

Vale S.A.
Form 6-K
October 18, 2012
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United States
Securities and Exchange Commission

Washington, D.C. 20549

FORM 6-K

Report of Foreign Private Issuer

Pursuant to Rule 13a-16 or 15d-16

of the

Securities Exchange Act of 1934

For the month of

October 2012

Vale S.A.

**Avenida Graça Aranha, No. 26
20030-900 Rio de Janeiro, RJ, Brazil**

(Address of principal executive office)

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3Q12 Production Report

FACING THE CHALLENGES

Rio de Janeiro, October 17, 2012 – Vale S.A. (Vale) delivered a solid operational performance in 3Q12, dealing successfully with a challenging environment through operational flexibility and our wealthy endowment of mineral resources.

Production of iron ore in 3Q12 was 83.9 Mt(1), 4.2% above 2Q12, with gains in all mining sites. Over the last twelve-month period ended on September 30, 2012 output reached 317.4 Mt.

Pre-stripping in the N5 South mine in Carajás was initiated in 1H12 and production is expected to start by the end of the year. It has over one billion metric tons in proven and probable reserves with an average Fe content of 67.1%. The mine will contribute to improve the quality of our iron ore supply in the coming years, thus enhancing one of our main competitive advantages in the global marketplace.

As previously disclosed, we are reallocating an additional portion of our iron ore production from the pelletizing process to the supply of sinter feed. This is to come in line with the cyclical behavior of the demand for raw materials by the steel industry, which is for more sinter feed and less blast furnace pellets at this stage of the cycle.

To implement the change, operations at the São Luís, Tubarão I and Tubarao II pellet plants are being temporarily halted.

The ramp-up of Moatize and Bayóvar led to all-time quarterly output figures for metallurgical coal, at 1.2 Mt, and phosphate rock, 2.1 Mt.

On October 4, the Lubambe operations – the Konkola North project – produced the first copper concentrate. It is located in the African Copperbelt, Zambia, and is our second project to start-up in the natural resources-rich African continent.

The Lubambe operations, which are controlled by a 50%-owned JV, have an estimated nominal capacity to produce 45,000 t of copper in concentrates per year.

Production

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| 000 metric tons | 9M11 | 9M12 | % change |
|------------------------|-------------|-------------|-----------------|
| Iron ore(a) | 239,687 | 234,462 | -2.2% |
| Pellets(a) | 41,473 | 42,978 | 3.6% |
| Manganese | 1,799 | 1,697 | -5.7% |
| Coal | 2,100 | 5,131 | 144.4% |
| Nickel | 173 | 173 | 0.0% |
| Copper | 217 | 211 | -3.0% |
| Potash | 445 | 387 | -13.0% |
| Phosphate rock | 5,526 | 5,921 | 7.2% |

(a) Including Samarco's attributable production.

(1) Mt = million metric tons, t = metric tons

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BULK MATERIALS

• *Iron ore*

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|----------------------------|---------------|---------------|---------------|----------------|----------------|-----------------------|-----------------------|-----------------------|
| IRON ORE | 87,890 | 80,542 | 83,926 | 239,687 | 234,462 | 4.2% | -4.5% | -2.2% |
| Northern System | 30,894 | 27,362 | 27,635 | 79,563 | 76,708 | 1.0% | -10.5% | -3.6% |
| Carajás | 30,894 | 27,362 | 27,635 | 79,563 | 76,708 | 1.0% | -10.5% | -3.6% |
| Southeastern System | 31,297 | 28,296 | 30,144 | 90,518 | 85,198 | 6.5% | -3.7% | -5.9% |
| Itabira | 10,919 | 9,184 | 10,302 | 30,499 | 27,640 | 12.2% | -5.6% | -9.4% |
| Mariana | 9,923 | 9,080 | 9,099 | 29,158 | 27,518 | 0.2% | -8.3% | -5.6% |
| Minas Centrais | 10,455 | 10,032 | 10,743 | 30,862 | 30,040 | 7.1% | 2.8% | -2.7% |
| Southern System | 21,200 | 20,743 | 21,485 | 57,475 | 59,895 | 3.6% | 1.3% | 4.2% |
| Minas Itabirito | 7,917 | 7,993 | 7,938 | 22,785 | 23,277 | -0.7% | 0.3% | 2.2% |
| Vargem Grande | 6,168 | 5,950 | 6,308 | 16,410 | 17,058 | 6.0% | 2.3% | 3.9% |
| Paraopeba | 7,115 | 6,800 | 7,239 | 18,280 | 19,560 | 6.5% | 1.7% | 7.0% |
| Midwestern System | 1,642 | 1,366 | 1,871 | 3,973 | 4,539 | 37.0% | 14.0% | 14.3% |
| Corumbá | 1,203 | 915 | 1,376 | 2,840 | 3,266 | 50.4% | 14.3% | 15.0% |
| Urucum | 439 | 451 | 495 | 1,133 | 1,273 | 9.8% | 12.9% | 12.4% |
| Samarco(1) | 2,858 | 2,775 | 2,791 | 8,158 | 8,121 | 0.5% | -2.4% | -0.4% |

(1) Vale's attributable production capacity of 50%.

