	20	27	20	27	3.0	3.0	3.0	3.0	3.0	3.0
Saudi Arabia	20	3	14	21	16	16	1.9	1.9	1.9	1.9	1.9	1.9
Tajikistan	58	57	77	70	53	53	5.8	5.8	5.8	5.8	5.8	5.8
Thailand	27	11	0	-	-	-	-	-	-	-	-	-
Turkey	128	119	156	184	138	109	13.1	14.7	9.4	13.7	10.4	10.9
Uzbekistan	8	12	18	24	18	30	3.3	3.3	3.3	3.3	3.3	3.3
Vietnam	15	12	12	12	9	9	1.0	1.0	1.0	1.0	1.0	1.0
Oceania	1,578	884	852	1,112	783	1,064	120.1	120.1	120.1	122.2	122.2	122.2
Australia	1,578	884	852	1,112	783	1064	120.1	120.1	120.1	122.2	122.2	122.2
World Total	13,624	12,601	12,739	12,785	9,455	9,650	1,090	1,101	1,107	1,078	1,120	1,107
Monthly Average	1,135	1,050	1,062	1,065	1051	1072						

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* Zinc content by analysis of zinc ores and concentrates plus the zinc content of other ores and concentrates known to be intended for zinc recovery

Refined Zinc Metal Production



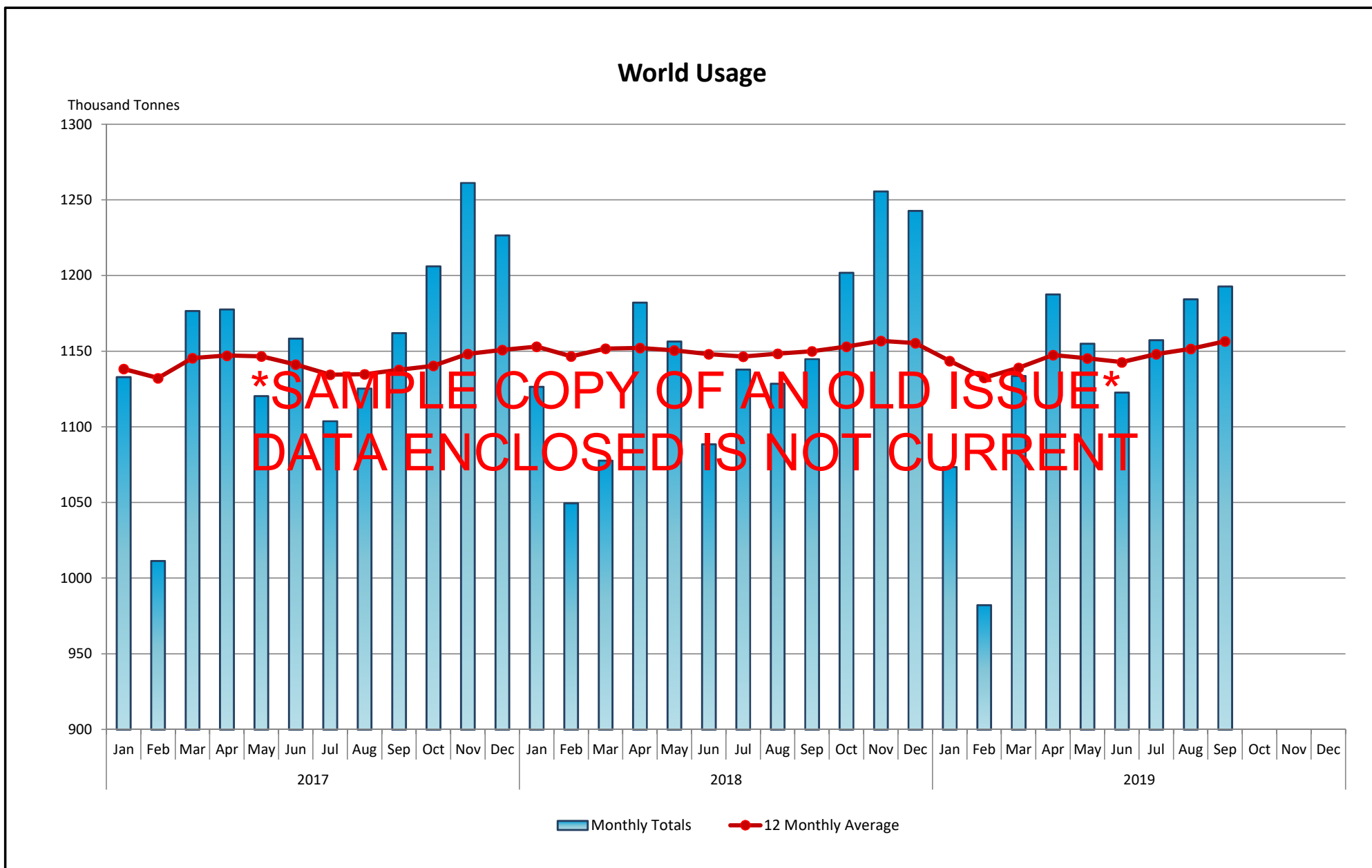
Refined Zinc Metal Production*

Thousand Tonnes

	Annual Totals				Year to Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Sep		Apr	May	Jun	Jul	Aug	Sep
Europe	2,466	2,406	2,422	2,506	1,888	1,807	201.2	199.9	195.7	204.0	204.0	204.0
EU 28	2,073	1,988	1,993	2,060	1,550	1,509	167.5	165.8	162.3	171.0	171.0	171.0
Belgium	249	223	251	276	220	203	22.6	22.6	22.6	22.6	22.6	22.6
Bulgaria	75	76	74	75	57	55	6.3	6.3	6.3	5.8	5.8	5.8
Finland	306	291	283	295	219	219	25.8	24.1	20.6	24.6	24.6	24.6
France	169	149	166	155	116	106	11.2	11.2	11.2	13.0	13.0	13.0
Germany	173	168	174	180	131	137	15.2	15.2	15.2	15.2	15.2	15.2
Italy	140	139	129	132	98	105	11.4	11.4	11.4	12.0	12.0	12.0
Netherlands	293	283	248	268	201	177	18.8	18.8	18.8	21.2	21.2	21.2
Norway	163	171	172	191	147	147	16.5	16.9	16.2	16.9	16.9	16.9
Poland	169	158	162	169	125	124	13.6	13.6	13.6	14.2	14.2	14.2
Russian Federation	230	248	257	255	191	152	17.2	17.2	17.2	16.2	16.2	16.2
Spain	498	500	507	511	383	384	42.7	42.7	42.7	42.5	42.5	42.5
Africa	79	86	84	67	47	60	3.1	7.8	7.2	6.4	8.0	7.1
Algeria	7	1	-	-	-	-	-	-	-	-	-	-
Namibia	72	85	84	67	47	60	3.1	7.8	7.2	6.4	8.0	7.1
America	1,779	1,724	1,613	1,729	1,290	1,318	148.1	143.7	144.6	150.4	154.5	152.3
Argentina	30	-	-	-	-	-	-	-	-	-	-	-
Brazil	231	245	243	246	185	173	18.4	18.4	18.4	20.7	20.7	20.7
Canada	683	691	598	686	513	492	57.8	52.0	54.4	54.5	56.3	54.5
Mexico	327	321	327	348	260	303	33.3	33.3	33.3	34.9	36.4	37.4
Peru	335	342	312	334	246	268	30.0	30.3	28.8	29.8	30.6	29.2
United States	172	126	132	116	87	84	8.7	9.7	9.7	10.5	10.5	10.5
Asia	8,989	8,878	8,805	8,472	6,225	6,498	710.3	737.4	756.8	725.1	751.0	768.0
China	6,116	6,196	5,044	6,770	4,210	4,500	438.1	511.8	552.5	512.1	527.9	547.8
India	838	722	818	746	564	538	38.3	58.0	60.1	60.0	60.0	61.0
Iran	138	135	140	140	105	108	12.0	12.0	12.0	12.0	12.0	12.0
Japan	567	534	524	521	388	394	44.3	45.7	45.0	30.9	45.8	45.8
Kazakhstan	324	326	327	329	246	236	28.0	28.3	27.4	28.4	23.8	19.9
Korea DPR	15	17	15	12	9	9	1.0	1.0	1.0	1.0	1.0	1.0
Korea Rep	835	899	847	866	647	646	71.0	71.0	71.0	73.2	73.2	73.2
Thailand	74	73	15	-	-	-	-	-	-	-	-	-
Uzbekistan	72	60	66	78	59	60	6.8	6.8	6.8	6.6	6.6	6.6
Vietnam	10	10	10	10	7	7	0.8	0.8	0.8	0.8	0.8	0.8
Oceania	489	470	468	496	370	349	37.1	41.2	40.2	39.9	39.9	39.9
Australia	489	470	468	496	370	349	37.1	41.2	40.2	39.9	39.9	39.9
World Total	13,801	13,565	13,392	13,270	9,821	10,034	1099.9	1129.8	1144.6	1125.8	1157.4	1171.4
Monthly Average	1,150	1,130	1,116	1,106	1,090	1,114						

* Total production by smelters or refineries of zinc in marketable form or used directly for alloying including production on toll in the reporting country regardless of the type of source material, i.e. whether ores, concentrates, residues, slag or scrap. Remelted zinc and zinc dust are excluded.

