



# December 2011 Quarterly Production Report

## Exploration and Production report for Quarter ended 31 December 2011

Comparative performance at a glance - Origin's total proportional interests			
Year to date Comparison	July-Dec	July-Dec	Change %
	2011	2010	
Production (PJe)	65.3	68.2	(4)
Sales (PJe)	70.1	77.4	(9)
Revenue (A\$m)	430.1	411.0	5
Prior Corresponding Quarter Comparison	December Quarter	December Quarter	Change %
	2011	2010	
Production (PJe)	28.5	31.3	(9)
Sales (PJe)	30.7	35.9	(14)
Revenue (A\$m)	197.8	188.4	5
Previous Quarter Comparison	December Quarter	September Quarter	Change %
	2011	2011	
Production (PJe)	28.5	36.8	(23)
Sales (PJe)	30.7	39.4	(22)
Revenue (A\$m)	197.8	232.3	(15)

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

- Revenues 5% higher to comparable Quarter in 2010
- Australia Pacific LNG announced a binding Heads of Agreement with Kansai Electric Power Company for the sale of 1 million tonnes of LNG for 20 years
- Australia Pacific LNG announced the signing of a non-binding Heads of Agreement with Sinopec for the supply of an additional 3.3 million tonnes of LNG and a further 10% equity stake in Australia Pacific LNG

### Production and Sales

Production in the December Quarter of 29 PJe was 9% lower than the comparable Quarter in 2010. Sales volumes were 14% lower at 31 PJe while revenues were 5% higher when compared with the December Quarter 2010, driven by higher commodity prices.

Production in the December Quarter of 29 PJe was 23% lower than the September Quarter 2011. This is due to the lower seasonal demand in the December Quarter, the planned shutdowns of the Otway and Kupe Gas Plants for major maintenance and the shutdown of BassGas for the commencement of the Yolla Mid Life Enhancement ("MLE") Project. Sales volumes of 31 PJe were 22% lower than the September Quarter, with corresponding revenues lower by 15%.

## Significant activities during the Quarter included:

- **Australia Pacific LNG:**
  - **Australia Pacific LNG - Kansai Electric Power Company:** On 17 November 2011, Australia Pacific LNG announced the signing of a binding Heads of Agreement for the sale and purchase of approximately 1 million tonnes of LNG for 20 years. For further details see Origin's website at <http://www.originenergy.com.au/news/article/asxmedia-releases/1347>.
  - **Sinopec Agreement:** On 12 December 2011, Australia Pacific LNG announced the signing by Australia Pacific LNG and Sinopec of a non-binding Heads of Agreement for the sale and purchase of an additional 3.3 million tonnes per annum of LNG through to 2035 and additional equity interest taking Sinopec's ownership interest in Australia Pacific LNG from 15% to 25%. For further details see Origin's website at <http://www.originenergy.com.au/news/article/asxmedia-releases/1357>.
- **Botswana:** On 2 November 2011, Origin announced a 50:50 incorporated joint venture with Sasol Limited, to explore for CSG in Botswana. The joint venture is known as Kubu Joint Venture. For further details see Origin's website at <http://www.originenergy.com.au/news/article/asxmedia-releases/1344>.
- **Drilling Activities:**
  - **Australia Pacific LNG:** Australia Pacific LNG participated in 105 wells, including 84 development wells and 21 exploration/appraisal wells.
  - **Cooper Basin:** Activity continues to increase after the 2011 flooding events, with eight gas development wells and one gas appraisal well drilled and suspended as future producers during this Quarter.

## Post Report Date Events

- **Australia Pacific LNG and Sinopec signed binding agreements on 20 January 2012 for further supply of LNG through to 2035 and an increase in Sinopec's ownership interest in Australia Pacific LNG from 15% to 25%. This agreement increases Sinopec's existing purchase commitment from 4.3 million tonnes per annum to 7.6 million tonnes per annum, and reduces ConocoPhillips and Origin Energy's respective ownership interests to 37.5%. The signing of this agreement finalises the marketing of the second train. For further details see Origin's website at <http://www.originenergy.com.au/news/article/asxmedia-releases/1363>.**

## 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 interest in APLNG)

Natural Gas and Ethane	Unit	This Quarter	Previous Quarter	% Change	December Quarter 2010	YTD 2011/12	YTD 2010/11
Natural Gas	PJ						
APLNG (CSG and Denison Trough)		11.0	11.8	(7)	11.8	22.8	24.5
SA Cooper & SWQ		3.3	3.5	(5)	3.5	6.8	7.2
Otway Basin (offshore)		5.0	9.7	(49)	7.0	14.8	15.9
Bass Basin		1.6	1.8	(11)	1.8	3.4	3.8
Surat Basin		0.5	0.5	0	0.5	1.1	0.9
Perth Basin		0.6	0.6	0	0.4	1.2	0.7
Taranaki Basin (onshore)		0.1	0.1	0	0.1	0.2	0.3
Taranaki Basin (Kupe)		1.9	2.9	(33)	1.6	4.8	4.5
Ethane	PJ						
SA Cooper & SWQ		0.4	0.4	(12)	0.2	0.8	0.5
<b>Total Production</b>		<b>24.4</b>	<b>31.3</b>	<b>(22)</b>	<b>26.9</b>	<b>55.9</b>	<b>58.3</b>
<b>Total Sales Volume</b>		<b>25.1</b>	<b>33.5</b>	<b>(25)</b>	<b>30.6</b>	<b>58.7</b>	<b>65.9</b>
<b>Total Sales Revenue</b>	<b>\$M</b>	<b>96.7</b>	<b>129.0</b>	<b>(25)</b>	<b>108.2</b>	<b>225.7</b>	<b>240.5</b>
<b>Average Gas Price</b>	<b>\$/GJ</b>	<b>3.85</b>	<b>3.85</b>	<b>0</b>	<b>3.54</b>	<b>3.85</b>	<b>3.65</b>

