



# March 2011 Quarterly Production Report

## Origin Energy Limited: Exploration and Production business report for the Quarter ended 31 March 2011

| Comparative performance at a glance - Origin's total proportional interests |                       |                       |          |
|---|-----------------------|-----------------------|----------|
| Year to Date Comparison   | July-Mar<br>2010/2011 | July-Mar<br>2009/2010 | Change % |
| Production (PJe)  | 97.2                  | 73.4                  | 32       |
| Revenue (A\$m)  | 627.5                 | 428.5                 | 46       |
| Corresponding<br>Quarter Comparison   | Mar Quarter<br>2011   | Mar Quarter<br>2010   | Change % |
| Production (PJe)  | 28.9                  | 23.9                  | 21       |
| Revenue (A\$m)  | 203.2                 | 142.4                 | 43       |
| Previous Quarter<br>Comparison  | Mar Quarter<br>2011   | Dec Quarter<br>2010   | Change % |
| Production (PJe)  | 28.9                  | 31.4                  | (8)      |
| Revenue (A\$m)  | 203.2                 | 194.6                 | 4        |

Note: Information presented in the table above and throughout this report relates only to hydrocarbon exploration and production activities undertaken by Origin Energy Limited (Origin), its subsidiaries and the incorporated joint ventures in which it has interests. The report does not cover other business activities of Origin such as electricity generation or energy retailing.

### Highlights

- Year to Date production of 97.2 PJe, up 32%
- Year to Date commodity revenues of \$627.5 million, up 46%
- Australia Pacific LNG received Federal environmental approvals
- Australia Pacific LNG entered into a Heads of Agreement with Sinopec

### Production and Sales

Significant contributors to the Year to Date production increase of 32% over the comparable period in 2009/2010 include a 42% increase in Australia Pacific LNG's CSG production, the increased share of the Otway Gas Project production following the acquisition of part of Woodside's interest in March 2010, a full contribution from Kupe which commenced production in December 2009, and higher production from BassGas reflecting the extended shutdown in the prior comparable period. Sales volumes and revenues increased by 42% and 46% respectively compared with the prior corresponding period in 2009/2010, reflecting the increase in production, higher third party purchases and higher commodity prices.

Production for the Quarter of 28.9 PJe was 21% higher than the comparable Quarter in 2010 due to higher production of CSG and increased contribution from BassGas. Compared with the December Quarter 2010, production was 8% lower as a result of a planned shutdown at the Otway Gas Project, adverse weather conditions in Queensland and seasonal factors. This was partially offset by Kupe returning to previous production levels after a planned shutdown in the December Quarter 2010.

## Significant events and influences during the Quarter included:

- **Australia Pacific LNG:**
  - Australia Pacific LNG announced it had signed a non-binding Heads of Agreement with China Petrochemical Corporation (Sinopec) to supply Sinopec with up to 4.3 mtpa of LNG for 20 years and for Sinopec to subscribe for a 15% ownership interest in Australia Pacific LNG.
  - To progress FID in the near term, Origin and ConocoPhillips have agreed a potential deferral of the FID contingency payments from ConocoPhillips for the first two LNG trains.
  - The Environmental Impact Statement (EIS) for Australia Pacific LNG's proposed CSG to LNG project received Federal approval.
  - Australia Pacific LNG's production operations were impacted by the severe weather conditions experienced in December 2010/January 2011. 19 wells were shut-in, reducing capacity to around 276 TJ/d. This has gradually been restored to approximately 289 TJ/d. All customer nominations for gas supply were met during the Quarter.
  - Australia Pacific LNG's drilling program has continued to be disrupted due to adverse weather during the Quarter with only 22 wells drilled.
- **Cooper Basin:** Wet weather and localised flooding continues to hamper development and exploration activities in the Cooper/Eromanga.
- **Kupe (offshore Taranaki):** Production returned to previous levels following the planned shutdown in the December Quarter 2010.
- **Otway Gas Project:** A planned maintenance shutdown in February 2011 reduced production by 29% to 5.6 PJe compared with the previous Quarter.
- **BassGas:** Increased production due to the recommencement of the Yolla 3 well in January was offset by the impact of an unplanned shutdown in February following the failure of a high pressure instrument fitting.
- **Kenya:** Origin entered into an agreement with Apache Corporation ('Apache') whereby, subject to certain approvals and joint venture rights, Apache will acquire a 50% interest in Block L8, offshore Lamu Basin, by refunding US\$13.2 million of Origin's historical costs and contributing to the cost of an exploration well. Apache will become the Operator.
- **Drilling Activities:**
  - **Australia Pacific LNG:** Australia Pacific LNG participated in 22 wells, including 9 development wells and 13 exploration/appraisal wells.
  - **Cooper Basin:** Floods continued to restrict activity with only three gas development, one oil development and two oil appraisal wells drilled (all cased and suspended for future production).
  - **New Zealand:** A three well development drilling program in the onshore Taranaki Basin commenced with the Manutahi D2H well cased as a potential oil producer.
  - **Thailand:** Drilling of the Dao Ruang structure in Block 15/50 in Thailand commenced in January 2011. Gas shows were encountered over the lower part of the Dao Ruang 2 well and the Joint Venture parties decided to drill the well deeper than originally planned.

## Post Report Date Events:

- **Australia Pacific LNG:**
  - Australia Pacific LNG and China Petrochemical Corporation (Sinopec) signed a binding Sale and Purchase Agreement for the supply of 4.3 mtpa of LNG for 20 years as well as a Subscription Agreement for Sinopec to subscribe for a 15% interest in Australia Pacific LNG. Following completion of the transaction, expected at FID, Origin's and ConocoPhillips' interests in the project will reduce to 42.5%.
  - Despite further rain events in April, production levels have been retained. Water storage levels continue to be monitored. The exploration program continues to be restricted with operations limited to one rig.
- **Thailand:** Drilling operations at the Dao Ruang 2 location were completed, with the well failing to flow at a sustained commercial rate. The well has been temporarily suspended for potential re-entry at a later date. Drilling operations have commenced on the Dao Ruang 3 appraisal well.

## 1. PRODUCTION, SALES AND REVENUE

Note: Current Quarter production figures for some non-operated areas may include preliminary production data for the last month of the Quarter. Where actual production volumes only became available after the report date for that Quarter, previous Quarter figures have been amended to reflect this.