Refined Zinc Metal Usage



Refined Zinc Metal Usage*

Thousand Tonnes

	Annual Totals				Year to Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Sep		Apr	May	Jun	Jul	Aug	Sep
Europe	2,401	2,371	2,357	2,429	1,829	1,755	198.0	190.0	194.5	199.5	192.0	194.9
EU 28	2,081	2,047	2,013	2,082	1,564	1,513	171.9	162.0	166.3	173.5	165.4	167.2
Austria	58	59	62	62	47	46	6.1	4.6	4.7	5.6	4.9	4.9
Belgium	391	350	366	398	299	295	32.8	32.8	32.8	32.5	32.5	32.5
Bosnia & Herzegovina	1	1	2	2	2	2	0.2	0.2	0.2	0.3	0.2	0.1
Bulgaria	16	7	7	6	5	4	0.4	0.4	0.4	0.4	0.4	0.4
Croatia	3	4	4	4	3	3	0.3	0.4	0.2	0.3	0.3	0.3
Czech Rep.	16	19	23	18	13	14	2.0	1.7	1.6	1.8	1.5	1.5
Denmark	7	8	7	6	5	5	0.5	0.5	0.5	0.4	0.5	0.5
Estonia	1	1	1	1	0	1	0.1	0.1	0.1	0.1	0.1	0.1
Finland	42	51	52	57	42	42	5.4	5.3	4.4	4.7	4.7	4.7
France	190	203	196	199	160	160	20.3	15.9	22.4	23.8	15.1	15.1
Germany	478	481	451	449	336	299	32.8	29.2	33.6	33.4	35.2	35.2
Greece	8	8	9	12	10	8	1.3	0.9	1.4	0.6	1.0	1.0
Hungary	9	10	12	12	10	9	1.0	1.3	0.9	0.9	1.0	1.0
Ireland	2	2	2	3	2	2	0.2	0.1	0.1	0.1	0.3	0.3
Italy	259	268	220	225	157	173	19.3	16.9	16.7	21.0	17.8	19.5
Luxembourg	0	0	0	0	0	1	0.0	0.2	0.0	0.3	0.0	0.0
Macedonia	6	6	6	5	4	3	0.4	0.4	0.3	0.3	0.3	0.3
Netherlands	114	114	116	116	87	86	9.5	9.5	9.5	9.5	9.5	9.5
Norway	37	38	53	61	47	38	2.2	4.8	4.5	3.8	4.0	6.0
Poland	97	103	129	146	109	107	10.1	12.9	10.5	9.4	12.6	12.6
Portugal	12	17	17	14	10	12	1.3	1.3	1.0	1.5	1.4	1.4
Romania	18	16	20	21	16	11	1.4	1.1	1.0	0.8	1.5	1.5
Russian Federation	219	117	232	224	172	158	18.7	18.3	18.3	17.5	17.5	16.5
Serbia	7	7	7	8	6	5	0.5	0.6	0.6	0.7	0.7	0.7
Slovak Rep	35	31	44	43	34	33	4.3	3.5	3.6	3.1	3.7	3.7
Slovenia	15	12	4	5	3	3	0.3	0.4	0.3	0.3	0.2	0.2
Spain	180	180	167	180	135	135	15.0	15.0	15.0	15.0	15.0	15.0
Sweden	25	12	10	10	8	7	0.8	0.8	0.7	0.4	1.0	1.0
Switzerland	11	14	5	7	5	7	0.9	0.7	0.7	0.4	0.8	1.0
Ukraine	30	30	30	30	23	21	2.3	2.3	2.3	2.3	2.3	2.3
United Kingdom	103	92	95	96	75	64	6.5	7.2	5.0	7.5	5.3	5.3
Other CIS (E)	10	10	10	10	7	7	0.8	0.8	0.8	0.8	0.8	0.8
Africa	189	166	169	156	112	122	12.7	12.6	14.0	13.8	12.5	15.1
Algeria	7	8	6	9	7	6	0.7	0.7	0.7	0.7	0.7	0.7
Egypt	16	16	20	21	15	17	2.2	1.9	1.5	2.9	1.4	1.4
Kenya	14	10	11	13	10	5	0.5	0.6	1.1	0.6	0.6	0.8
Morocco	10	13	11	11	8	8	1.2	0.7	0.6	0.7	0.7	0.9
Nigeria	18	16	16	14	11	11	1.2	1.2	1.2	1.2	1.2	1.2
South Africa	82	61	61	44	28	42	3.3	3.9	5.3	4.1	4.4	6.6
Tunisia	4	4	6	6	5	5	0.5	0.5	0.5	0.5	0.5	0.5
Other Africa	38	38	37	38	29	29	3.2	3.2	3.2	3.2	3.2	3.2

