

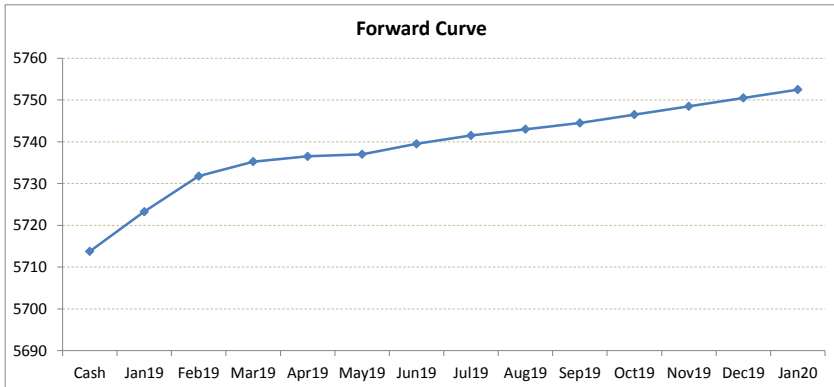
# LME Valuation - Copper

Cash - 3M: 22.25c

Date: 2019-01-03

**Cash 5713.75**  
**3M 5736.00**  
 Jan19 5723.25  
 Feb19 5731.75  
 Mar19 5735.25  
 Apr19 5736.50  
 May19 5737.00  
 Jun19 5739.50  
 Jul19 5741.50  
 Aug19 5743.00  
 Sep19 5744.50  
 Oct19 5746.50  
 Nov19 5748.50  
 Dec19 5750.50  
 Jan20 5752.50

	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19
Cash	9.50c	18.00c	21.50c	22.75c	23.25c	25.75c	27.75c	29.25c	30.75c	32.75c	34.75c	36.75c
	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19
3M	12.75c	4.25c	0.75c	0.50c	1.00c	3.50c	5.50c	7.00c	8.50c	10.50c	12.50c	14.50c
	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20
3rd wed	8.50c	3.50c	1.25c	0.50c	2.50c	2.00c	1.50c	1.50c	2.00c	2.00c	2.00c	2.00c
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Jan19	8.50c	12.00c	13.25c	13.75c	16.25c	18.25c	19.75c	21.25c	23.25c	25.25c	27.25c	29.25c
	Feb19	3.50c	4.75c	5.25c	7.75c	9.75c	11.25c	12.75c	14.75c	16.75c	18.75c	20.75c
		Mar19	1.25c	1.75c	4.25c	6.25c	7.75c	9.25c	11.25c	13.25c	15.25c	17.25c
			Apr19	0.50c	3.00c	5.00c	6.50c	8.00c	10.00c	12.00c	14.00c	16.00c
				May19	2.50c	4.50c	6.00c	7.50c	9.50c	11.50c	13.50c	15.50c
					Jun19	2.00c	3.50c	5.00c	7.00c	9.00c	11.00c	13.00c
						Jul19	1.50c	3.00c	5.00c	7.00c	9.00c	11.00c
							Aug19	1.50c	3.50c	5.50c	7.50c	9.50c
								Sep19	2.00c	4.00c	6.00c	8.00c
									Oct19	2.00c	4.00c	6.00c
										Nov19	2.00c	4.00c
											Dec19	2.00c
												Jan20



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 \*\* Source: Reuters

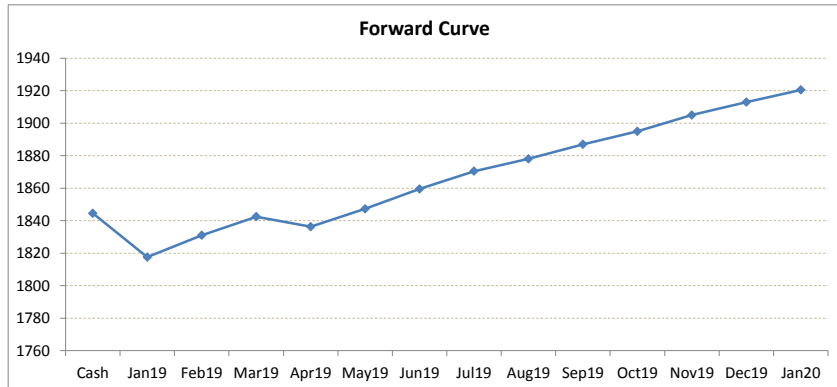
# LME Valuation - Aluminium

Cash - 3M: **9.50b**

Date: **2019-01-03**

**Cash 1844.50**  
**3M 1835.00**  
 Jan19 **1817.50**  
 Feb19 **1831.00**  
 Mar19 **1842.50**  
 Apr19 **1836.25**  
 May19 **1847.25**  
 Jun19 **1859.50**  
 Jul19 **1870.50**  
 Aug19 **1878.00**  
 Sep19 **1887.00**  
 Oct19 **1895.00**  
 Nov19 **1905.00**  
 Dec19 **1913.00**  
 Jan20 **1920.50**