Iron ore production in 3Q12 was 83.9 Mt, 4.2% higher than 2Q12 with gains in all mining sites. Over the last twelve-month period ended on September 30, 2012, our iron ore output reached 317.4 Mt.

At Carajás we have not been able to match last year's performance. Production was 27.6 Mt in 3Q12, slightly higher than 2Q12, but 10.5% below the same period last year. Issues with environmental permitting led to the continuation of mining in some older pits, which has entailed lower productivity, lower Fe content and higher costs.

Current performance is definitely not consistent with the high quality of our assets and corrective measures are underway.

Given the improvement in our application process for environmental licenses, we obtained a significant increase in the number of permits this year – 52 until the end of September – more than twice as many as last year. These involve various logistics, iron ore and manganese mining operations in Brazil and are critical to the continuation of our regular production activities. Among them, the most important ones were the preliminary license for the Serra Sul S11D project and the operation license for the N5 South mine.

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N5 South, with 1.025 billion metric tons of proven and probable reserves and an average Fe content of 67.1%, is expected to begin production by year-end. It is estimated to provide some 25% of the run-of-mine (ROM) ores to be extracted from Carajas in 2013, boosting quality while leading to lower operating costs.

The Southeastern System, which encompasses the Itabira, Mariana and Minas Centrais mining sites, had a good operational performance, producing 30.1 Mt, 6.5% higher than 2Q12. Production from Itabira was 12.2% higher on a quarterly basis due to complete recovery after the intense rainy season in the beginning of the year. Improvements in the crushing process of Minas Centrais allowed for a 7.1% quarter-on-quarter increase and 2.8% year-on-year.

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Output of the Southern System – Minas Itabirito, Vargem Grande and Paraopeba – totaled 21.5 Mt, showing the best performance for a third quarter since 3Q08, reflecting continuous improvements at Vargem Grande and the optimization of operations at Paraopeba. Production at Vargem Grande and Paraopeba expanded by 6.0% and 6.5%, respectively, on a quarter-on-quarter basis. Output at Minas Itabirito remained stable, at 7.9 Mt.

The Midwestern System – Urucum and Corumbá mining sites – reached its highest quarterly figure, producing 1.9 Mt in 3Q12. Production rose 37.0% on a quarter-over-quarter basis and 14.0% on a year-over-year basis, due to operational improvements in both Corumbá and Urucum. Output from Corumbá showed a quarter-on-quarter increase of 50.4%, recovering from the lower level of 2Q12, which was caused by a maintenance stoppage.

- *Pellets*

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|------------------|---------------|---------------|---------------|---------------|---------------|-----------------------|-----------------------|-----------------------|
| PELLETS | 14,770 | 14,802 | 14,962 | 41,473 | 42,978 | 1.1% | 1.3% | 3.6% |
| Tubarão I and II | 1,561 | 1,530 | 1,461 | 4,337 | 4,053 | -4.5% | -6.4% | -6.6% |
| Fábrica | 1,033 | 956 | 945 | 2,972 | 2,808 | -1.2% | -8.5% | -5.5% |
| São Luís | 1,328 | 1,373 | 1,131 | 4,014 | 3,465 | -17.6% | -14.8% | -13.7% |
| Vargem Grande | 970 | 1,383 | 1,276 | 3,567 | 3,482 | -7.8% | 31.5% | -2.4% |
| Oman | 1,155 | 1,593 | 1,845 | 1,490 | 4,853 | 15.8% | 59.8% | 225.6% |
| Nibrasco | 2,514 | 1,977 | 2,335 | 7,213 | 6,569 | 18.1% | -7.1% | -8.9% |
| Kobrasco | 1,167 | 1,258 | 1,197 | 3,390 | 3,595 | -4.8% | 2.6% | 6.0% |
| Hispanobras(1) | 1,098 | 1,111 | 1,022 | 3,232 | 3,194 | -8.0% | -7.0% | -1.2% |
| Itabrasco | 1,102 | 1,020 | 985 | 3,257 | 3,024 | -3.4% | -10.6% | -7.2% |
| Samarco(2) | 2,841 | 2,599 | 2,766 | 8,000 | 7,935 | 6.4% | -2.6% | -0.8% |

(1) Production attributable to Vale on a pro forma basis. In July 2012, we entered into a leasing contract for the Hispanobras pelletizing operation. As a consequence, their production is being consolidated 100% on a pro forma basis.

(2) Vale's attributable production capacity of 50%.

The slowdown in global GDP and in particular global industrial production has weakened the demand for steel, stimulating a cyclical change in its consumption of key raw materials, ultimately implying lower premia for higher quality iron ore and partial replacement of the use of blast furnace pellets by sinter feed.

