

Vale S.A.  
Form 6-K  
July 24, 2014  
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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**

**July 2014**

**Vale S.A.**

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

(Address of principal executive office)

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*2Q14ProductionReport*

Production Highlights

Rio de Janeiro, July 24, 2014 Vale S.A. (Vale) reached 79.4 Mt of iron ore production, the best performance ever for a second quarter, with gains in all production Systems when compared to 1Q14. The good operational performance was supported by better weather conditions and the ramp-ups of the Plant 2 in Carajás and the new Conceição Itabiritos plant in the Southeastern System.

Production in the first half of 2014 totaled 150.5 Mt, being 15.1 Mt higher than in the first half of 2013, and thus increasing our confidence in achieving our production target of 312 Mt (and sales target of 321Mt) for the year.

In particular, Carajás production was 29.3 Mt, a new record for a second quarter, being 25.3% and 33.7% higher than in 1Q14 and in 2Q13, respectively.

Pellet production grew as a result of an increase in Samarco's attributable production which reached 3.0 Mt, 34.7% and 13.9% higher than in 1Q14 and in 2Q13, respectively. Samarco's recently inaugurated pellet plant IV produced 1.1 Mt in the quarter.

Production of nickel was 61,700 t in 2Q14, 8.6% lower than in the previous quarter, mainly reflecting the impact of planned maintenance work carried out on the acid plant and furnaces in Sudbury. During this year's scheduled maintenance at some surface facilities, the Sudbury mines which are the bottleneck in the Sudbury system did not stop producing, building up inventory of ore and concentrates to be smelted and refined in the second half of the year. As a result, a stronger refined nickel output is naturally expected for the 2H14, compensating the planned lower production from 2Q14.

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VNC is resuming its ramp-up following the leakage of acidic solution in May, which resulted in a discharge into the environment and a shutdown of the complex. Following internal and government investigations and remediation actions, we resumed operations in mid-late June and are operating with 2 HPALs since the week of July 21st.

Salobo I continued its ramp-up, producing 19,700 t of copper in concentrates in 2Q14, about 80% of its nominal capacity. Minor delays were experienced in the quarter as tie-ins of the Salobo II project interfered with ongoing operations.

Total coal output in 2Q14 reached 2.2 Mt, 23.8% higher than in 1Q14, mostly due to the stronger performance of Carborough Downs and Moatize.

Moatize produced 1.170 Mt in 2Q14, of which 0.714 Mt of metallurgical coal and 0.457 Mt of thermal coal. Metallurgical and thermal coal output increased by 19.9% and 10.4%, respectively, when compared to 1Q14.

In 2Q14, phosphate rock output reached 2.1 Mt, a record for a 2Q, increasing 9.9% when compared to 1Q14. Production grew in Brazil and Peru.

### Production Summary

| 000 metric tons | 2Q14   | 1Q14   | 2Q13   | % Change  |           | 1H14    | 1H13    | % Change  |
|-----------------|--------|--------|--------|-----------|-----------|---------|---------|-----------|
|                 |        |        |        | 2Q14/1Q14 | 2Q14/2Q13 |         |         | 1H14/1H13 |
| Iron ore (1)    | 79,448 | 71,064 | 70,576 | 11.8%     | 12.6%     | 150,511 | 135,426 | 11.1%     |
| Pellets(1)      | 9,951  | 9,928  | 9,714  | 0.2%      | 2.4%      | 19,879  | 18,855  | 4.4%      |
| Nickel          | 61.7   | 67.5   | 65.2   | -8.6%     | -5.3%     | 129.2   | 130.3   | -0.7%     |
| Copper(2)       | 81.0   | 88.4   | 91.3   | -8.4%     | -11.3%    | 169.4   | 180.9   | -6.3%     |
| Coal            | 2,209  | 1,785  | 2,376  | 23.8%     | -7.0%     | 3,994   | 4,128   | -3.2%     |
| Manganese       | 505    | 470    | 617    | 7.5%      | -18.1%    | 975     | 1,118   | -12.8%    |
| Potash          | 96     | 109    | 113    | -11.8%    | -15.0%    | 206     | 233     | -11.9%    |
| Phosphate rock  | 2,122  | 1,932  | 1,896  | 9.9%      | 11.9%     | 4,054   | 3,888   | 4.3%      |

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(1) Excluding Samarco's attributable production.

(2) Including Lubambe's attributable production.