Crude Oil	Unit	This Quarter	Previous Quarter	% Change	December Quarter 2010	YTD 2011/12	YTD 2010/11
Crude Oil	kbbbls						
SA Cooper & SWQ		77.7	95.6	(19)	70.3	173.3	131.8
Surat Basin		5.0	5.1	(2)	7.9	10.0	16.7
Perth Basin		17.0	18.5	(8)	29.9	35.5	58.8
Taranaki Basin (onshore)		41.7	35.1	18	28.0	76.9	60.9
<b>Total Production</b>		<b>141.4</b>	<b>154.3</b>	<b>(8)</b>	<b>136.1</b>	<b>295.7</b>	<b>268.2</b>
<b>Total Sales Volume</b>		<b>312.9</b>	<b>328.2</b>	<b>(5)</b>	<b>354.7</b>	<b>641.1</b>	<b>621.0</b>
<b>Total Sales Revenue</b>	<b>\$M</b>	<b>37.7</b>	<b>38.4</b>	<b>(2)</b>	<b>33.0</b>	<b>76.1</b>	<b>56.1</b>
<b>Average Crude Price</b>	<b>\$/bbl</b>	<b>121</b>	<b>117</b>	<b>3</b>	<b>93</b>	<b>119</b>	<b>90</b>

Condensate/Naphtha	Unit	This Quarter	Previous Quarter	% Change	December Quarter 2010	YTD 2011/12	YTD 2010/11
Condensate/Naphtha	kbbbls						
APLNG (Denison Trough)		0.3	0.2	44	0.2	0.5	0.7
SA Cooper & SWQ		60.7	55.1	10	53.2	115.8	112.6
Otway Basin (offshore)		49.5	105.6	(53)	79.5	155.0	182.8
Bass Basin		55.4	62.7	(12)	64.1	118.1	139.0
Surat Basin		5.8	5.4	8	4.5	11.2	11.1
Perth Basin		0.3	0.3	(0)	0.4	0.6	0.8
Taranaki Basin (onshore)		-	-	-	-	-	-
Taranaki Basin (Kupe)		184.9	276.6	(33)	175.7	461.5	470.1
<b>Total Production</b>		<b>356.9</b>	<b>505.9</b>	<b>(29)</b>	<b>377.6</b>	<b>862.7</b>	<b>917.1</b>
<b>Total Sales Volume</b>		<b>457.7</b>	<b>405.5</b>	<b>13</b>	<b>290.8</b>	<b>863.3</b>	<b>798.1</b>
<b>Total Sales Revenue</b>	<b>\$M</b>	<b>46.0</b>	<b>38.6</b>	<b>19</b>	<b>21.2</b>	<b>84.7</b>	<b>61.2</b>
<b>Average Condensate Price</b>	<b>\$/bbl</b>	<b>101</b>	<b>95</b>	<b>6</b>	<b>73</b>	<b>98</b>	<b>77</b>

LPG	Unit	This Quarter	Previous Quarter	% Change	December Quarter 2010	YTD 2011/12	YTD 2010/11
LPG	Kt						
SA Cooper & SWQ		6.8	7.4	(8)	7.1	14.2	14.9
Otway Basin (offshore)		4.6	10.4	(56)	10.3	15.1	22.3
Bass Basin		4.1	4.7	(13)	4.6	8.8	10.2
Surat Basin		1.0	1.2	(14)	1.0	2.2	2.3
Taranaki Basin (onshore)		0.2	0.1	45	0.1	0.3	0.4
Taranaki Basin (Kupe)		8.7	12.7	(31)	7.4	21.4	19.4
<b>Total Production</b>		<b>25.4</b>	<b>36.5</b>	<b>(30)</b>	<b>30.5</b>	<b>62.0</b>	<b>69.5</b>
<b>Total Sales Volume</b>		<b>25.2</b>	<b>36.6</b>	<b>(31)</b>	<b>33.7</b>	<b>61.8</b>	<b>73.5</b>
<b>Total Sales Revenue</b>	<b>\$M</b>	<b>17.3</b>	<b>26.3</b>	<b>(34)</b>	<b>26.0</b>	<b>43.6</b>	<b>53.2</b>
<b>Average LPG Price</b>	<b>\$/t</b>	<b>684</b>	<b>719</b>	<b>(5)</b>	<b>771</b>	<b>705</b>	<b>723</b>

## 1.2 Production by Basin (including APLNG production)

Production by Basin (All products, PJe)	Unit	This Quarter	Previous Quarter	% Change	December Quarter 2010	YTD 2011/12	YTD 2010/11
Production by Basin	PJe						
APLNG (CSG and Denison Trough)		11.0	11.8	(7)	11.8	22.8	24.5
SA Cooper & SWQ		4.8	5.1	(7)	4.7	9.9	9.8
Otway Basin (offshore)		5.5	10.8	(49)	7.9	16.3	18.0
Bass Basin		2.1	2.4	(13)	2.4	4.5	5.0
Surat Basin		0.6	0.7	(2)	0.6	1.3	1.2
Perth Basin		0.7	0.7	0	0.6	1.4	1.1
Taranaki Basin (onshore)		0.4	0.3	24	0.3	0.7	0.6
Taranaki Basin (Kupe)		3.4	5.0	(33)	3.0	8.4	8.0
<b>Total</b>		<b>28.5</b>	<b>36.8</b>	<b>(23)</b>	<b>31.3</b>	<b>65.3</b>	<b>68.2</b>

### 1.3 Production, Sales Volumes and Revenue Summaries

#### 1.3.1 Origin including interest in APLNG

Total All Products	Unit	This Quarter	Previous Quarter	% Change	December Quarter 2010	YTD 2011/12	YTD 2010/11
Production (all products)	PJe	28.5	36.8	(22)	31.3	65.3	68.2
Sales (all products)	PJe	30.7	39.4	(22)	35.9	70.1	77.4
Total Sales Revenue	\$M	197.8	232.3	(15)	188.4	430.1	411.0