### 1.1 Production by Product and Area (including 50% interest in APLNG)

| Natural Gas and Ethane         | Unit         | This Quarter | Previous Quarter | % Change    | Mar Quarter 2010 | YTD 2010/11  | YTD 2009/10  |
|--------------------------------|--------------|--------------|------------------|-------------|------------------|--------------|--------------|
| <b>Natural Gas</b>             | <b>PJ</b>    |              |                  |             |                  |              |              |
| APLNG (CSG and Denison Trough) |              | 11.2         | 11.9             | (6)         | 8.3              | 35.7         | 25.2         |
| SA Cooper & SWQ                |              | 3.1          | 3.5              | (11)        | 3.4              | 10.3         | 11.6         |
| Otway Basin (offshore)         |              | 5.0          | 7.0              | (28)        | 4.8              | 20.9         | 13.6         |
| Bass Basin                     |              | 1.8          | 1.8              | -           | -                | 5.6          | 3.5          |
| Surat Basin                    |              | 0.6          | 0.5              | 19          | 0.4              | 1.5          | 3.1          |
| Perth Basin                    |              | 0.6          | 0.4              | 50          | 0.5              | 1.3          | 1.8          |
| Taranaki Basin (onshore)       |              | 0.1          | 0.1              | (2)         | 0.2              | 0.4          | 0.8          |
| Taranaki Basin (Kupe)          |              | 2.2          | 1.6              | 33          | 2.2              | 6.7          | 2.6          |
| <b>Ethane</b>                  | <b>PJ</b>    |              |                  |             |                  |              |              |
| SA Cooper & SWQ                |              | 0.2          | 0.2              | 1           | 0.2              | 0.7          | 0.7          |
| <b>Total Production</b>        |              | <b>24.8</b>  | <b>27.0</b>      | <b>(8)</b>  | <b>20.0</b>      | <b>83.1</b>  | <b>62.9</b>  |
| <b>Total Sales Volume</b>      |              | <b>28.1</b>  | <b>32.3</b>      | <b>(13)</b> | <b>21.9</b>      | <b>97.6</b>  | <b>67.8</b>  |
| <b>Total Sales Revenue</b>     | <b>\$M</b>   | <b>109.6</b> | <b>114.4</b>     | <b>(4)</b>  | <b>77.0</b>      | <b>363.4</b> | <b>241.3</b> |
| <b>Average Gas Price</b>       | <b>\$/GJ</b> | <b>3.90</b>  | <b>3.54</b>      | <b>10</b>   | <b>3.51</b>      | <b>3.72</b>  | <b>3.56</b>  |

| Crude Oil                  | Unit          | This Quarter | Previous Quarter | % Change    | Mar Quarter 2010 | YTD 2010/11  | YTD 2009/10  |
|----------------------------|---------------|--------------|------------------|-------------|------------------|--------------|--------------|
| <b>Crude Oil</b>           | <b>kbbbls</b> |              |                  |             |                  |              |              |
| SA Cooper & SWQ            |               | 72.1         | 70.3             | 3           | 62.5             | 203.9        | 256.5        |
| Surat Basin                |               | 6.6          | 7.9              | (17)        | 8.1              | 23.3         | 26.9         |
| Perth Basin                |               | 29.3         | 29.9             | (2)         | 45.3             | 88.1         | 151.2        |
| Taranaki Basin (onshore)   |               | 19.5         | 28.0             | (30)        | 30.9             | 80.5         | 94.7         |
| <b>Total Production</b>    |               | <b>127.5</b> | <b>136.1</b>     | <b>(6)</b>  | <b>146.8</b>     | <b>395.8</b> | <b>529.3</b> |
| <b>Total Sales Volume</b>  |               | <b>267.2</b> | <b>354.7</b>     | <b>(25)</b> | <b>230.2</b>     | <b>888.2</b> | <b>924.7</b> |
| <b>Total Sales Revenue</b> | <b>\$M</b>    | <b>25.3</b>  | <b>33.0</b>      | <b>(23)</b> | <b>19.4</b>      | <b>81.4</b>  | <b>82.3</b>  |
| <b>Average Crude Price</b> | <b>\$/bbl</b> | <b>94.66</b> | <b>92.96</b>     | <b>2</b>    | <b>84.27</b>     | <b>91.69</b> | <b>89.06</b> |

| Condensate/Naphtha              | Unit          | This Quarter  | Previous Quarter | % Change   | Mar Quarter 2010 | YTD 2010/11   | YTD 2009/10  |
|---------------------------------|---------------|---------------|------------------|------------|------------------|---------------|--------------|
| Condensate/Naphtha              | kbbls         |               |                  |            |                  |               |              |
| APLNG (Denison Trough)          |               | 0.2           | 0.2              | -          | 0.3              | 0.8           | 0.8          |
| SA Cooper & SWQ                 |               | 50.6          | 53.2             | (5)        | 51.2             | 163.2         | 172.2        |
| Otway Basin (offshore)          |               | 54.7          | 79.4             | (31)       | 59.8             | 237.5         | 146.1        |
| Bass Basin                      |               | 57.9          | 64.1             | (10)       | -                | 194.8         | 141.6        |
| Surat Basin                     |               | 6.3           | 4.5              | 40         | 5.8              | 17.4          | 22.4         |
| Perth Basin                     |               | 0.6           | 0.4              | 50         | 0.7              | 1.3           | 2.3          |
| Taranaki Basin (onshore)        |               | -             | -                | -          | -                | -             | -            |
| Taranaki Basin (Kupe)           |               | 224.0         | 175.7            | 28         | 248.1            | 694.2         | 294.9        |
| <b>Total Production</b>         |               | <b>394.3</b>  | <b>377.5</b>     | <b>4</b>   | <b>365.9</b>     | <b>1309.2</b> | <b>780.3</b> |
| <b>Total Sales Volume</b>       |               | <b>464.3</b>  | <b>290.8</b>     | <b>60</b>  | <b>344.9</b>     | <b>1262.4</b> | <b>772.2</b> |
| <b>Total Sales Revenue</b>      | <b>\$M</b>    | <b>46.9</b>   | <b>21.2</b>      | <b>122</b> | <b>28.0</b>      | <b>108.1</b>  | <b>57.3</b>  |
| <b>Average Condensate Price</b> | <b>\$/bbl</b> | <b>101.05</b> | <b>72.83</b>     | <b>39</b>  | <b>81.18</b>     | <b>85.65</b>  | <b>74.16</b> |