*Iron ore*

| 000 metric tons            | 2Q14          | 1Q14          | 2Q13          | 1H14           | 1H13           | % Change<br>2Q14/1Q14 | % Change<br>2Q14/2Q13 | % Change<br>1H14/1H13 |
|----------------------------|---------------|---------------|---------------|----------------|----------------|-----------------------|-----------------------|-----------------------|
| <b>Northern System</b>     | <b>29,281</b> | <b>23,365</b> | <b>21,904</b> | <b>52,646</b>  | <b>43,508</b>  | <b>25.3%</b>          | <b>33.7%</b>          | <b>21.0%</b>          |
| Carajás                    | 29,281        | 23,365        | 21,904        | 52,646         | 43,508         | 25.3%                 | 33.7%                 | 21.0%                 |
| <b>Southeastern System</b> | <b>26,475</b> | <b>25,822</b> | <b>26,723</b> | <b>52,297</b>  | <b>51,505</b>  | <b>2.5%</b>           | <b>-0.9%</b>          | <b>1.5%</b>           |
| Itabira                    | 8,455         | 7,827         | 7,936         | 16,282         | 14,716         | 8.0%                  | 6.5%                  | 10.6%                 |
| Minas Centrais             | 8,415         | 8,434         | 9,934         | 16,849         | 19,080         | -0.2%                 | -15.3%                | -11.7%                |
| Mariana                    | 9,605         | 9,561         | 8,853         | 19,166         | 17,709         | 0.5%                  | 8.5%                  | 8.2%                  |
| <b>Southern System</b>     | <b>22,311</b> | <b>20,592</b> | <b>20,469</b> | <b>42,903</b>  | <b>37,508</b>  | <b>8.3%</b>           | <b>9.0%</b>           | <b>14.4%</b>          |
| Paraopebas                 | 7,685         | 6,916         | 6,419         | 14,601         | 11,943         | 11.1%                 | 19.7%                 | 22.3%                 |
| Vargem Grande              | 6,644         | 5,474         | 5,958         | 12,118         | 10,849         | 21.4%                 | 11.5%                 | 11.7%                 |
| Minas Itabirito            | 7,981         | 8,202         | 8,092         | 16,183         | 14,716         | -2.7%                 | -1.4%                 | 10.0%                 |
| <b>Midwestern System</b>   | <b>1,381</b>  | <b>1,285</b>  | <b>1,480</b>  | <b>2,666</b>   | <b>2,905</b>   | <b>7.5%</b>           | <b>-6.7%</b>          | <b>-8.2%</b>          |
| Corumbá                    | 912           | 774           | 994           | 1,686          | 1,982          | 17.8%                 | -8.3%                 | -15.0%                |
| Urucum                     | 469           | 511           | 486           | 980            | 923            | -8.1%                 | -3.4%                 | 6.2%                  |
| <b>TOTAL IRON ORE</b>      | <b>79,448</b> | <b>71,064</b> | <b>70,576</b> | <b>150,511</b> | <b>135,426</b> | <b>11.8%</b>          | <b>12.6%</b>          | <b>11.1%</b>          |
| Samarco(1)                 | 3,148         | 2,414         | 2,650         | 5,562          | 5,334          | 30.4%                 | 18.8%                 | 4.3%                  |

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

Production overview

In 2Q14, iron ore production ex-Samarco's attributable production of 79.4 Mt was the best performance ever for a second quarter. Output was 12.6% higher than in the same period of last year and 11.8% higher than in 1Q14. Production grew in all Systems, positively impacted by better weather conditions and the ramp-ups of Plant 2 and Conceição Itabiritos. Production of Run-of-mine (ROM) for sales totaled 3.8 Mt out of the total 79.4 Mt production in 2Q14.

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Production in the first half of 2014 ex-Samarco's attributable production totaled 150.5 Mt, being 15.1 Mt higher than in the first half of 2013.

Northern System

Production reached 29.3 Mt in 2Q14 mainly due to better weather conditions and the ramp-up of Plant 2. The above referred output was a new record for a second quarter and 25.3% higher than in 1Q14.

In 2Q14, the pluviometric index was only one third of what we experienced in 1Q14, increasing flexibility at the mine.

Southeastern System

The Southeastern System, which encompasses the Itabira, Minas Centrais and Mariana mining hubs, produced 26.5 Mt in 2Q14, 2.5% higher than in 1Q14, driven by good operational performance after the scheduled maintenance carried out in 1Q14 and by better weather conditions.

Production of the Itabira mining hub was 8.0% and 6.5% higher than in 1Q14 and 2Q13, respectively, due to the ramp-up of the new Conceição Itabiritos plant. Output of Conceição Itabiritos was 1.4 Mt, 0.8 Mt higher than in 1Q14.

Production of the Minas Centrais mining hub was 8.4 Mt in 2Q14, in line with 1Q14, but 15.3% lower than in 2Q13 due to the rundown of the Gongo Soco mine. We are working to extend Gongo Soco's mine life.

Output of the Mariana mining hub reached 9.6 Mt, the best performance for a second quarter since 2Q11, as a result of the exploitation of new mine sections at Fábrica Nova following the grant of a mining license at the end of May 2013. The better weather conditions also supported the good performance.

Southern System

The Southern System, composed of the Paraopeba, Vargem Grande and Minas Itabirito mining hubs, produced 22.3 Mt in 2Q14, the best quarter performance since 3Q08.



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Production at the Paraopeba mining hub was 11.1% and 19.7% higher than in 1Q14 and 2Q13, respectively. The good operational performance was due to higher equipment availability and greater recovery of tailing dam fines.

Production at the Vargem Grande mining hub was 1.2 Mt and 0.7 Mt higher than in 1Q14 and 2Q13, respectively, due to the good operational performance of the processing plant.

Production at the Minas Itabirito mining hub was 2.7% lower than in 1Q14 due to corrective maintenance carried out in Fábrica.

In 3Q14, the start-up of the 24 Kms long Pico-Fábrica road connecting the Southern and the Southeastern Systems will allow the use of the EFVM railway (and the Tubarão port) to optimize our logistic capacity and help draw down iron ore inventory currently stranded in the Southern System.

### Midwestern System

The Midwestern System, comprising the Urucum and Corumbá mining hubs, produced 1.4 Mt in 2Q14, 6.7% less than in the same period of last year due to a managerial decision to slow down production and reduce inventory. In 2014, production will be slightly lower than in 2013 without any impact on sales.