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Refined Zinc Metal Usage*

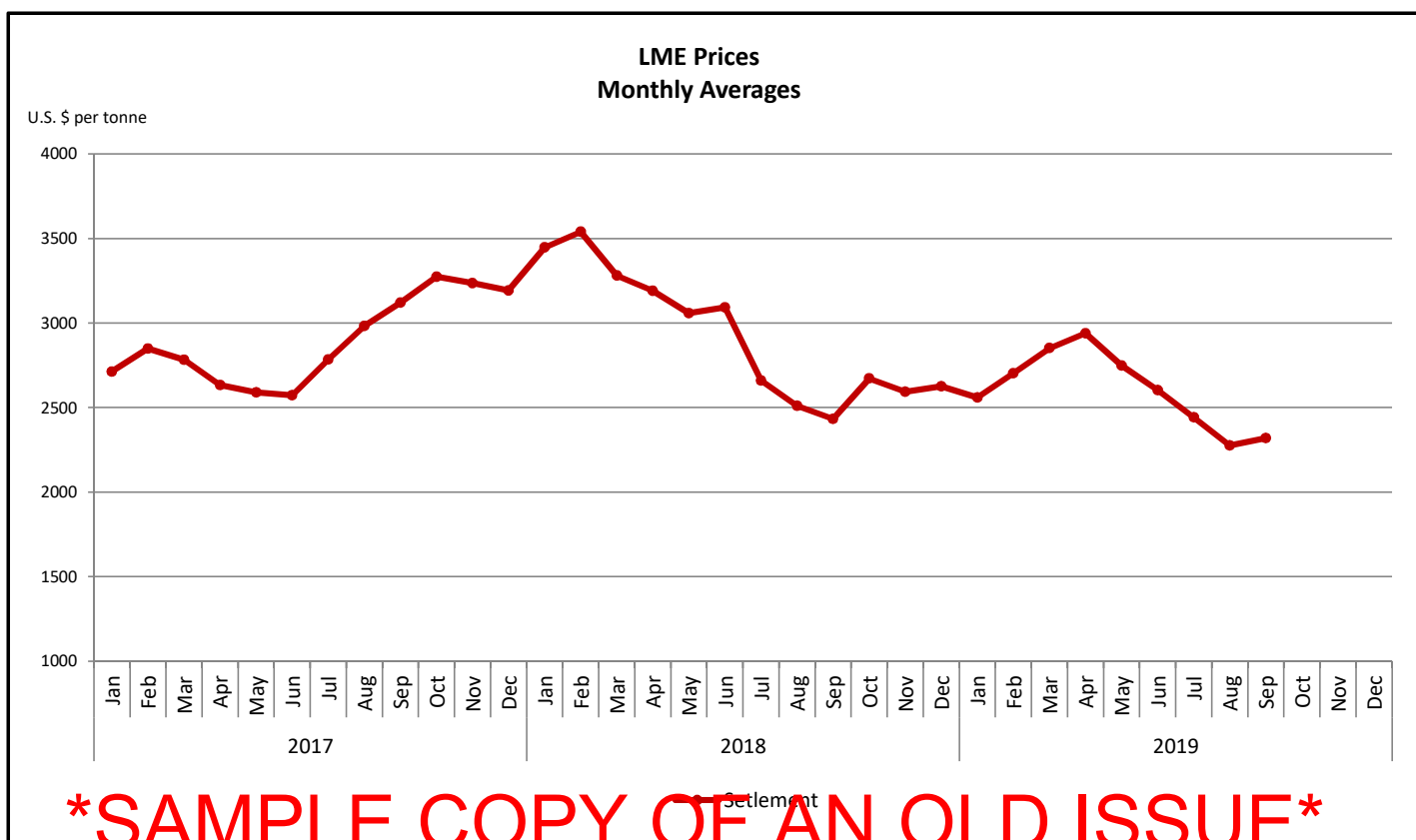
Thousand Tonnes

	Annual Totals				Year to Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Sep		Apr	May	Jun	Jul	Aug	Sep
America	1,687	1,567	1,577	1,623	1,218	1,261	137.2	138.6	135.9	149.8	133.5	152.2
Argentina	34	35	28	18	15	19	1.9	2.1	2.7	2.5	2.9	1.2
Brazil	201	198	195	204	154	145	16.3	14.9	12.2	18.2	14.5	16.4
Canada	148	162	170	175	131	131	14.6	14.6	14.6	14.6	14.6	14.6
Chile	9	9	8	9	6	6	0.2	0.8	0.7	0.6	1.0	0.5
Colombia	21	21	21	19	14	11	1.2	1.3	1.3	1.4	1.5	1.4
Mexico	220	224	222	230	173	177	19.8	19.8	19.8	19.3	19.3	19.3
Peru	96	75	68	76	55	54	6.4	5.5	5.8	9.5	4.3	5.1
United States	931	819	839	867	652	701	74.8	77.5	76.9	81.7	73.4	91.7
Venezuela	2	2	1	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
Other America	24	24	24	24	18	18	2.0	2.0	2.0	2.0	2.0	2.0
Asia	9,211	9,424	9,610	9,431	6,818	6,940	828.4	801.7	765.1	781.0	832.7	817.2
Bangladesh	36	42	44	45	34	34	3.8	3.8	3.8	3.8	3.8	3.8
China	6,446	6,647	6,780	6,612	4,733	4,816	593.2	575.7	550.6	534.7	586.6	577.9
Hong Kong, China	6	6	6	6	5	5	0.5	0.5	0.5	0.5	0.5	0.5
India	652	669	679	684	493	506	60.2	56.1	54.8	55.6	61.5	54.7
Indonesia	102	116	124	119	88	89	11.4	9.4	5.4	10.1	10.9	9.6
Iran	50	50	48	48	36	37	4.1	4.1	4.1	4.1	4.1	4.1
Israel	6	6	5	5	4	4	0.4	0.4	0.4	0.4	0.4	0.4
Japan	479	470	482	482	358	356	37.6	37.7	39.9	38.0	41.2	41.2
Kazakhstan	32	32	32	32	24	24	2.7	2.7	2.7	2.7	2.7	2.7
Korea DPR	2	2	2	2	2	2	0.2	0.2	0.2	0.2	0.2	0.2
Korea Rep	486	507	497	496	358	373	37.3	32.0	31.6	41.4	46.6	43.9
Malaysia	54	50	50	50	38	38	4.2	4.2	4.2	4.2	4.2	4.2
Pakistan	16	16	16	14	11	10	1.1	1.1	1.1	1.1	1.1	1.1
Philippines	13	11	7	6	6	6	0.7	1.1	0.7	0.8	0.4	0.7
Saudi Arabia	75	65	58	51	40	41	4.5	4.5	4.5	4.5	4.5	4.5
Singapore	17	17	17	17	13	13	1.4	1.4	1.4	1.4	1.4	1.4
Taiwan, China	238	208	210	204	154	157	18.9	16.3	16.2	26.8	16.0	17.6
Thailand	135	132	110	120	91	89	8.4	11.3	8.8	11.0	9.7	8.6
Turkey	230	234	267	248	191	187	21.2	22.6	17.7	23.1	20.3	23.6
Uzbekistan	7	7	7	8	6	6	0.7	0.7	0.7	0.7	0.7	0.7
Vietnam	87	98	127	140	105	113	12.5	12.5	12.5	12.5	12.5	12.5
Other Asia	38	36	36	36	27	28	3.1	3.1	3.1	3.1	3.1	3.1
Other CIS (A)	4	4	5	5	4	4	0.4	0.4	0.4	0.4	0.4	0.4
Oceania	139	137	150	155	116	112	11.3	12.2	13.3	13.4	13.6	13.5
Australia	132	128	140	143	107	104	10.4	11.2	12.4	12.5	12.5	12.5
New Zealand	7	9	11	12	9	8	1.0	1.0	1.0	0.9	1.1	1.0
World Total	13,627	13,665	13,863	13,793	10,093	10,190	1187.6	1155.1	1122.8	1157.4	1184.4	1192.8
Monthly Average	1,136	1,139	1,155	1,149	1,121	1,132						

* Total usage of refined zinc, including zinc used directly for the production of zinc alloys, regardless of the type of source material from which produced, i.e. whether ores, concentrates, residues, slags or scrap. Remelted zinc and zinc dust are excluded.

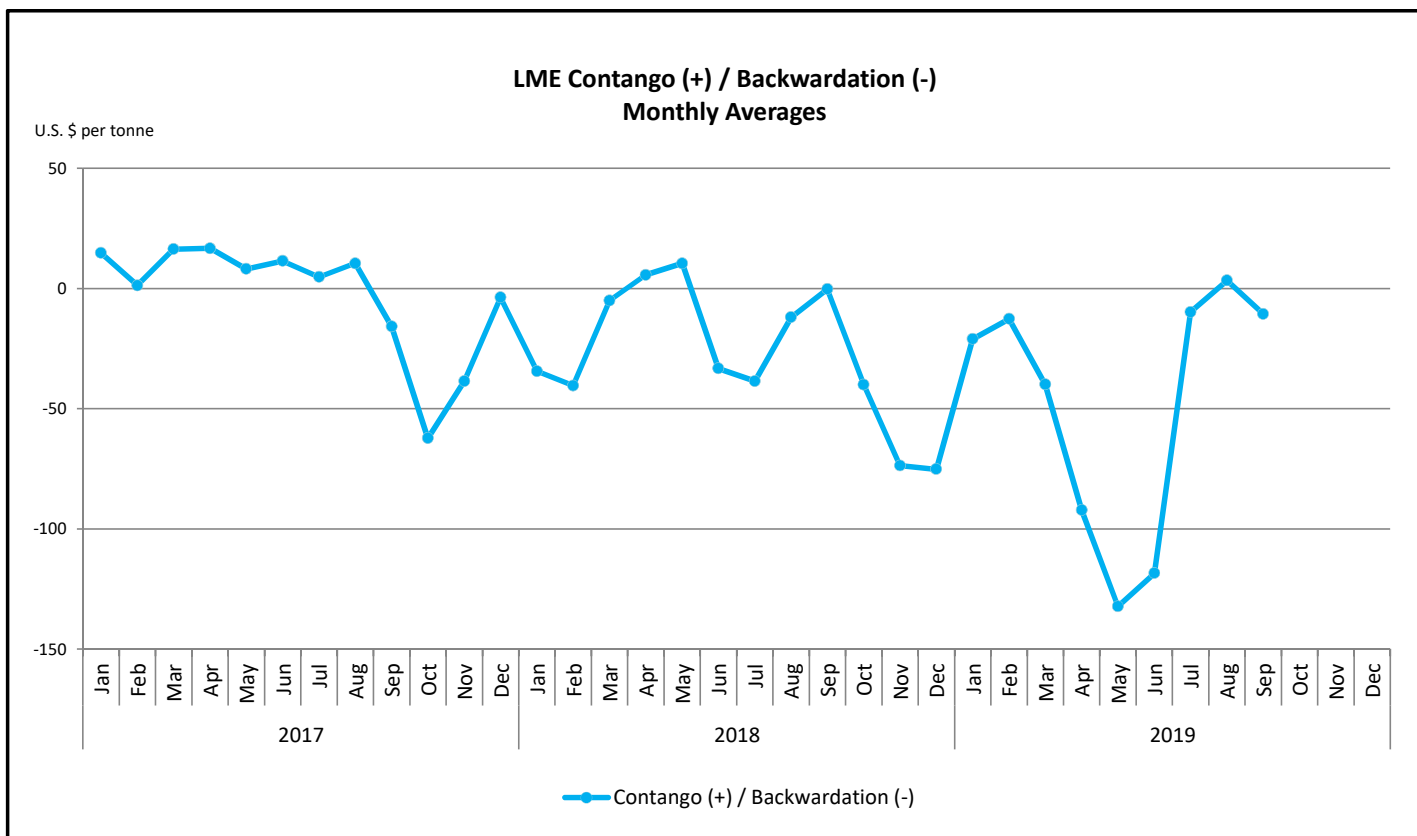
Zinc Price trends

London Metal Exchange (LME)