	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19
Cash	27.00b	13.50b	2.00b	8.25b	2.75c	15.00c	26.00c	33.50c	42.50c	50.50c	60.50c	68.50c
	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19
3M	17.50c	4.00c	7.50b	1.25c	12.25c	24.50c	35.50c	43.00c	52.00c	60.00c	70.00c	78.00c
	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20
3rd wed	13.50c	11.50c	6.25b	11.00c	12.25c	11.00c	7.50c	9.00c	8.00c	10.00c	8.00c	7.50c
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Jan19	13.50c	25.00c	18.75c	29.75c	42.00c	53.00c	60.50c	69.50c	77.50c	87.50c	95.50c	103.00c
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Feb19		11.50c	5.25c	16.25c	28.50c	39.50c	47.00c	56.00c	64.00c	74.00c	82.00c	89.50c
Mar19			6.25b	4.75c	17.00c	28.00c	35.50c	44.50c	52.50c	62.50c	70.50c	78.00c
Apr19				11.00c	23.25c	34.25c	41.75c	50.75c	58.75c	68.75c	76.75c	84.25c
May19					12.25c	23.25c	30.75c	39.75c	47.75c	57.75c	65.75c	73.25c
Jun19						11.00c	18.50c	27.50c	35.50c	45.50c	53.50c	61.00c
Jul19							7.50c	16.50c	24.50c	34.50c	42.50c	50.00c
Aug19								9.00c	17.00c	27.00c	35.00c	42.50c
Sep19									8.00c	18.00c	26.00c	33.50c
Oct19										10.00c	18.00c	25.50c
Nov19											8.00c	15.50c
Dec19												7.50c
Jan20												



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 \*\* Source: Reuters

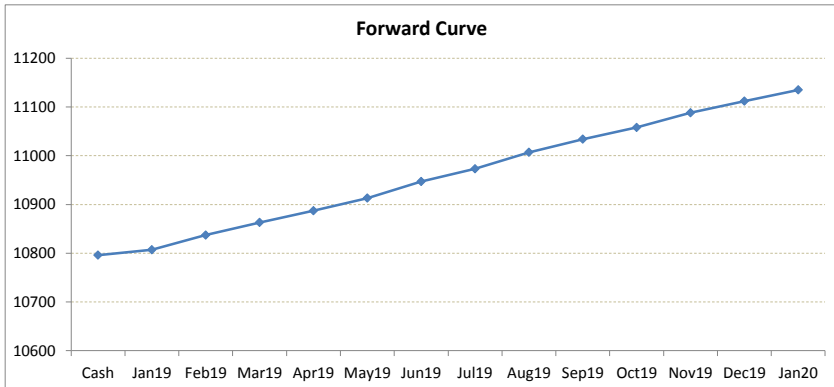
# LME Valuation - Nickel

Cash - 3M: 79.00c

Date: 2019-01-03

**Cash 10796.00**  
**3M 10875.00**  
 Jan19 **10807.00**  
 Feb19 **10837.00**  
 Mar19 **10863.00**  
 Apr19 **10887.00**  
 May19 **10913.00**  
 Jun19 **10947.00**  
 Jul19 **10973.00**  
 Aug19 **11007.00**  
 Sep19 **11034.00**  
 Oct19 **11058.00**  
 Nov19 **11088.00**  
 Dec19 **11112.00**  
 Jan20 **11135.00**