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Production was 7.5% higher than in 1Q14 due to the recovery from the scheduled maintenance carried out in Corumbá and Urucum, in 1Q14.

Samarco

Attributable production from Samarco's four pellet plants in 2Q14 was 3.1 Mt, 0.7 Mt higher than in 1Q14 due to the start-up of concentrator number 3.

Table of Contents*Pellets*

| 000 metric tons            | 2Q14         | 1Q14         | 2Q13         | 1H14          | 1H13          | % Change<br>2Q14/1Q14 | % Change<br>2Q14/2Q13 | % Change<br>1H14/1H13 |
|----------------------------|--------------|--------------|--------------|---------------|---------------|-----------------------|-----------------------|-----------------------|
| <b>Southeastern System</b> | <b>5,820</b> | <b>5,809</b> | <b>5,671</b> | <b>11,629</b> | <b>10,840</b> | <b>0.2%</b>           | <b>2.6%</b>           | <b>7.3%</b>           |
| Tubarão VIII               | 195          | 0.0          | 0.0          | 195           | 0.0           | n.m.                  | n.m.                  | n.m.                  |
| Nibrasco                   | 2,317        | 2,402        | 2,397        | 4,719         | 4,588         | -3.5%                 | -3.3%                 | 2.9%                  |
| Kobrasco                   | 1,131        | 1,170        | 1,116        | 2,301         | 2,249         | -3.3%                 | 1.3%                  | 2.3%                  |
| Hispanobras(1)             | 1,079        | 1,119        | 1,056        | 2,198         | 1,812         | -3.6%                 | 2.1%                  | 21.3%                 |
| Itabrasco                  | 1,099        | 1,118        | 1,101        | 2,217         | 2,191         | -1.7%                 | -0.2%                 | 1.2%                  |
| <b>Southern System</b>     | <b>2,076</b> | <b>2,278</b> | <b>2,283</b> | <b>4,353</b>  | <b>4,290</b>  | <b>-8.9%</b>          | <b>-9.1%</b>          | <b>1.5%</b>           |
| Fabrica                    | 748          | 802          | 968          | 1,550         | 1,921         | -6.7%                 | -22.7%                | -19.3%                |
| Vargem Grande              | 1,328        | 1,476        | 1,315        | 2,803         | 2,368         | -10.0%                | 1.0%                  | 18.4%                 |
| <b>Oman</b>                | <b>2,055</b> | <b>1,842</b> | <b>1,760</b> | <b>3,897</b>  | <b>3,725</b>  | <b>11.5%</b>          | <b>16.7%</b>          | <b>4.6%</b>           |
| <b>TOTAL PELLETS</b>       | <b>9,951</b> | <b>9,928</b> | <b>9,714</b> | <b>19,879</b> | <b>18,855</b> | <b>0.2%</b>           | <b>2.4%</b>           | <b>5.4%</b>           |
| Samarco(2)                 | <b>2,988</b> | <b>2,219</b> | <b>2,623</b> | <b>5,207</b>  | <b>5,153</b>  | <b>34.7%</b>          | <b>13.9%</b>          | <b>1.0%</b>           |

(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%.

## Production overview

Excluding Samarco's attributable production of 3.0 Mt, Vale's pellets production was about 10.0 Mt in 2Q14, in line with the previous quarter and 2.4% higher than the same period of last year due to the ramp-up of the Oman pellet plant.

The quarter was marked by the start-up of Tubarão VIII, which produced 0.2 Mt in the period.

#### Southeastern System

Production volumes at the Tubarão operating plants Nibrasco, Kobrasco, Hispanobras, Itabrasco and Tubarão VIII of 5.8 Mt in 2Q14 was in line with production in 1Q14 and 2.6% higher than in 2Q13 due to the start-up of the Tubarão VIII plant.

#### Southern System

The Fábrica pellet plant produced 0.7 Mt of pellets, 6.7% and 22.7% less than in 1Q14 and

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in 2Q13, respectively, due to a preventive maintenance stoppage carried out in 2Q14.

Vargem Grande pellet output was 1.3 Mt, 10.0% lower than in 1Q14 due to a scheduled maintenance stoppage.

Oman operations

The Oman operations produced 2.1 Mt of direct reduction pellets in 2Q14, 11.5% higher than in 1Q14, showing good operational performance after the scheduled maintenance carried out in 1Q14.

Samarco

Attributable production from Samarco's four pellet plants was 3.0 Mt, 34.7% and 13.9% higher than in 1Q14 and in 2Q13, respectively, due to the start-up of plant IV, which reached attributable production of 0.6 Mt in the current quarter.

Samarco's pellet plant IV has a nominal capacity of 8.3 Mtpy.

