



# VALE'S PRODUCTION IN 3Q15



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## Production highlights

Rio de Janeiro, October 19, 2015 – Vale S.A. (Vale) reached 88.2 Mt of iron ore production<sup>1</sup> in the third quarter of 2015 (3Q15), representing the highest quarterly production in Vale's history.

As part of our previously announced strategy, less efficient operations, including beneficiation plants in the Feijão, Jangada, Pico, Fabrica and Brucutu operations, totaling annual capacity of 13 Mt, were shut down in 3Q15. Nonetheless productivity gains in other operations partially offset the production stoppage at the above mentioned beneficiation plants. The iron ore volume acquired from third parties was also reduced in 3Q15.

Production in 9M15 – excluding iron ore acquired from third parties and Samarco's attributable production – reached the new record of 248.0 Mt, 11.8 Mt higher than in 9M14.

Vale's pellet production in 9M15, excluding Samarco's attributable production of 10.7 Mt, was 35.8 Mt – a historical record, driven by the start-up of the Tubarão 8 pellet plant and the good performance of the Oman, Fabrica and Vargem Grande pellet plants.

Nickel production reached 71,600 t in 3Q15, 6.7% higher than in 2Q15 as a result of the better performance of the operations in Indonesia and New Caledonia after the maintenance shutdowns in 2Q15.

Copper production reached 99,300 t in 3Q15, 5.3% lower than in 2Q15 as a result of the planned maintenance shutdowns in Sudbury.

Gold production reached 100,000 oz in 3Q15, the best performance ever for a third quarter, as a result of Salobo's record production.

Coal production reached 2.1 Mt in 3Q15, 2.0% higher than in 2Q15, as a result of the good performance of Moatize, which produced 1.322 Mt driven by improvements in the performance of the coal processing plant.

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<sup>1</sup> Excluding Samarco's attributable production and iron ore acquired from third parties

## Production summary

000' metric tons	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
Iron ore <sup>1</sup>								
Own production	88,225	85,290	85,731	248,038	236,242	3.4%	2.9%	5.0%
TPP <sup>2</sup>	2,514	4,021	2,696	9,430	9,088	-37.5%	-6.8%	3.8%
Total	90,739	89,311	88,427	257,468	245,330	1.6%	2.6%	4.9%
Pellets <sup>1</sup>								
Manganese	644	554	654	1,790	1,629	16.4%	-1.4%	9.9%
Coal	2,052	2,012	2,340	5,759	6,335	2.0%	-12.3%	-9.1%
Nickel	71.6	67.1	72.1	208	201	6.7%	-0.7%	3.1%
Copper <sup>3</sup>	99.3	104.9	104.8	311	274	-5.3%	-5.3%	13.5%
Potash	125	111	140	344	345	11.7%	-10.9%	-0.4%
Phosphate rock	1,935	2,114	2,158	6,041	6,212	-8.5%	-10.4%	-2.8%

<sup>1</sup> Excluding Samarco's attributable production.

<sup>2</sup> TPP = Third party purchases

<sup>3</sup> Including Lubambe's attributable production.



## Iron Ore

000' metric tons	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
Northern System	33,889	31,609	32,153	93,019	84,799	7.2%	5.4%	9.7%
Carajás	33,889	31,609	32,153	93,019	84,799	7.2%	5.4%	9.7%
Southeastern System	31,246	29,054	28,714	86,168	81,010	7.5%	8.8%	6.4%
Itabira	9,787	9,419	9,579	26,511	25,861	3.9%	2.2%	2.5%
Minas Centrais	11,187	9,974	8,975	30,060	25,824	12.2%	24.6%	16.4%
Mariana	10,272	9,661	10,159	29,597	29,325	6.3%	1.1%	0.9%
Southern System	22,049	23,346	23,236	65,193	66,139	-5.6%	-5.1%	-1.4%
Paraopeba	6,648	7,567	7,454	19,874	22,056	-12.1%	-10.8%	-9.9%
Vargem Grande	7,554	7,330	6,755	20,772	18,873	3.1%	11.8%	10.1%
Minas Itabirito	7,847	8,449	9,027	24,548	25,210	-7.1%	-13.1%	-2.6%
Midwestern System	1,041	1,281	1,629	3,657	4,294	-18.7%	-36.1%	-14.8%
Corumbá	627	891	1,081	2,411	2,767	-29.6%	-42.0%	-12.9%
Urucum	414	390	548	1,246	1,527	6.0%	-24.4%	-18.4%
<b>IRON ORE</b>	<b>88,225</b>	<b>85,290</b>	<b>85,731</b>	<b>248,038</b>	<b>236,242</b>	<b>3.4%</b>	<b>2.9%</b>	<b>5.0%</b>
TPP <sup>1</sup>	2,514	4,021	2,696	9,430	9,088	-37.5%	-6.8%	3.8%
<b>IRON ORE + TPP</b>	<b>90,739</b>	<b>89,311</b>	<b>88,427</b>	<b>257,468</b>	<b>245,330</b>	<b>1.6%</b>	<b>2.6%</b>	<b>4.9%</b>
Samarco <sup>2</sup>	3,884	3,666	3,761	11,128	9,323	6.0%	3.3%	19.4%