| LPG                        | Unit        | This Quarter | Previous Quarter | % Change    | Mar Quarter 2010 | YTD 2010/11 | YTD 2009/10 |
|----------------------------|-------------|--------------|------------------|-------------|------------------|-------------|-------------|
| LPG                        | Kt          |              |                  |             |                  |             |             |
| SA Cooper & SWQ            |             | 6.1          | 7.1              | (14)        | 7.1              | 21.0        | 24.1        |
| Otway Basin (offshore)     |             | 6.0          | 10.3             | (42)        | 6.2              | 28.2        | 17.0        |
| Bass Basin                 |             | 3.7          | 4.6              | (20)        | -                | 13.9        | 10.4        |
| Surat Basin                |             | 1.3          | 1.0              | 24          | 1.2              | 3.6         | 4.5         |
| Taranaki Basin (onshore)   |             | 0.2          | 0.1              | 40          | 0.3              | 0.6         | 1.3         |
| Taranaki Basin (Kupe)      |             | 9.4          | 7.4              | 27          | 6.1              | 28.8        | 6.6         |
| <b>Total Production</b>    |             | <b>26.7</b>  | <b>30.5</b>      | <b>(12)</b> | <b>20.9</b>      | <b>96.1</b> | <b>63.9</b> |
| <b>Total Sales Volume</b>  |             | <b>25.7</b>  | <b>33.7</b>      | <b>(24)</b> | <b>22.0</b>      | <b>99.2</b> | <b>63.8</b> |
| <b>Total Sales Revenue</b> | <b>\$M</b>  | <b>21.4</b>  | <b>26.0</b>      | <b>(18)</b> | <b>18.0</b>      | <b>74.6</b> | <b>47.7</b> |
| <b>Average LPG Price</b>   | <b>\$/t</b> | <b>832</b>   | <b>771</b>       | <b>8</b>    | <b>820</b>       | <b>751</b>  | <b>747</b>  |

## 1.2 Production by Basin (including 50% of APLNG production)

| Production by Basin (All products, PJe) | Unit | This Quarter | Previous Quarter | % Change   | Mar Quarter 2010 | YTD 2010/11 | YTD 2009/10 |
|---|------|--------------|------------------|------------|------------------|-------------|-------------|
| Production by Basin                     | PJe  |              |                  |            |                  |             |             |
| APLNG (CSG and Denison Trough)          |      | 11.2         | 11.9             | (6)        | 8.3              | 35.7        | 25.2        |
| SA Cooper & SWQ                         |      | 4.3          | 4.7              | (9)        | 4.6              | 14.1        | 15.9        |
| Otway Basin (offshore)                  |      | 5.6          | 7.9              | (29)       | 5.4              | 23.6        | 15.2        |
| Bass Basin                              |      | 2.3          | 2.4              | (4)        | -                | 7.3         | 4.8         |
| Surat Basin                             |      | 0.7          | 0.6              | 17         | 0.6              | 1.9         | 3.6         |
| Perth Basin                             |      | 0.7          | 0.6              | 16         | 0.7              | 1.8         | 2.7         |
| Taranaki Basin (onshore)                |      | 0.2          | 0.3              | (17)       | 0.4              | 0.9         | 1.4         |
| Taranaki Basin (Kupe)                   |      | 3.9          | 3.0              | 30         | 3.9              | 11.9        | 4.6         |
| <b>Total</b>                            |      | <b>28.9</b>  | <b>31.4</b>      | <b>(8)</b> | <b>23.9</b>      | <b>97.2</b> | <b>73.4</b> |

### 1.3 Production, Sales Volumes and Revenue Summaries

#### 1.3.1 Origin including 50% interest in APLNG

| Total All Products        | Unit | This Quarter | Previous Quarter | % Change | Mar Quarter 2010 | YTD 2010/11 | YTD 2009/10 |
|---------------------------|------|--------------|------------------|----------|------------------|-------------|-------------|
| Production (all products) | PJe  | 28.9         | 31.4             | (8)      | 23.9             | 97.2        | 73.4        |
| Sales (all products)      | PJe  | 33.4         | 37.6             | (11)     | 26.3             | 114.5       | 80.6        |
| Total Revenue             | \$M  | 203.2        | 194.6            | 4        | 142.4            | 627.5       | 428.5       |

#### 1.3.2 Origin excluding 50% interest in APLNG

| Total All Products        | Unit | This Quarter | Previous Quarter | % Change | Mar Quarter 2010 | YTD 2010/11 | YTD 2009/10 |
|---------------------------|------|--------------|------------------|----------|------------------|-------------|-------------|
| Production (all products) | PJe  | 17.7         | 19.5             | (9)      | 15.6             | 61.5        | 48.2        |
| Sales (all products)      | PJe  | 20.4         | 23.8             | (14)     | 18.5             | 73.0        | 54.2        |
| Total Sales Revenue       | \$M  | 163.4        | 152.8            | 7        | 118.8            | 499.4       | 344.4       |

#### 1.3.3 Origin's 50% interest in APLNG

| Total All Products        | Unit | This Quarter | Previous Quarter | % Change | Mar Quarter 2010 | YTD 2010/11 | YTD 2009/10 |
|---------------------------|------|--------------|------------------|----------|------------------|-------------|-------------|
| Production (all products) | PJe  | 11.2         | 11.9             | (6)      | 8.3              | 35.7        | 25.2        |
| Sales (all products)      | PJe  | 13.0         | 13.8             | (6)      | 7.8              | 41.5        | 26.4        |
| Total Sales Revenue       | \$M  | 39.8         | 41.8             | (5)      | 23.7             | 128.0       | 84.2        |

### 1.4 Internal and External Purchase and Sales Summary

#### 1.4.1 Internal and External Sales (Origin excluding 50% interest in APLNG)

| Internal & External Sales Volumes | Unit | This Quarter | Previous Quarter | % Change | Mar Quarter 2010 | YTD 2010/11 | YTD 2009/10 |
|-----------------------------------|------|--------------|------------------|----------|------------------|-------------|-------------|
| Total Sales Volume                | PJe  |              |                  |          |                  |             |             |
| Internal                          |      | 4.8          | 7.6              | (37)     | 7.1              | 20.8        | 24.8        |
| External                          |      | 15.6         | 16.2             | (4)      | 11.3             | 52.2        | 29.4        |
| Total                             |      | 20.4         | 23.8             | (14)     | 18.6             | 73.0        | 54.2        |

#### 1.4.2 External Purchases

| Product Purchases included in above sales | Unit | This Quarter | Previous Quarter | % Change | Mar Quarter 2010 | YTD 2010/11 | YTD 2009/10 |
|---|------|--------------|------------------|----------|------------------|-------------|-------------|
| Origin (excluding 50% interest in APLNG)  | PJe  | 3.1          | 3.4              | (10)     | 1.3              | 9.9         | 4.3         |
| Origin's 50% interest in APLNG            | PJe  | 1.4          | 1.9              | (25)     | 0.2              | 5.1         | 2.1         |
| Total                                     | PJe  | 4.5          | 5.3              | (15)     | 1.5              | 15.0        | 6.4         |

