



# December 2010 Quarterly Production Report

## Origin Energy Limited: Exploration and Production business report for the Quarter ended 31 December 2010

Comparative performance at a glance - Origin's total proportional interests			
Half Year Comparison	July-Dec 2010	July-Dec 2009	Change %
Production (PJe)	68.2	49.5	38
Revenue (A\$m)	424.3	286.1	48
Corresponding Quarter Comparison	Dec Quarter 2010	Dec Quarter 2009	Change %
Production (PJe)	31.1	24.0	30
Revenue (A\$m)	194.6	135.4	44
Previous Quarter Comparison	Dec Quarter 2010	Sept Quarter 2010	Change %
Production (PJe)	31.1	37.1	(16)
Revenue (A\$m)	194.6	229.7	(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

- Half Year 2010 (July to December) production of 68.2 PJe, up 38% on the comparable period in 2009.
- Half Year 2010 (July to December) revenues at \$424.3 million, up 48% on the comparable period in 2009.
- Production for the Quarter of 31.1 PJe, 30% higher than in the comparable Quarter in 2009 but 16% lower than the previous Quarter.

### Exploration and Evaluation Expenditure

- In the Half Year to 31 December 2010 expenditure on exploration and evaluation activities amounted to \$121 million as detailed in Section 6 of this report. A significant portion of this expenditure was associated with an expanded offshore and international drilling campaign which included the drilling or testing of five exploration wells. These wells have not encountered commercial hydrocarbons. It is therefore expected that the majority of expenditure associated with this exploration program will be expensed in Origin's accounts for the Half Year to 31 December 2010, compared with an expense of \$22 million in the Half Year to 31 December 2009.

### Production and Sales

Significant contributors to the Half Year 2010 on Half Year 2009 result were the Kupe Project which commenced production in December 2009; the increased share of the Otway Gas Project production following the acquisition of part of Woodside's interest; and a 44% increase in Australia Pacific LNG's production. Sales volumes and revenues increased by 49% and 48% respectively compared with the Half Year 2009.

Compared with the September Quarter 2010, production was 16% lower at 31.1 PJe as a result of low seasonal demand, shutdowns at the Kupe Project (planned) and Otway Gas Project (repairs) and adverse weather conditions in Queensland (CSG and Cooper Basin). Sales volumes and revenues were 14% and 15% lower respectively.

## Significant events and influences during the Quarter included:

- **Australia Pacific LNG:**
  - Australia Pacific LNG's exploration and appraisal drilling programme has been disrupted by wet weather since September 2010. In the December Quarter only 36 wells were drilled compared with 64 in the September Quarter. It is likely the drilling programme will continue to be restricted in the March Quarter 2011.
  - Installed production capacity reached levels in excess of 320 TJ/d. However, severe weather conditions late in the Quarter which resulted in some wells being shut-in, and also a Spring Gully export compressor being out of service, reduced available capacity to around 290 TJ/d.
  - The Environmental Impact Statement (EIS) for Australia Pacific LNG's proposed CSG to LNG project received the State Coordinator-General's approval on 9 November 2010. The EIS is awaiting approval by the Commonwealth with a decision expected on 22 February 2011.
  - FEED studies and Early Works are well advanced in preparation for Final Investment Decision.
  - In November 2010, Australia Pacific LNG awarded a contract worth \$250 million to Siemens to supply electric drive centrifugal compressors for the delivery of gas from its CSG fields to its LNG processing plant at Gladstone.
- **Kupe Gas Project:** A planned shutdown of the plant for maintenance and regulatory integrity inspection was successfully completed over 24 days. As a result of the shutdown and lower seasonal demand, production was 41% lower at 3.0 PJe.
- **Otway Gas Project:** Repairs to an export gas compressor and other maintenance issues reduced production by 23% to 7.9 PJe.
- **BassGas Project:** Production for the Quarter continued to be restricted to the Yolla 4 well with wire line work to retrieve the isolation plug on Yolla 3 unsuccessful. Limited production from Yolla 3 well has however been restored commencing in January 2011.
- **Cooper Basin:** Wet weather and flooding events impacted activity levels, with production 7% lower compared with the previous Quarter and 15% lower compared with the same Quarter in 2009.
- **Perth Basin:** The Redback gas field was commissioned in November and produced sales gas at rates between 5.0 and 12.5 TJ/d.
- **International:** The acquisition of an approximate 1,100 sq km 3D seismic survey has been completed in Block 121, offshore Vietnam.
- **Drilling Activities:**
  - **Australia Pacific LNG:** Australia Pacific LNG participated in 36 wells including 8 development wells and 28 exploration/appraisal wells.
  - **Cooper Basin:** Floods continued to restrict activity with only six gas development and two oil development wells drilled (all cased and suspended for future production).