	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19	
Cash	11.00c	41.00c	67.00c	91.00c	117.00c	151.00c	177.00c	211.00c	238.00c	262.00c	292.00c	316.00c	
	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19	
3M	68.00c	38.00c	12.00c	12.00c	38.00c	72.00c	98.00c	132.00c	159.00c	183.00c	213.00c	237.00c	
	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20	
3rd wed	30.00c	26.00c	24.00c	26.00c	34.00c	26.00c	34.00c	27.00c	24.00c	30.00c	24.00c	23.00c	
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	
Jan19	30.00c	56.00c	80.00c	106.00c	140.00c	166.00c	200.00c	227.00c	251.00c	281.00c	305.00c	328.00c	
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	
Feb19		26.00c	50.00c	76.00c	110.00c	136.00c	170.00c	197.00c	221.00c	251.00c	275.00c	298.00c	
Mar19			24.00c	50.00c	84.00c	110.00c	144.00c	171.00c	195.00c	225.00c	249.00c	272.00c	
Apr19				26.00c	60.00c	86.00c	120.00c	147.00c	171.00c	201.00c	225.00c	248.00c	
May19					34.00c	60.00c	94.00c	121.00c	145.00c	175.00c	199.00c	222.00c	
Jun19						26.00c	60.00c	87.00c	111.00c	141.00c	165.00c	188.00c	
Jul19							34.00c	61.00c	85.00c	115.00c	139.00c	162.00c	
Aug19								27.00c	51.00c	81.00c	105.00c	128.00c	
Sep19									24.00c	54.00c	78.00c	101.00c	
Oct19										30.00c	54.00c	77.00c	
Nov19											24.00c	47.00c	
Dec19												23.00c	
Jan20													23.00c



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 \*\* Source: Reuters

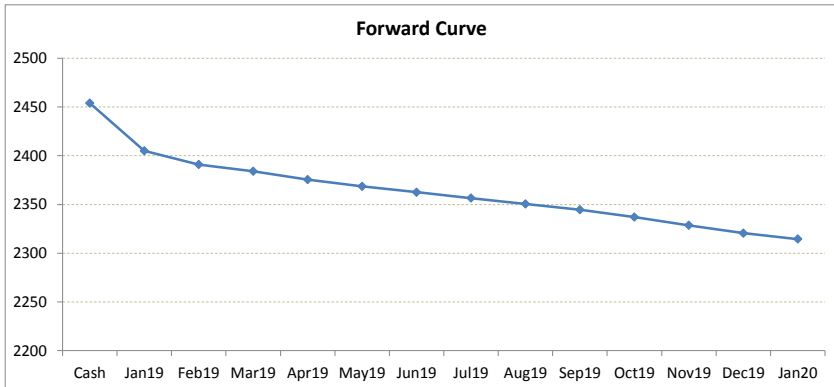
# LME Valuation - Zinc

Cash - 3M: **75.00b**

Date: **2019-01-03**

**Cash 2454.00**  
**3M 2379.00**  
 Jan19 **2405.00**  
 Feb19 **2391.00**  
 Mar19 **2384.00**  
 Apr19 **2375.50**  
 May19 **2368.50**  
 Jun19 **2362.50**  
 Jul19 **2356.50**  
 Aug19 **2350.50**  
 Sep19 **2344.50**  
 Oct19 **2337.00**  
 Nov19 **2328.50**  
 Dec19 **2320.50**  
 Jan20 **2314.50**

	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19
Cash	49.00b	63.00b	70.00b	78.50b	85.50b	91.50b	97.50b	103.50b	109.50b	117.00b	125.50b	133.50b
	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19
3M	26.00b	12.00b	5.00b	3.50b	10.50b	16.50b	22.50b	28.50b	34.50b	42.00b	50.50b	58.50b
	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20
3rd wed	14.00b	7.00b	8.50b	7.00b	6.00b	6.00b	6.00b	6.00b	7.50b	8.50b	8.00b	6.00b
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Jan19	14.00b	21.00b	29.50b	36.50b	42.50b	48.50b	54.50b	60.50b	68.00b	76.50b	84.50b	90.50b
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Feb19	7.00b	15.50b	22.50b	28.50b	34.50b	40.50b	46.50b	54.00b	62.50b	70.50b	76.50b	
	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	
Mar19	8.50b	15.50b	21.50b	27.50b	33.50b	39.50b	47.00b	55.50b	63.50b	69.50b		
	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20		
Apr19	7.00b	13.00b	19.00b	25.00b	31.00b	38.50b	47.00b	55.00b	61.00b			
	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20			
May19	6.00b	12.00b	18.00b	24.00b	31.50b	40.00b	48.00b	54.00b				
	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20				
Jun19	6.00b	12.00b	18.00b	25.50b	34.00b	42.00b	48.00b					
	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20					
Jul19	6.00b	12.00b	19.50b	28.00b	36.00b	42.00b						
	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20						
Aug19	6.00b	13.50b	22.00b	30.00b	36.00b							
	Sep19	Oct19	Nov19	Dec19	Jan20							
Sep19	7.50b	16.00b	24.00b	30.00b								
	Oct19	Nov19	Dec19	Jan20								
Oct19	8.50b	16.50b	22.50b									
	Nov19	Dec19	Jan20									
Nov19	8.00b	14.00b										
	Dec19	Jan20										
Dec19	6.00b											
	Jan20											
Jan20												