Table of Contents*Manganese ore and ferroalloys*

| 000 metric tons      | 2Q14       | 1Q14       | 2Q13       | 1H14       | 1H13         | % Change<br>2Q14/1Q14 | % Change<br>2Q14/2Q13 | % Change<br>1H14/1H13 |
|----------------------|------------|------------|------------|------------|--------------|-----------------------|-----------------------|-----------------------|
| <b>MANGANESE ORE</b> | <b>505</b> | <b>470</b> | <b>617</b> | <b>975</b> | <b>1,118</b> | <b>7.5%</b>           | <b>-18.1%</b>         | <b>-12.8%</b>         |
| Azul                 | 370        | 332        | 472        | 701        | 853          | 11.4%                 | -21.6%                | -17.7%                |
| Urucum               | 136        | 130        | 114        | 266        | 212          | 4.2%                  | 18.5%                 | 25.2%                 |
| Other mines          | 0.0        | 8          | 31         | 8          | 53           | n.m.                  | n.m.                  | -84.8%                |
| <b>FERROALLOYS</b>   | <b>44</b>  | <b>46</b>  | <b>41</b>  | <b>89</b>  | <b>73</b>    | <b>-5.1%</b>          | <b>6.8%</b>           | <b>22.4%</b>          |
| Brazil               | 44         | 46         | 41         | 89         | 73           | -5.1%                 | 6.8%                  | 22.4%                 |

## Production overview

In 2Q14, production of manganese ore reached 505,000 t against 470,000 t in 1Q14 and 617,000 t in 2Q13.

## Manganese ore production

Output from the Carajás Azul manganese mine increased by 11.4% when compared to 1Q14 and decreased by 21.6% against 2Q13, reaching 370,000 t in 2Q14. The higher production was due to the use of products recovered from the tailings dam. However, a 15 day maintenance in 2Q14 decreased production when compared to 2Q13.

In 2Q14, production from Urucum reached the historical record of 136,000 t, an increase of 4.2% against 1Q14 and 18.5% against 2Q13. This production increase was the result of operational improvements carried out in the beneficiation plant in 4Q13, which improved productivity and the physical availability of the plant in 2Q14. Production could have been even better, but the operation was affected by the heavy rainfall in May which flooded the underground mine and impacted production in June.

A mine expansion, which will allow significant production increases as of next year, is currently ongoing and in 2H14 we will build the infrastructure in the underground mine to access high quality ore bodies.

There was no production at Morro da Mina in 2Q14. In 4Q13 we started processing dumped ore due to the geological conditions in the north section of the mine. We expect to start production during 3Q14 by exploring the south section of the mine.

## Ferroalloys production

Production of ferroalloys was 5.1% lower than in 1Q14, due to a decision to shut down furnaces and sell excess energy to the Brazilian national grid.

Ferroalloy quarterly production was comprised of 26,000 t of ferrosilicon manganese alloys (FeSiMn), 11,300 t of high-carbon manganese alloys (FeMnHc) and 6,300 t of medium-carbon manganese alloys (FeMnMC).

Table of Contents*Nickel***Finished production by source**

| 000 metric tons           | 2Q14        | 1Q14        | 2Q13        | 1H14         | 1H13         | % Change<br>2Q14/1Q14 | % Change<br>2Q14/2Q13 | % Change<br>1H14/1H13 |
|---------------------------|-------------|-------------|-------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| <b>Canada</b>             | <b>30.8</b> | <b>41.6</b> | <b>40.2</b> | <b>72.3</b>  | <b>85.1</b>  | <b>-25.9%</b>         | <b>-23.5%</b>         | <b>-14.9%</b>         |
| Sudbury                   | 9.1         | 17.6        | 17.9        | 26.8         | 35.0         | -48.4%                | -49.2%                | -23.6%                |
| Thompson                  | 6.9         | 7.6         | 6.2         | 14.5         | 13.4         | -9.3%                 | 11.0%                 | 8.5%                  |
| Voisey's Bay              | 12.1        | 14.5        | 15.1        | 26.5         | 33.7         | -16.3%                | -19.7%                | -21.3%                |
| Ore from third parties(1) | 2.7         | 1.9         | 1.0         | 4.5          | 2.9          | 45.0%                 | n.m.                  | 54.8%                 |
| <b>Indonesia(2)</b>       | <b>21.2</b> | <b>16.4</b> | <b>18.3</b> | <b>37.6</b>  | <b>35.7</b>  | <b>29.0%</b>          | <b>16.0%</b>          | <b>5.5%</b>           |
| <b>New Caledonia(3)</b>   | <b>4.6</b>  | <b>4.1</b>  | <b>6.6</b>  | <b>8.7</b>   | <b>9.5</b>   | <b>12.1%</b>          | <b>-30.6%</b>         | <b>-8.8%</b>          |
| <b>Brazil (Onça Puma)</b> | <b>5.2</b>  | <b>5.4</b>  | <b>0.0</b>  | <b>10.6</b>  | <b>0.0</b>   | <b>-3.8%</b>          | <b>n.m.</b>           | <b>n.m.</b>           |
| <b>TOTAL NICKEL</b>       | <b>61.7</b> | <b>67.5</b> | <b>65.2</b> | <b>129.2</b> | <b>130.3</b> | <b>-8.5%</b>          | <b>-5.2%</b>          | <b>-0.7%</b>          |

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

(2) Total production of 21.2 Kt includes 2.0 Kt of nickel in matte that was in transit by the end of the previous quarter and was processed in other refineries in the current quarter.

(3) VNC quarterly output includes 1.3 Kt of work in progress (NiO) that was in transit to other refineries by the end of the previous quarter and was processed in the current quarter.

## Production overview



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Nickel production reached 61,700 t in 2Q14 8.5% and 5.2% lower than 1Q14 and 2Q13, respectively. An accident and a scheduled maintenance stoppage in Sudbury and Clydach, impacted our performance in the second quarter.