- **Bass Basin:** The Silvereye 1 gas exploration well in T/44P was drilled during the Quarter using the Kan Tan IV semi-submersible drilling rig. The well did not intersect any significant hydrocarbons and was plugged and abandoned.
- **Northland Basin:** Two exploration wells, Korimako 1 and Tarapunga 1, were drilled in New Zealand PEP 38619 using the Kan Tan IV semi-submersible drilling rig. Both wells were plugged and abandoned without encountering any significant hydrocarbons.
- Since July 2010, Origin has participated in the drilling or testing of 5 exploration wells as part of an expanded offshore and international drilling campaign. This has included final testing of the Bang Nouan 1 well in Laos; drilling of the 31-THX-1X well in offshore Vietnam; drilling of the Korimako 1 and Tarapunga 1 wells in New Zealand waters and the drilling of the Silvereye 1 well in the Bass Basin Australia. None of these wells are assessed to have encountered commercial hydrocarbons. The programme is continuing into the second half with the drilling of the first of two lower-risk appraisal wells in Thailand commenced in the New Year.

#### Post Report Date Events:

- **Queensland Floods:** While Australia Pacific LNG's production operations have been impacted by the severe weather conditions experienced in December 2010 and January 2011, all customer nominations for gas supply have to date been met. The financial impact of the floods across Origin's operations is still being assessed. Of 267 wells operated by Australia Pacific LNG that were in production in December, a total of 19 wells are isolated, including 16 at Talinga and 3 in the Denison Trough. At Spring Gully one compressor remains out of service. All drilling, fracing and workover activities ceased during December and are expected to be restricted through the March Quarter 2011. Managing water levels in ponds remains a key issue given the unprecedented rainfalls seen over the site areas during this wet season. This issue has been managed in consultation with the Queensland regulator and through operational management of wells and produced water. Origin/Australia Pacific LNG have provided support to the local communities with helicopter logistics and clean-up and have provided emergency accommodation.
- **Khorat Plateau, Thailand:** The Operator, Salamander Energy, spudded the Dao Ruang 2 well in Block L15/50, Thailand, on 16 January 2011. Drilled to a projected depth of 1,670 metres, the well will appraise the Teaco gas discovery made in 1993. It will be followed by the Dao Ruang 3 well. The wells are being drilled as part of the farm-in arrangements between Origin and Salamander.

## 1. PRODUCTION, SALES AND REVENUE

In the tables below, Origin's 50% proportional interest in production from assets held by Australia Pacific LNG Pty Ltd, a 50:50 joint venture between ConocoPhillips and Origin Energy, is reported in the line *APLNG (CSG and Denison Trough)*. A separate table (Table 1.3.3) is also provided which shows the aggregated production, sales and revenue across all products for Origin's proportional interest in Australia Pacific LNG.

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

Natural Gas and Ethane	Unit	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Natural Gas	PJ						
APLNG (CSG and Denison Trough)		11.7	12.6	(7)	7.8	24.3	16.9
SA Cooper & SWQ		3.5	3.8	(8)	3.9	7.3	8.2
Otway Basin (offshore)		7.0	9.0	(22)	3.7	15.9	8.8
Bass Basin		1.8	2.0	(10)	1.2	3.8	3.5
Surat Basin		0.4	0.5	(12)	2.6	0.9	2.7
Perth Basin		0.4	0.3	33	0.5	0.7	1.3
Taranaki Basin (onshore)		0.1	0.2	(18)	0.3	0.3	0.6
Taranaki Basin (offshore)		1.6	2.8	(42)	0.4	4.5	0.4
Ethane	PJ						
SA Cooper & SWQ		0.3	0.2	12	0.2	0.5	0.5
<b>Total Production</b>		<b>26.8</b>	<b>31.4</b>	<b>(15)</b>	<b>20.6</b>	<b>58.2</b>	<b>42.9</b>
<b>Total Sales Volume</b>		<b>32.3</b>	<b>37.2</b>	<b>(13)</b>	<b>21.8</b>	<b>69.5</b>	<b>45.9</b>
<b>Total Sales Revenue</b>	<b>\$M</b>	<b>114.4</b>	<b>139.4</b>	<b>(18)</b>	<b>76.2</b>	<b>253.8</b>	<b>164.3</b>
<b>Average Gas Price</b>	<b>\$/GJ</b>	<b>3.54</b>	<b>3.74</b>	<b>(5)</b>	<b>3.50</b>	<b>3.65</b>	<b>3.58</b>

Crude Oil	Unit	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Crude Oil	kbbbls						
SA Cooper & SWQ		65.7	61.5	7	100.7	127.2	194.0
Surat Basin		7.1	8.8	(19)	9.2	15.9	18.8
Perth Basin		29.9	28.9	0.3	52.4	58.8	105.9
Taranaki Basin (onshore)		28.9	32.9	(12)	37.9	61.8	63.9
<b>Total Production</b>		<b>131.6</b>	<b>132.1</b>	<b>-</b>	<b>200.2</b>	<b>263.7</b>	<b>382.6</b>
<b>Total Sales Volume</b>		<b>354.7</b>	<b>266.3</b>	<b>33</b>	<b>352.2</b>	<b>621.0</b>	<b>694.5</b>
<b>Total Sales Revenue</b>	<b>\$M</b>	<b>33.0</b>	<b>23.2</b>	<b>42</b>	<b>32.6</b>	<b>56.1</b>	<b>62.9</b>
<b>Average Crude Price</b>	<b>\$/bbl</b>	<b>92.96</b>	<b>87.02</b>	<b>7</b>	<b>92.55</b>	<b>90.41</b>	<b>90.64</b>