#### 1.3.2 Origin excluding interest in APLNG

Total All Products	Unit	This Quarter	Previous Quarter	% Change	December Quarter 2010	YTD 2011/12	YTD 2010/11
Production (all products)	PJe	17.5	25.0	(30)	19.5	42.5	43.7
Sales (all products)	PJe	19.7	27.1	(27)	22.1	46.9	48.9
Total Sales Revenue	\$M	163.3	194.4	(16)	146.6	357.7	322.7

#### 1.3.3 Origin's interest in APLNG

Total All Products	Unit	This Quarter	Previous Quarter	% Change	December Quarter 2010	YTD 2011/12	YTD 2010/11
Production (all products)	PJe	11.0	11.8	(7)	11.8	22.8	24.5
Sales (all products)	PJe	11.0	12.3	(11)	13.8	23.3	28.5
Total Sales Revenue	\$M	34.4	37.9	(9)	41.8	72.3	88.3

### 1.4 Internal and External Purchase and Sales Summary

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

Internal & External Sales Volumes	Unit	This Quarter	Previous Quarter	% Change	December Quarter 2010	YTD 2011/12	YTD 2010/11
Total Sales Volume	PJe						
Internal		6.3	9.9	(36)	7.9	16.3	16.0
External		13.4	17.2	(22)	14.1	30.6	32.9
Total		19.7	27.1	(27)	22.1	46.9	48.9

#### 1.4.2 External Purchases

Product Purchases included in above sales	Unit	This Quarter	Previous Quarter	% Change	December Quarter 2010	YTD 2011/12	YTD 2010/11
Origin (excluding interest in APLNG)	PJe	1.7	2.4	(29)	1.7	4.0	3.2
Origin's interest in APLNG	PJe	0.4	0.8	(50)	1.9	1.2	3.7
Total	PJe	2.1	3.2	(34)	3.6	5.2	6.9

## 1.5 Production and Sales Summary

### Six Months to 31 December 2011 compared with Six Months to 31 December 2010

Production in the half year to 31 December 2011 was 65 PJe, 4% lower than the comparable period in 2010. This was primarily due to a reduction in Origin's interest in Australia Pacific LNG, maintenance activities in the BassGas and Otway assets and lower customer nominations.

Sales volumes of 70 PJe were 9% lower, reflecting lower production, lower sales from inventory and reduced third party sales. Sales revenues increased 5% to \$430 million, reflecting higher commodity prices.

### December Quarter 2011 compared with December Quarter 2010

Production in this Quarter was 29 PJe, 9% lower than the December Quarter 2010. Lower production in the Otway Basin and Bass Basin were the result of gas plant shutdowns for maintenance and the reduced share of production from Australia Pacific LNG follows dilution of Origin's interest from 50% to 42.5% as part of the completion of the Subscription Agreement with Sinopec in August 2011.

Sales volumes for the December Quarter 2011 of 31 PJe were 14% lower than in the December Quarter 2010, primarily due to lower gas sales from inventory and lower customer nominations. Sales revenues increased by 5% to \$198 million, reflecting higher crude oil prices and a modest increase in average gas prices.

### December Quarter 2011 compared with September Quarter 2011

Production of 29 PJe was 23% lower than 37 PJe in the September Quarter 2011. This is attributable to the shutdown of the Otway gas plant for the entire month of November for scheduled maintenance, shutdown of the BassGas plant for commencement of the Yolla MLE Project and planned annual maintenance of the Kupe plant, lower summer seasonal demand and a reduced share of production from Australia Pacific LNG following dilution of Origin's interest from 50% to 42.5% as part of the completion of the Subscription Agreement with Sinopec in August 2011.

Sales volumes for the December Quarter were 22% lower than the September Quarter at 31 PJe. Sales revenues were 15% lower than in the previous Quarter, reflecting the lower production and lower summer seasonal demand.

## 2. DEVELOPMENT AND EXPLORATION OPERATIONS

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

On 17 November 2011, Australia Pacific LNG and The Kansai Electric Power Company signed a binding Heads of Agreement for the sale and purchase of approximately 1 million tonnes of LNG per year for 20 years. On 12 December 2011, Australia Pacific LNG and Sinopec signed a non-binding Heads of Agreement for the supply of an additional 3.3 million tonnes per annum of LNG through to 2035. Once the above Kansai and Sinopec Agreements are completed, this will complete the marketing of Australia Pacific LNG's second LNG train.

Talinga gas production peaked at 107 TJ/d (100% owned by Australia Pacific LNG) during the Quarter and work is ongoing to complete newly drilled wells in the Stanbroke and Goodland areas. At the end of the Quarter, average production from operated assets was 226 TJ/d and 67 TJ/d from non-operated assets (Australia Pacific LNG share), with flood recovery work almost complete across all CSG assets.

Production was generally lower than the September Quarter due to weak customer demand and the Northern Denison field being temporarily shutdown in the first week of December to carry out upgrades.

Australia Pacific LNG's exploration and appraisal drilling program continued through the Quarter with 21 wells drilled in total (eight operated and 13 non-operated) throughout the Bowen and Surat basins. The 2011 fracture stimulation program also concluded with an additional nine stimulations performed across the Surat Basin, targeting the Walloons Coal Measures. Two non-operated fracture stimulations were also executed in adjacent Surat Basin tenures.

In the Quarter, Australia Pacific LNG also participated in the drilling of 84 development wells (17 operated and 67 non-operated), predominantly in the QGC operated tenures in the Walloons fairway in the Surat Basin.

Two 2D seismic surveys and a 3D seismic survey are currently being planned for 2012 in the Surat and Bowen basins to gain enhanced understanding of the Walloons Coal Measures and Permian Coal Measures for future exploration drilling.

### **2.1.1 Bowen Basin**

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

The Spring Gully Project Area achieved gross peak gas sales of 122 TJ/d (Australia Pacific LNG share 120 TJ/d) and averaged 120 TJ/d (Australia Pacific LNG share 118 TJ/d) during the Quarter, with up to 152 wells contributing at various times to production.