<sup>1</sup> Third Parties Purchase

<sup>2</sup> Vale's attributable production capacity of 50%.

### Production summary

Iron ore production – excluding iron ore acquired from third parties and Samarco's attributable production – of 88.2 Mt in 3Q15 was the highest quarterly production in Vale's history. Production was 3.4% and 2.9% higher than in 2Q15 and 3Q14, respectively.

As part of our previously announced strategy, less efficient operations, including beneficiation plants in the Feijão, Jangada, Pico, Fabrica and Brucutu operations, totaling annual capacity of 13Mt, were shut down in 3Q15. Nonetheless productivity gains in other operations partially offset the production stoppage at the above mentioned beneficiation plants. The iron ore volume acquired from third parties was also reduced in 3Q15.

## Northern system

Carajás production reached 33.9 Mt in 3Q15, the highest for a third quarter and 2.3 Mt higher than in 2Q15 and 1.7 Mt higher than in 3Q14, mostly due to the ramp-up of the N4WS and N5S mines and the greater capacity utilization of Plant 2.

Production from the N4WS mine reached 10.9 Mt in 3Q15, 11.2% higher than in 2Q15 whilst production from the N5S extension mine reached 7.0 Mt in 3Q15. Average product grade was 65.1% of iron ore, 1.5% of silica, 1.6% of alumina and 0.084% of phosphorus.

Production from Plant 2 reached 7.6 Mt in 3Q15, 2.0 Mt higher than in 2Q15.

## Southeastern system

The Southeastern System, which encompasses the Itabira, Minas Centrais and Mariana mining hubs, produced 31.2 Mt in 3Q15, 2.2 Mt and 2.5 Mt higher than in 2Q15 and in 3Q14, respectively.

Production at the Itabira mining hub was 9.8 Mt, 3.9% and 2.2% higher than in 2Q15 and 3Q14, respectively. The increase in production in 3Q15 was mostly driven by the ramp-up of the Conceição II plant and the resumption of production at the original Cauê beneficiation plant after the production interruption for the ties-ins of the new Cauê Itabiritos plant in 2Q15.

Production at the Minas Centrais mining hub was 11.2 Mt in 3Q15, 1.2 Mt and 2.2 Mt higher than in 2Q15 and in 3Q14, respectively, as a result of the ramp-up of the 5<sup>th</sup> beneficiation line in the Brucutu processing plant which produced 1.4 Mt in 3Q15.

Production at the Mariana mining hub was 10.3 Mt, 6.3% and 1.1% higher than in 2Q15 and 3Q14, respectively, after the scheduled maintenance stoppages carried out in 2Q15.

## Southern system

The Southern System, composed of the Paraopeba, Vargem Grande and Minas Itabirito mining hubs, produced 22.0 Mt in 3Q15, 5.6% and 5.1% lower than in 2Q15 and 3Q14, respectively.

Production at the Paraopeba mining hub was 0.9 Mt and 0.8 Mt lower than in 2Q15 and 3Q14, respectively, as a result of the shutdown of the Feijão and Jangada plants in July 2015. Both the Feijão and Jangada processing plants have higher beneficiation costs and deliver a lower quality product. The shutdown of these plants was a result of Vale's strategy of reducing its production of high cost, low quality products.

Production at the Vargem Grande mining hub was 3.1% and 11.8% higher than in 2Q15 and in 3Q14, respectively, as a result of the ramp-up of the Vargem Grande II plant and the

Abóboras II dry processing plant. The output from the Vargem Grande II plant was 1.5 Mt in 3Q15, corresponding to 60% of the plant's nominal capacity of 10 Mtpy. Abóboras II, a dry processing plant with nominal capacity of 3 Mtpy, produced 0.9 Mt in 3Q15.