### Canadian Operations

In 2Q14, Sudbury production reached 9,100 t, 48.4% and 49.2% lower than in 1Q14 and 2Q13, respectively. On April 6, a fatality occurred in the smelting complex at our Sudbury operations. We shut down the operations in order to carry out a full investigation and review. During the period in which the smelter remained closed, both the Copper Cliff and Clydach nickel refineries were restricted by feed availability. After the investigation, the operations restarted for a brief time, then the entire facility (Sudbury mines, Clarabelle Mill, Copper Cliff Smelter and Copper Cliff nickel Refinery) went through a planned maintenance period of about 4

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weeks. As disclosed in the 1Q14 production report, the Sudbury operation carries out major maintenance, particularly on the acid plant and furnaces, approximately every 18 months. During this year's scheduled maintenance, the Sudbury mines - which are the bottleneck in the Sudbury system - did not stop producing, building up inventory of ore and concentrates to be smelted and refined in the second half of the year. As a result, a stronger refined nickel output is naturally expected for the 2H14 compensating the planned lower production from 2Q14.

Also in 2Q14, the Clydach Nickel Refinery carried out planned maintenance during the month of May. Additionally, the amount of feed received in April was limited given the accident in our Sudbury operations.

Thompson sourced production in 2Q14 was 6,900 t, 9.3% lower than in 1Q14 and 11.0% higher than 2Q13, as we processed a higher quantity of Voisey's Bay concentrate in the Thompson smelter and refinery. In August, we will carry our annual maintenance in Thompson, which will impact Thompson and Voisey's Bay production in the 3Q14, as Voisey's Bay feed will be mainly processed in Sudbury.

Production of nickel from Voisey's Bay source amounted to 12,100 t in 2Q14, a decrease of 16.3% and 19.7% in relation to 1Q14 and 2Q13, respectively, due to Sudbury's maintenance stoppage.

On July 14, Long Harbour achieved a major milestone with the production of the first finished nickel from the facility. Initially Long Harbour will process a combination of matte from PTVI and concentrate from Voisey's Bay, moving to processing solely concentrate from Voisey's Bay at a later stage.

Indonesian Operations

In 2Q14, production of nickel in matte from our Indonesian operations at Sorowako totaled 19,200 t.

Finished nickel production sourced from PTVI was 21,200 t, positively impacted by the processing of matte inventory in other refineries. Production was 15.7% and 28.7% higher than in 2Q13 and in 1Q14, respectively, as we drew down inventory and reduced working capital.

New Caledonia Operations

VNC production of NiO and NHC was 3,300 t in 2Q14, a reduction of 42.3% and 3.6% relative to 1Q14 and 2Q13, respectively.

In April, VNC was operating with 2 HPAL lines, and the third line was brought into operation at the end of the month. On May 7, a leakage of acidic solution occurred in an ancillary section of the operation, which resulted in a discharge of an acid solution into the environment and a

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shutdown of the complex. Following internal and government investigations and remediation actions, we started in mid-late June with one HPAL and are moving up to 2 HPALs in the week of July 21st. VNC is now resuming its ramp-up.

Production of finished products (NHC, NiO and Utility Nickel) from VNC totaled 4,600 t in 2Q14.

### Brazilian Operation (Onça Puma)

Production at Onça Puma was 5,200 t of nickel contained in ferronickel, maintaining approximately 85% of its nominal capacity. The operation was slowed by the need to conduct temporary maintenance. A planned shutdown of approximately 10 days will take place in 3Q14 to carry out repairs in the calciner ahead of the furnace.

Table of Contents*Copper***Finished production by source**

| 000 metric tons         | 2Q14        | 1Q14        | 2Q13        | 1H14         | 1H13         | % Change<br>2Q14/1Q14 | % Change<br>2Q14/2Q13 | % Change<br>1H14/1H13 |
|-------------------------|-------------|-------------|-------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| <b>Brazil</b>           | <b>46.2</b> | <b>47.3</b> | <b>44.2</b> | <b>93.5</b>  | <b>83.0</b>  | <b>-2.4%</b>          | <b>4.5%</b>           | <b>12.7%</b>          |
| Sossego                 | 26.5        | 26.3        | 28.9        | 52.8         | 56.6         | 0.9%                  | -8.3%                 | -6.8%                 |
| Salobo                  | 19.7        | 21.1        | 15.3        | 40.8         | 26.4         | -6.5%                 | 28.5%                 | 54.6%                 |
| <b>Canada</b>           | <b>32.0</b> | <b>38.6</b> | <b>40.8</b> | <b>70.6</b>  | <b>85.9</b>  | <b>-17.1%</b>         | <b>-21.5%</b>         | <b>-17.9%</b>         |
| Sudbury                 | 19.0        | 24.5        | 26.4        | 43.5         | 52.4         | -22.5%                | -28.0%                | -17.0%                |
| Thompson                | 0.4         | 0.3         | 0.7         | 0.7          | 1.1          | 22.5%                 | -43.2%                | -36.3%                |
| Voisey s Bay            | 7.2         | 6.9         | 7.6         | 14.1         | 18.6         | 4.3%                  | -5.8%                 | -24.4%                |
| Ore from third parties  | 5.4         | 6.8         | 6.0         | 12.2         | 13.8         | -21.1%                | -10.5%                | -11.0%                |
| <b>Zambia (Lubambe)</b> | <b>2.8</b>  | <b>2.5</b>  | <b>2.7</b>  | <b>5.3</b>   | <b>4.6</b>   | <b>10.8%</b>          | <b>2.9%</b>           | <b>16.5%</b>          |
| <b>Chile</b>            | <b>0.0</b>  | <b>0.0</b>  | <b>3.6</b>  | <b>0.0</b>   | <b>7.3</b>   | <b>n.m.</b>           | <b>n.m.</b>           | <b>n.m.</b>           |
| <b>TOTAL COPPER</b>     | <b>81.0</b> | <b>88.4</b> | <b>91.3</b> | <b>169.4</b> | <b>180.9</b> | <b>-8.4%</b>          | <b>-11.3%</b>         | <b>-6.3%</b>          |