In response to this cyclical movement, the pace of operating activity at some of our pellet plants - Tubarão I & II, São Luís, Vargem Grande, Kobrasco, Hispanobras and Itabrasco – was moderated during 3Q12. Following that, we decided to shut down Tubarao I & II and Sao Luis, giving room to expand the availability of ROM to produce sinter feed.

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As a result of a steady regional demand, the Oman operations delivered 1.8 Mt of direct reduction pellets, rising 15.8% on a quarter-on-quarter basis, due to increased production efficiency.

Fábrica produced 945,000 t, a volume that still reflects the impact of a shortage in pellet feed availability from the Southern System mines. Output was 1.2% lower than 2Q12 and 8.5% below 3Q11.

Production from the two Nibrasco plants and the three Samarco plants (attributable production) recovered after the maintenance stoppages in the previous quarter, reaching 2.3 Mt and 2.8 Mt, respectively.

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• *Manganese ore and ferroalloys*

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|----------------------|------------|------------|------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| MANGANESE ORE | 681 | 584 | 629 | 1,799 | 1,697 | 7.6% | -7.7% | -5.7% |
| Azul | 535 | 463 | 497 | 1,437 | 1,339 | 7.2% | -7.2% | -6.8% |
| Urucum | 88 | 81 | 86 | 222 | 234 | 6.0% | -1.6% | 5.5% |
| Other mines | 59 | 39 | 46 | 139 | 123 | 16.2% | -22.0% | -11.5% |
| FERROALLOYS | 103 | 109 | 116 | 330 | 331 | 6.2% | 12.9% | 0.3% |
| Brazil | 51 | 46 | 52 | 155 | 148 | 11.8% | 1.3% | -4.8% |
| Dunkerque | 27 | 35 | 40 | 101 | 104 | 13.7% | 45.6% | 3.2% |
| Mo I Rana | 24 | 28 | 25 | 74 | 79 | -12.4% | 0.8% | 7.1% |

In 3Q12, manganese ore production increased 7.6% on a quarter-on-quarter basis, reaching 629,000 t versus 584,000 t in 2Q12.

The production of Azul was 7.2% higher than 2Q12, as a result of greater equipment availability.

Urucum output also had a better performance, rising 6.0% over 2Q12, reflecting enhancement of operational controls.

Morro da Mina, which is part of other mines, had an output increase of 16.2% over 2Q12, recovering partially from the ongoing waste removal efforts.

Ferroalloy quarterly production was comprised of 58,500 t of ferrosilicon manganese alloys (FeSiMn), 52,800 t of high-carbon manganese alloys (FeMnHc) and 4,400 t of medium-carbon manganese alloys (FeMnMC).

In 3Q12, ferroalloy production increased 6.2% against 2Q12, due to operational improvements in the furnaces of the plants located in Brazil and in Dunkerque, France.

The production of Mo I Rana was slightly higher than 3Q11 and 12.4% lower than 2Q12, mainly due to stoppage for maintenance and electrode disruption.

The transaction to sell the European ferroalloys operations Dunkerque and Mo I Rana is still pending the fulfillment of certain precedent conditions.

Table of Contents• *Coal*

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|----------------------|------------|--------------|--------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| METALLURGICAL | | | | | | | | |
| COAL | 586 | 1,277 | 1,209 | 1,592 | 3,612 | -5.3% | 106.4% | 126.9% |
| Moatize | 0 | 728 | 624 | 0 | 1,853 | -14.3% | n.m. | n.m. |
| Carborough Downs | 277 | 82 | 131 | 876 | 537 | 60.2% | -52.7% | -38.6% |
| Integra Coal | 82 | 266 | 285 | 297 | 675 | 7.1% | 249.7% | 127.2% |
| Others | 227 | 201 | 169 | 419 | 547 | -15.9% | -25.6% | 30.4% |
| THERMAL COAL | | | | | | | | |
| COAL | 321 | 619 | 524 | 507 | 1,518 | -15.5% | 63.3% | 199.4% |
| Moatize | 130 | 390 | 365 | 130 | 948 | -6.4% | 181.7% | 631.8% |
| Integra Coal | 107 | 121 | 78 | 203 | 280 | -36.0% | -27.5% | 37.8% |
| Others | 84 | 108 | 81 | 175 | 291 | -25.1% | -3.4% | 66.4% |

In 3Q12, Vale's coal output reached 1.7 Mt, 8.6% below the previous quarter, mainly due to the slower pace of the ramp-up of Moatize. The production of metallurgical coal totaled 1.2 Mt, an all-time high for a third quarter, while the output of thermal coal was 524,000 t.

The ramp-up of the first phase of the Moatize coal project, in Tete, Mozambique, was decelerated due to constraints in logistics. Capacity at the Linha do Sena railway is expected to be expanded in 4Q12, as the enhancement in track signaling was completed, allowing for faster train speed and transportation of larger volumes of metallurgical coal production by year-end.

Output of hard coking coal and thermal coal at Moatize was 624,000 t and 365,000 t, respectively, in 3Q12. There was a slight increase in the share of thermal coal in total output, to 37% from 35% in 2Q12, as metallurgical coal cannot be kept in inventory for a long period due to the risk of losing quality.