Production at the Minas Itabirito mining hub reached 7.8 Mt, 7.1% and 13.1% lower than in 2Q15 and 3Q14, respectively, as a result of our strategy to reduce production of lower quality products. Production was reduced at the Fabrica and Pico mines.

### **Midwestern system**

The Midwestern System, comprising the Urucum and the Corumbá mining hubs, produced 1.0 Mt in 3Q15, 0.2 Mt and 0.6 Mt lower than in 2Q15 and 3Q14, respectively. The reduction in the Corumbá production is part of Vale's strategy to optimize inventory levels.

### **Samarco**

In 3Q15 Samarco's pellet feed production (mostly dedicated to the production of Samarco's pellets) was 3.9 Mt, 6.0% and 3.3% higher than in 2Q15 and 3Q14, respectively, as a result of better operational performance.



## Pellets

000' metric tons	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
Southeastern System	7,200	7,199	6,698	21,520	17,093	0.0%	7.5%	25.9%
Itabrasco (Tubarão 3)	1,052	1,135	1,127	3,313	3,344	-7.3%	-6.6%	-0.9%
Hispanobras (Tubarão 4)	1,122	1,135	1,096	3,309	3,294	-1.2%	2.3%	0.5%
Nibrasco (Tubarão 5 and 6)	2,180	2,228	2,363	6,649	7,082	-2.1%	-7.7%	-6.1%
Kobrasco (Tubarão 7)	1,125	1,088	1,073	3,302	3,374	3.4%	4.9%	-2.1%
Tubarão 8	1,720	1,613	1,039	4,948	1,234	6,6%	65,6%	301,1%
Southern System	2,649	2,619	2,426	7,639	6,780	1.1%	9.2%	12.7%
Fabrica	946	951	882	2,753	2,432	-0.5%	7.3%	13.2%
Vargem Grande	1,702	1,667	1,545	4,886	4,348	2.1%	10.2%	12.4%
Oman	2,347	2,419	2,320	6,661	6,217	-3.0%	1.2%	7.2%
<b>TOTAL PELLETS</b>	<b>12,196</b>	<b>12,237</b>	<b>11,444</b>	<b>35,821</b>	<b>31,323</b>	<b>-0.3%</b>	<b>6.6%</b>	<b>14.4%</b>
Samarco <sup>1</sup>	3,564	3,645	3,318	10,707	8,525	-2.2%	7.4%	25.6%

<sup>1</sup> Vale's attributable production capacity of 50%.

### Production overview

Vale's pellet production, excluding Samarco's attributable production of 10.7 Mt, reached 35.8 Mt in 9M15. This was a historical production record, mainly driven by the ramp-up of the Tubarão 8 plant and the consistently good performance of the Oman, Vargem Grande and Fabrica pellet plants.

Vale's pellet production, excluding Samarco's attributable production of 3.6 Mt, reached 12.2 Mt in 3Q15. Production in 3Q15 was in line with 2Q15 and 6.6% higher than in 3Q14, mainly due to the ramp-up of the Tubarão 8 pellet plant.

### Southeastern system

Production at the Tubarão pellet plants – Tubarão 3, 4, 5, 6, 7 and 8 – reached 7.2 Mt in 3Q15, in line with 2Q15 and 7.5% higher than in 3Q14, mostly due to the ramp-up of the Tubarão 8 pellet plant.



Production at the Tubarão 5 and 6 pellet plant was 2.1% and 7.7% lower than in 2Q15 and 3Q14, respectively, as a result of a maintenance stoppage in the ball mill in July 2015.

### **Southern system**

Production at the Fábrica pellet plant was 0.9 Mt in 3Q15, in line with 2Q15 and 7.3% higher than in 3Q14, given the higher availability of pellet feed.

Production at the Vargem Grande pellet plant reached the historical record of 1.7 Mt, 2.1% and 10.2% higher than in 2Q15 and in 3Q14, respectively, due to the higher productivity of the plant.

### **Oman operations**

Production at the Oman pellet plant reached 2.3 Mt in 3Q15, 3.0% lower than in 2Q15, due to a scheduled maintenance stoppage. Oman posted a production record for a third quarter.