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 \*\* Source: Reuters

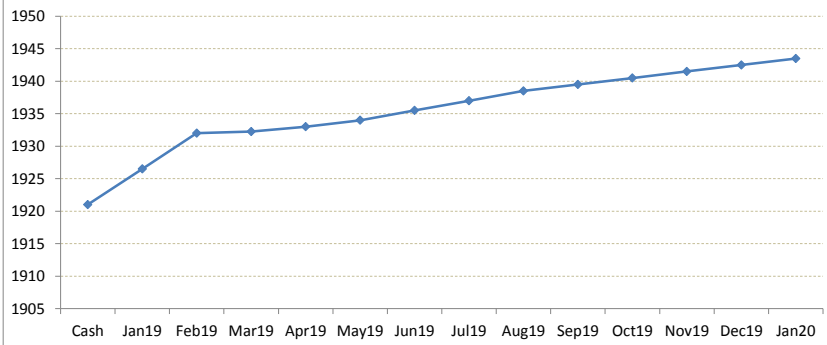
# LME Valuation - Lead

Cash - 3M: 12.00c

Date: 2019-01-03

<b>Cash</b>	<b>1921.00</b>	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19
<b>3M</b>	<b>1933.00</b>	5.50c	11.00c	11.25c	12.00c	13.00c	14.50c	16.00c	17.50c	18.50c	19.50c	20.50c	21.50c
Jan19	<b>1926.50</b>												
Feb19	<b>1932.00</b>	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19
Mar19	<b>1932.25</b>	6.50c	1.00c	0.75c	0.00b	1.00c	2.50c	4.00c	5.50c	6.50c	7.50c	8.50c	9.50c
Apr19	<b>1933.00</b>												
May19	<b>1934.00</b>	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20
Jun19	<b>1935.50</b>	5.50c	0.25c	0.75c	1.00c	1.50c	1.50c	1.50c	1.00c	1.00c	1.00c	1.00c	1.00c
Jul19	<b>1937.00</b>												
Aug19	<b>1938.50</b>	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Sep19	<b>1939.50</b>	5.50c	5.75c	6.50c	7.50c	9.00c	10.50c	12.00c	13.00c	14.00c	15.00c	16.00c	17.00c
Oct19	<b>1940.50</b>	Feb19	0.25c	1.00c	2.00c	3.50c	5.00c	6.50c	7.50c	8.50c	9.50c	10.50c	11.50c
Nov19	<b>1941.50</b>	Mar19	0.75c	1.75c	3.25c	4.75c	6.25c	7.25c	8.25c	9.25c	10.25c	11.25c	
Dec19	<b>1942.50</b>	Apr19	1.00c	2.50c	4.00c	5.50c	6.50c	7.50c	8.50c	9.50c	10.50c		
Jan20	<b>1943.50</b>	May19	1.50c	3.00c	4.50c	5.50c	6.50c	7.50c	8.50c	9.50c			
		Jun19	1.50c	3.00c	4.00c	5.00c	6.00c	7.00c	8.00c				
		Jul19	1.50c	2.50c	3.50c	4.50c	5.50c	6.50c					
		Aug19	1.00c	2.00c	3.00c	4.00c	5.00c						
		Sep19	1.00c	2.00c	3.00c	4.00c							
		Oct19	1.00c	2.00c	3.00c								
		Nov19	1.00c	2.00c									
		Dec19	1.00c										
		Jan20	1.00c										