Production of metallurgical and thermal coal at Integra Coal in Australia was 285,000 t and 78,000 t, respectively, in 3Q12. Metallurgical coal output increased from the previous quarter due to continuous improvement in geological conditions in both the underground and open cut operations. There was a striking increase compared to 3Q11, when production was impacted by the longwall move, which started in 2Q11. Thermal coal output decreased to 78,000 t, from 121,000 t in 2Q12.

Operations at Carborough Downs were resumed at the end of August, after the stoppage determined by the detection of abnormal levels of carbon monoxide in the mine. Output reached 131,000 t versus 82,000 t in 2Q12 as the operation is still ramping up.

Coal production at other mines totaled 169,000 t of metallurgical coal and 81,000 t of thermal coal.

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BASE METALS

• *Nickel*

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|-----------------|-----------|-----------|-----------|------------|------------|-----------------------|-----------------------|-----------------------|
| Nickel | 58 | 61 | 49 | 173 | 173 | -19.8% | -15.7% | 0.0% |
| Sudbury | 16 | 17 | 10 | 40 | 50 | -42.0% | -35.7% | 24.2% |
| Thompson | 4 | 7 | 5 | 19 | 18 | -24.2% | 25.1% | -5.6% |
| Voisey s Bay | 16 | 15 | 14 | 48 | 43 | -2.8% | -11.4% | -9.0% |
| Sorowako | 16 | 17 | 17 | 53 | 46 | 0.9% | 5.9% | -12.6% |
| VNC | 1 | 2 | 0 | 4 | 4 | -84.0% | -77.4% | 19.8% |
| Onça Puma | 2 | 2 | 0 | 4 | 6 | -84.7% | -88.3% | 63.5% |
| Others(1) | 2 | 2 | 2 | 6 | 5 | 13.3% | -22.1% | -14.4% |

(1) External feed purchased from third parties and processed into finished nickel in our operations

In 3Q12, total finished nickel production was 48,900 t, decreasing by 19.8% against the previous quarter. The output reduction was caused by the scheduled maintenance of most of the Sudbury and Thompson mines during the summer in the Northern Hemisphere - when the demand for nickel is seasonally weak - and the operational issues at VNC and Onça Puma.

Finished nickel production from Sudbury was 10,100 t, 42.0% lower than 2Q12.

At Thompson the planned maintenance shutdown involved the entire operation mine, smelter and refinery. Production in 3Q12 was 5,100 t, down 24.2% from 2Q12 but 25.1% higher than 3Q11.

Production sourced from nickel concentrates produced at the Voisey s Bay operations was slightly below 2Q12, totaling 14,300 t, as a consequence of the maintenance at the Thompson refinery.

Finished nickel production sourced from our Indonesian operations at Sorowako, 17,000 t, was in line with 2Q12, and 5.9% higher than 3Q11.

The operations of VNC were resumed in September. The HPAL (high pressure acid leaching) operations were re-started and the refining sections began ramping up using imported acid. Repairs to the acid plant and the installation of the refining columns of the solvent extraction circuit are being concluded and we expect to produce nickel hydroxide cake, cobalt and nickel oxide from 4Q12 onwards.

The Onça Puma operations remained shut down during 3Q12 due to problems with its two furnaces. The return to activity will not take place in 4Q12 and as yet is not scheduled.

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- Copper*

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|-----------------|-----------|-----------|-----------|------------|------------|-----------------------|-----------------------|-----------------------|
| COPPER | 84 | 70 | 68 | 217 | 211 | -3.6% | -19.9% | -3.0% |
| Sossego | 31 | 28 | 29 | 76 | 82 | 3.9% | -5.3% | 7.9% |
| Sudbury | 26 | 22 | 14 | 74 | 60 | -34.9% | -45.8% | -18.6% |
| Thompson | 1 | 1 | 0 | 1 | 2 | -57.2% | -39.4% | 76.0% |
| Voisey's Bay | 13 | 8 | 9 | 37 | 28 | 17.8% | -28.9% | -24.3% |
| Tres Valles | 2 | 3 | 3 | 6 | 10 | -7.0% | 35.2% | 86.6% |
| Others | 11 | 8 | 11 | 23 | 27 | 42.5% | 0.2% | 20.2% |

Copper production in 3Q12 was 67,500 t, 3.6% below 2Q12, primarily due to maintenance stoppages in the Sudbury and Thompson mines.

Output from our Canadian operations, excluding copper ore purchased from third parties, was 23,900 t, decreasing 22.1% on a quarter-on-quarter basis.

Production of copper in concentrates from the Sossego mine at Carajás totaled 29,100 t, with a slight increase over 2Q12, but 5.3% smaller than in 3Q11. Lower mine output and feed grades received by the processing plant caused the drop in output.