### **Samarco**

Samarco's attributable production was 3.6 Mt in 3Q15, in line with 2Q15 and 7.4% higher than in 3Q14, as a result of higher availability of pellet feed in 3Q15.

## Manganese ore and ferroalloys

000' metric tons	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
<b>MANGANESE ORE</b>	<b>644</b>	<b>554</b>	<b>654</b>	<b>1,790</b>	<b>1,629</b>	<b>16.4%</b>	<b>-1.4%</b>	<b>9.9%</b>
Azul	468	346	481	1,221	1,183	35.2%	-2.8%	3.3%
Urucum	177	208	158	569	424	-15.0%	11.9%	34.3%
Other mines	0	0	15	0	23	n.m.	n.m.	n.m.
<b>FERROALLOYS</b>	<b>21</b>	<b>31</b>	<b>41</b>	<b>80</b>	<b>130</b>	<b>-31.6%</b>	<b>-47.7%</b>	<b>-38.8%</b>
Brazil	21	31	41	80	130	-31.6%	-47.7%	-38.8%

### Production overview

The ferroalloys plants in Minas Gerais (in Barbacena and Ouro Preto) remain shut down since 2Q15 as existing energy contracts expired and energy costs increased, impairing the economic viability of the ferroalloy operations. Production of manganese ore in the Morro da Mina mine was halted.

### Manganese ore production

Production from the Azul manganese mine reached 468,000 t in 3Q15, 35.2% higher than in 2Q15, as production returned to regular levels after the scheduled maintenance stoppage in 2Q15.

Production from the Urucum mine reached 177,000 t in 3Q15, 15.0% lower than in 2Q15, as a result of scheduled maintenance held on the main access to the underground mine.

### Ferroalloys production

Ferroalloys production reached 21,000 t, 31.6% lower than in 2Q15 as a result of the stoppage of the ferroalloy plants in the Minas Gerais state.

Ferroalloys quarterly production was comprised of 5,500 t of ferrosilicon manganese alloys (FeSiMn), 10,900 t of high-carbon manganese alloys (FeMnHC) and 4,800 t of medium-carbon manganese alloys (FeMnMC).



# Nickel

## Finished production by source

000' metric tons	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
Canada	38.5	43.0	41.7	120	114	-10.3%	-7.7%	5.2%
Sudbury	18.3	11.7	22.5	41	49	56.8%	-18.6%	-15.9%
Thompson	4.9	7.0	5.1	18	20	-29.6%	-3.7%	-10.0%
Voisey's Bay	9.6	15.2	9.1	38	36	-36.7%	5.5%	7.3%
Ore from third parties <sup>1</sup>	5.7	9.1	5.0	23	10	-37.6%	12.9%	138.1%
Indonesia	19.8	13.4	20.8	51	58	47.9%	-4.7%	-12.2%
New Caledonia <sup>2</sup>	7.3	4.8	3.8	19	12	52.1%	92.5%	49.3%
Brazil	5.9	5.9	5.8	18	16	0.1%	2.5%	9.5%
<b>TOTAL NICKEL</b>	<b>71.6</b>	<b>67.1</b>	<b>72.1</b>	<b>208</b>	<b>201</b>	<b>6.7%</b>	<b>-0.7%</b>	<b>3.1%</b>

<sup>1</sup> External feed purchased from third parties and processed into finished nickel in our operations.

<sup>2</sup> On site production of 8,100 t in 3Q15.

## Production overview

Nickel production reached 71,600 t in 3Q15 despite the planned shutdowns in Sudbury and Thompson, and was 6.7% higher than in 2Q15 as a result of higher production in Sudbury, Indonesia and New Caledonia after maintenance shutdowns in 2Q15.

## Canadian operations

Production from the Sudbury mines reached 18,300 t in 3Q15, 56.8% higher than in 2Q15. Production increased as inventory accumulated after the electrical fire in a switchroom at the matte processing unit in 2Q15 was drawn down in 3Q15. Production was 18.6% lower than in 3Q14 as a result of the planned maintenance shutdowns in the Sudbury surface plants in August 2015.

Key work completed encompassed the rebuild of the SAG mill, the overhaul of the acid plant, in preparation for the implementation of the AER project, and the upgrade of the environmental equipment at the Copper Cliff Nickel Refinery.