Capacity improvement projects, including downhole pump replacement workovers, were completed in November 2011. Further capacity improvement projects are planned for early 2012 to meet winter 2012 demand.

Development drilling and construction of gathering systems for the Phase 6 expansion project commenced in the Quarter. Additional brine storage was commissioned in December allowing water production restrictions that had been in place for the 2011/2012 summer wet season to be removed.

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

Nineteen development wells were drilled in the non-operated Fairview field during the Quarter. Average Fairview gas production during the Quarter was 100 TJ/d (Australia Pacific LNG share 24 TJ/d).

Australia Pacific LNG also participated in eight exploration and appraisal wells during the Quarter in the Fairview area. These mainly comprised of infield observation wells and multi-well pilots.

#### **2.1.1.3 *Peat Project Area***

Average gas production for the Quarter was 7.5 TJ/d (100% owned by Australia Pacific LNG). One of the field's two sales compressors remained out of service during the Quarter and will be recommissioned in January 2012.

#### **2.1.1.4 *Other Areas***

No development drilling was conducted in other areas of the Bowen Basin in the Quarter.

## 2.1.2 Surat Basin

### 2.1.2.1 *Talinga/Orana Project Area*

The Talinga / Orana Project area has fully recovered from the flooding events from early 2011. Production for the Quarter was variable due to market demand. Average production for the Quarter was 84 TJ/d with a peak of 107 TJ/d (100% owned by Australia Pacific LNG). By the end of the Quarter, 71 of the Talinga Phase 1 Project's planned 98 wells were commissioned and contributing to production with the remaining wells due for completion in 2012.

Australia Pacific LNG drilled two exploration and appraisal wells in the Talinga / Orana Project area to gain additional core and coal property data for reserves maturation and field development planning optimisation.

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

ATP 620P (Kenya) production averaged 100 TJ/d during the Quarter (Australia Pacific LNG share 40 TJ/d) and PL 247 (Bellevue) production averaged 7 TJ/d during the Quarter (Australia Pacific LNG share 2 TJ/d), with Australia Pacific LNG receiving a further 1 TJ/d of Bellevue gas under gas banking repayment arrangements with QGC.

Australia Pacific LNG participated in 48 QGC operated development wells during the Quarter in ATP 610P and ATP 648P.

Two exploration and appraisal wells were drilled by QGC on behalf of Australia Pacific LNG in ATP 648P in the Quarter, as part of their continued reserves maturation program.

### 2.1.2.3 *Other Areas*

Australia Pacific LNG's 2011 fracture stimulation program reached completion in November with nine stimulations executed during the Quarter across the Walloons Coal Measures fairway in the Surat Basin. QGC's fracture stimulation program in ATP 648P Walloons also resumed during the Quarter. These programs were conducted under strict monitoring and reporting guidelines that have been confirmed as being appropriate by the Queensland regulatory authorities.

A total of 11 wells were commissioned in the Quarter across several ATPs in the Surat Basin. This included the Condabri South multi-well pilot development in ATP 702P which was commissioned in October 2011.

Development drilling also commenced in the Condabri area during the Quarter with four wells drilled.

Australia Pacific LNG drilled a total of six exploration and appraisal wells through the Quarter in ATP 972P, ATP 663P and PLA 225 for the purposes of maturing additional Walloons reserves.

Santos, on behalf of Australia Pacific LNG, drilled a sole exploration well in ATP 631P in December 2011.

Installation of multi well pilot facilities at Waar Waar (ATP 663P) commenced. Commissioning of the Combabula multi well pilot is expected in the June Quarter in 2012.

### 2.1.3 Denison Trough (including Conventional)

Average gas sales for the Quarter were 14 TJ/d (Australia Pacific LNG share 7 TJ/d). The Northern Denison field was temporarily shut down in first week of December to carry out upgrade activities with loss of 11 TJ/d total capacity (5.5 TJ/d Australia Pacific LNG share) for the duration of the work.

Santos drilled two exploration coreholes during the Quarter on behalf of Australia Pacific LNG in ATP 337P to gain additional coal property data.

### 2.1.4 Galilee Basin

No exploration and appraisal activity occurred in the Galilee Basin in the Quarter.

## 2.2 CSG - Interests held directly by Origin

### 2.2.1 ATP788P-S 'Shallows' - Ironbark

Consultation and information meetings and a site visit continued to be held with the local community during the Quarter. Construction work continued on ponds for four pilot sites. Fracture stimulation of wells commenced at one pilot site. The installation of surface facilities and the gathering network continued. A third multi-well pilot is planned for drilling in the Ironbark area in the March Quarter 2012.

### 2.2.2 ATP788P-D 'Deeps'

Seismic interpretation, mapping, and resource estimation of the Permian deep coal zones continued during this Quarter.

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

Wet weather in the Cooper Basin during this Quarter affected road access in areas and caused delays in operational and drilling activities. Accordingly, production net to Origin decreased by 7% to 4.8 PJe. Gas production decreased by 5% to 3.3 PJ and oil production decreased by 19% to 78 kbbls.

Five gas development wells and one gas appraisal well were drilled, cased and suspended as future producers within the South Australian part of the Cooper Basin. Three gas development wells were drilled, cased and suspended as future producers within the Southwest Queensland part of the Cooper Basin.

The 128km Snefru-Coonaberry and 75km Challum West 2D seismic surveys were recorded during the Quarter.

## 2.4 Otway Basin (Victoria/Tasmania)

Total production from Otway Basin was 5.5 PJe, 49% lower compared with the September Quarter. This was due to a planned shutdown of the associated gas plant for maintenance during the entire month of November. The shutdown was successfully completed on schedule, with all planned activities executed. In addition, a significant amount of discovery work was also performed without any impact on the shutdown duration. Production was curtailed after the restart due to unstable operation of the mono ethylene glycol system which has impacted production through the month of December.