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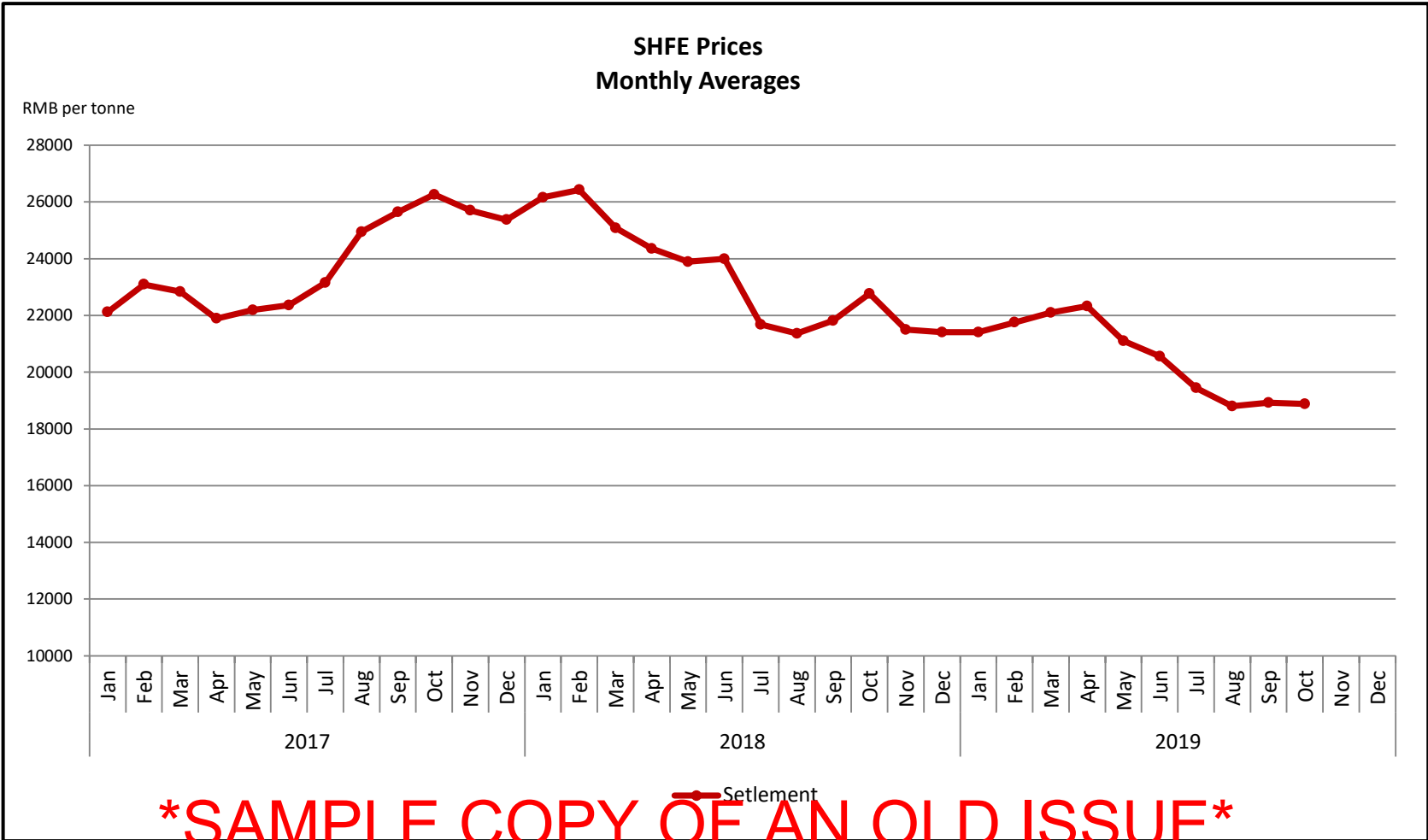
Refined Zinc Average Prices
London Metal Exchange (LME)

		Settlement		3 Months		Contango (+) Backwardation (-)
		US \$ per tonne	US cents per lb.	US \$ per tonne	US cents per lb.	US \$ per tonne
Annual Averages						
2015		1928.30	87.466	1939.26	87.963	10.96
2016		2094.75	95.016	2101.69	95.331	6.94
2017		2895.94	131.357	2892.54	131.203	-3.40
2018		2921.95	132.537	2893.80	131.260	-28.15
Monthly Averages						
2018	August	2510.52	113.875	2498.57	113.333	-11.95
	September	2433.20	110.368	2432.95	110.356	-0.25
	October	2671.87	121.194	2631.89	119.380	-39.98
	November	2592.86	117.610	2519.14	114.266	-73.73
	December	2625.61	119.095	2550.39	115.684	-75.21
2019	January	2559.18	116.082	2538.11	115.127	-21.07
	February	2702.85	122.599	2690.18	122.024	-12.67
	March	2851.40	129.337	2811.45	127.525	-39.95
	April	2938.75	133.299	2846.48	129.114	-92.28
	May	2747.74	124.635	2615.45	118.635	-132.29
	June	2602.13	118.010	2433.63	112.655	-118.50
	July	2441.48	110.743	2431.70	110.299	-9.78
	August	2175.14	103.198	2218.10	103.311	3.36
	September	2310.64	105.247	2309.05	104.736	-10.60
	October	2445.59	110.930	2411.72	109.393	-33.87
Weekly Averages *						
4th October		2341.13	106.191	2300.50	104.349	-40.63
11th October		2356.80	106.902	2327.10	105.555	-29.70
18th October		2451.00	111.175	2425.20	110.005	-25.80
25th October		2515.10	114.083	2481.80	112.572	-33.30
1st November		2541.00	115.257	2495.00	113.171	-46.00
8th November		2551.60	115.738	2500.60	113.425	-51.00

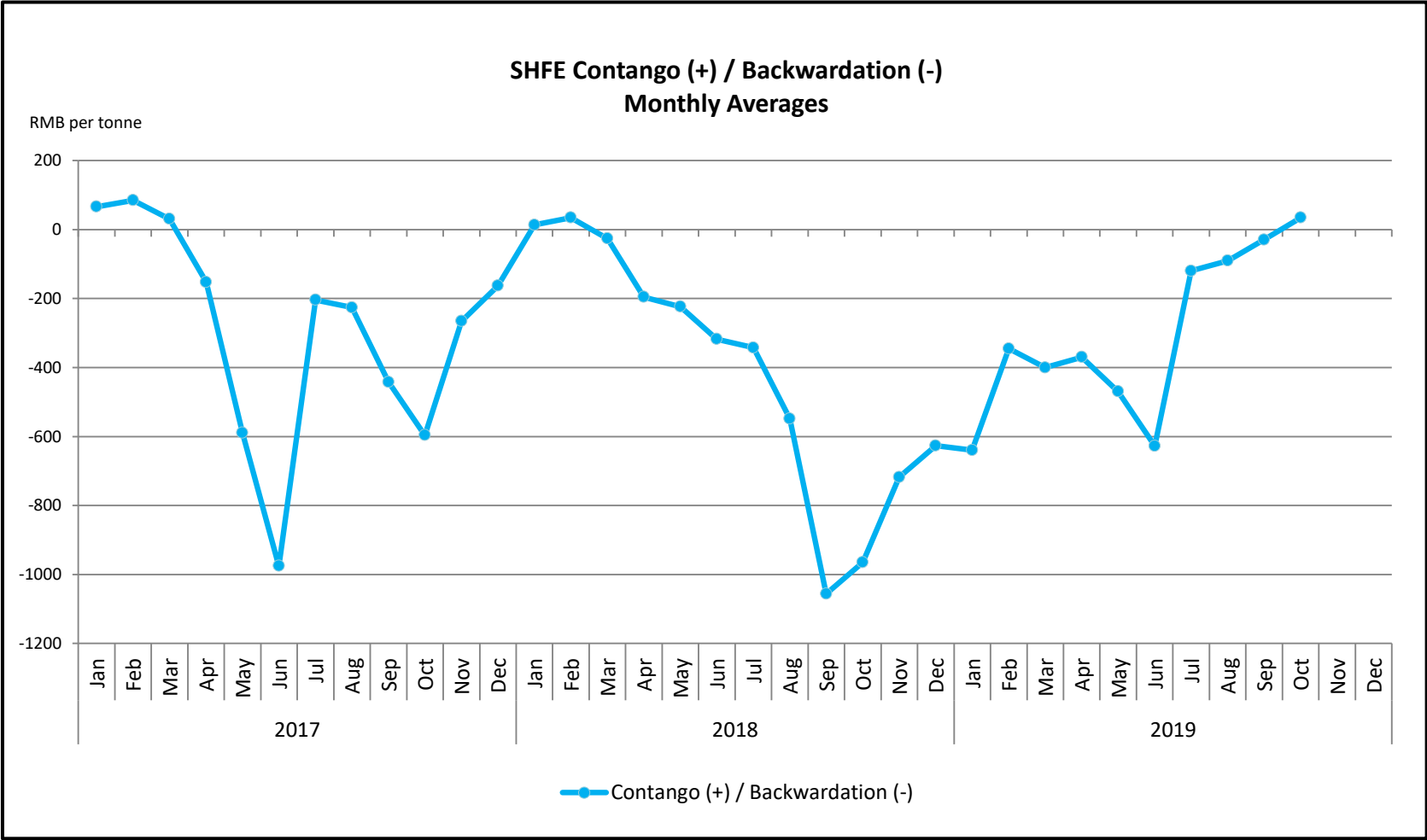
2018	Settlement	3 Months		Settlement	3 Months
Highest Daily Price	\$3618.00	\$3586.00	Lowest Daily Price	\$2287.00	\$2311.00
Date	16 February	16 February	Date	17 September	17 September
2019	Settlement	3 Months		Settlement	3 Months
Highest Daily Price	\$3018.00	\$2949.00	Lowest Daily Price	\$2211.00	\$2203.50
Date	1 April	1 April	Date	3 September	3 September