Forward Curve



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 \*\* Source: Reuters

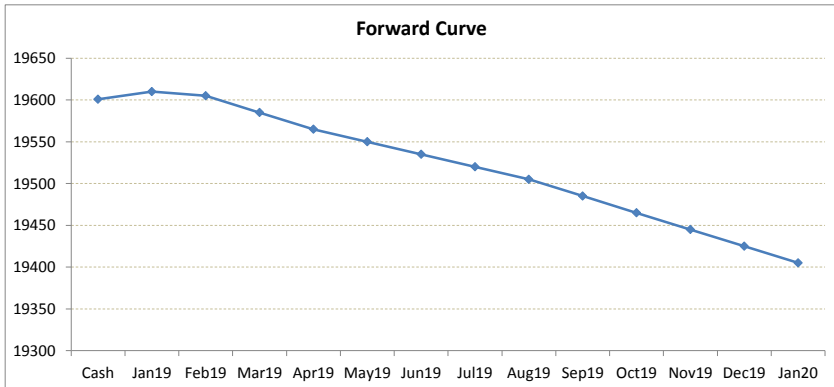
# LME Valuation - Tin

Cash - 3M: **31.00b**

Date: **2019-01-03**

**Cash 19601.00**  
**3M 19570.00**  
 Jan19 **19610.00**  
 Feb19 **19605.00**  
 Mar19 **19585.00**  
 Apr19 **19565.00**  
 May19 **19550.00**  
 Jun19 **19535.00**  
 Jul19 **19520.00**  
 Aug19 **19505.00**  
 Sep19 **19485.00**  
 Oct19 **19465.00**  
 Nov19 **19445.00**  
 Dec19 **19425.00**  
 Jan20 **19405.00**

	Cash-Jan19	Cash-Feb19	Cash-Mar19	Cash-Apr19	Cash-May19	Cash-Jun19	Cash-Jul19	Cash-Aug19	Cash-Sep19	Cash-Oct19	Cash-Nov19	Cash-Dec19
Cash	9.00c	4.00c	16.00b	36.00b	51.00b	66.00b	81.00b	96.00b	116.00b	136.00b	156.00b	176.00b
	Jan19-3M	Feb19-3M	Mar19-3M	3M-Apr19	3M-May19	3M-Jun19	3M-Jul19	3M-Aug19	3M-Sep19	3M-Oct19	3M-Nov19	3M-Dec19
3M	40.00b	35.00b	15.00b	5.00b	20.00b	35.00b	50.00b	65.00b	85.00b	105.00b	125.00b	145.00b
	Jan19-Feb19	Feb19-Mar19	Mar19-Apr19	Apr19-May19	May19-Jun19	Jun19-Jul19	Jul19-Aug19	Aug19-Sep19	Sep19-Oct19	Oct19-Nov19	Nov19-Dec19	Dec19-Jan20
3rd wed	5.00b	20.00b	20.00b	15.00b	15.00b	15.00b	15.00b	20.00b	20.00b	20.00b	20.00b	20.00b
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Jan19	5.00b	25.00b	45.00b	60.00b	75.00b	90.00b	105.00b	125.00b	145.00b	165.00b	185.00b	205.00b
	Feb19	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20
Feb19		20.00b	40.00b	55.00b	70.00b	85.00b	100.00b	120.00b	140.00b	160.00b	180.00b	200.00b
	Mar19	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20	
Mar19			20.00b	35.00b	50.00b	65.00b	80.00b	100.00b	120.00b	140.00b	160.00b	180.00b
	Apr19	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20		
Apr19				15.00b	30.00b	45.00b	60.00b	80.00b	100.00b	120.00b	140.00b	160.00b
	May19	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20			
May19					15.00b	30.00b	45.00b	65.00b	85.00b	105.00b	125.00b	145.00b
	Jun19	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20				
Jun19						15.00b	30.00b	50.00b	70.00b	90.00b	110.00b	130.00b
	Jul19	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20					
Jul19							15.00b	35.00b	55.00b	75.00b	95.00b	115.00b
	Aug19	Sep19	Oct19	Nov19	Dec19	Jan20						
Aug19								20.00b	40.00b	60.00b	80.00b	100.00b
	Sep19	Oct19	Nov19	Dec19	Jan20							
Sep19									20.00b	40.00b	60.00b	80.00b
	Oct19	Nov19	Dec19	Jan20								
Oct19										20.00b	40.00b	60.00b
	Nov19	Dec19	Jan20									
Nov19											20.00b	40.00b
	Dec19	Jan20										
Dec19												20.00b
	Jan20											
Jan20												



\*본 자료는 LME에서 공시하는 Valuation을 토대로 작성된 것으로 실제 거래 시의 스프레드와는 무관합니다.  
 \*\* Source: Reuters