Inlet compression commissioning works have continued during the December Quarter. Plant stability issues post the shutdown as explained above impacted on the Inlet compression commissioning schedule with the start up date for the inlet compression project deferred to January 2012.

Detailed design and execution planning of Phase 3 of the Otway Gas Project (the Geographe Field Development) continued through the December Quarter. The Stena Clyde drilling rig has been contracted to undertake the Geographe drilling activity and was mobilised during December from Darwin to Portland in preparation for the campaign.

Processing of 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 was completed and interpretation commenced. Processing of the Bellerive 3D marine seismic survey data from T/30P, together with reprocessing of the Aragorn 3D seismic survey from T/30P and T/34P, continued during this Quarter.

Planning continued for one exploration well to be drilled in exploration permit VIC/P43 during the first half of calendar year 2012.

A new near-shore exploration permit, VIC/P42(V) was granted to Origin (100%) for an initial six year term, commencing 29 November 2011.

## 2.5 Bass Basin (Tasmania)

Production from BassGas for the December Quarter was 2.1 PJe, approximately 13% lower than the September Quarter due to the shutdown of the BassGas plant for commencement of the Yolla MLE (Phase 1) Project construction. Phase 1 will involve the addition of accommodation modules and offshore compressions. The Jascon 25 construction vessel and the accommodation module arrived onsite in mid December. The Phase 1 work is expected to result in the platform being offline until late in the June Quarter 2012 with limited additional production expected for the remainder of the financial year.

A jack-up drill concept has been selected for the Yolla MLE (Phase 2) consisting of the drilling of additional wells over the 2012/2013 summer.

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

Processing of the recently acquired Chappell 3D marine seismic survey data from T/18P was completed and interpretation commenced.

## 2.6 Taranaki Basin (New Zealand)

### 2.6.1 *Kupe (offshore Taranaki)*

Total Kupe production was 3.4 PJe, 33% lower than the previous Quarter. This decrease in production is attributable to planned annual maintenance of the Kupe plant and lower summer seasonal demand.

The planned annual maintenance shutdown of the Kupe plant commenced on 25 October 2011 and was completed on 9 November 2011, ahead of schedule. Outside this annual maintenance period, Kupe production was in line with customer nominations. Three tanker liftings of Kupe light crude from Port Taranaki were completed during the Quarter.

Maintenance inspections in April 2011 of the umbilical line that runs out to the Kupe offshore platform from shore identified some deterioration of clamps holding the umbilical line. Remediation works of the umbilical line were carried out between October and December 2011 to ensure continued safe operation of the Kupe platform. Further works will be undertaken in early 2012 as part of the ongoing maintenance program and an umbilical clamp upgrade is planned to commence in the 2012/2013 summer. No impact on production is expected as a result of these works. As the issue has been identified as a potential design

flaw rather than general wear and tear, the Operator is investigating making an insurance claim.

Origin, along with its joint venture parties, has entered into an agreement with BP Singapore for a term of two years for the sale and marketing of Kupe light crude, of which Origin's share is expected to be approximately 2.2 million barrels.

A review of the prospectivity of the PML 38146 (Kupe) permit is ongoing.

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

Total onshore production was 0.4 PJe, higher than the previous Quarter result of 0.3 PJe. This is attributed to increased production from the Manutahi oil field to 42 kbbls, an 18% increase from the previous Quarter. Gas production was steady at 0.1 PJ.

Manutahi D2H, D4H ST2 and D3H ST2 had their horizontal sections cleaned out utilising a coiled tubing unit during the Quarter. Production testing resumed post the clean outs. Construction of surface production facilities at the Manutahi D site to support ongoing production operations of these wells following the well testing period continued during the Quarter.

Evaluation of near-field opportunities across the TAWN and the Rimu-Kauri areas continued.

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

Total production in the Surat Basin was 0.6 PJe, a decrease of 2% from the previous Quarter. After stripping of gas liquids, the majority of the gas produced from Origin's Surat Basin fields continued to be sold to Origin's Retail business for either re-injection into storage reservoirs or gas sales.

The Farawell 3D seismic survey in ATP 754P is planned to be recorded during the first Quarter of 2012.

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

Oil production decreased to 17 kbbls during the Quarter, compared with 18.5 kbbls in the prior Quarter as a result of the Hovea 8 well remaining off line following a well workover in November. Gas production from Perth Basin was 0.6 PJ, which is the same as the previous Quarter.

Planning for the Redback-Irwin 3D seismic survey continued. Trial reprocessing of existing 3D seismic data was carried out by Fugro Imaging in Perth.

During the Quarter, Origin executed farmin agreements with Empire Oil & Gas NL, ERM Gas Pty Ltd and Allied Oil & Gas PLC to farmin to Exploration Permits ("EP") 368 and 426. Origin will earn a 40% interest in each of these exploration permits by operating and paying 80% of the cost of the 3D seismic survey over the North Erregulla prospect. The North Erregulla 3D seismic survey will be recorded between January and May 2012 following the Redback-Irwin 3D seismic survey.

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

The Petrel 7 appraisal well reached total depth of 3,923 metres on 10 September 2011. Drill stem testing was undertaken from 20 September to 13 October 2011 over three reservoir intervals. These results are currently being assessed.

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

The application lodged to renew PEP 38619 for a further five years from 1 March 2011 has been approved by the New Zealand regulator during the Quarter.

Reprocessing of the Nimitz 3D seismic data in PEP38619 was underway at the end of the Quarter.

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

Anadarko (as operator) has lodged an application to delay the drilling of the Caravel-1 well in PEP 38262 to late 2012 calendar year. This application is still being considered by the New Zealand regulator. The operator continued preparations to drill the Caravel-1 well scheduled for late 2012 and finalise the processing of the 2D seismic survey acquired in the March Quarter 2011.