## **1.5 Production and Sales Summary**

### **Nine Months to 31 March 2011 compared with Nine Months to 31 March 2010**

Production in the nine months to 31 March 2010 was 97.2 PJe, 32% higher than the comparable period in 2009/2010. The main contributors to this increase were a higher CSG production as supply commenced to the Rio Tinto Alumina and Darling Downs Power Station contracts (+10.5 PJe), Origin's increased interest in the Otway Gas Project following the acquisition of additional interests from Woodside in March 2010 (+8.4 PJe), a full contribution from Kupe which commenced production in December 2009 (+7.3 PJe), and a higher contribution from BassGas which underwent an extended shutdown in 2009/2010 (+2.5 PJe). These increases were partially offset by lower production in the Cooper Basin due to adverse weather conditions (-1.8 PJe); the Surat Basin which sold a large volume of stored gas in the prior year (-1.7 PJe); lower gas demand and declining oil production in the Perth Basin (-0.9 PJe); and lower production from the onshore Taranaki Basin as output was curtailed during gas storage development works (-0.5 PJe).

Sales volumes were 42% higher reflecting the increased production levels and a higher volume of product purchased and onsold (15.0 PJe in 2010/2011 compared with 5.4 PJe in 2009/2010). The higher sales volumes and higher product prices resulted in a 46% increase in revenues to \$627.5 million.

### **March Quarter 2011 compared with March Quarter 2010**

Production in the March Quarter 2011 was 28.9 PJe, 21% higher than the March Quarter 2010. This was largely due to increased CSG production to supply the Rio Tinto Alumina and Darling Downs Power Station contracts, partly offset by the impact of floods and lower demand (+2.9 PJe), and higher production at BassGas which was shut in for scheduled maintenance during the March Quarter of 2010 (+2.3 PJe).

Sales volumes were 27% higher at 33.6 PJe, again reflecting higher production figures and higher product purchases for onsale. Sales revenues increased by 43% to \$203.2 million due to improved product prices.

### **March Quarter 2011 compared with December Quarter 2010**

Production fell by 8% to 28.9 PJe compared with 31.4 PJe in the March Quarter 2011. The main contributor to the decrease was the Otway Gas Project which was 29% lower due to a planned maintenance shutdown (-2.3 PJe). The March Quarter 2011 production figures were also impacted by adverse weather in Queensland where CSG production decreased by -0.7 PJe and Cooper Basin production decreased by -0.4 PJe. This was partially offset by an increase in Kupe production following a scheduled shut down in the December Quarter (+0.9 PJe).

Sales volumes were 11% lower, however higher product prices resulted in a 4% increase in sales revenues to \$203.2 million.

## **2. DEVELOPMENT AND EXPLORATION OPERATIONS**

### **2.1 Coal Seam Gas (Interests held through Australia Pacific LNG)**

Australia Pacific LNG's Environmental Impact Statement (EIS) received Federal approval on 22 February 2011.

To progress FID in the near term, Origin and ConocoPhillips have agreed a potential deferral of the FID contingency payments from ConocoPhillips for the first two LNG trains.

On 25 February 2011, Australia Pacific LNG announced it had signed a non-binding Heads of Agreement with China Petrochemical Corporation (Sinopec) establishing key commercial terms for the supply to Sinopec of up to 4.3 mtpa of LNG for 20 years and for Sinopec to subscribe for a 15% ownership interest in Australia Pacific LNG. Following completion of the transaction, expected at FID, Origin's and ConocoPhillips' interests in the project will each reduce to 42.5%.

Production operations were impacted by severe weather conditions during December 2010/January 2011, resulting in 19 wells being shut-in and a Spring Gully export compressor being out of service for a period. This reduced available capacity to around 276 TJ/d compared with an installed capacity in excess of 320 TJ/d. Nonetheless, all customer nominations for gas supply were met during the Quarter. At the end of the Quarter, production had been gradually restored to around 289 TJ/d.

The Australia Pacific LNG operated fields in the Denison Trough, Talinga, Spring Gully and Peat, and the non-operated field at Kenya sustained some damage to roadways, gas gathering systems and/or wells. Pond water levels were managed in consultation with the Queensland regulator through operational management of wells and produced water. The financial impact of the floods across Australia Pacific LNG's operations is still being determined, including an assessment of insurance claims.

Australia Pacific LNG's exploration and appraisal drilling program has continued to be severely disrupted by the wet weather throughout the Quarter. Only 13 exploration/appraisal wells were drilled compared with 28 in the December Quarter 2010 and 52 in the September Quarter 2010. FEED studies and Early Works continue in preparation for Final Investment Decision on the CSG to LNG project.

#### **2.1.1 Bowen Basin**

##### **2.1.1.1 *Spring Gully Project Area***

Spring Gully production was impacted by the severe weather experienced in the December 2010 - February 2011 period. The gas plants achieved gross peak gas sales of 127 TJ/d (averaging 114 TJ/d) during the Quarter with up to 152 wells contributing at various times to production.

Laying of the Phase 6 gathering system will commence in the June Quarter 2011 following preliminary work undertaken during the March Quarter. Development drilling and completion is expected to commence in the September Quarter 2011. Completion of this work will allow the full capacity of the Spring Gully gas plants, which have been upgraded to 180 TJ/d, to be utilised.

##### **2.1.1.2 *Fairview Project Area***

The field achieved average gas sales of 104 TJ/d (Australia Pacific LNG share 25 TJ/d) during the Quarter. Eight development wells were drilled in the non-operated Fairview field during the Quarter.



### **2.1.1.3 Peat Project Area**

Average gas sales for the Quarter were 9 TJ/d. Work is progressing to upgrade produced water ponds.

### **2.1.1.4 Other Areas**

During the Quarter, the wet weather prevented any exploration or appraisal drilling in Australia Pacific LNG's operated Bowen Basin permits. Three exploration/appraisal core holes were drilled in the non-operated Comet Ridge permits.

## **2.1.2 Surat Basin**

### **2.1.2.1 Talinga/Orana Project Area**

Flood recovery efforts commenced in the Talinga field following the floods in December 2010. A total of 16 wells had required shutting in due to flooding. Re-commissioning of these wells has progressed with field export capacity restored from approximately 70 TJ/d to 85 TJ/d. Capacity was 90 TJ/d prior to flooding. Production averaged 69 TJ/d over the Quarter.

There was no development drilling during the Quarter.