Condensate/Naphtha	Unit	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Condensate/Naphtha	kbbls						
APLNG (Denison Trough)		0.2	0.4	(53)	0.2	0.6	0.5
SA Cooper & SWQ		49.3	59.4	(17)	62.5	108.7	121.0
Otway Basin (offshore)		79.4	103.4	(23)	39.5	182.7	86.3
Bass Basin		64.1	72.8	(12)	49.6	136.9	141.6
Surat Basin		4.2	6.6	(36)	7.7	10.8	16.6
Perth Basin		0.4	0.4	-	0.6	0.8	1.6
Taranaki Basin (onshore)		-	-	-	-	-	-
Taranaki Basin (offshore)		175.7	294.4	(40)	46.7	470.1	46.7
<b>Total Production</b>		<b>373.3</b>	<b>537.4</b>	<b>(31)</b>	<b>206.8</b>	<b>910.6</b>	<b>414.3</b>
<b>Total Sales Volume</b>		<b>290.8</b>	<b>507.2</b>	<b>(43)</b>	<b>185.2</b>	<b>798.1</b>	<b>427.3</b>
<b>Total Sales Revenue</b>	<b>\$M</b>	<b>21.2</b>	<b>40.0</b>	<b>(47)</b>	<b>13.1</b>	<b>61.2</b>	<b>29.3</b>
<b>Average Condensate Price</b>	<b>\$/bbl</b>	<b>72.83</b>	<b>78.92</b>	<b>(8)</b>	<b>70.82</b>	<b>76.70</b>	<b>68.49</b>

LPG	Unit	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
LPG	Kt						
SA Cooper & SWQ		7.2	7.8	(9)	7.9	15.0	17.0
Otway Basin (offshore)		10.3	12.0	(16)	4.9	22.3	10.7
Bass Basin		4.6	5.6	(18)	3.6	10.2	10.4
Surat Basin		0.9	1.3	(31)	1.6	2.2	3.3
Taranaki Basin (onshore)		0.1	0.3	(44)	0.4	0.4	0.9
Taranaki Basin (offshore)		7.4	12.0	(38)	0.5	19.4	0.5
<b>Total Production</b>		<b>30.5</b>	<b>39.0</b>	<b>(22)</b>	<b>18.9</b>	<b>69.5</b>	<b>42.8</b>
<b>Total Sales Volume</b>		<b>33.7</b>	<b>39.8</b>	<b>(15)</b>	<b>18.3</b>	<b>73.5</b>	<b>41.8</b>
<b>Total Sales Revenue</b>	<b>\$M</b>	<b>26.0</b>	<b>27.1</b>	<b>(4)</b>	<b>13.6</b>	<b>53.2</b>	<b>29.6</b>
<b>Average LPG Price</b>	<b>\$/t</b>	<b>771.23</b>	<b>682.80</b>	<b>13</b>	<b>743.01</b>	<b>723.38</b>	<b>708.71</b>

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

Production by Basin (All products, PJe)	Unit	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Production by Basin	PJe						
APLNG (CSG and Denison Trough)		11.7	12.6	(7)	7.8	24.3	16.9
SA Cooper & SWQ		4.7	5.1	(7)	5.5	9.8	11.3
Otway Basin (offshore)		7.9	10.2	(23)	4.2	18.1	9.8
Bass Basin		2.4	2.6	(15)	1.7	5.0	4.8
Surat Basin		0.5	0.6	(16)	2.8	1.1	3.0
Perth Basin		0.6	0.5	20	0.8	1.1	2.0
Taranaki Basin (onshore)		0.3	0.4	(15)	0.5	0.7	1.0
Taranaki Basin (offshore)		3.0	5.1	(41)	0.7	8.1	0.7
<b>Total</b>		<b>31.1</b>	<b>37.1</b>	<b>(16)</b>	<b>24.0</b>	<b>68.2</b>	<b>49.5</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	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Production (all products)	PJe	31.1	37.1	(16)	24.0	68.2	49.5
Sales (all products)	PJe	37.6	43.5	(14)	25.7	81.1	54.3
Total Revenue	\$M	194.6	229.7	(15)	135.4	424.3	286.1

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

Total All Products	Unit	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Production (all products)	PJe	19.4	24.5	(21)	16.2	43.9	32.6
Sales (all products)	PJe	23.8	28.8	(18)	17.2	52.6	35.7
Total Sales Revenue	\$M	152.8	183.2	(17)	109.3	336.0	225.6

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

Total All Products	Unit	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Production (all products)	PJe	11.7	12.6	(7)	7.8	24.3	16.9
Sales (all products)	PJe	13.8	14.6	(6)	8.5	28.5	18.6
Total Sales Revenue	\$M	41.8	46.5	(10)	26.2	88.3	60.5

### 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	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Total Sales Volume	PJe						
Internal		7.6	8.5	(11)	8.8	16.0	17.7
External		16.2	20.4	(21)	8.4	36.6	18.0
Total		23.8	28.8	(17)	17.3	52.6	35.7

#### 1.4.2 External Purchases

Product Purchases included in above sales	Unit	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Origin (excluding 50% interest in APLNG)	PJe	3.4	3.5	(1)	1.7	6.9	2.9
Origin's 50% interest in APLNG	PJe	1.9	1.9	2	0.9	3.7	1.9
Total	PJe	5.3	5.4	(1)	2.6	10.6	4.8

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.