Output at Tres Valles, in Chile, was 3,200 t of copper cathode, 7.0% below the previous quarter, but 35.2% above 3Q11 as a result of the ramp-up to nominal capacity.

Tres Valles is still experiencing operational and mechanical issues while coming to full production.

On October 4, the Lubambe copper operations the Konkola North project produced the first concentrate. Lubambe is a 50%-owned JV in the African Copperbelt, with an estimated nominal capacity of 45,000 t of copper in concentrates.

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- Nickel and copper by-products*

| | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|--------------------------------|------------|------------|------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| COBALT (metric tons) | 667 | 693 | 409 | 1,888 | 1,693 | -41.0% | -38,8% | -10.3% |
| Sudbury | 248 | 166 | 112 | 346 | 485 | -32.5% | -54.7% | 40.1% |
| Thompson | 34 | 22 | 29 | 127 | 73 | 31.5% | -15.3% | -42.2% |
| Voisey s Bay | 300 | 316 | 252 | 1,137 | 878 | -20.3% | -16.0% | -22.8% |
| VNC | 58 | 177 | 0 | 194 | 217 | -100.0% | -100.0% | 11.7% |
| Others | 27 | 11 | 15 | 83 | 40 | 40.0% | -43.2% | -51.5% |
| PLATINUM (000 oz troy) | 25 | 39 | 35 | 133 | 113 | -9.2% | 39.8% | -15.4% |
| Sudbury | 25 | 39 | 35 | 133 | 113 | -9.2% | 39.8% | -15.4% |
| PALLADIUM (000 oz troy) | 40 | 66 | 71 | 184 | 196 | 7.7% | 79.5% | 6.7% |
| Sudbury | 40 | 66 | 71 | 184 | 196 | 7.7% | 79.5% | 6.7% |
| GOLD (000 oz troy) | 45 | 36 | 46 | 137 | 117 | 27.6% | -13.9% | -14.7% |
| Sudbury | 23 | 18 | 18 | 79 | 55 | 1.7% | -22.1% | -29.9% |
| Sossego | 22 | 18 | 21 | 58 | 55 | 14.5% | -5.1% | -6.2% |
| Others | 0 | 0 | 7 | 0 | 7 | n.m | n.m | n.m |
| SILVER (000 oz troy) | 572 | 567 | 461 | 1,853 | 1,622 | -18.7% | -19.5% | -12.4% |
| Sudbury | 572 | 567 | 461 | 1,853 | 1,622 | -18.7% | -19.5% | -12.4% |

Cobalt production decreased to 409 t, 41.0% below 2Q12 and 38.8% lower than 3Q11, mainly due to a maintenance stoppage in the Canadian operations and the issues at VNC.

Platinum output decreased by 9.2%, reaching 35,000 oz, while palladium was 7.7% up quarter-on-quarter. Gold production was 46,000 oz in 3Q12 and 117,000 oz in 9M12.

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FERTILIZER NUTRIENTS

• *Potash*

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|-------------------|------------|------------|------------|------------|------------|-----------------------|-----------------------|-----------------------|
| POTASH | 166 | 129 | 141 | 445 | 387 | 9.5% | -15.4% | -13.0% |
| Taquari-Vassouras | 166 | 129 | 141 | 445 | 387 | 9.5% | -15.4% | -13.0% |

• *Phosphates*

| | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|-----------------------|--------------|--------------|--------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| PHOSPHATE ROCK | 1,925 | 2,017 | 2,078 | 5,526 | 5,921 | 3.1% | 8.0% | 7.2% |
| Brazil | 1,274 | 1,237 | 1,235 | 3,694 | 3,584 | -0.2% | -3.0% | -3.0% |
| Bayóvar | 651 | 779 | 843 | 1,832 | 2,337 | 8.2% | 29.5% | 27.6% |
| MAP(1) | 217 | 286 | 297 | 557 | 894 | 3.9% | 36.9% | 60.4% |
| TSP(2) | 199 | 213 | 212 | 607 | 666 | -0.4% | 6.7% | 9.7% |
| SSP(3) | 777 | 507 | 648 | 1,989 | 1,639 | 27.8% | -16.6% | -17.6% |
| DCP(4) | 154 | 136 | 119 | 469 | 399 | -12.8% | -22.9% | -15.0% |

(1) Monoammonium phosphate

(2) Triple superphosphate

(3) Single superphosphate

(4) Dicalcium phosphate

Production of potash was 141,000 t in 3Q12, 9.5% higher than 2Q12 but 15.4% lower when compared to 3Q11. The quarterly output increase reflected the continuous improvement in infrastructure, the acquisition of equipment and the higher grade of the ore.

In 3Q12, total production of phosphate rock, which is used as feed for the production of phosphate nutrients, had a slight increase of 3.1% over 2Q12, achieving a new record, as a reflection of the ramp-up of Bayóvar. Output from Brazilian operations was in line with 2Q12.

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The production of MAP (monoammonium phosphate) totaled 297,000 t, increasing 3.9% quarter-over-quarter and 36.9% year-over-year, having recovered from the maintenance stoppage in the previous quarter and reflecting the implementation of Phase III of Uberaba.