## Production overview

In 2Q14, copper output was 81,000 t, 8.4% and 11.3% lower than in 1Q14 and 2Q13, respectively. The planned maintenance shutdown in Ontario was the main driver for the reduction.

Brazilian Operations

Production of copper in 2Q14 at the Sossego mine totaled 26,500 t in the form of copper in concentrates, in line with 1Q14 and 8.3% lower than in 2Q13. Grades returned to historic averages, but the mill operation was restricted in June due to repairs carried out in the primary crusher and the SAG mill.

Salobo I produced 19,700t of copper in concentrates in 2Q14, 6.5% lower than in 1Q14 and 28.5% higher than in 2Q13. Salobo I operated at approximately 80% of its nominal capacity. Minor delays were experienced in

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the quarter as the components of the Salobo II project were integrated into the operation.

Canadian Operations

Sudbury production reached 19,000 t, 22.5% and 28.0% lower than in 1Q14 and 2Q13, respectively. The drop in production was a result of the planned maintenance shutdown in 2Q14. The Sudbury operation executes major maintenance approximately every 18 months.

Voisey's Bay produced 7,200t of copper in copper concentrate, 4.3% higher than in 1Q14 and 5.8% lower than in 2Q13.

African Operation (Lubambe)

Lubambe, our Zambian JV, is ramping up and delivering 6,900 t of copper in concentrates on a 100% basis (attributable production of 2,800 t). Lubambe has a nominal capacity of 45,000 t per year.

Chile Operation – discontinued operation

As previously announced, Vale completed the sale of Tres Valles in Chile on December 9th, 2013.

Table of Contents*Nickel and copper by-products***Finished production by source**

|                                | 2Q14         | 1Q14         | 2Q13         | 1H14         | 1H13         | % Change<br>2Q14/1Q14 | % Change<br>2Q14/2Q13 | % Change<br>1H14/1H13 |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| <b>GOLD (000 oz troy)</b>      | <b>70.0</b>  | <b>73.7</b>  | <b>63.2</b>  | <b>143.7</b> | <b>121.1</b> | <b>-5.0%</b>          | <b>10.8%</b>          | <b>18.7%</b>          |
| Sudbury                        | 18.1         | 20.1         | 21.0         | 38.2         | 42.9         | -10.1%                | -14.0%                | -11.0%                |
| Sossego                        | 17.9         | 18.0         | 16.8         | 35.9         | 34.1         | -0.2%                 | 6.9%                  | 5.2%                  |
| Salobo                         | 33.9         | 35.6         | 25.4         | 69.6         | 44.1         | -4.7%                 | 33.8%                 | 57.8%                 |
| <b>COBALT (metric tons)</b>    | <b>735.7</b> | <b>856.7</b> | <b>877.1</b> | <b>1,592</b> | <b>1,870</b> | <b>-14.1%</b>         | <b>-16.1%</b>         | <b>-14.8%</b>         |
| Sudbury                        | 113          | 173          | 287          | 286          | 463          | -34.6%                | -60.6%                | -38.1%                |
| Thompson                       | 84           | 103          | 74           | 187          | 87           | -19.0%                | 13.7%                 | 114.1%                |
| Voisey's Bay                   | 354          | 282          | 307          | 636          | 739          | 25.4%                 | 15.4%                 | -13.9%                |
| VNC                            | 174          | 287          | 196          | 461          | 568          | -39.5%                | -11.4%                | -18.9%                |
| Others                         | 11           | 11           | 14           | 22           | 14           | 3.2%                  | -17.7%                | 62.1%                 |
| <b>PLATINUM (000 oz troy)</b>  | <b>27.0</b>  | <b>49.2</b>  | <b>32.8</b>  | <b>76.2</b>  | <b>66.9</b>  | <b>-45.1%</b>         | <b>-17.6%</b>         | <b>13.8%</b>          |
| Sudbury                        | 27.0         | 49.2         | 32.8         | 76.2         | 66.9         | -45.1%                | -17.6%                | 13.8%                 |
| <b>PALLADIUM (000 oz troy)</b> | <b>66.5</b>  | <b>109.2</b> | <b>80.5</b>  | <b>175.7</b> | <b>169.2</b> | <b>-39.1%</b>         | <b>-17.4%</b>         | <b>3.8%</b>           |
| Sudbury                        | 66.5         | 109.2        | 80.5         | 175.7        | 169.2        | -39.1%                | -17.4%                | 3.8%                  |
| <b>SILVER (000 oz troy)</b>    | <b>269</b>   | <b>433</b>   | <b>547</b>   | <b>702</b>   | <b>972</b>   | <b>-37.8%</b>         | <b>-50.9%</b>         | <b>-27.8%</b>         |
| Sudbury                        | 269          | 433          | 547          | 702          | 972          | -37.8%                | -50.9%                | -27.8%                |

Gold

Gold production amounted to 70,000 oz in 2Q14, 5.0% lower than in 1Q14, mainly due to the decrease in Sudbury's gold output, as a result of the maintenance period.