## 1.5 Production and Sales Summary

### Six Months to 31 December 2010 compared with Six Months to 31 December 2009

Production in the half year to 31 December 2010 was 68.2 PJe, 38% higher than that in the comparable period in 2009 when it was 49.5 PJe. The main contributors to this significant increase in production were the Kupe Project which came on stream in December 2009 (+7.4 PJe); the increased share of the Otway Gas Project following completion of the acquisition of part of Woodside's interest in March 2010 (+8.3 PJe); the increasing CSG production now supplying gas to the Rio Tinto Alumina and Darling Downs Power Station supply contracts (+7.4 PJe); and a marginally higher contribution from the BassGas Project which undertook a planned shutdown toward the end of 2009 (+0.2 PJe). These increases were partially offset by lower contributions from the Cooper Basin due to adverse weather conditions (-1.5 PJe), lower recorded production from the Surat Basin due to the sale of stored gas in late 2009 (-1.9 PJe) and declining production in the Perth Basin (-0.9 PJe) and the onshore Taranaki Basin (-0.3 PJe).

Sales volumes were 49% higher at 81.1 PJe reflecting the higher production and higher product purchases on-sold. Sales revenues increased 48% to \$424.3 million further reflecting higher sales volumes.

### December Quarter 2010 compared with December Quarter 2009

The December Quarter 2010 production of 31.1 PJe was up by 30% compared with the 24.0 PJe in the comparable period in 2009. The reasons for the improved result are similar to those applicable to the half year on half year comparison, that is, positive contributions from the Kupe Project (+2.3 PJe), Otway Gas Project (+3.7 PJe), CSG (+3.9 PJe) and BassGas Project (+0.7 PJe) offset partially by the Cooper Basin (-0.8 PJe), Surat Basin (-2.3 PJe), Perth Basin (-0.2 PJe) and onshore Taranaki Basin (-0.2 PJe).

Sales volumes were 46% higher at 37.6 PJe due to higher production and increased product purchases on-sold.

Again sales revenues reflect the higher sales volumes increasing by 44% to \$194.6 million.

### December Quarter 2010 compared with September Quarter 2010

Production in the December Quarter 2010 decreased by 16% from 37.1 PJe to 31.1 PJe compared with the September Quarter due to a combination of lower seasonal demand, planned shutdowns and adverse weather conditions. Production was lower in all project areas with the exception of the Perth Basin where the Redback field came on stream and oil production levels were maintained. The main contributors to lower recorded production at all other projects include Kupe Project due to a planned shutdown and lower seasonal demand (-2.1 PJe), Otway Gas Project due to lower seasonal demand and repairs and maintenance requirements (-2.3 PJe) and CSG due to low seasonal demand, compressor maintenance and adverse weather conditions late in the Quarter (-0.9 PJe). Other projects which recorded lower production included the BassGas Project (-0.2 PJe), the Cooper Basin (-0.4 PJe) and the Surat Basin and onshore Taranaki Basin (each -0.1 PJe).

Sales volumes and revenues were also lower by 14% and 15% respectively reflecting the decreased production.

## 2. DEVELOPMENT

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

During the Quarter, Australia Pacific LNG's production capacity increased to be in excess of 320 TJ/d. However by the end of the Quarter this had been reduced to approximately 290 TJ/d as severe weather conditions caused a number of wells to be shut-in and a major overhaul on an export compressor engine at Spring Gully was required. The maximum production rate achieved was 285 TJ/d, with rates averaging 254 TJ/d over the Quarter.

The Environmental Impact Statement (EIS) for APLNG's proposed CSG to LNG project received the State Coordinator-General's approval on 9 November 2010. The EIS is awaiting approval by the Commonwealth with a decision expected on 22 February 2011.

FEED studies and Early Works are well advanced in preparation for Final Investment Decision.

In November 2010, Australia Pacific LNG awarded a supply contract to Siemens for electric drive centrifugal compressors for delivery of gas from its CSG fields to its LNG processing plant at Gladstone. The value of the contract is \$250 million.

In October 2010, Australia Pacific LNG advised relevant landowners, Western Downs Regional council and the Queensland government that traces of BTEX compounds had been found in fluid samples taken from eight exploration CSG wells located in the Surat Basin, west of Miles. Each of the wells had previously been hydraulically fracture stimulated. Australia Pacific LNG conducted extensive testing, fluid analyses and operational reviews aimed at determining the source of the BTEX. The investigations identified the possible sources of the BTEX compounds, including naturally occurring sources, and established that Australia Pacific LNG's controls were appropriate to minimise environmental risk and protect water sources both at the surface and below ground. All waters are contained within lined ponds and there have been no breaches of license conditions. Additional controls and assurance processes have been implemented and DERM has endorsed the recommencement of fracture stimulation operations.