Production from the Thompson mines reached 4,900 t in 3Q15, 29.6% lower than in 2Q15 and 3.7% lower than in 3Q14. A comprehensive maintenance shutdown was carried out at the Thompson operations (mines, mill, smelter and refinery) in August 2015 with the replacement of the original skip hoist at the Thompson mine.

Production from the Voisey's Bay mine reached 9,600 t in 3Q15, 36.7% lower than in 2Q15, as a result of the Sudbury and Thompson smelter planned maintenance in August 2015.

Production from the Long Harbour processing plant reached 3,600 t of finished nickel in 3Q15. The plant is currently processing a blend of PTVI matte and Voisey's Bay concentrate and is expected to process only Voisey's Bay concentrate as of the end of 2015.

### **Indonesian operation (PTVI)**

Production of nickel in matte from the Indonesian operations at Sorowako reached the record of 22,100 t in 3Q15, 15.0% and 14.7% higher than in 2Q15 and in 3Q14, respectively. In the first half of 2015, PTVI underwent major maintenance work on furnaces #1, #2 and #4, all of which were fully operational by 3Q15.

Production of finished nickel from PTVI reached 19,800 t, 47.9% higher than in 2Q15 as the availability of matte from PTVI was restored after the maintenance shutdowns carried out in 1H15.

### **New Caledonia operations (VNC)**

Production of NiO and NHC at VNC reached 7,900 t in 3Q15, setting a new record. The 4<sup>th</sup> filter and a second redesigned fluid bed roaster were brought on line during the plant shutdown carried out in 2Q15, leading to a better performance in 3Q15. VNC is expected to achieve 75% of nameplate capacity in 4Q15.

### **Brazilian operation (Onça Puma)**

Production from the Onça Puma operation reached 5,900 t, a record for a third quarter and in line with production in 2Q15.



## Copper

### Finished production by source

000' metric tons	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
<b>BRAZIL</b>	65.4	67.0	56.3	195	150	-2.4%	16.2%	30.0%
Sossego	25.3	29.0	30.4	81	83	-12.7%	-16.7%	-2.0%
Salobo	40.1	38.0	25.9	113	67	5.5%	54.8%	70.1%
<b>CANADA</b>	31.4	35.1	45.8	109	116	-10.4%	-31.4%	-6.6%
Sudbury	19.0	22.4	30.8	67	74	-15.4%	-38.5%	-10.3%
Thompson	0.1	0.7	0.4	1	1	-88.2%	-79.9%	-23.2%
Voisey's Bay	7.8	5.9	7.4	21	21	32.3%	5.8%	-1.4%
Ore from third parties	4.6	6.1	7.2	20	19	-24.8%	-36.5%	2.5%
<b>TOTAL EX-LUBAMBE</b>	96.9	102.1	102.2	303	266	-5.1%	-5.2%	13.9%
Lubambe <sup>1</sup>	2.4	2.7	2.6	8	8	-12.6%	-9.3%	-3.3%
<b>TOTAL COPPER</b>	99.3	104.9	104.8	311	274	-5.3%	-5.3%	13.5%

<sup>1</sup> Attributable production.

### Production overview

Copper output reached 99,300 t in 3Q15, 5.3% lower than in 2Q15 and in 3Q14, as a result of a planned maintenance shutdown in Sudbury.

### Brazilian operations

Production of copper in concentrate at Sossego totaled 25,300 t in 3Q15, 12.7% and 16.7% lower than in 2Q15 and in 3Q14, respectively, as a result of a maintenance stoppage in the primary crusher in July 2015.

Production of copper in concentrate at Salobo totaled 40,100 t in 3Q15 as a result of the ongoing ramp-up of Salobo. The ramp-up was weaker than expected in July and August but recovered in September with capacity utilization exceeding 90%. Salobo is expected to achieve 100% capacity utilization in 4Q15.

## **Canadian operations**

Production of copper from the Sudbury operation reached 19,000 t, 15.4% and 38.5% lower than in 2Q15 and 3Q14, respectively, as a result of the planned maintenance carried out in August 2015.

Production of copper in concentrate at Voisey's Bay reached 7,800 t, 32.3% and 5.8% higher than in 2Q15 and 3Q14, respectively, after the planned maintenance carried out in the mill in 2Q15.

## **African operation (Lubambe)**

Lubambe is ramping up and delivered 6,000 t of copper in concentrate on a 100% basis (attributable production of 2,400 t). Lubambe has a nominal capacity of 45,000 t per year.