* Week ending

Zinc Price trends
Shanghai Futures Exchange (SHFE)



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Refined Zinc Average Prices
Shanghai Futures Exchange (SHFE)

		Settlement		3 Months		Contango (+) Backwardation (-)
		RMB per tonne	RMB per lb.	RMB per tonne	RMB per lb.	RMB per tonne
Annual Averages						
	2015	15,163.63	6.878	15,119.47	6.858	-44.16
	2016	16,682.01	7.567	16,758.14	7.601	76.13
	2017	23,820.82	10.805	23,530.90	10.673	-289.92
	2018	23,299.65	10.569	22,886.15	10.381	-413.50
Monthly Averages						
2018	August	21,365.43	9.691	20,817.17	9.443	-548.26
	September	21,815.53	9.895	20,759.47	9.416	-1,056.05
	October	22,766.11	10.327	21,801.39	9.889	-964.72
	November	21,502.73	9.753	20,784.77	9.428	-717.95
	December	21,406.00	9.710	20,779.25	9.425	-626.75
2019	January	21,411.36	9.712	20,771.82	9.422	-639.55
	February	21,754.67	9.868	21,409.33	9.711	-345.33
	March	22,105.71	10.027	21,705.48	9.845	-400.24
	April	22,332.14	10.130	21,962.38	9.962	-369.76
	May	21,100.25	9.571	20,630.50	9.358	-469.75
	June	20,556.84	9.324	19,929.47	9.540	-627.37
	July	19,449.78	8.822	19,330.00	8.768	-119.78
	August	18,802.73	8.519	18,712.27	8.484	-90.45
	September	18,925.00	8.584	18,895.75	8.571	-29.25
	October	18,883.89	8.566	18,918.33	8.581	34.44
Weekly Averages*						
	4th October	18,730.00	8.496	18,705.00	8.484	-25.00
	11th October	18,772.50	8.515	18,776.25	8.517	3.75
	18th October	18,886.00	8.567	18,947.00	8.594	61.00
	25th October	18,858.00	8.554	18,893.00	8.570	35.00
	1st November	19,004.00	8.620	19,036.00	8.635	32.00
	8th November	18,844.00	8.547	18,884.00	8.566	40.00
2018						
	Highest Daily Price	26,875.00	26,865.00	Lowest Daily Price	20,185.00	19,715.00
	Date	29 January	30 January	Date	30 May	17 August
2019						
	Highest Daily Price	23,195.00	22,835.00	Lowest Daily Price	18,465.00	18,340.00
	Date	4 April	8 April	Date	14 November	14 November

* Week ending

Principal imports and exports of zinc ores and concentrates

Thousand Tonnes (Zinc Content)

	Annual Totals				Year To Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Aug		Mar	Apr	May	Jun	Jul	Aug
Imports												
Europe												
Belgium	588	486	563	568	318 ⁽⁷⁾	287 ⁽⁷⁾	50.8	38.1	35.8	40.5	53.2	...
Bulgaria	58	52	59	57	30 ⁽⁷⁾	15 ⁽⁷⁾	3.1	3.2	2.3	2.2	0.4	...
Finland	275	261	264	256	141 ⁽⁷⁾	150 ⁽⁷⁾	22.3	20.9	25.4	17.3	22.8	...
France	164	148	150	149	86 ⁽⁷⁾	85 ⁽⁷⁾	11.5	15.2	12.9	5.5	11.6	...
Germany	144	159	153	181	117 ⁽⁷⁾	99 ⁽⁷⁾	4.5	11.2	24.3	15.2	8.3	...
Italy	76	85	83	89	52 ⁽⁷⁾	37 ⁽⁷⁾	4.8	6.7	1.7	2.0	1.5	...
Netherlands	264	238	205	218	128 ⁽⁷⁾	111 ⁽⁷⁾	8.2	14.0	20.5	17.8	19.3	...
Norway	189	198	154	167	113	116	14.7	13.0	11.9	18.7	13.6	14.4
Poland	69	65	92	80	45 ⁽⁷⁾	46 ⁽⁷⁾	4.9	7.7	5.6	5.1	8.5	...
Russian Federation	106	90	100	89	73	19	3.0	4.1	4.1	3.0	0.3	0.3
Spain	412	465	457	613	305 ⁽⁷⁾	269 ⁽⁷⁾	23.6	49.9	36.0	49.2	42.2	...
Africa												
South Africa	0	0	0	0	0	0	0.1	-	-	-	0.0	-
America												
Brazil	92	121	103	109	74	84	15.4	2.2	3.2	10.6	25.7	13.9
Canada	531	414	324	413	200	301	10.7	62.3	5.5	4.4	52.1	66.3
Mexico	7	10	12	33	19	55	8.3	7.1	13.4	2.4	8.6	3.0
Asia												
China	1,372	931	1,123	1,349	906	888	90.7	80.0	119.7	85.4	131.1	112.9
Japan	467	449	433	447	293	280	23.1	62.4	33.0	30.7	48.9	21.3
Korea Rep	959	887	1,041	1,080	739	687	74.1	82.2	90.5	91.9	86.7	103.4
Exports												
Europe												
Belgium	396	358	329	365	104 ⁽⁷⁾	197 ⁽⁷⁾	27.0	23.1	30.0	21.1	28.1	...
Finland	5	21	33	45	30 ⁽⁷⁾	25 ⁽⁷⁾	3.2	2.1	5.8	4.5	1.2	...
France	31	32	38	51	28 ⁽⁷⁾	28 ⁽⁷⁾	4.2	4.2	4.9	2.2	4.5	...
Germany	46	23	20	0	- ⁽⁷⁾	3 ⁽⁷⁾	-	-	-	-	2.9	...
Greece	18	17	19	22	12 ⁽⁷⁾	13 ⁽⁷⁾	1.5	1.5	3.0	1.5	1.5	...
Ireland	226	142	125	123	80 ⁽⁷⁾	55 ⁽⁷⁾	7.7	8.2	4.8	4.9	7.4	...
Italy	24	23	24	23	13 ⁽⁷⁾	17 ⁽⁷⁾	3.5	1.2	1.1	3.3	4.8	...
Portugal	74	79	82	161	90 ⁽⁷⁾	99 ⁽⁷⁾	15.5	18.1	11.7	14.0	9.5	...
Russian Federation	54	127	134	176	111	82	4.8	11.4	10.8	6.4	8.4	13.0
Serbia	10	11	21	17	13	8	1.2	1.0	1.4	1.2	0.9	0.9
Spain	80	118	131	166	70 ⁽⁷⁾	89 ⁽⁷⁾	28.2	9.2	3.3	16.9	8.8	...
Sweden	219	243	247	232	135 ⁽⁷⁾	133 ⁽⁷⁾	25.7	18.3	16.8	16.8	20.4	...
Africa												
Morocco	47	49	58	57	38	34	5.4	5.6	6.3	6.6	3.0	3.3
Namibia	39	27	40	38	21	28	5.3	2.8	-	5.3	-	3.3
South Africa	32	29	34	24	17	90	14.1	10.3	5.6	22.0	15.5	14.5
America												
Bolivia	475	498	496	554	368	368	53.5	44.3	51.8	46.8	52.6	40.6
Chile	49	46	31	36	19	6	1.5	-	-	0.5	1.5	0.8
Honduras	11	12	9	11	8	5	0.9	-	2.0	-	-	-
Mexico	314	392	326	364	241	228	41.9	31.0	12.4	25.9	28.1	34.3
Peru	772	897	1,088	1,078	740	653	108.7	88.9	75.7	91.0	85.0	71.2
United States	709	604	688	790	489	616	37.3	47.7	38.9	40.1	207.0	195.0
Asia												
Indonesia	19	9	14	20	11	16	1.8	-	3.9	1.7	2.6	1.3
Iran	13	26	33	25	13 ⁽⁴⁾	0 ⁽⁴⁾	-	-	...	...	...	...
Kazakhstan	49	83	56	24	10	36	4.8	6.3	2.3	7.3	5.6	3.1
Kazakhstan	49	83	56	24	10	36	4.8	6.3	2.3	7.3	5.6	3.1
Oceania												
Australia	1,470	750	745	943	410 ⁽⁶⁾	453 ⁽⁶⁾	71.4	58.5	81.9	86.7	...	...