TSP (triple superphosphate) production increased by 6.7% on a year-over-year basis reflecting higher availability of sulphuric acid. On a quarterly basis, TSP output was in line with last quarter.

In 3Q12, the production of SSP (single superphosphate) was 27.8% higher than 2Q12, showing continuous improvement after the maintenance stoppages in the Catalão and Cubatão units, which took place in May 2012.

DCP (dicalcium phosphate) production was 12.8% lower when compared to 2Q12, reflecting production adjustments due to weaker demand.

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- Nitrogen*

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|-------------------------|------------|------------|-----------|------------|------------|-----------------------|-----------------------|-----------------------|
| AMMONIA | 138 | 101 | 99 | 463 | 332 | -2.6% | -28.6% | -28.3% |
| UREA | 134 | 143 | 90 | 468 | 340 | -37.3% | -33.1% | -27.5% |
| NITRIC ACID | 117 | 120 | 123 | 345 | 361 | 2.6% | 4.8% | 4.5% |
| AMMONIUM NITRATE | 114 | 124 | 128 | 331 | 370 | 3.4% | 12.1% | 11.9% |

In 3Q12, ammonia production decreased by 2.6% on a quarter-over-quarter basis, as a result of continuing low availability of steam from the Araucária refinery. Urea production was 37.3% lower when compared to 2Q12, due to a scheduled equipment maintenance stoppage, which took place in August 2012.

On a quarterly basis, the output of nitric acid and ammonium nitrate rose 2.6% and 3.4%, respectively.

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BULK MATERIALS

Iron ore

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|----------------------------|---------------|---------------|---------------|----------------|----------------|-----------------------|-----------------------|-----------------------|
| IRON ORE | 87,890 | 80,542 | 83,926 | 239,687 | 234,462 | 4.2% | -4.5% | -2.2% |
| Northern System | 30,894 | 27,362 | 27,635 | 79,563 | 76,708 | 1.0% | -10.5% | -3.6% |
| Carajás | 30,894 | 27,362 | 27,635 | 79,563 | 76,708 | 1.0% | -10.5% | -3.6% |
| Southeastern System | 31,297 | 28,296 | 30,144 | 90,518 | 85,198 | 6.5% | -3.7% | -5.9% |
| Itabira | 10,919 | 9,184 | 10,302 | 30,499 | 27,640 | 12.2% | -5.6% | -9.4% |
| Mariana | 9,923 | 9,080 | 9,099 | 29,158 | 27,518 | 0.2% | -8.3% | -5.6% |
| Minas Centrais | 10,455 | 10,032 | 10,743 | 30,862 | 30,040 | 7.1% | 2.8% | -2.7% |
| Southern System | 21,200 | 20,743 | 21,485 | 57,475 | 59,895 | 3.6% | 1.3% | 4.2% |
| Minas Itabirito | 7,917 | 7,993 | 7,938 | 22,785 | 23,277 | -0.7% | 0.3% | 2.2% |
| Vargem Grande | 6,168 | 5,950 | 6,308 | 16,410 | 17,058 | 6.0% | 2.3% | 3.9% |
| Paraopeba | 7,115 | 6,800 | 7,239 | 18,280 | 19,560 | 6.5% | 1.7% | 7.0% |
| Midwestern System | 1,642 | 1,366 | 1,871 | 3,973 | 4,539 | 37.0% | 14.0% | 14.3% |
| Corumbá | 1,203 | 915 | 1,376 | 2,840 | 3,266 | 50.4% | 14.3% | 15.0% |
| Urucum | 439 | 451 | 495 | 1,133 | 1,273 | 9.8% | 12.9% | 12.4% |
| Samarco(1) | 2,858 | 2,775 | 2,791 | 8,158 | 8,121 | 0.5% | -2.4% | -0.4% |

(1) Vale's attributable production capacity of 50%.

Pellets

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|------------------|---------------|---------------|---------------|---------------|---------------|-----------------------|-----------------------|-----------------------|
| PELLETS | 14,770 | 14,802 | 14,962 | 41,473 | 42,978 | 1.1% | 1.3% | 3.6% |
| Tubarão I and II | 1,561 | 1,530 | 1,461 | 4,337 | 4,053 | -4.5% | -6.4% | -6.6% |
| Fábrica | 1,033 | 956 | 945 | 2,972 | 2,808 | -1.2% | -8.5% | -5.5% |
| São Luís | 1,328 | 1,373 | 1,131 | 4,014 | 3,465 | -17.6% | -14.8% | -13.7% |
| Vargem Grande | 970 | 1,383 | 1,276 | 3,567 | 3,482 | -7.8% | 31.5% | -2.4% |
| Oman | 1,155 | 1,593 | 1,845 | 1,490 | 4,853 | 15.8% | 59.8% | 225.6% |
| Nibrasco | 2,514 | 1,977 | 2,335 | 7,213 | 6,569 | 18.1% | -7.1% | -8.9% |
| Kobrasco | 1,167 | 1,258 | 1,197 | 3,390 | 3,595 | -4.8% | 2.6% | 6.0% |
| Hispanobras(1) | 1,098 | 1,111 | 1,022 | 3,232 | 3,194 | -8.0% | -7.0% | -1.2% |
| Itabrasco | 1,102 | 1,020 | 985 | 3,257 | 3,024 | -3.4% | -10.6% | -7.2% |
| Samarco(2) | 2,841 | 2,599 | 2,766 | 8,000 | 7,935 | 6.4% | -2.6% | -0.8% |