### **2.1.2.2 Argyle/Kenya/Lauren/Bellevue Project Area**

The Kenya sales gas plant achieved average sales of around 57 TJ/d (Australia Pacific LNG share 22 TJ/d). These sales now include a production share from PL 247 (Bellevue) following Australia Pacific LNG exercising its right to buy back into the initial development of the Bellevue field in the previous Quarter.

One Bellevue development well was drilled during the Quarter.

### **2.1.2.3 Other Areas**

The adverse weather conditions continued to significantly impact Australia Pacific LNG's exploration and appraisal program with many areas inaccessible during the first half of the Quarter. No drilling took place during January and was only able to recommence in mid-February at reduced levels.

Three exploration/appraisal wells were drilled in Australia Pacific LNG's operated Walloons permits, continuing the program of maturing reserves across these assets. Australia Pacific LNG's pilot production testing program continued throughout the Quarter in the operated Walloons permits.

In Australia Pacific LNG's non-operated areas, two pilot wells and one core well were drilled within ATP 648P and four pilot wells were drilled within PL 180.

Completion of the Phoenix 2D seismic survey was not possible due to wet ground conditions. It is expected to be completed in conjunction with other planned surveys in the next Quarter.

### **2.1.3 Denison Trough (including Conventional)**

The Denison Trough production was impacted by wet weather and flooding during the Quarter, averaging 22 TJ/d. Work is progressing to upgrade produced water ponds.

Planning for the 2011 CSG exploration program in ATP 337P continued. This program, comprising primarily coreholes and production pilot wells, is scheduled to commence in the next Quarter subject to favourable weather conditions.

### **2.1.4 Galilee Basin**

Desorption and coal analysis work continued on cores obtained during previous drilling activity.

## **2.2 CSG - Interests held directly by Origin (ATP 788P) - Ironbark**

No wells were drilled during the Quarter due to severe wet weather and flooding. It is planned that two multi-well pilots and a single-well pilot will be drilled during 2011.

## **2.3 Cooper/Eromanga Basin (South Australia/Queensland)**

Wet weather and localised flooding continues to hamper development and exploration activities in the Cooper/Eromanga basins.

During the Quarter, one oil and three gas development wells were successfully drilled in South Australia. These were cased and suspended as future producers. One oil development and two oil appraisal wells were drilled in Queensland and cased and suspended as future producers.

The SWQ seismic programs continue to be delayed by the inability to access the survey area due to flooding.

## **2.4 Otway Basin (Victoria/Tasmania)**

Natural gas production from the Otway Gas Project was 5.0 PJ, down from 7.0 PJ in the previous Quarter, due to a planned 26 day shutdown which was successfully completed in February. The shutdown allowed for the testing and recertification of the pressure safety valves, Inlet Compression Project tie-ins and the inspection of the key vessels in corrosive service. The installation of a replacement export gas compressor turbine was also achieved during the shutdown.

Planning is in progress for the development of the near-shore Halladale and BlackWatch gas fields ahead of an expected Final Investment Decision in September 2011. The fields will be accessed by laterally extended wells drilled from onshore.

The seismic data acquired in the Speculant Transition Zone 3D seismic survey over the near-shore waters of Vic/RL2(V) and the adjacent onshore areas is currently being processed.

The Bellerive 3D marine seismic survey was successfully acquired within T/30P. Due to the presence of Blue Whales, the acquisition of the Astrolabe 3D seismic survey within T/30P and VIC/P43 has been deferred until later in the year when the whales will not be present in the area. Reprocessing of the earlier Aragorn 3D seismic survey data which lies within T/30P and T/34P commenced during this Quarter and is being undertaken in conjunction with the processing of the new Bellerive survey data.

## **2.5 Bass Basin (Tasmania)**

Production from Yolla 3 was restarted in early January 2011 and the well has been producing steadily during the Quarter. Natural gas production from BassGas was 1.8 PJ, comparable to the previous Quarter. In February 2011, the Yolla 4 flowline experienced an instrument tubing failure that caused the platform to be shut down for 11 days while remedial work was undertaken and inspections made of all similar equipment.

The Stage 1 funding for the Yolla Mid-Life Enhancement (MLE) Development was formally approved by the BassGas Joint Venture enabling the project to maintain progress for an offshore construction campaign in the summer of 2011/12. The Stage 2 drilling studies for the Yolla 5 and 6 development wells continue with the conceptual/analysis work remaining on schedule.

Post-well interpretation on Trefoil 2, Rockhopper 1 and Rockhopper 1/ST1 designed to establish the commercial significance of the field discoveries made in T/18P continued during the Quarter.

The Chappell 3D marine seismic survey was successfully acquired within T/18P. Processing of the survey data has commenced.

## **2.6 Taranaki Basin (New Zealand)**

### **2.6.1 *Kupe (offshore Taranaki)***

Production from Kupe was in line with sales gas nominations. The production increase over the previous Quarter was mainly due to the 24 day planned shutdown undertaken in November 2010 reducing the previous Quarter production. Three tanker liftings of Kupe light crude from Port Taranaki were completed during the Quarter.

Due to planned repairs on a compressor motor shaft which failed in early March, production levels for the June Quarter are expected to be constrained, however production is expected to be in line with the March Quarter result.

In PML 38146 (Kupe), review of the prospectivity of the permit continues.

### **2.6.2 *Tariki/Ahuroa/Waihapa/Ngaere (TAWN) and Rimu/Kauri***

Production of oil and gas from the onshore fields was at marginally lower levels than the previous Quarter.

The Manutahi D2H well was successfully drilled to a total depth of 2,098 m MDRT. The well targeted the Manutahi oil reservoir and is the first of three horizontal development wells to be drilled in the field.

Seismic reprocessing designed to evaluate near-field opportunities across the TAWN fields has been completed and interpretation is ongoing.

## **2.7 Surat Basin (Queensland)**

Production has returned to normal levels after a scheduled shutdown and overhaul of the LPG and sales gas processing plant undertaken in the previous Quarter. Wet weather continues to hamper development and production activities in the Surat Basin due to local road access restrictions.

Planning is underway to record the Ewokk 3D seismic survey in ATP754P.

Assessment and quantification of the potential deep coal gas resources within the Surat and Bowen basins is in progress.

## **2.8 Perth Basin (Western Australia)**

The Redback South 1 well was successfully worked over in the Quarter. The pipeline tie and well commissioning will be completed early in the next Quarter.

A successful five-day high rate test to confirm that the Beharra Springs field could produce greater than 20 TJ/day was completed in March.