(4) January-April (6) January-June (7) January-July (10) January-October

Principal imports and exports of zinc metal

Thousand Tonnes

	Annual Totals				Year To Date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Aug		Mar	Apr	May	Jun	Jul	Aug
Imports												
Europe												
Austria	73	73	81	79	48 ⁽⁷⁾	45 ⁽⁷⁾	7.5	7.5	6.2	5.6	7.0	...
Belgium	350	317	292	242	136 ⁽⁷⁾	129 ⁽⁷⁾	18.3	19.5	23.1	14.7	14.7	...
Czech Rep.	63	22	27	21	12 ⁽⁷⁾	12 ⁽⁷⁾	1.5	2.1	2.0	1.6	1.8	...
France	112	117	119	121	76 ⁽⁷⁾	79 ⁽⁷⁾	10.4	14.2	9.4	12.0	13.5	...
Germany	359	371	349	341	200 ⁽⁷⁾	190 ⁽⁷⁾	25.5	27.8	26.1	28.2	28.8	...
Italy	128	139	107	113	60 ⁽⁷⁾	77 ⁽⁷⁾	14.9	9.2	9.0	12.6	10.4	...
Netherlands	182	240	262	268	148 ⁽⁷⁾	266 ⁽⁷⁾	35.5	49.1	36.3	45.4	39.3	...
Slovak Rep	42	35	47	50	30 ⁽⁷⁾	27 ⁽⁷⁾	4.2	3.4	3.8	3.9	3.5	...
Sweden	25	12	10	10	6 ⁽⁷⁾	5 ⁽⁷⁾	0.8	0.8	0.8	0.7	0.4	...
Switzerland	11	14	5	7	5	6	0.8	1.0	0.8	0.8	0.4	0.9
United Kingdom	106	95	99	102	63 ⁽⁷⁾	56 ⁽⁷⁾	10.2	6.8	7.4	5.5	7.6	...
America												
Brazil	25	29	30	39	26	27	3.9	3.2	3.3	2.2	4.0	2.9
United States	771	713	730	775	516	540	69.2	66.4	68.2	67.5	71.4	63.1
Asia												
China	543	424	676	715	360	442	51.1	77.6	59.3	56.9	40.2	67.6
India	105	236	141	153	103	94	10.2	14.9	11.4	10.0	12.6	12.9
Indonesia	103	116	125	120	80	80	11.6	11.4	9.4	5.4	10.1	10.9
Japan	22	23	28	28	18	16	2.1	1.5	3.0	1.9	2.0	1.7
Korea Rep	68	63	63	61	44	34	4.6	4.8	4.7	3.8	4.3	3.8
Malaysia	81	66	100	65	50	39	5.1	3.2	4.4	9.1	6.9	3.0
Taiwan, China	261	197	228	195	129	142	16.9	11.5	16.7	15.3	27.2	16.3
Thailand	62	63	97	124	87	82	8.3	8.5	11.9	8.5	11.3	9.8
Turkey	232	236	268	249	174	163	20.3	21.3	22.8	17.7	23.2	20.3
Oceania												
New Zealand	7	9	11	12	8	7	0.8	1.0	1.0	1.0	0.9	1.1
Exports												
Europe												
Belgium	160	199	235	358	154 ⁽⁷⁾	149 ⁽⁷⁾	20.8	20.9	22.3	17.0	17.4	...
Bulgaria	63	73	65	66	40 ⁽⁷⁾	39 ⁽⁷⁾	5.8	4.5	5.5	5.2	6.4	...
Finland	259	236	237	242	142 ⁽⁷⁾	143 ⁽⁷⁾	18.2	21.0	22.5	14.7	19.3	...
France	91	64	89	76	40 ⁽⁷⁾	29 ⁽⁷⁾	5.1	5.0	4.6	0.8	2.7	...
Germany	54	58	72	73	41 ⁽⁷⁾	67 ⁽⁷⁾	8.4	10.2	12.0	9.8	10.5	...
Netherlands	256	297	305	343	182 ⁽⁷⁾	225 ⁽⁷⁾	28.9	30.3	37.0	34.3	34.1	...
Norway	127	128	118	133	93	98	10.8	11.8	15.6	10.2	14.3	12.8
Poland	160	109	90	80	48 ⁽⁷⁾	45 ⁽⁷⁾	6.0	6.2	7.4	5.8	7.8	...
Russian Federation	28	48	41	40	19	5	0.2	0.0	0.1	0.0	0.1	0.8
Spain	294	227	300	244	110 ⁽⁷⁾	273 ⁽⁷⁾	40.1	44.1	47.2	43.6	29.8	...
Africa												
Namibia	73	94	84	63	43	53	9.7	1.9	8.3	7.0	5.9	4.7
America												
Brazil	55	76	77	81	48	51	5.0	5.3	6.7	8.5	6.6	9.0
Canada	513	534	453	567	383	381	55.5	51.7	47.3	48.8	47.6	46.0
Mexico	171	160	191	188	126	153	20.6	22.9	21.1	21.6	16.8	16.9
Peru	239	267	246	257	170	190	23.3	23.6	30.8	23.0	20.4	26.4
Asia												
China	96	21	15	22	15	35	1.2	0.7	0.6	8.6	16.5	5.9
India	311	175	280	216	159	119	11.0	13.0	13.3	15.7	17.0	11.3
Japan	121	81	73	74	52	53	10.3	5.5	4.7	5.2	5.9	8.1
Kazakhstan	194	262	282	85	59	147	21.6	22.0	17.7	17.3	17.0	-
Korea Rep	414	447	397	444	299	270	24.4	37.6	42.7	42.2	38.1	33.4
Oceania												
Australia	399	398	435	419	190 ⁽⁶⁾	192 ⁽⁶⁾	35.0	37.2	27.6	31.3	...	...

(6) January-June (7) January-July

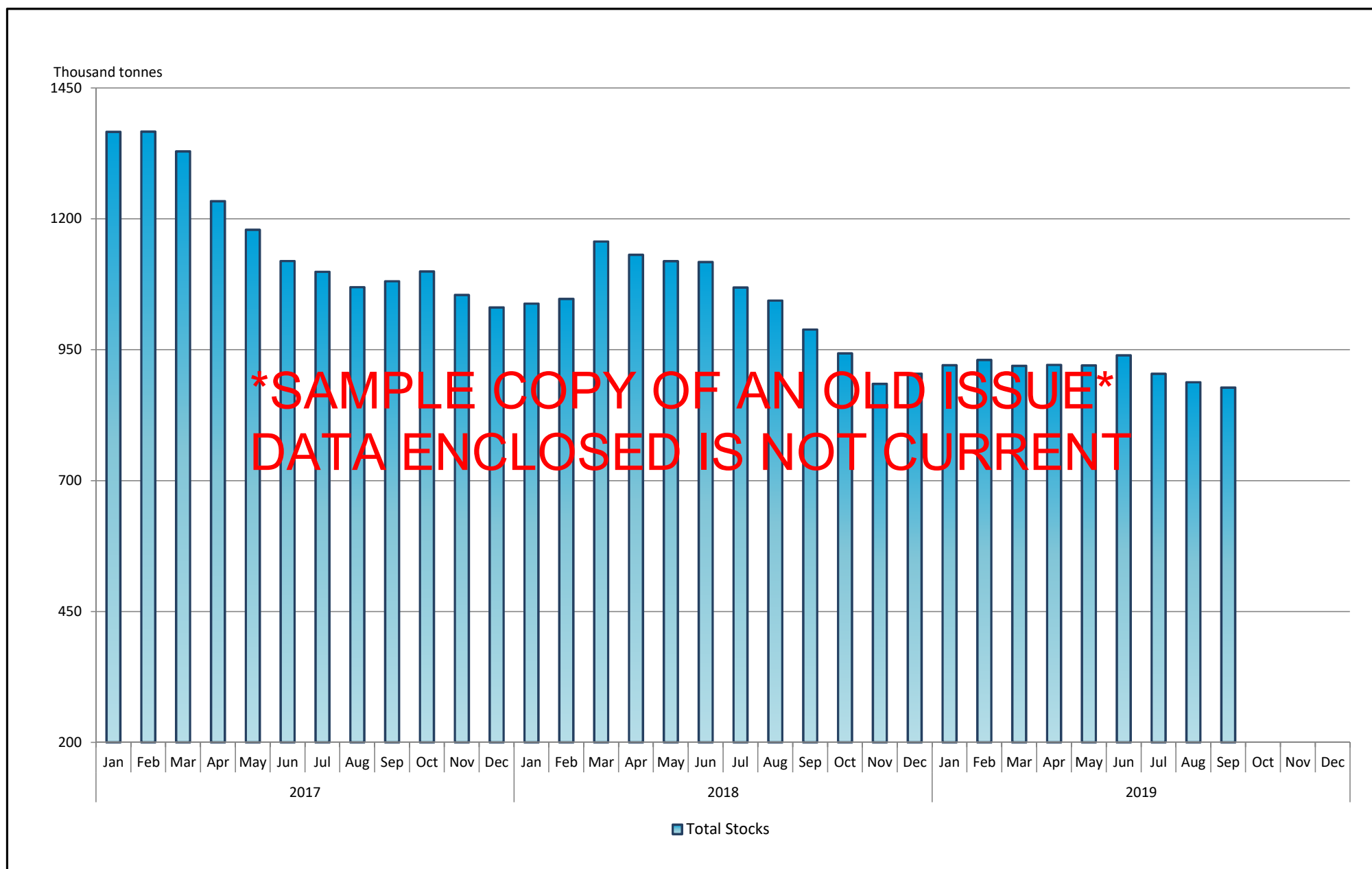
Zinc World Supply and Demand Current Trends