#### 2.1.1 *Spring Gully*

The Spring Gully gas plants achieved gross peak gas sales of 154 TJ/d (averaging 122 TJ/d) during the Quarter with up to 152 wells contributing at various times to production.

The construction phase of the Phase 6 development of the Spring Gully field which is designed to increase the overall Spring Gully capacity to 180 TJ/d has been completed with the construction of required water transfer stations. Development drilling is now scheduled to commence in the March Quarter 2011. Completion and tie-in of these wells will allow deliverability of the design capacity of the plants.

#### 2.1.2 *Fairview*

Four development wells were drilled in the non-operated Fairview field during the Quarter. The field has achieved gross peak sales of 135 TJ/d (Australia Pacific LNG share 32 TJ/d).



### 2.1.3 *Peat*

Peat production was impacted by wet weather and flooding. Average gas production for the Quarter was 10 TJ/d. Work has commenced to upgrade produced water ponds.

### 2.1.4 *Talinga/Orana*

The Talinga gas sales plant is fully commissioned with sales gas exported directly to the Wallumbilla pipeline. During the Quarter the well deliverability reached the plant design capacity 90 TJ/d although a number of development wells are not yet online. Production averaged 68 TJ/d over the Quarter, reflecting contractual nominations.

With the drilling of a further four development wells, a total of 85 wells of the 98 well programme have been drilled with 64 wells currently on line. These wells are performing better than expected with 28 wells producing at rates over 1.5 mmscfd and 7 wells performing exceptionally well with rates over 4.0 mmscfd. These gas rates are still increasing as the field continues to dewater.

In December 2010, the Talinga field was impacted by flooding and a number of wells had to be secured and shut in. This limited the total field export capacity to approximately 70 TJ/d. It is expected that some remedial work will be required to restore all the impacted wells to full production.

### 2.1.5 *Argyle/Kenya/Lauren/Bellevue*

The Kenya sales gas plant achieved average sales of around 51 TJ/d (Australia Pacific LNG share 20 TJ/d).

Pursuant to an existing contractual arrangement with QGC, APLNG exercised its right to buy-back into the initial development of PL 247 (Bellevue) by paying its share of historic expenditure. Australia Pacific LNG is now entitled to its share of gas produced, with gas to be taken in accordance with the gas banking provisions under the arrangements with QGC.

## 2.2 Denison Trough (Conventional) (Interests held through Australia Pacific LNG)

The Denison Trough production was impacted by wet weather and flooding during the Quarter, averaging 23 TJ/d. Work has commenced to upgrade produced water ponds.

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

During the Quarter, only five gas development wells were drilled in South Australia with a sixth, Coonatie 15, spudded on 28 December 2010. All wells were cased and suspended as future gas producers.

Two oil development wells, Cook 15 and 19, were drilled in Queensland. Both were cased and suspended as future oil producers.

Severe wet weather and localised flooding continues to hamper development activities in the Cooper/Eromanga.

On 25 October 2010, Santos as Operator of the Cooper Basin Joint Ventures announced an agreement to supply 750 PJ of gas to the GLNG project at Gladstone with the existing uncontracted Cooper Basin 2P reserves being the primary source. Santos advised that it was in negotiation with the Cooper Basin Joint Venture parties regarding their possible participation in the GLNG supply agreement. As a party in the Cooper Basin Joint Ventures, Origin has been offered participation and is reviewing its position.

## 2.4 Offshore Otway Basin (Victoria/Tasmania)

Natural gas production from the Otway Gas Project was 7.0 PJ, down from 9.0 PJ in the previous Quarter, due to lower seasonal demand and a nine day shutdown to replace a damaged engine on an export gas compressor. Production was further curtailed by pipeline examination and maintenance ("pigging") and the identification of similar defects in a second gas compressor which will be replaced during a planned shutdown in January 2011.

The unusually wet weather in the Otway region experienced in the winter and spring has continued into the summer and has further impacted site construction works for the inlet compression project. A number of initiatives have been pursued to minimise the impact of the inclement weather and achieve a project start-up date in the June Quarter 2011.

## 2.5 Bass Basin (Tasmania)

Production has been limited to Yolla 4 as wireline work to remove a plug in Yolla 3 continued. While the plug has not been removed, it has been moved allowing limited access to the producing zone. The Yolla 3 well was tested with some success in late November 2010 and was being brought on line at the end of the Quarter. As a result, production from the Yolla field is expected to increase to in excess of 55 TJ/d from 1 January 2011.

Pigging operations were carried out in December 2010 on the Yolla pipeline.

The revised Yolla Mid-Life Enhancement (MLE) development plan has been finalised based on a two stage execution programme and is awaiting formal approval by the BassGas joint venture. Activities originally planned for the summer of 2010/11 have been rephased, with a two stage programme now planned over the following two summer periods. Stage 1 involves the installation of compression and pumping facilities, new accommodation and safety upgrades on the Yolla platform. The Stage 1 offshore construction campaign is to be undertaken in the summer of 2011/12 using a specialised construction support vessel. Detailed planning continues for Stage 2, involving the drilling of the Yolla 5 and 6 development wells. The drilling campaign is expected to proceed in the summer of 2012/13, subject to remaining technical considerations and rig availability.