(1) Production attributable to Vale on a pro forma basis. On July, 2012, we entered into a leasing contract for the Hispanobras pelletizing operation. As a consequence, their production is being consolidated 100% on a pro forma basis.

(2) Vale's attributable production capacity of 50%.

Manganese ore and ferroalloys

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|----------------------|------------|------------|------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| MANGANESE ORE | 681 | 584 | 629 | 1,799 | 1,697 | 7.6% | -7.7% | -5.7% |
| Azul | 535 | 463 | 497 | 1,437 | 1,339 | 7.2% | -7.2% | -6.8% |
| Urucum | 88 | 81 | 86 | 222 | 234 | 6.0% | -1.6% | 5.5% |
| Other mines | 59 | 39 | 46 | 139 | 123 | 16.2% | -22.0% | -11.5% |
| FERROALLOYS | 103 | 109 | 116 | 330 | 331 | 6.2% | 12.9% | 0.3% |
| Brazil | 51 | 46 | 52 | 155 | 148 | 11.8% | 1.3% | -4.8% |
| Dunkerque | 27 | 35 | 40 | 101 | 104 | 13.7% | 45.6% | 3.2% |
| Mo I Rana | 24 | 28 | 25 | 74 | 79 | -12.4% | 0.8% | 7.1% |

Table of Contents*Coal*

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|----------------------|------------|--------------|--------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| METALLURGICAL | | | | | | | | |
| COAL | 586 | 1,277 | 1,209 | 1,592 | 3,612 | -5.3% | 106.4% | 126.9% |
| Moatize | 0 | 728 | 624 | 0 | 1,853 | -14.3% | n.m. | n.m. |
| Carborough Downs | 277 | 82 | 131 | 876 | 537 | 60.2% | -52.7% | -38.6% |
| Integra Coal | 82 | 266 | 285 | 297 | 675 | 7.1% | 249.7% | 127.2% |
| Others | 227 | 201 | 169 | 419 | 547 | -15.9% | -25.6% | 30.4% |
| THERMAL COAL | | | | | | | | |
| THERMAL COAL | 321 | 619 | 524 | 507 | 1,518 | -15.5% | 63.3% | 199.4% |
| Moatize | 130 | 390 | 365 | 130 | 948 | -6.4% | 181.7% | 631.8% |
| Integra Coal | 107 | 121 | 78 | 203 | 280 | -36.0% | -27.5% | 37.8% |
| Others | 84 | 108 | 81 | 175 | 291 | -25.1% | -3.4% | 66.4% |

BASE METALS

Nickel

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|-----------------|-----------|-----------|-----------|------------|------------|-----------------------|-----------------------|-----------------------|
| Nickel | 58 | 61 | 49 | 173 | 173 | -19.8% | -15.7% | 0.0% |
| Sudbury | 16 | 17 | 10 | 40 | 50 | -42.0% | -35.7% | 24.2% |
| Thompson | 4 | 7 | 5 | 19 | 18 | -24.2% | 25.1% | -5.6% |
| Voisey s Bay | 16 | 15 | 14 | 48 | 43 | -2.8% | -11.4% | -9.0% |
| Sorowako | 16 | 17 | 17 | 53 | 46 | 0.9% | 5.9% | -12.6% |
| VNC | 1 | 2 | 0 | 4 | 4 | -84.0% | -77.4% | 19.8% |
| Onça Puma | 2 | 2 | 0 | 4 | 6 | -84.7% | -88.3% | 63.5% |
| Others(1) | 2 | 2 | 2 | 6 | 5 | 13.3% | -22.1% | -14.4% |

(1) External feed purchased from third parties and processed into finished nickel in our operations

Copper

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|-----------------|-----------|-----------|-----------|------------|------------|-----------------------|-----------------------|-----------------------|
| COPPER | 84 | 70 | 68 | 217 | 211 | -3.6% | -19.9% | -3.0% |
| Sossego | 31 | 28 | 29 | 76 | 82 | 3.9% | -5.3% | 7.9% |
| Sudbury | 26 | 22 | 14 | 74 | 60 | -34.9% | -45.8% | -18.6% |
| Thompson | 1 | 1 | 0 | 1 | 2 | -57.2% | -39.4% | 76.0% |