## Nickel and copper by-products

### Finished production by source

	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
<b>COBALT</b> (metric tons)	1,171	1,122	884	3,262	2,477	4.4%	32.4%	31.7%
Sudbury	171	97	320	479	607	75.5%	-46.7%	-21.0%
Thompson	91	146	142	279	330	-37.6%	-35.9%	-15.4%
Voisey's Bay	263	367	74	759	711	-28.3%	254.2%	6.8%
VNC	611	441	294	1,611	755	38.6%	107.6%	113.4%
Others	34	70	53	134	75	-51.2%	-35.1%	79.3%
<b>PLATINUM</b> (000' oz troy)	29	46	54	116	130	-38.1%	-46.7%	-10.4%
Sudbury	29	46	54	116	130	-38.1%	-46.7%	-10.4%
<b>PALLADIUM</b> (000' oz troy)	56	109	111	262	286	-48.8%	-49.6%	-8.5%
Sudbury	56	109	111	262	286	-48.8%	-49.6%	-8.5%
<b>GOLD</b> (000' oz troy)	100	100	84	303	228	0.1%	19.0%	32.9%
Sudbury	15	23	21	64	59	-34.8%	-28.1%	9.8%
Sossego	19	22	22	62	58	-11.6%	-11.7%	7.8%
Salobo	66	56	42	176	111	18.5%	58.2%	58.1%
<b>SILVER</b> (000' oz troy)	415	255	274	1,151	976	62.9%	51.3%	17.9%
Sudbury	415	255	274	1,151	976	62.9%	51.3%	17.9%

### Cobalt

Cobalt production reached 1,171 t in 3Q15, the best performance for a third quarter and 4.4% higher than the previous quarter, mainly as a result of performance improvements in VNC and the processing of inventory built in Sudbury throughout 2Q15 as a result of the production interruption in the matte processing plant in 2Q15.

## **Platinum and palladium**

Platinum production was 29,000 oz and palladium production was 56,000 oz, 38.1% and 48.8% lower than in 2Q15, respectively, as a result of the planned maintenance shutdown in Sudbury.

## **Gold**

Gold production was 100,000 oz in 3Q15, the best performance ever for a third quarter, as a result of the record production from Salobo.





## Coal

000' metric tons	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
<b>METALLURGICAL COAL</b>	1,644	1,628	1,759	4,540	4,653	1.0%	-6.5%	-2.4%
Moatize	914	886	828	2,527	2,137	3.2%	10.3%	18.2%
Carborough Downs	730	742	620	2,013	1,284	-1.6%	17.8%	56.7%
Integra Coal	0	0	101	0	715	n.m.	n.m.	n.m.
Isaac Plains	0	0	209	0	516	n.m.	n.m.	n.m.
<b>THERMAL COAL</b>	408	384	582	1,219	1,682	6.3%	-29.9%	-27.5%
Moatize	408	384	468	1,219	1,338	6.3%	-12.8%	-8.9%
Integra Coal	0	0	28	0	92	n.m.	n.m.	n.m.
Isaac Plains	0	0	86	0	252	n.m.	n.m.	n.m.
<b>TOTAL COAL</b>	2,052	2,012	2,340	5,759	6,335	2.0%	-12.3%	-9.1%

### Production overview

Coal production reached 2.1 Mt in 3Q15, 2.0% higher than in 2Q15 and 12.3% lower than in 3Q14, reflecting the stoppage of the Integra Coal and the Isaac Plains mines.

### Australian operations

Production at the Carborough Downs mine achieved 730,000 t in 3Q15, the highest production for a third quarter, 17.8% higher than in 3Q14 but 1.6% lower than in 2Q15.

The Integra Coal mine was placed in care and maintenance in 2Q14. The open cut production continued throughout 3Q14 in a reduced capacity until coal production ceased.

The Isaac Plains mine was also placed in care and maintenance in 3Q14. The open cut production continued throughout 4Q14, until coal production ceased.

## Moatize operations

Production at Moatize was 1.322 Mt in 3Q15, 52,000 t higher than in 2Q15 despite two weeks of plant shutdown in July 2015. September production reached 0.537 Mt, driven by performance improvements in the Coal Handling Processing Plant (CHPP). Production of metallurgical coal in Moatize reached 0.914 Mt.