## 2.6 Taranaki Basin (New Zealand)

### 2.6.1 *Kupe Gas Project*

The programmed Kupe production station shutdown for maintenance and a regulatory plant integrity inspection was successfully completed in 24 days (one day ahead of plan) during the Quarter. The planned shutdown is not expected to impact on the joint venture contracted annual volume of gas of around 20 PJ. Lower seasonal gas nominations compared to higher winter demand, also affected production compared with that in the previous Quarter.

Due to lower production related to the shutdown and the timing of tankers, there was only one tanker lifting of Kupe light crude from Port Taranaki completed during the Quarter.

### 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 to the previous Quarter.

The Ahuroa gas storage facility reached full gas injection capacity in mid October 2010. A petroleum mining permit was granted to Contact Energy on 16 December 2010 for 40 years allowing the injection, storage and withdrawal of gas in the Ahuroa reservoir. Origin will operate the facility on behalf of Contact Energy.

## 2.7 Surat Basin (Queensland)

The majority of the gas produced from Origin's Surat Basin fields continues to be sold to Origin's Retail business for re-injection into storage reservoirs after stripping of gas liquids. During the Quarter, a scheduled shutdown and overhaul of the LPG and sales gas processing plant was undertaken, resulting in reduced production for the Quarter. Wet weather continues to hamper development and production activities in the Surat Basin due to local road access restrictions.

## 2.8 Onshore Perth Basin (Western Australia)

The Redback 2 gas well pipeline tie-in was successfully completed and the field commissioned on 12 November 2010 with rates between 5.0 and 12.5 TJ/d of sales gas produced. The Redback South 1 gas well is scheduled to be brought online in the March Quarter 2011.

A study of the Redback gas field has established sufficient reserves in the Redback field to satisfy a condition of the gas sales agreement entered into in the previous Quarter with a subsidiary of AWE Limited.

The Hovea 8 and Jingemia 8 wells were returned to production during the Quarter after workovers, enabling oil production to be maintained at comparable levels to the previous Quarter.

### 3. EXPLORATION

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

##### 3.1.1 *Surat Basin CSG (Walloons)*

Adverse weather conditions have again significantly impacted Australia Pacific LNG's exploration and appraisal programme during the Quarter, increasing in severity towards the end of the year. Drilling in December 2010 essentially ceased due to extensive rain and flooding across all of the operated and non-operated assets.

However, seven exploration/appraisal wells were drilled in Australia Pacific LNG's operated Walloons permits continuing the process of maturing reserves across the Walloons assets. The programme consisted of four production/DST wells and three core wells.

In addition to the drilling, Australia Pacific LNG's pilot production testing programme continued throughout the Quarter within several of the operated Walloons permits.

In October 2010 fracture stimulation activities were suspended by Australia Pacific LNG upon the detection of BTEX compounds in a limited number of previously fracture stimulated wells. Following investigation by Australia Pacific LNG, DERM has endorsed the resumption of fracture stimulation operations when operationally practical in 2011.

In Australia Pacific LNG's non-operated Walloons ATP 648P permit area, 12 pilot wells were drilled.

The Phoenix 2D seismic survey was commenced with approximately 94% of the planned programme completed before being curtailed due to rain. Completion is expected late in the March Quarter 2011.

The Dalwogan 3D seismic survey is now planned for acquisition in the June Quarter 2011.

##### 3.1.2 *Bowen Basin CSG*

During the Quarter, two core wells, Spring Gully 123 and Membrane 2, were drilled in the APLNG's operated permits, PL 204 and PL 219, respectively.

In APLNG's non-operated Comet Ridge permits, three exploration/appraisal core holes and four production pilot wells were drilled.

##### 3.1.3 *Denison Trough CSG*

No significant activity during Quarter.

##### 3.1.4 *Galilee Basin CSG*

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

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

Five pilot wells were drilled during the Quarter as part of the pre-development, multi-well pilot programme. Two further multi-well pilots and a single-well pilot are due to be drilled in the first half of 2011.

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

No exploration drilling or exploration seismic activities were undertaken during the Quarter.

The 2010 SWQ seismic programme has been further delayed due to the rain and flooding.

### **3.4 Offshore Otway Basin (Victoria/Tasmania)**

The Speculant Transition Zone 3D seismic survey was successfully acquired over the nearshore waters of Vic/RL2(V) and the adjacent onshore areas to define the limits of the Speculant lead.

Planning continued for the acquisition of two 3D seismic surveys within T/30P and VIC/P43 in the March 2011 Quarter. Reprocessing of the earlier Aragorn 3D seismic survey which lies within T/30P and T/34P will be undertaken in conjunction with the processing of the new survey data.

### **3.5 Bass Basin (Tasmania)**

The Silvereve 1 gas exploration well in T/44P was drilled during the Quarter using the Kan Tan IV semi-submersible drilling rig. The well did not intersect any significant hydrocarbons and was plugged and abandoned.