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

Apache Corporation (as operator) continued preparations to drill the Mbawa 1 well in Block L8 during the second half of 2012 and acquire 3D seismic data over the southern extension of the Mbawa play during early 2012.

A farmout of a 5% interest in the Kenya offshore Block L8 to Tullow Oil was completed in October 2011. Origin retains a 20% interest in the block.

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

Interpretation of the 3D seismic survey acquired in Block 121 in October 2010 has been completed and a well location selected. Planning is in progress for the drilling of a well later in 2012.

## **2.14 Khorat Basin (Thailand )**

The acquisition of a 3D seismic survey of approximately 200 km<sup>2</sup> in Block L 26/50 (Thailand) has been completed. Processing of the 3D seismic survey will now commence.

## **2.15 Botswana**

On 2 November 2011, Origin announced a 50:50 incorporated joint venture with Sasol Limited, to explore for CSG in Botswana. The joint venture is known as the Kubu Joint Venture. The Kubu Joint Venture signed an agreement with Sekaname Pty Ltd to acquire three prospecting licences in the central provinces of Botswana covering an area of approximately 3,000 km<sup>2</sup>.

### 3. DRILLING ACTIVITY

#### 3.1 Exploration/Appraisal

The table below summarises the exploration and appraisal drilling in which Origin had an interest during the Quarter:

Exploration/Appraisal Wells	Basin/Area	Target	Origin effective Interest %	Well Status
Moomba 191	Cooper Basin - SA	Gas	13.19	Gas, C&S
Petrel 7	Bonaparte Basin - WA/NT	Gas	5.00	P&S
Glen Hill 1	Bowen Basin	CSG	21.25	Core
Glen Linden 1	Bowen Basin	CSG	21.25	Core
Clematis Creek East 3	Bowen Basin	CSG	10.17025	Pilot
Fairview 289 OB1	Bowen Basin	CSG	10.17025	OB
Fairview 291 OB1	Bowen Basin	CSG	10.17025	OB
Clematis Creek East 4	Bowen Basin	CSG	10.17025	Pilot
Fairview 123 OB1	Bowen Basin	CSG	10.17025	Core
Clematis Creek East 2	Bowen Basin	CSG	10.17025	Pilot
Clematis Creek East 2 DW1 ST1	Bowen Basin	CSG	10.17025	Pilot
Clematis Creek East 3 DW1	Bowen Basin	CSG	10.17025	Pilot
Orana 12*	Surat Basin	CSG	42.5	Core
Talinga 133*	Surat Basin	CSG	42.5	Core
Kainama 9*	Surat Basin	CSG	42.5	DST
Byrne Creek 4M*	Surat Basin	CSG	42.5	Monitoring
Waar Waar 12*	Surat Basin	CSG	42.5	Core
Waar Waar 3*	Surat Basin	CSG	42.5	DST
Gilbert Gully 13*	Surat Basin	CSG	42.5	Production/DST
Ramyard 16*	Surat Basin	CSG	39.406	DST
Glenray East 1	Surat Basin	CSG	7.691	Pilot
Sean 19M	Surat Basin	CSG	13.28125	Core
Sean 17M	Surat Basin	CSG	13.28125	Core

(\* Denotes operated by Origin)

#### 3.2 Development

The table below summarises the development drilling in which Origin had an interest during the Quarter:

Development Wells	Basin/Area	Target	Origin effective Interest %	Well Status
Andree 4	Cooper Basin - SA	Gas	13.19	Gas, C&S
Merrimelia 62	Cooper Basin - SA	Gas	13.19	Gas, C&S
Moomba 188	Cooper Basin - SA	Gas	13.19	Gas, C&S
Moomba 189	Cooper Basin - SA	Gas	13.19	Gas, C&S
Moomba 190	Cooper Basin - SA	Gas	13.19	Gas, C&S
Coonaberry 3	Cooper Basin - SWQ	Gas	10.00	Gas, C&S
Galex 3	Cooper Basin - SWQ	Gas	25.00	Gas, C&S
Roti 4	Cooper Basin - SWQ	Gas	16.7375	Gas, C&S
Condabri North 106*	Surat Basin	CSG	42.5	Production
Condabri North 107*	Surat Basin	CSG	42.5	Production
Condabri North 105*	Surat Basin	CSG	42.5	Production
Condabri North 99*	Surat Basin	CSG	42.5	Production
Bellevue 133	Surat Basin	CSG	12.484375	Production
Bellevue 184	Surat Basin	CSG	12.484375	Production
Bellevue 143	Surat Basin	CSG	12.484375	Production