The Hovea 8 and Jingemia 8 wells which were returned to production in the previous Quarter have produced above expectation enabling oil production levels to be maintained.

Planning for a 2 to 4 well drilling program as well as 2D and 3D seismic programs in late 2011/early 2012 was commenced. The drilling program will include testing of a number of intervals which are considered to have shale gas potential.

## **2.9 Bonaparte Basin (Western Australia/Northern Territory)**

No significant activity to report.

## **2.10 Northland Basin (New Zealand)**

An application was lodged to renew PEP38619 for a further 5 years from 1 March 2011. A renewal of the permit is expected to require Origin to relinquish approximately 50% of the original permit area.

## **2.11 Canterbury Basin (New Zealand)**

The Operator, Anadarko, continued preparations for the drilling of the Caravel-1 well in PEP 38262. This included tendering for a drilling rig and associated services and long lead items.

Approximately 4,000 km of 2D seismic data was acquired in PEP 38264 during late February and March 2011.

## **2.12 Lamu Basin (Kenya)**

Interpretation of the 3D data set has been completed with depth maps at the top of the two primary objectives produced.

A meeting is scheduled with the Kenyan Ministry of Energy in the June Quarter 2011 to present the forward work programs.

## **2.13 Song Hong Basin (Vietnam)**

Processing of the 3D survey of Block 121 in late October 2010 continues. The processing is being undertaken in Vietnam and is expected to be completed in the next Quarter. Planning for drilling has commenced with tendering for casing and well heads now complete and other services underway.

## **2.14 Vinh Chau Graben (Vietnam)**

Studies have been undertaken following the drilling of the 31-THX-1X and DBSCL01-TSL-1X wells to establish a forward work program.

## 2.15 Khorat Basin (Thailand and Lao PDR)

Appraisal drilling of the Dao Ruang structure in Block 15/50 in Thailand commenced in January 2011. Gas shows were encountered over the lower part of the Dao Ruang 2 well and led to the Joint Venture parties drilling the well deeper than originally planned. The Dao Ruang 3 well is planned to commence on the completion of operations on Dao Ruang 2.

## 3. DRILLING ACTIVITY

### 3.1 Exploration/Appraisal

The tables below summarises the exploration and appraisal drilling undertaken during the Quarter:

| Exploration/Appraisal Wells | Basin/Area              | Target | Origin effective Interest % | Well Status |
|-----------------------------|-------------------------|--------|-----------------------------|-------------|
| Dao Ruang 2                 | Khorat Basin - Thailand | Gas    | 40.00                       | In progress |
| Cook 16                     | Cooper/Eromanga - SWQ   | Oil    | 25.00                       | Oil, C&S    |
| Cook 17                     | Cooper/Eromanga - SWQ   | Oil    | 25.00                       | Oil, C&S    |
| Carinya 7                   | Surat Basin - Qld       | CSG    | 50.00                       | DST         |
| Ramyard 15                  | Surat Basin - Qld       | CSG    | 46.36                       | DST         |
| Lucky Gully 11              | Surat Basin - Qld       | CSG    | 46.36                       | DST         |
| Poppy 4                     | Surat Basin - Qld       | CSG    | 15.625                      | Pilot       |
| Matilda John 3              | Surat Basin - Qld       | CSG    | 20.3125                     | Pilot       |
| Matilda John 4              | Surat Basin - Qld       | CSG    | 20.3125                     | Pilot       |
| Jen 15M                     | Surat Basin - Qld       | CSG    | 15.625                      | Core        |
| Michelle 3                  | Surat Basin - Qld       | CSG    | 15.625                      | Pilot       |
| Matilda John 2              | Surat Basin - Qld       | CSG    | 20.3125                     | Pilot       |
| Matilda John 6              | Surat Basin - Qld       | CSG    | 20.3125                     | Pilot       |
| Springwater 4               | Bowen Basin - Qld       | CSG    | 11.965                      | Core        |
| Springwater 4A              | Bowen Basin - Qld       | CSG    | 11.965                      | Core        |
| Waddy Brae 1                | Bowen Basin - Qld       | CSG    | 11.965                      | Core        |

### 3.2 Development

The tables below summarises the development drilling undertaken during the Quarter:

| Development Wells | Basin/Area            | Target | Origin effective Interest % | Well Status |
|-------------------|-----------------------|--------|-----------------------------|-------------|
| Manutahi D2H      | Onshore Taranaki - NZ | Oil    | 100.00                      | Oil, C&S    |
| Coonatie 15       | Cooper/Eromanga - SA  | Gas    | 10.536                      | Gas, C&S    |
| Cook 18           | Cooper/Eromanga - SWQ | Oil    | 25.00                       | Oil, C&S    |
| Tirrawarra 80     | Cooper/Eromanga - SA  | Gas    | 13.19                       | Gas, C&S    |
| Kidman North 4    | Cooper/Eromanga - SA  | Gas    | 13.19                       | Gas, C&S    |
| Bellevue 24       | Surat Basin - Qld     | CSG    | 14.6875                     | C&S         |
| Fairview 167 ST1  | Bowen Basin - Qld     | CSG    | 11.965                      | C&S         |
| Fairview 515 RE   | Bowen Basin - Qld     | CSG    | 11.965                      | C&S         |
| Fairview 529      | Bowen Basin - Qld     | CSG    | 11.965                      | C&S         |
| Fairview 519      | Bowen Basin - Qld     | CSG    | 11.965                      | C&S         |
| Fairview 525      | Bowen Basin - Qld     | CSG    | 11.965                      | C&S         |
| Fairview 517      | Bowen Basin - Qld     | CSG    | 11.965                      | C&S         |
| Fairview 520      | Bowen Basin - Qld     | CSG    | 11.965                      | C&S         |
| Fairview 523      | Bowen Basin - Qld     | CSG    | 11.965                      | C&S         |

#### 4. ACQUISITIONS/DIVESTMENTS

During the Quarter:

- On 16 February 2011 Origin announced that, subject to certain approvals and joint venture rights, it had reached agreement with Apache Corporation whereby Apache would acquire a 50% interest in Block L8, Lamu Basin, offshore Kenya. The transaction involves Apache reimbursing US\$13.2 million of Origin's historical costs. In addition, Apache will pay a component of Origin's future costs in drilling a well in the Block. Apache will assume operatorship. Origin's interest will reduce to 25%.
- Santos, as operator of ATP 337P, has lodged applications for ten petroleum leases within the permit (PLAs 448 to 457).
- Origin has withdrawn from ATP 470P in the Surat Basin with effect from 1 March 2011 and is in the process of formally transferring its interest to Ausam Resources Pty Ltd (a wholly owned subsidiary of Bounty Oil & Gas NL).
- Mighty River Power (Goss) Ltd and Mighty River Power (Trapper) Ltd have withdrawn from the PML 38140 (Waihapa Deeps) and the PML 38141 (Ngaere Deeps) Joint Ventures respectively. Origin Energy Resources NZ Limited has acquired the 50% interest held by the Mighty River Power companies to take its holding to 100%.
- The PEP 38485 Joint Venture (Taranaki offshore) has submitted a surrender application to Crown Minerals NZ to be effective from 1 March 2011.