Post-well analysis 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.

Planning continued for the acquisition and processing of a 3D seismic survey within T/18P which will be acquired using the same vessel as the Otway 3D surveys.

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

The seismic reprocessing project designed to evaluate near-field opportunities across the TAWN fields has been completed and interpretation has commenced.

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

### **3.7 Surat Basin (Queensland)**

Technical and economic evaluations of exploration opportunities continued.

### **3.8 Onshore Perth Basin (Western Australia)**

Cased hole testing of Wolf 1, drilled in the previous Quarter to investigate the extent of the Redback South 1 gas accumulation, is expected to occur later in 2011.

A review of the unconventional gas resource potential of the Perth Basin is in progress.

### **3.9 Bonaparte Basin, Western Australia/Northern Territory**

No significant activity to report.

### **3.10 Offshore Northland Basin (New Zealand)**

Two wells, Korimako-1 and Tarapunga-1, were drilled in PEP 38619 using the Kan Tan IV semi-submersible drilling rig. Both wells were plugged and abandoned without encountering any significant hydrocarbon shows.

### **3.11 Offshore Canterbury Basin (New Zealand)**

The Operator, Anadarko, continued to review seismic data over the Carrack-Caravel prospect trend to define the optimal location for an exploration well in PEP 38262.

Anadarko also commenced preparations for a 2D seismic survey in PEP 38264 scheduled for the March Quarter 2011.

### **3.12 Offshore Lamu Basin (Kenya)**

Interpretation of the Mbawa 3D marine survey is progressing. PSDM processing of the data set continues and is expected to be completed during the March Quarter 2011 ahead of a decision to drill.

### **3.13 Block 121 - Song Hong Basin (Vietnam)**

Acquisition of a 3D seismic survey of approximately 1,100 sq km was completed in the Quarter and the acquired data are now undergoing processing in Vietnam.

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

Post-drilling reviews following the 31-THX-1X (Tom Hum Xanh) well are ongoing with planning for a commitment well now being undertaken.

### **3.15 Khorat Basin (Thailand and Lao PDR)**

Final well site construction and planning is in progress for the drilling of two wells in Block L15/50 (Thailand). The first of these two wells, to be drilled under a farm-in agreement with Salamander Energy, will be spudded in the March Quarter 2011.

#### 4. DRILLING ACTIVITY

##### 4.1 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
Korimako-1	Offshore Northlands - NZ	Gas	100.00	P&A
Tarapunga-1	Offshore Northlands - NZ	Gas	100.00	P&A
Silvereye-1	Bass Basin - Tas	Gas	50.00	P&A
Duke 20	Surat Basin - Qld	CSG	100.00	Pilot
Duke 21	Surat Basin - Qld	CSG	100.00	Pilot
Duke 23	Surat Basin - Qld	CSG	100.00	Pilot
Duke 22	Surat Basin - Qld	CSG	100.00	Pilot
Duke 19	Surat Basin - Qld	CSG	100.00	Pilot
Woleebee North 1	Surat Basin - Qld	CSG	50.00	Core
Sandpit 1	Surat Basin - Qld	CSG	46.36	Core
Wygi Creek 2	Surat Basin - Qld	CSG	50.00	DST
Carinya South 1	Surat Basin - Qld	CSG	50.00	Core
Wygi Creek 3	Surat Basin - Qld	CSG	50.00	DST
Horse Creek 16	Surat Basin - Qld	CSG	46.36	DST
Dalwogan 17	Surat Basin - Qld	CSG	50.00	DST
Broadwater 7	Surat Basin - Qld	CSG	15.625	Pilot
Jen 13	Surat Basin - Qld	CSG	15.625	Pilot
Jen 8	Surat Basin - Qld	CSG	15.625	Pilot
Jen 9	Surat Basin - Qld	CSG	15.625	Pilot
Clunie 10	Surat Basin - Qld	CSG	15.625	Pilot
Jen 10	Surat Basin - Qld	CSG	15.625	Pilot
Clunie 8	Surat Basin - Qld	CSG	15.625	Pilot
Jen 11	Surat Basin - Qld	CSG	15.625	Pilot
Clunie 7	Surat Basin - Qld	CSG	15.625	Pilot
Clunie 9	Surat Basin - Qld	CSG	15.625	Pilot
Barney 5	Surat Basin - Qld	CSG	15.625	Pilot
Poppy 3	Surat Basin - Qld	CSG	15.625	Pilot
Spring Gully 123	Bowen Basin - Qld	CSG	49.86	Core
Membrance 2	Bowen Basin - Qld	CSG	50.00	Core
Mount Kingsley 2	Bowen Basin - Qld	CSG	11.925	Pilot
Hilltop 2	Bowen Basin - Qld	CSG	11.925	Core
Springwater 7	Bowen Basin - Qld	CSG	11.965	Core
Mount Kingsley 3	Bowen Basin - Qld	CSG	11.925	Pilot
Springwater 7A	Bowen Basin - Qld	CSG	11.965	Core
Mount Kingsley 4	Bowen Basin - Qld	CSG	11.925	Pilot
Mount Kingsley 5	Bowen Basin - Qld	CSG	11.925	Pilot