Development Wells	Basin/Area	Target	Origin effective Interest %	Well Status
Bellevue 201	Surat Basin	CSG	12.484375	Production
Bellevue 135	Surat Basin	CSG	12.484375	Production
Bellevue 202	Surat Basin	CSG	12.484375	Production
Bellevue 109	Surat Basin	CSG	12.484375	Production
Bellevue 214	Surat Basin	CSG	12.484375	Production
Bellevue 101	Surat Basin	CSG	12.484375	Production
Bellevue 142	Surat Basin	CSG	12.484375	Production
Bellevue 115	Surat Basin	CSG	12.484375	Production
Bellevue 114	Surat Basin	CSG	12.484375	Production
Harry 104	Surat Basin	CSG	13.28125	Production
Broadwater 216	Surat Basin	CSG	13.28125	Production
Harry 113	Surat Basin	CSG	13.28125	Production
Harry 112	Surat Basin	CSG	13.28125	Production
Harry 121	Surat Basin	CSG	13.28125	Production
Harry 120	Surat Basin	CSG	13.28125	Production
David 197	Surat Basin	CSG	13.28125	Production
Broadwater 163	Surat Basin	CSG	13.28125	Production
Harry 110	Surat Basin	CSG	13.28125	Production
David 185	Surat Basin	CSG	13.28125	Production
Broadwater 145	Surat Basin	CSG	13.28125	Production
Harry 111	Surat Basin	CSG	13.28125	Production
Broadwater 162	Surat Basin	CSG	13.28125	Production
David 208	Surat Basin	CSG	13.28125	Production
Broadwater 215	Surat Basin	CSG	13.28125	Production
Broadwater 161	Surat Basin	CSG	13.28125	Production
Broadwater 214	Surat Basin	CSG	13.28125	Production
David 209	Surat Basin	CSG	13.28125	Production
Broadwater 135	Surat Basin	CSG	13.28125	Production
David 207	Surat Basin	CSG	13.28125	Production
Broadwater 208	Surat Basin	CSG	13.28125	Production
Broadwater 134	Surat Basin	CSG	13.28125	Production
Broadwater 202	Surat Basin	CSG	13.28125	Production
David 206	Surat Basin	CSG	13.28125	Production
Broadwater 144	Surat Basin	CSG	13.28125	Production
Broadwater 211	Surat Basin	CSG	13.28125	Production
Broadwater 203	Surat Basin	CSG	13.28125	Production
Broadwater 133	Surat Basin	CSG	13.28125	Production
Glendower 118	Surat Basin	CSG	13.28125	Production
David 173	Surat Basin	CSG	13.28125	Production
David 174	Surat Basin	CSG	13.28125	Production
Glendower 108	Surat Basin	CSG	13.28125	Production
David 216	Surat Basin	CSG	13.28125	Production
Glendower 117	Surat Basin	CSG	13.28125	Production
David 217	Surat Basin	CSG	13.28125	Production
David 196	Surat Basin	CSG	13.28125	Production
Fairview 16-24-1	Bowen Basin	CSG	10.17025	Production
Fairview 245	Bowen Basin	CSG	10.17025	Production
Fairview 16-39-1	Bowen Basin	CSG	10.17025	Production
Fairview 212	Bowen Basin	CSG	10.17025	Production
Fairview 533	Bowen Basin	CSG	10.17025	Production
Fairview 528	Bowen Basin	CSG	10.17025	Production
Fairview 15-17-1 RE	Bowen Basin	CSG	10.17025	Production
Fairview 534	Bowen Basin	CSG	10.17025	Production
Fairview 526	Bowen Basin	CSG	10.17025	Production
Fairview 537	Bowen Basin	CSG	10.17025	Production
Fairview 12-21-1	Bowen Basin	CSG	10.17025	Production
Fairview 16-47-1 RE	Bowen Basin	CSG	10.17025	Production
Fairview 15-18-1	Bowen Basin	CSG	10.17025	Production

Development Wells	Basin/Area	Target	Origin effective Interest %	Well Status
Fairview 12-22-1	Bowen Basin	CSG	10.17025	Production
Fairview 05-08-1	Bowen Basin	CSG	10.17025	Production
Fairview 536	Bowen Basin	CSG	10.17025	Production
Fairview 12-22-2	Bowen Basin	CSG	10.17025	Production
Fairview 535	Bowen Basin	CSG	10.17025	Production
Fairview 12-22-3	Bowen Basin	CSG	10.17025	Production
Durham Ranch 125*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 151*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 159*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 156*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 157*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 123*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 158*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 120*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 121*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 163*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 82*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 241*	Bowen Basin	CSG	40.1625	Production
Durham Ranch 83*	Bowen Basin	CSG	40.1625	Production

(\* Denotes operated by Origin)

#### 4. ACQUISITIONS/DIVESTMENTS

During the Quarter:

- Origin executed Farmin Agreements with Empire Oil & Gas NL, ERM Gas Pty Ltd and Allied Oil & Gas Plc to farmin to Empire operated Exploration Permits 368 and 426 in the northern Perth Basin. Key commercial terms are for Origin to earn a 40% interest in each exploration permit by operating and paying 80% of the cost of a 100 km<sup>2</sup> 3D seismic survey over the North Erregulla prospect. Under the farmin terms, Origin will operate the seismic program and Empire will retain operatorship through the exploration drilling phase, with Origin taking over operatorship if the Joint Ventures were to commit to appraise and develop a discovery. Commencement of the seismic survey is subject to, and conditional upon, satisfaction of several conditions precedent. Norwest Energy NL elected to maintain its current 20% working interest in each of the Exploration Permits 368 and 426.
- Origin was awarded new exploration acreage, block VIC/P42(V), located within the Otway Basin.
- Origin announced a 50:50 incorporated joint venture with Sasol Limited, to explore for CSG in Botswana. The joint venture is known as Kubu Joint Venture. Furthermore, the Kubu Joint Venture, signed an agreement with Sekaname Pty Ltd to acquire three prospecting licences (PL134/2010, PL135/2010 and P136/2010) in the central provinces of Botswana covering an area of approximately 3,000km<sup>2</sup>.
- A farmout of a 5% interest in the Kenya offshore Block L8 to Tullow Oil was completed in early October 2011. Origin retains a 20% interest in the block.

## 5. CAPITAL EXPENDITURE

The tables below include total expenditure on exploration and evaluation activities and capital expenditure on development and production activities. It excludes expenditure on acquisitions. Expenditure in the current financial year is preliminary and is subject to audit review. Note: Numbers may not add due to rounding.

<u>Australian Operations</u>	December				
	This Quarter	Previous Quarter	Quarter 2010	YTD 2011/12	YTD 2010/11
A\$m					
Exploration / Evaluation	34	31	52	65	70
Development / PP&E	71	48	31	119	72
<b>Total</b>	<b>105</b>	<b>78</b>	<b>83</b>	<b>183</b>	<b>142</b>

<u>New Zealand Operations</u>	December				
	This Quarter	Previous Quarter	Quarter 2010	YTD 2011/12	YTD 2010/11
NZ\$m					
Exploration / Evaluation	1	2	37	2	41
Development / PP&E	3	9	5	12	9
<b>Total</b>	<b>4</b>	<b>10</b>	<b>42</b>	<b>14</b>	<b>50</b>

<u>International Operations*</u>	December				
	This Quarter	Previous Quarter	Quarter 2010	YTD 2011/12	YTD 2010/11
A\$m					
Exploration / Evaluation	10	4	10	14	19
Development / PP&E	0	0	0	0	0
<b>Total</b>	<b>10</b>	<b>4</b>	<b>10</b>	<b>14</b>	<b>19</b>

\* Includes all expenditure incurred on permits outside Australia and New Zealand, including Origin's interests in South East Asia, Kenya and Botswana.