## 5. CAPITAL EXPENDITURE

The tables below include total expenditure on exploration and evaluation activities and capital expenditure on development and production activities. Expenditure in the current financial year is preliminary and is subject to audit review.

| <u>Australian Operations</u> | A\$'000 | This Quarter  | Previous Quarter | % Change  | Mar Quarter 2010 | YTD 2010/11    | YTD 2009/10    |
|------------------------------|---------|---------------|------------------|-----------|------------------|----------------|----------------|
| Exploration/<br>Evaluation   |         | 34,638        | 51,949           | 33        | 37,290           | 104,338        | 92,567         |
| Development/<br>PP&E         |         | 31,633        | 30,863           | (2)       | 21,884           | 103,923        | 100,187        |
| <b>Total</b>                 |         | <b>66,271</b> | <b>82,812</b>    | <b>20</b> | <b>59,174</b>    | <b>208,261</b> | <b>192,754</b> |

ConocoPhillips is funding all capital expenditure within the Australia Pacific LNG joint venture up to a cumulative total of A\$2.3 billion. As such Origin has not yet incurred any capital expenditure in relation to APLNG.

| <u>New Zealand Operations</u> | NZ\$'000 | This Quarter  | Previous Quarter | % Change  | Mar Quarter 2010 | YTD 2010/11   | YTD 2009/10   |
|-------------------------------|----------|---------------|------------------|-----------|------------------|---------------|---------------|
| Exploration/<br>Evaluation    |          | 1,157         | 37,095           | 97        | 245              | 42,369        | 854           |
| Development/<br>PP&E          |          | 18,431        | 4,935            | (273)     | 18,385           | 27,563        | 89,334        |
| <b>Total</b>                  |          | <b>19,588</b> | <b>42,030</b>    | <b>53</b> | <b>18,630</b>    | <b>69,932</b> | <b>90,188</b> |

| <u>International Operations #</u> | A\$'000 | This Quarter  | Previous Quarter | % Change    | Mar Quarter 2010 | YTD 2010/11   | YTD 2009/10   |
|-----------------------------------|---------|---------------|------------------|-------------|------------------|---------------|---------------|
| Exploration/<br>Evaluation        |         | 10,646        | 9,509            | (12)        | 14,606           | 29,710        | 21,367        |
| Development/<br>PP&E              |         | 0             | 0                | 0           | 0                | 0             | 0             |
| <b>Total</b>                      |         | <b>10,646</b> | <b>9,509</b>     | <b>(12)</b> | <b>14,606</b>    | <b>29,710</b> | <b>21,367</b> |

# includes all expenditure incurred on permits outside Australia and New Zealand, including Origin's interests in Kenya and South East Asia. Note: E&D Expenditure excludes acquisitions.

| <u>Total</u>               | A\$'000 | This Quarter  | Previous Quarter | % Change | Mar Quarter 2010 | YTD 2010/11    | YTD 2009/10    |
|----------------------------|---------|---------------|------------------|----------|------------------|----------------|----------------|
| Exploration/<br>Evaluation |         | 46,159        | 89,993           | 49       | 52,089           | 166,772        | 114,616        |
| Development/<br>PP&E       |         | 45,567        | 34,659           | (31)     | 36,371           | 125,221        | 171,483        |
| <b>Total</b>               |         | <b>91,725</b> | <b>124,652</b>   |          | <b>88,460</b>    | <b>291,983</b> | <b>286,099</b> |

## 6. ORIGIN'S INTERESTS

### 6.1 Origin held interests in the following permits during the Quarter:

| Basin/Project Area                | Permits (Origin current beneficial interest)<br>(* Denotes Operatorship)   |
|-----------------------------------|--|
| <b>Australia</b>                  |  |
| <i>Surat Basin (Qld)</i>          | PL 14 (100%*); PLs 56 and 74 (69%*);<br>PL 30 (75%*); PLs 21, 22, 27 and 64 (87.5%*);<br>PLs 53, 174 and 227 (100%*); ATP 470P Redcap (90%*) (subject to transfer); ATP 470P Formosa Downs (42.7192%*)(subject to transfer following withdrawal); PL 71 (Production) (90%*); PL 71 (Exploration) (72%*); PL 70 (100%*) and PL 264 (90%*);<br>ATP 471P Weribone Pooling Area (50.64%*); ATP 336P and PLs 10W, 11W, 12W, 28, 69 and 89 (46.25%); PL 11W Snake Creek East 1 Exclusion Zone (25%); ATP 647P (Block 2656 only) (50%*); ATP 754P (50%*); ATP788P Deeps (25%*); and ATP471P Bainbilla (24.748%) |
| <i>CSG (Qld)</i>                  | ATP788P Shallows (100%*)   |
| <i>Onshore Otway Basin</i>        |  |
| - Victoria                        | PPLs 6 and 9 and PRL 1 (90%*); PPLs 4, 5, 7, 10 and 12 (100%*); PPL 2 (Ex. Iona) (100%*); PPL 8 (100%*)  |
| <i>Offshore Otway Basin</i>       |  |
| - Victoria                        | VIC/L23 and VIC/P43 (67.23%*); VIC/RL2(V) (100%*)  |
| - Tasmania                        | T/L2, T/L3 and T/30P (67.23%*); T/34P (82.3%*)   |
| <i>Bass Basin (Tasmania)</i>      | T/L1 and T/RL1 (42.5%*); T/18P (39.0%*); and T/44P (60%*)  |
| <i>Onshore Perth Basin (WA)</i>   | EP 320 and L11 (67%*); L14 (49.189%*); and L1/L2 (excluding Dongara, Mondarra and Yardarino) (50%)   |
| <i>Offshore Bonaparte (WA/NT)</i> | NT/RL1 and WA6R (5%)   |
| <i>Cooper Basin</i>               |  |
| - Qld                             | SWQ Unit Subleases (16.7375%); Aquitaine A & B Blocks and associated PLs (25%); Aquitaine C Block and associated PLs (27%); and Wareena Block and associated PLs (10%)   |
| - SA                              | SA Unit PPLs (13.19%); Patchawarra East Block PPLs (10.536%); Reg Sprigg West Unit (PPLs 194 and 211) (7.902%)   |
| <b>New Zealand</b>                |  |
| <i>Taranaki Basin</i>             | PMP 38151, PMP 38155, PML 38138, PML 38139, PML 38140 and PML 38141 (100%*);<br>PML 38146 (50%*) and PEP 38485 (33.33%) (surrender application submitted.)   |
| <i>Northlands Basin</i>           | PEP 38619 (100%*)  |
| <i>Canterbury Basin</i>           | PEP 38262 (subject to farm-in agreement with Anadarko) and PEP 38264 (50%)   |
| <b>Kenya</b>                      |  |
| <i>Lamu Basin</i>                 | L8 (25%*)  |
| <b>Vietnam</b>                    |  |
| <i>Song Hong Basin</i>            | Block 121 (100%*)  |
| <i>Vinh Chau Graben</i>           | Block 31 (25%) and Block DBSCL-01 (25%) (subject to farm-in agreement with Salamander)   |
| <b>Thailand</b>                   |  |
| <i>Khorat Plateau</i>             | L15/50 and L26/50 (40%) (subject to farm-in agreement with Salamander) (surrender application submitted.)  |
| <b>Laos</b>                       |  |
| <i>Khorat Plateau</i>             | Savannahket PSC (30%) (subject to farm-in agreement with Salamander)(surrender application submitted)  |