Cobalt

Output of cobalt reached 736 t in 2Q14, 14.1% lower than in 1Q14, mainly reflecting the planned maintenance shutdown in Sudbury, Port Colborne and the interruption of VNC production.



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## Platinum and palladium

Platinum output was 27,000 oz and palladium was 66,500 oz, 45.1% and 39.1% lower than in 1Q14, respectively, reflecting low grades ore bodies accessed in 1Q14 and processed in 2Q14.

*Coal*

| 000 metric tons      | 2Q14         | 1Q14         | 2Q13         | 1H14         | 1H13         | % Change<br>2Q14/1Q14 | % Change<br>2Q14/2Q13 | % Change<br>1H14/1H13 |
|----------------------|--------------|--------------|--------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| <b>METALLURGICAL</b> |              |              |              |              |              |                       |                       |                       |
| <b>COAL</b>          | <b>1,671</b> | <b>1,223</b> | <b>1,839</b> | <b>2,894</b> | <b>3,212</b> | <b>36.6%</b>          | <b>-9.2%</b>          | <b>-9.9%</b>          |
| Moatize              | 714          | 595          | 849          | 1,309        | 1,265        | 19.9%                 | -15.9%                | 3.4%                  |
| Carborough Downs     | 591          | 73           | 670          | 664          | 1,224        | 705.1%                | -11.7%                | -45.7%                |
| Integra Coal         | 235          | 379          | 198          | 614          | 416          | -38.0%                | 18.9%                 | 47.7%                 |
| Isaac Plains         | 131          | 176          | 123          | 307          | 307          | -25.6%                | 6.4%                  | 0.0%                  |
| <b>THERMAL COAL</b>  | <b>539</b>   | <b>561</b>   | <b>537</b>   | <b>1,100</b> | <b>916</b>   | <b>-4.0%</b>          | <b>0.3%</b>           | <b>20.1%</b>          |
| Moatize              | 457          | 414          | 448          | 871          | 704          | 10.4%                 | 2.0%                  | 23.7%                 |
| Integra Coal         | 16           | 48           | 5            | 64           | 29           | -66.6%                | 200.0%                | 117.6%                |
| Isaac Plains         | 66           | 100          | 84           | 166          | 183          | -33.8%                | -21.2%                | -9.3%                 |
| <b>TOTAL COAL</b>    | <b>2,209</b> | <b>1,785</b> | <b>2,376</b> | <b>3,994</b> | <b>4,128</b> | <b>23.8%</b>          | <b>-7.0%</b>          | <b>-3.2%</b>          |

## Production overview

## Edgar Filing: Vale S.A. - Form 6-K

Total coal output in 2Q14 reached 2.2 Mt, 23.8% higher than in 1Q14, mostly due to the stronger performance of Carborough Downs (CD) and Moatize.

### Australian operations

CD output was 591,000 t in 2Q14, a good performance after the longwall move in 1Q14, but 11.7% lower than 2Q13, due to the geotechnical faulted zone reached in May, which required consolidation and recovery of the support equipment. Production was normalized in June.

In 2Q14, Integra Coal was placed in care and maintenance, which resulted in suspension of longwall activity.

Production from Isaac Plains was 197,000 t in 2Q14, a decrease of 28.6% from the 276,000 t

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registered in 1Q14, due to a higher ratio of overburden removal.

Moatize operations

In 2Q14, Moatize produced 1.170 Mt of which 0.714 Mt of met coal and 0.457 Mt of thermal coal. Met and thermal coal output increased by 19.9% and 10.4%, respectively, when compared to 1Q14. The coal mix will improve with the prioritization of the opening of new mine faces in 2H14.

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

The start-up of the Nacala corridor logistics operation, expected by the end of 2H14, will gradually eliminate the above-mentioned logistics bottleneck.

Table of Contents*Potash*

| 000 metric tons   | 2Q14      | 1Q14       | 2Q13       | 1H14       | 1H13       | % Change<br>2Q14/1Q14 | % Change<br>2Q14/2Q13 | % Change<br>1H14/1H13 |
|-------------------|-----------|------------|------------|------------|------------|-----------------------|-----------------------|-----------------------|
| <b>POTASH</b>     | <b>96</b> | <b>109</b> | <b>113</b> | <b>206</b> | <b>233</b> | <b>-11.8%</b>         | <b>-15.0%</b>         | <b>-11.9%</b>         |
| Taquari-Vassouras | 96        | 109        | 113        | 206        | 233        | -11.8%                | -15.0%                | -11.9%                |