<u>Total (excluding APLNG)</u>	December				
	This Quarter	Previous Quarter	Quarter 2010	YTD 2011/12	YTD 2010/11
A\$m					
Exploration / Evaluation	44	36	90	81	121
Development / PP&E	73	54	35	128	79
<b>Total</b>	<b>118</b>	<b>91</b>	<b>125</b>	<b>208</b>	<b>200</b>

### **Australia Pacific LNG**

Origin is required to contribute cash to Australia Pacific LNG (in proportion to its equity holding) where Australia Pacific LNG has insufficient cash from other sources to fund its activities. In previous quarters Australia Pacific LNG has had access to cash from the issue of equity to new shareholders and operating cashflows. Origin has made no cash contributions in previous quarters as all expenditure was met through these sources.

In the December Quarter 2011 Origin contributed \$173 million to Australia Pacific LNG.

## 6. ORIGIN'S INTERESTS

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

Basin/Project Area	Permits (Origin current beneficial interest) (* Denotes Operatorship)
<b>Australia</b>	
Surat Basin (Qld)	PL 14 (100%*); PLs 56 and 74 (69%*); PL 30 (75%*); PLs 21, 22, 27 and 64 (87.5%*); 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%*); 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%)
CSG (Qld)	ATP788P Shallows (100%*)
Onshore Otway Basin	
- 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%*)
Offshore Otway Basin	
- Victoria	VIC/L23 and VIC/P43 (67.23%*); VIC/RL2(V) and VIC/P42(V) (100%*)
- Tasmania	T/L2, T/L3 and T/30P (67.23%*); T/34P (82.3%*)
Bass Basin (Tasmania)	T/L1 (42.5%*); T/18P (39.0%*); and T/44P (60%*)
Onshore Perth Basin (WA)	EP 320 and L11 (67%*); L14 (49.189%*); and L1/L2 (excluding Dongara, Mondarra and Yardarino) (50%)
Offshore Bonaparte (WA/NT)	NT/RL1 and WA6R (5%)
Cooper Basin	
- 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>	
Taranaki Basin	PMP 38151, PMP 38155, PML 38138, PML 38139, PML 38140 and PML 38141 (100%*); PML 38146 (50%*) and PEP 38485 (33.33%) (surrender application submitted.)
Northlands Basin	PEP 38619 (100%*)
Canterbury Basin	PEP 38262 and PEP 38264 (50%)
<b>Kenya</b>	
Lamu Basin	L8 (20%)
<b>Botswana</b>	
	PL134/2010, PL135/2010 and P136/2010 (50%)
<b>Vietnam</b>	
Song Hong Basin	Block 121 (100%*)
Vinh Chau Graben	Block 31 (25%) and Block DBSCL-01 (25%) (subject to farm-in agreement with Salamander)
<b>Thailand</b>	
Khorat Plateau	L15/50 and L26/50 (40%) (subject to farm-in agreement with Salamander)

## 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 42.5% of the interest held by Australia Pacific LNG.

Basin/Project Area	Permits (Origin current effective beneficial interest) (* Denotes Operatorship)
<b>Australia</b>	
Denison Trough (Qld)	PLs 41, 42, 43, 44, 45, 54, 67, 173, 183 and 218 (21.25%*); ATP 337P, PLAs 449, 450, 451, 452, 453, 454, 455, 456, 457, 475 and 476 (21.25%); ATP 337P Mahalo and PLA 448 (12.75%); and ATP 553P (21.25%)
Galilee Basin (Qld)	ATPs 666P, 667P and 668P (42.5%*)
CSG (Qld)	
- Spring Gully	PLs 195 and 203, PLAs 268, 414, 415, 416, 417, 418, 419 and ATP 592P (40.1625%*); PL 204 (42.383124%*); and PL 200 (40.67692%*)
- Fairview	PLs 90, 91, 92, 99, 100, 232, 233, 234, 235 and 236 and ATP 526P (10.17025%)
- Peat	PL 101 (42.5%*)
- Argyle/Kenya/Lauren/ Bellevue	PLs 179, 180, 228, 229 and 263 and ATP 620P Shallows (17.265625%); PL 247 and ATP610 Shallows (12.484375%); PL 273, 274 and 279 and ATP 648P Shallows, PLAs 257, 275, 278, 442, 466 and 474 (13.28125%)
- Talinga/Orana	PLs 209, 215 and 226, PLAs 216, 225, 272, 289, 445 and 481 and ATP 692P (42.5%*)
- Other(Bowen Basin)	PLs 219 and 220 (42.5%*); ATPs 653P, PLAs 420, 421, 440 and 745P (10.13625%); and ATP 804P (12.451735%)
- Other (Surat Basin)	ATP 606P, PLAs 297, 403, 404, 405, 406, 407, 408, 412, 413 and 444 (39.404384%*); ATP 631P, PLAs 281 and 282 (7.6910124%); ATP 663P, PLAs 434, 435, 436, 437, 438 and 439 (42.5%*); ATP 702P, PLs 265 and 267 and PLA 266 (42.5%*); ATP 972P, PLAs 469, 470 and 471 (39.404384%*) and ATP 973P (42.5%*)

## 7. CONVERSION FACTORS AND ABBREVIATIONS

### 7.1 Conversion Factors

Crude oil	0.00583	PJ/kbbbls
Condensate	0.00541	PJ/kbbbls
LPG	0.0493	PJ/ktonnes
Ethane	0.0517	PJ/ktonnes

### 7.2 Abbreviations

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