Thousand Tonnes

	Annual Totals					Quarterly Totals							
	2014	2015	2016	2017	2018	2017	2018	2019					
						Oct - Dec	Jan - Mar	Apr - June	Jul - Sep	Oct - Dec	Jan - Mar	Apr - June	Jul - Sep
Concentrates (zinc content)													
Production	13419	13624	12601	12739	12785	3474	3061	3191	3203	3330	3048	3298	3305
Europe	990	968	986	1019	1156	261	293	285	285	293	289	273	291
Canada	353	292	301	344	287	80	70	83	64	71	76	86	78
Mexico	660	695	661	671	691	168	169	173	168	181	167	171	171
Peru	1319	1422	1337	1473	1475	392	347	397	381	350	327	351	348
United States	831	825	798	796	824	227	206	206	206	206	184	190	193
China	5053	5140	5081	4696	4327	1360	981	1115	1078	1153	959	1137	1113
India	706	821	646	827	757	191	209	165	184	199	193	166	187
Australia	1566	1578	884	852	1112	250	239	245	299	329	337	360	367
Other	1942	1884	1906	2060	2157	544	547	522	538	549	515	563	556
Refined Metal Production													
Primary	12559	12892	12687	12352	12014	3314	2994	2989	2928	3103	2899	3040	3095
Secondary	836	908	878	1039	1257	266	287	305	317	347	306	334	360
Total	13395	13801	13565	13392	13270	3580	3281	3295	3245	3450	3205	3374	3455
Europe	2442	2466	2406	2422	2506	613	614	625	649	618	599	597	612
Canada	648	683	691	598	686	161	171	171	171	173	163	164	165
Mexico	319	327	321	327	348	82	80	93	87	88	94	100	109
China	5307	6116	6196	6044	5170	1701	1411	1416	1383	1560	1378	1534	1588
India	724	838	628	818	746	204	211	176	167	192	166	177	181
Japan	583	567	534	524	521	141	137	138	112	133	137	135	122
Kazakhstan	324	324	326	327	325	142	83	82	82	83	80	84	72
Korea Rep	821	835	899	847	866	209	213	213	220	220	213	213	220
Australia	488	489	470	468	496	125	110	132	127	126	111	119	120
Other	1237	1156	1093	1017	1003	262	251	248	247	258	251	252	266
Usage	13674	13627	13665	13863	13793	3694	3254	3427	3411	3701	3189	3465	3535
Europe	2341	2401	2371	2357	2429	567	593	608	627	600	586	582	586
United States	966	931	819	839	867	193	208	228	215	216	225	229	247
China	6401	6446	6647	6780	6612	1977	1482	1640	1611	1879	1398	1720	1699
India	663	652	669	679	684	155	174	157	163	190	163	171	172
Japan	504	479	470	482	482	123	122	118	118	124	120	115	120
Korea Rep	505	486	507	497	496	128	130	110	117	139	145	101	132
Other	2295	2231	2184	2228	2223	550	544	566	560	554	552	547	578
Metal Balance	-279	174	-101	-472	-523	-114	27	-133	-167	-251	15	-91	-80
Reported Metal Stocks													
Producers	371	373	395	377	342	377	378	379	347	342	347	354	337
Consumers	154	163	133	131	137	131	130	131	136	137	135	135	134
Merchants	13	12	12	12	14	12	16	15	13	14	14	13	14
LME	691	463	428	181	129	181	212	249	202	129	51	95	67
SHFE	83	200	153	69	20	69	159	81	29	20	110	80	64
SRB	254	254	254	254	254	254	254	254	254	254	254	254	254
Total	1566	1465	1375	1023	896	1023	1149	1110	981	896	912	932	870
Stock Ratio *	6	6	5	4	3	3.6	4.6	4.4	3.7	3.1	3.5	3.6	3.2

* Weeks of consumption

Zinc Stocks of Refined Metal



World Refined Zinc Metal Stocks

Thousand Tonnes

		End of Year				End of Month						
		2015	2016	2017	2018	2019						
Commercial Stocks						Mar	Apr	May	Jun	Jul	Aug	Sep
Producers		373	395	377	342	347.4	352.3	349.4	354.2	340.3	339.5	337.5
Europe		67	72	70	72	70.0	72.1	68.6	67.2	67.2	67.2	67.2
Canada		52	46	38	22	22.5	24.8	20.2	22.6	21.1	23.3	23.3
United States		25	25	25	25	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Japan		67	74	68	60	61.2	62.9	69.8	72.6	62.3	62.3	62.3
Australia		21	31	21	26	27.0	24.8	22.1	22.1	22.1	22.1	22.1
Other Countries		142	147	155	138	141.7	142.7	143.7	144.7	142.7	139.7	137.7
Consumers		163	133	131	137	135.2	136.9	136.2	135.1	134.2	134.2	134.2
United States		78	48	38	38	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Japan		21	18	18	20	18.7	20.4	19.7	18.6	17.7	17.7	17.7
Other Countries		64	67	75	79	78.5	78.5	78.5	78.5	78.5	78.5	78.5
Merchants		12	12	12	14	13.9	13.1	13.1	13.3	13.5	13.5	13.5
United States		12	12	12	12	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Japan		0	0	0	2	1.9	1.1	1.1	1.3	1.5	1.5	1.5
London Metal Exchange		463	428	181	129	51.3	85.1	100.0	94.5	78.7	66.5	57.9
Belgium	Antwerp	47	23	0	2	0,0	0,0	-	1.0	1.4	0.4	0.3
France	Dunkirk	-	-	-	-	-	-	-	-	-	-	-
Germany	Bremen	-	-	-	-	-	-	-	-	-	-	-
Italy	Genoa	-	-	-	-	-	-	-	-	-	-	0,0
	Leghorn	-	-	-	-	-	-	-	-	-	-	-
Malaysia	Johor	20	7	1	-	-	-	-	2.9	3.1	8.1	8.1
	Port Klang	15	3	-	-	-	-	-	-	-	-	-
Netherlands	Rotterdam	10	9	-	22	2.9	29.3	41.9	32.0	13.0	10.3	3.6
	Vlissingen	-	-	-	11	0,0	6.8	10.5	15.0	15.4	15.2	14.4
Singapore	Singapore	1	1	-	-	-	-	-	-	-	0.7	1.3
Spain	Barcelona	-	-	-	-	-	-	-	-	-	-	-
Spain	Bilbao	1	1	1	0	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Sweden	Gothenburg	-	-	-	-	-	-	-	-	-	-	-
United Arab Emirates	Dubai	-	-	-	0	0,0	-	0.3	0.2	0.6	0.6	0.6
United Kingdom	Hull	4	4	0	-	-	-	-	-	-	-	-
	Liverpool	0	0	0	-	-	-	-	-	-	-	-
	Sunderland	-	-	-	-	-	-	-	-	-	-	-
United States	Baltimore	-	-	-	-	-	-	-	-	-	-	-
	Chicago	-	-	-	0	-	-	-	-	-	-	-
	Detroit	0	-	-	-	-	-	-	-	-	-	-
	Long Beach	-	-	-	-	-	-	-	-	-	-	-
	Mobile	-	-	-	-	-	-	-	-	-	-	-
	New Orleans	366	380	179	94	45.9	46.5	44.9	43.8	41.9	33.9	27.2
SHFE		200	153	69	20	109.8	72.1	59.4	79.9	75.0	72.1	64.1
SRB		254	254	254	254	254.0	254.0	254.0	254.0	254.0	254.0	254.0
Total		1465	1375	1023	896	911.6	913.4	912.4	931.6	896.3	880.3	870.1
Stock Ratio ^		6	5	4	3	3.5	3.3	3.4	3.6	3.4	3.2	3.2
US Stockpile		8	8	8	8	7.7	7.7	7.7	7.7	7.7	7.7	7.7

^ Total of reported stocks expressed as number of weeks of metal usage.