*Phosphates*

| 000 metric tons       | 2Q14         | 1Q14         | 2Q13         | 1H14         | 1H13         | % Change<br>2Q14/1Q14 | % Change<br>2Q14/2Q13 | % Change<br>1H14/1H13 |
|-----------------------|--------------|--------------|--------------|--------------|--------------|-----------------------|-----------------------|-----------------------|
| <b>PHOSPHATE ROCK</b> | <b>2,122</b> | <b>1,932</b> | <b>1,896</b> | <b>4,054</b> | <b>3,888</b> | <b>9.9%</b>           | <b>11.9%</b>          | <b>4.3%</b>           |
| Brazil                | 1,204        | 1,026        | 1,131        | 2,230        | 2,267        | 17.4%                 | 6.5%                  | -1.6%                 |
| Bayóvar               | 918          | 906          | 766          | 1,824        | 1,621        | 1.4%                  | 19.9%                 | 12.5%                 |
| <b>MAP(1)</b>         | <b>263</b>   | <b>276</b>   | <b>306</b>   | <b>539</b>   | <b>594</b>   | <b>-4.9%</b>          | <b>-14.1%</b>         | <b>-9.2%</b>          |
| <b>TSP(2)</b>         | <b>223</b>   | <b>207</b>   | <b>216</b>   | <b>430</b>   | <b>466</b>   | <b>8.1%</b>           | <b>3.6%</b>           | <b>-7.7%</b>          |
| <b>SSP(3)</b>         | <b>506</b>   | <b>357</b>   | <b>494</b>   | <b>863</b>   | <b>1,048</b> | <b>41.5%</b>          | <b>2.4%</b>           | <b>-17.7%</b>         |
| <b>DCP(4)</b>         | <b>128</b>   | <b>118</b>   | <b>111</b>   | <b>246</b>   | <b>231</b>   | <b>8.4%</b>           | <b>15.9%</b>          | <b>6.5%</b>           |

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(1) Monoammonium phosphate

(2) Triple superphosphate

(3) Single superphosphate

(4) Dicalcium phosphate

Potash

In 2Q14, potash production totaled 96,000 t, 11.8% and 15.0% lower than in 1Q14 and in 2Q13, respectively. In 2Q14, we were faced with declining grade as the mine gradually moves towards exhaustion and also suffered from limited availability of the concentration plant due to corrective maintenance stoppages.

Phosphate Rock

Total production of phosphate rock reached 2.1 Mt, a record output for a second quarter, and representing a production increase of 9.9% and 11.9% when compared to 1Q14 and

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2Q13, respectively. Production grew in Brazil and Peru.

In 2Q14, Bayóvar output was in line with the previous quarter and increased by 19.9% when compared to 2Q13.

MAP

In 2Q14, the production of MAP (monoammonium phosphate) totaled 263,000 t, 4.8% lower on a quarter on quarter basis as a result of lower production in Uberaba due to limited availability of phosphoric acid. In 2Q14, the Uberaba industrial complex underwent scheduled maintenance, which impacted phosphoric acid output.

The Uberaba industrial complex, located in Minas Gerais, produces sulphuric acid, phosphoric acid, TSP, SSP, DCP and MAP.

TSP

The output of TSP (Triple superphosphate) increased against the output in 1Q14 and in 2Q13, by 7.8% and 3.4%, respectively, reaching 223,000 t, a record performance for a second quarter.

SSP

Production of SSP (single superphosphate) was 41.6% higher than in 1Q14, reaching 506,000 t, after the maintenance stoppage in Catalão and Araxá in 1Q14. The comparison with 2Q13 was also positive, with an increase of 2.5%.

DCP

DCP (dicalcium phosphate) production was 128,000 t, 8.3% higher than in 1Q14, reflecting a stronger demand for the product.

Table of Contents*Nitrogen*

| 000 metric tons         | 2Q14 | 1Q14 | 2Q13 | 1H14 | 1H13 | % Change<br>2Q14/1Q14 | % Change<br>2Q14/2Q13 | % Change<br>1H14/1H13 |
|-------------------------|------|------|------|------|------|-----------------------|-----------------------|-----------------------|
| <b>AMMONIA</b>          | 47   | 49   | 111  | 96   | 252  | -4.1%                 | -58.0%                | -62.3%                |
| <b>UREA</b>             | 0.0  | 0.0  | 91   | 0.0  | 219  | n.m.                  | -100.0%               | -100.0%               |
| <b>NITRIC ACID</b>      | 115  | 113  | 75   | 228  | 190  | 2.3%                  | 52.7%                 | 19.9%                 |
| <b>AMMONIUM NITRATE</b> | 117  | 114  | 64   | 231  | 184  | 2.6%                  | 81.8%                 | 25.0%                 |

## Ammonia and Urea Production

In 2Q14, ammonia production was 47,000 t, in line with the previous quarter. The decrease in production when compared to 2Q13 is explained by the sale of the Araucária operation on June 1st, 2013. Araucária produced nitrogen and had an annual production capacity of approximately 1.1 million tons of ammonia and urea.

As mentioned previously, with the sale of Araucária, we no longer produce urea, while ammonia is being produced exclusively in Cubatão.

## Nitric Acid and Ammonium Production

Production of nitric acid and ammonium nitrate was in line with 1Q14, an output of 115,000 t and 117,000 t, respectively. On a year-on-year basis, nitric acid and ammonium nitrate had a significant increase, given that in 2Q13 Piaçaguera output was impacted by the delay of an annual scheduled maintenance and weather conditions.

The Piaçaguera industrial complex is located in São Paulo and is part of the Cubatão complex. It produces ammonia, nitric acid, sulphuric acid, phosphoric acid, DAP/MAP and ammonium nitrate.

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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: July 24, 2014

By: /s/ Rogerio T. Nogueira  
Rogerio T. Nogueira  
Director of Investor Relations