## 6.2 Australia Pacific LNG held interests in the following permits during the Quarter:

Australia Pacific LNG holds interests in the permits listed below. The interests denote Origin's effective interest in the permits - being 50% of the interest held by Australia Pacific LNG.

| Basin/Project Area                    | Permits (Origin current effective beneficial interest)<br>(* Denotes Operatorship)  |
|---------------------------------------|---|
| <b>Australia</b>                      |   |
| <i>Denison Trough (Qld)</i>           | PLs 41, 42, 43, 44, 45, 54, 67, 173, 183 and 218 (25%*); ATP 337P (25%); ATP 337P Mahalo (15%); and ATP 553P (25%)  |
| <i>Galilee Basin (Qld)</i>            | ATPs 666P, 667P and 668P (50%*)   |
| <i>CSG (Qld)</i>                      |   |
| - <i>Spring Gully</i>                 | PLs 195 and 203 and ATP 592P (47.25%*); PL 204 (49.8625%*); and PL 200 (47.8552%*)  |
| - <i>Fairview</i>                     | PLs 90, 91, 92, 99, 100, 232, 233, 234, 235 and 236 and ATP 526P (11.965%)  |
| - <i>Peat</i>                         | PL 101 (50%*)   |
| - <i>Argyle/Kenya/Lauren/Bellevue</i> | PLs 179, 180, 228 and 229 and ATP 620P Shallows (20.3125%); PL 247 and ATP610 Shallows (14.6875%); and ATP 648P Shallows (15.625%)  |
| - <i>Talinga/Orana</i>                | PLs 209, 215 and 226 and ATP 692P (50%*)  |
| - <i>Other(Bowen Basin)</i>           | PLs 219 and 220 (50%*); ATPs 653P and 745P (11.925%); and ATP 804P (14.6491%)   |
| - <i>Other (Surat Basin)</i>          | ATP 606P (46.3581%*); ATP 631P (9.04825%); ATP 663P (50%*); ATP 702P (50%*); ATP 972P (46.3581%*) and ATP 973P (50%*) (ATP 847P has been split into ATPs 972P and 973P, subject to EA approval) |

## 7. CONVERSION FACTORS AND ABBREVIATIONS

### 7.1 Conversion Factors

|            |         |            |
|------------|---------|------------|
| Crude oil  | 0.00583 | PJ/kbbls   |
| Condensate | 0.00541 | PJ/kbbls   |
| LPG        | 0.0493  | PJ/ktonnes |
| Ethane     | 0.0517  | PJ/ktonnes |

## 7.2 Abbreviations

|                  |  |
|------------------|--|
| <b>APLNG</b>     | Australia Pacific LNG - a 50:50 incorporated Joint Venture between Origin Energy and ConocoPhillips  |
| <b>barrels</b>   | an international measure of oil production. 1 barrel = 159 litres  |
| <b>Bopd</b>      | barrels of oil per day   |
| <b>BTEX</b>      | benzene, toluene, ethylbenzene, xylene   |
| <b>bwpd</b>      | barrels of water per day   |
| <b>C&amp;C</b>   | cased and completed  |
| <b>C&amp;S</b>   | cased and suspended  |
| <b>CSG</b>       | coal seam gas  |
| <b>CTU</b>       | coiled tubing unit   |
| <b>DA</b>        | designated authority   |
| <b>DERM</b>      | Department of Environmental and Resource Management  |
| <b>EA</b>        | environmental authority  |
| <b>FEED</b>      | front end engineering & design   |
| <b>GJ</b>        | Gigajoule = $10^9$ joules  |
| <b>joule</b>     | a measure of energy  |
| <b>Kbbls</b>     | Kilo barrels = 1,000 barrels   |
| <b>Ktonnes</b>   | Kilo tonnes = 1,000 tonnes   |
| <b>LNG</b>       | liquefied natural gas  |
| <b>LPG</b>       | liquid petroleum gas   |
| <b>MDRT</b>      | measured depth from rotary table   |
| <b>mmscfd</b>    | million standard cubic feet per day  |
| <b>mtpa</b>      | million tonnes per annum   |
| <b>P&amp;A</b>   | plugged and abandoned  |
| <b>P&amp;S</b>   | plugged and suspended  |
| <b>PCA</b>       | potential commercial area  |
| <b>PSC</b>       | production sharing contract  |
| <b>PSDM</b>      | post stack depth migration (seismic processing)  |
| <b>PJ</b>        | petajoule = $10^{15}$ joules   |
| <b>PJe</b>       | petajoule equivalent, a measure used to express the volume of different petroleum products on the basis of the energy contained in the product |
| <b>Pigging</b>   | pipeline examination and maintenance   |
| <b>QGC</b>       | Queensland Gas Company   |
| <b>Spudding</b>  | to commence drilling a well  |
| <b>SWQ</b>       | South West Queensland  |
| <b>TD</b>        | total depth  |
| <b>TJ</b>        | terajoule = $10^{12}$ joules   |
| <b>TJ/d</b>      | terajoules per day   |
| <b>TVDSS</b>     | Total Vertical Depth Subsea  |
| <b>Water Inj</b> | water injection well   |