SHFE: Shanghai Futures Exchange

SRB: (China) State Reserve Bureau

World Recovery of Secondary Zinc

Thousand Tonnes

	Annual Totals				Year to Date		Quarterly Totals					
	2015	2016	2017	2018	2018	2019	2018			2019		
					Jan - Sep		Apr - June	Jul - Sep	Oct - Dec	Jan - Mar	Apr - June	Jul - Sep
Refined Zinc and Zinc Alloys*												
Europe	355	351	382	445	327	324	105	118	118	107	107	109
Belgium	50	44	66	68	50	47	16	18	18	16	16	16
Bulgaria	14	17	16	18	13	14	4	4	4	5	5	4
France	32	28	33	31	23	21	8	8	8	7	7	8
Germany	31	26	36	50	35	38	10	15	15	13	13	13
Italy	62	61	51	63	49	49	17	15	15	15	15	18
Netherlands	44	43	37	40	30	26	10	10	10	8	8	10
Norway	40	39	38	55	39	32	11	17	17	11	11	10
Poland	77	72	75	88	65	68	21	23	23	22	22	23
Spain	4	5	6	6	5	5	2	2	2	2	2	2
America	66	39	33	35	26	28	9	9	9	9	9	9
Mexico	4	4	4	4	3	4	1	1	1	1	1	1
United States	46	18	12	15	11	11	4	4	4	4	4	4
Asia	481	482	618	770	552	644	190	189	219	188	216	240
China	260	280	424	585	409	491	142	145	176	138	167	186
India	34	30	34	33	24	26	8	8	8	9	9	9
Iran	7	5	5	4	3	3	1	1	1	1	1	1
Japan	109	95	87	79	63	72	22	18	16	23	22	26
Korea Rep	67	72	68	69	52	51	17	18	18	17	17	18
Thailand	5	-	-	-	-	-	-	-	-	-	-	-
Oceania	6	6	6	6	5	5	2	2	2	2	2	2
Australia	6	6	6	6	5	5	2	2	2	2	2	2
Total	908	878	1,039	1,257	910	1,000	305	317	347	306	334	360

* Slab zinc produced from secondary materials (scraps, wastes and residues).

Table 23

Zinc Country table - China

Thousand Tonnes

	Annual Totals				Year To date		Monthly Totals					
	2015	2016	2017	2018	2018	2019	2019					
					Jan - Sep		Apr	May	Jun	Jul	Aug	Sep
Ores/Concentrates (Zinc Content)												
Production	5140	5081	4696	4327	3174	3209	375.0	378.0	384.0	349.0	383.0	381.0
Imports	1372	931	1123	1349	1007	1022	80.0	119.7	85.4	131.1	112.9	133.7
Australia	549	306	279	394	271	354	16.8	43.7	28.1	33.7	30.0	61.8
Chile	30	24	14	8	7	3	0.9	-	-	0.9	-	-
Indonesia	17	7	11	19	12	15	1.6	1.7	1.6	1.0	2.7	1.4
Iran	9	28	31	18	16	-	-	-	-	-	-	-
Kazakhstan	24	19	21	26	22	23	0.3	0.9	4.6	4.7	4.8	1.7
Korea DPR	9	60	1	-	-	-	-	-	-	-	-	-
Laos, PDR	...	1	5	3	3	1	0,0	0.1	0,0	0.1	0.1	0.1
Mexico	12	19	4	4	3	5	0,0	-	-	5.1	0,0	0.1
Mongolia	33	52	49	53	41	42	4.8	4.2	3.1	4.5	3.3	4.1
Myanmar	5	7	13	15	11	13	1.9	1.5	1.0	1.6	1.4	1.4
Nigeria	12	13	21	25	20	15	2.0	1.3	2.8	3.2	2.7	1.0
Peru	400	189	315	280	212	191	21.1	25.4	6.9	21.7	32.5	24.5
Russian Federation	49	41	99	123	104	67	5.5	8.7	10.7	5.9	6.4	6.9
Turkey	11	9	4	14	12	4	0.1	-	0.8	1.3	0.1	0.2
Vietnam	2	4	4	7	6	4	0.3	0.2	0.4	1.0	0.8	0.5
Other	200	147	246	359	267	283	24.7	32.0	25.5	46.6	27.9	29.9
Refined Zinc												
Production	6116	6196	6044	5770	4110	4501	438.1	513.8	532.3	511.1	527.9	547.8
Primary Metal	5856	5916	5620	5185	3801	4008	438.1	457.8	471.2	451.0	465.8	484.1
Secondary Metal	260	280	424	585	409	491	50.1	56.0	61.0	60.6	62.1	63.8
Imports	543	424	676	715	427	473	77.6	59.3	56.9	40.2	67.6	31.2
Australia	121	154	164	153	96	89	17.3	13.0	12.2	2.8	11.2	5.7
Canada	11	8	17	5	4	3	2.0	0.2	0.1	0,0	0.1	0.1
Belgium	3	2	6	37	0	22	-	-	-	-	-	-
Brazil	3	7	13	9	7	-	-	-	-	-	-	-
India	88	15	77	50	43	14	1.5	1.0	1.5	4.1	4.4	1.8
Japan	27	11	11	8	6	5	1.2	0.3	0.5	0.3	0.5	0.8
Kazakhstan	138	97	115	200	130	180	20.6	20.1	23.6	20.7	21.5	11.6
Korea DPR	4	19	-	-	-	-	-	-	-	-	-	-
Korea Rep	98	59	52	128	95	84	7.2	12.2	17.4	10.1	13.0	11.0
Mexico	1	4	6	4	3	5	0.8	1.6	-	-	-	-
Namibia	7	-	22	10	2	4	3.9	0,0	0,0	-	-	-
Peru	28	23	15	16	11	5	1.8	-	1.4	1.9	-	-
Spain	8	10	161	88	24	32	21.2	0.3	0,0	-	-	-
Other	8	17	17	9	6	31	0.1	10.7	0.2	0.3	16.9	0.2
Exports	96	21	15	22	19	38	0.7	0.6	8.6	16.5	5.9	3.2
India	15	4	0	1	1	1	-	-	0,0	0,0	0.5	0.2
Indonesia	10	0	0	4	4	1	-	-	0.3	-	-	0.3
Korea Rep	7	1	-	0	0	-	-	-	-	-	-	-
Malaysia	3	0	0	1	1	10	-	0.1	5.8	3.7	0.1	-
Taiwan, China	39	4	4	9	7	18	-	-	0.8	10.5	3.9	1.5
Thailand	3	2	1	-	-	1	0.1	0.1	-	0.1	-	0,0
Vietnam	6	3	4	2	2	4	0.3	0.1	1.0	0.7	0.9	0.6
Other	8	8	5	4	4	3	0.3	0.1	0.5	1.2	0.5	0.4
Usage	6446	6647	6780	6612	4733	4816	593.2	575.7	550.6	534.7	586.6	577.9
SHFE Stocks	200	153	69	20			72.1	59.4	79.9	75.0	72.1	64.1
SRB Stocks	254	254	254	254			254.0	254.0	254.0	254.0	254.0	254.0

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DATA ENCLOSED IS NOT CURRENT

Production and Usage of Zinc Annual Totals

Thousand Tonnes

World	Mine Production*		Metal Production		Metal Usage	
		+/- %		+/- %		+/- %
1989	6803	0.8	6776	-1.0	6777	-1.6
1990	7126	4.8	6769	-0.1	6713	-0.9
1991	7194	1.0	6894	1.8	6734	0.3
1992	7248	0.7	7017	1.8	6697	-0.6
1993	6857	-5.4	7186	2.4	6749	0.8
1994	6930	1.1	7126	-0.8	7062	4.6
1995	7066	2.0	7341	3	7676	8.7
1996	7395	4.7	7444	1.4	7697	0.3
1997	7441	0.6	7781	4.5	7899	2.6
1998	7671	3.1	8001	2.8	8232	4.2
1999	8166	6.5	8370	4.6	8574	4.2
2000	8850	8.4	8996	7.5	9063	5.7
2001	9190	3.8	9247	2.7	8965	-1.1
2002	9143	-0.5	9719	5.2	9382	4.6
2003	9189	4.9	9867	1.5	9610	2.8
2004	9719	1.4	10365	5	10641	10.4
2005	10125	4.2	10180	-1.8	10573	-0.6
2006	10522	3.9	10595	4.1	10910	3.2
2007	11104	5.5	11288	6.5	11194	2.6
2008	11749	5.8	11739	4	11572	3.4
2009	11520	-2	11239	-4.3	10923	-5.6
2010	12290	6.7	12836	14.2	12620	15.5
2011	12509	1.8	13055	1.7	12739	0.9
2012	12749	1.9	12595	-3.5	12382	-2.8
2013	12987	1.9	12980	3.1	13152	6.2
2014	13419	3.3	13395	3.2	13674	4.0
2015	13624	1.5	13801	3.0	13627	-0.3
2016	12601	-7.5	13565	-1.7	13665	0.3
2017	12739	1.1	13392	-1.3	13863	1.4
2018	12785	0.4	13270	-0.9	13793	-0.5

* Metal content by analysis

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