The ramp-up of the first phase of the Moatize coal project is currently restricted by the logistics infrastructure – railway and port – which do not allow for the total utilization of the mine's nominal capacity of 11 Mtpy.

The greenfield sections of the railway were concluded and the main brownfield section of the railway (Section 7) reached 86% physical progress with completion expected by December 2015. The Nacala Logistics Corridor (NLC) already transported 2,760 wagons and discharged 150 kt of coal at the port. The Port stacker that collapsed at the Nacala port on July 19th should be commissioned in April 2016, not impacting the port's ramp up curve. With the ramp-up of the NCL, the logistics bottleneck will be gradually eliminated.



## Fertilizer Nutrients

### Potash

000' metric tons	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
POTASH	125	111	140	344	345	11.7%	-10.9%	-0.4%
Taquari-Vassouras	125	111	140	344	345	11.7%	-10.9%	-0.4%

### Phosphates

000' metric tons	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
PHOSPHATE ROCK	1,935	2,114	2,158	6,041	6,212	-8.5%	-10.4%	-2.8%
Brazil	977	1,102	1,185	3,179	3,416	-11.4%	-17.6%	-6.9%
Bayóvar	958	1,012	973	2,862	2,797	-5.3%	-1.5%	2.3%
MAP <sup>1</sup>	242	287	248	820	787	-15.5%	-2.1%	4.2%
TSP <sup>2</sup>	189	240	226	660	656	-21.0%	-16.1%	0.7%
SSP <sup>3</sup>	495	470	531	1,430	1,394	5.3%	-6.8%	2.5%
DCP <sup>4</sup>	130	84	121	351	367	53.7%	6.9%	-4.4%

<sup>1</sup> Monoammonium phosphate

<sup>2</sup> Triple superphosphate

<sup>3</sup> Single superphosphate

<sup>4</sup> Dicalcium phosphate

### Potash

Potash production totaled 125,000 t in 3Q15, 11.7% higher than in 2Q15, after the corrective maintenance stoppage carried out in 2Q15. Production was 10.9% lower than in 3Q14, due to: (i) lower physical availability of equipment and (ii) lower grades at the mine.

### Phosphate Rock

Phosphate rock production was 1.0 Mt in 3Q15, 11.4% and 17.6% lower than in 2Q15 and 3Q14, respectively, due to: (i) lower production of phosphate rock in Araxá as a result of the production stoppage in Guará, and (ii) the production stoppage in the Patos de Minas Unit for balancing the supply chain of SSP.

Production at Bayóvar was 5.3% and 1.5% lower than in 2Q15 and 3Q14, respectively, due to lower physical availability of equipment at the plant.

## **MAP**

Production of MAP (monoammonium phosphate) totaled 242,000 t in 3Q15, 15.5% and 2.1% lower than in 2Q15 and 3Q14, respectively, due to limited availability of phosphoric acid.

## **TSP**

Production of TSP (triple superphosphate) totaled 189,000 t in 3Q15, 21.0% and 16.1% lower than in 2Q15 and 3Q14, respectively, due to the annual maintenance stoppage in the acid phosphoric acid plant prioritizing the production of MAP.

## **SSP**

The production of SSP (single superphosphate) totaled 495,000 t in 3Q15, 5.3% higher than in 2Q15, mainly due to higher availability in Catalão and Uberaba. Production was 6.8% lower than in 3Q14, as a result of the production stoppage at Araxá, for balancing SSP supply to market demand.

## **DCP**

DCP (dicalcium phosphate) production totaled 130,000 t in 3Q15, 53.7% and 6.9% higher than in 2Q15 and in 3Q14, respectively, after the annual maintenance stoppage carried out in Cajati last quarter.

# Nitrogen

000' metric tons	3Q15	2Q15	3Q14	9M15	9M14	% change		
						3Q15/2Q15	3Q15/3Q14	9M15/9M14
AMMONIA	42	46	48	132	143	-8.7%	-11.9%	-7.7%
NITRIC ACID	127	118	121	359	349	8.0%	4.9%	2.7%
AMMONIUM NITRATE	144	122	129	386	359	18.0%	11.7%	7.4%

## Ammonia production

Ammonia production totaled 42,000 t in 3Q15, 8.7% and 11.9% lower than in 2Q15 and 3Q14, respectively.

## Nitric acid and ammonium nitrate production

Nitric acid and ammonium nitrate production was 8.0% and 18.0%, respectively, higher than in 2Q15.