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| | | | | | | | | |
|--------------|----|---|----|----|----|-------|--------|--------|
| Voisey s Bay | 13 | 8 | 9 | 37 | 28 | 17.8% | -28.9% | -24.3% |
| Tres Valles | 2 | 3 | 3 | 6 | 10 | -7.0% | 35.2% | 86.6% |
| Others | 11 | 8 | 11 | 23 | 27 | 42.5% | 0.2% | 20.2% |

Table of Contents*Nickel and copper by-products*

| | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|--------------------------------|------------|------------|------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| COBALT (metric tons) | 667 | 693 | 409 | 1,888 | 1,693 | -41.0% | -38,8% | -10.3% |
| Sudbury | 248 | 166 | 112 | 346 | 485 | -32.5% | -54.7% | 40.1% |
| Thompson | 34 | 22 | 29 | 127 | 73 | 31.5% | -15.3% | -42.2% |
| Voisey s Bay | 300 | 316 | 252 | 1,137 | 878 | -20.3% | -16.0% | -22.8% |
| VNC | 58 | 177 | 0 | 194 | 217 | -100.0% | -100.0% | 11.7% |
| Others | 27 | 11 | 15 | 83 | 40 | 40.0% | -43.2% | -51.5% |
| PLATINUM (000 oz troy) | 25 | 39 | 35 | 133 | 113 | -9.2% | 39.8% | -15.4% |
| Sudbury | 25 | 39 | 35 | 133 | 113 | -9.2% | 39.8% | -15.4% |
| PALLADIUM (000 oz troy) | 40 | 66 | 71 | 184 | 196 | 7.7% | 79.5% | 6.7% |
| Sudbury | 40 | 66 | 71 | 184 | 196 | 7.7% | 79.5% | 6.7% |
| GOLD (000 oz troy) | 45 | 36 | 46 | 137 | 117 | 27.6% | -13.9% | -14.7% |
| Sudbury | 23 | 18 | 18 | 79 | 55 | 1.7% | -22.1% | -29.9% |
| Sossego | 22 | 18 | 21 | 58 | 55 | 14.5% | -5.1% | -6.2% |
| Others | 0 | 0 | 7 | 0 | 7 | n.m | n.m | n.m |
| SILVER (000 oz troy) | 572 | 567 | 461 | 1,853 | 1,622 | -18.7% | -19.5% | -12.4% |
| Sudbury | 572 | 567 | 461 | 1,853 | 1,622 | -18.7% | -19.5% | -12.4% |

FERTILIZER NUTRIENTS

Potash

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|-------------------|------------|------------|------------|------------|------------|-----------------------|-----------------------|-----------------------|
| POTASH | 166 | 129 | 141 | 445 | 387 | 9,5% | -15.4% | -13.0% |
| Taquari-Vassouras | 166 | 129 | 141 | 445 | 387 | 9,5% | -15.4% | -13.0% |

Phosphates

| | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|-----------------------|--------------|--------------|--------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| PHOSPHATE ROCK | 1,925 | 2,017 | 2,078 | 5,526 | 5,921 | 3.1% | 8.0% | 7.2% |
| Brazil | 1,274 | 1,237 | 1,235 | 3,694 | 3,584 | -0.2% | -3.0% | -3.0% |
| Bayóvar | 651 | 779 | 843 | 1,832 | 2,337 | 8.2% | 29.5% | 27.6% |
| MAP(1) | 217 | 286 | 297 | 557 | 894 | 3.9% | 36.9% | 60.4% |
| TSP(2) | 199 | 213 | 212 | 607 | 666 | -0.4% | 6.7% | 9.7% |

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| | | | | | | | | |
|---------------|-----|-----|-----|-------|-------|--------|--------|--------|
| SSP(3) | 777 | 507 | 648 | 1,989 | 1,639 | 27.8% | -16.6% | -17.6% |
| DCP(4) | 154 | 136 | 119 | 469 | 399 | -12.8% | -22.9% | -15.0% |

(1) Monoammonium phosphate

(2) Triple superphosphate

(3) Single superphosphate

(4) Dicalcium phosphate

Table of Contents*Nitrogen*

| 000 metric tons | 3Q11 | 2Q12 | 3Q12 | 9M11 | 9M12 | % change 3Q12/2Q12 | % change 3Q12/3Q11 | % change 9M12/9M11 |
|-------------------------|------------|------------|-----------|------------|------------|-----------------------|-----------------------|-----------------------|
| AMMONIA | 138 | 101 | 99 | 463 | 332 | -2.6% | -28.6% | -28.3% |
| UREA | 134 | 143 | 90 | 468 | 340 | -37.3% | -33.1% | -27.5% |
| NITRIC ACID | 117 | 120 | 123 | 345 | 361 | 2.6% | 4.8% | 4.5% |
| AMMONIUM NITRATE | 114 | 124 | 128 | 331 | 370 | 3.4% | 12.1% | 11.9% |

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Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Vale S.A.
(Registrant)

Date: October 17, 2012

By:

/s/ Roberto Castello Branco
Roberto Castello Branco
Director of Investor Relations