## 4.2 Development

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

Development Wells	Basin/Area	Target	Origin effective Interest %	Well Status
Cook 15	Eromanga - Qld	Oil	25.00	C&S, Oil
Cook 19	Eromanga - Qld	Oil	25.00	C&S, Oil
Coonatie 14	Cooper/Eromanga - SA	Gas	10.536	C&S, Gas
Coonatie 15	Cooper/Eromanga - SA	Gas	10.536	Spudded 28 Dec
Coonatie 18	Cooper/Eromanga - SA	Gas	10.536	C&S, Gas
Strzelecki NE 1	Cooper/Eromanga - SA	Gas	13.190	C&S, Gas
Tirrawarra 78	Cooper/Eromanga - SA	Gas	13.190	C&S, Gas
Tirrawarra 79	Cooper/Eromanga - SA	Gas	13.190	C&S, Gas
Talinga 119	Surat Basin - Qld	CSG	50.00	C&S
Talinga 118	Surat Basin - Qld	CSG	50.00	C&S
Talinga 117	Surat Basin - Qld	CSG	50.00	C&S
Talinga 71	Surat Basin - Qld	CSG	50.00	C&S
Fairview 504	Bowen Basin - Qld	CSG	11.965	C&S
Fairview 502	Bowen Basin - Qld	CSG	11.965	C&S
Fairview 515	Bowen Basin - Qld	CSG	11.965	C&S
Fairview 514	Bowen Basin - Qld	CSG	11.965	P&A

## 5. ACQUISITIONS/DIVESTMENTS

During the Quarter:

- APLNG has lodged applications for two petroleum leases, one each in ATP 606P (numbered PLA 445 (Woleebee North)) and in ATP 692P (numbered PLA 444 (Sandpit)).
- Santos has lodged an application for a petroleum lease (PLA 440) in ATP 526P. It has also applied for three potential commercial areas (PCAs) in ATP 631P.
- QGC has lodged an application for a petroleum lease (PLA 442) in ATP 648P.
- Application has been made to the Lao authorities by the Savannahket Joint Venture to surrender the Savannahket PSC, Laos, following evaluation of earlier drilling results and the prospectivity of the permit .



## 6. CAPITAL EXPENDITURE

Total expenditure on exploration and evaluation activities and capital expenditure on development and production activities. Expenditure in the current financial year is preliminary and subject to audit review.

<u>Australian Operations</u>	A\$'000	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Exploration/ Evaluation		51,949	17,751	(193)	47,860	69,700	54,806
Development/ PP&E		30,863	41,427	26	52,840	72,290	78,303
<b>Total</b>		<b>82,812</b>	<b>59,178</b>	<b>(40)</b>	<b>100,700</b>	<b>141,990</b>	<b>133,109</b>

ConocoPhillips is funding capital expenditure within the Australia Pacific LNG joint venture up to a cumulative total of A\$2.3 billion leading up to a final investment decision for the proposed LNG development. As such Origin has not incurred any capital expenditure in relation to APLNG.

<u>New Zealand Operations</u>	NZ\$'000	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Exploration/ Evaluation		37,095	4,117	(801)	609	41,212	609
Development/ PP&E		4,935	4,188	(18)	27,322	9,123	70,949
<b>Total</b>		<b>42,030</b>	<b>8,305</b>	<b>(406)</b>	<b>27,931</b>	<b>50,335</b>	<b>71,558</b>

<u>International Operations #</u>	A\$'000	This Quarter	Previous Quarter	% Change	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Exploration/ Evaluation		9,509	9,554	-	6,761	19,063	7,232
Development/ PP&E		-	-	-	-	-	-
<b>Total</b>		<b>9,509</b>	<b>9,554</b>	<b>-</b>	<b>6,761</b>	<b>19,063</b>	<b>7,232</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	Dec Quarter 2009	YTD 2010/11	YTD 2009/10
Exploration/ Evaluation		89,993	30,567	(194)	55,108	120,560	62,527
Development/ PP&E		34,659	44,746	23	74,698	79,405	135,290
<b>Total</b>		<b>124,652</b>	<b>75,313</b>	<b>(66)</b>	<b>129,806</b>	<b>199,965</b>	<b>197,817</b>

- **Exploration and Evaluation Expenditure:**
  - Total exploration and evaluation expenditure on successful and unsuccessful exploration activities as reported above for the Half Year to 31 December 2010 amounted to \$121 million, compared with \$63 million in the Half Year to 31 December 2009.
  - A significant portion of this expenditure was associated with an expanded offshore and international drilling campaign. Since July 2010, Origin participated in the drilling or testing of 5 exploration wells as part of this campaign, including; final testing of the Bang Nouan 1 well in Laos; drilling of the 31-THX-1X well in offshore Vietnam; drilling of the Korimako 1 and Tarapunga 1 wells in New Zealand waters and the drilling of the Silvereye 1 well in the Bass Basin Australia. None of these wells are assessed to have encountered commercial hydrocarbons. It is therefore expected that the majority of expenditure associated with this exploration program will be expensed in Origin's accounts for the Half Year to 31 December 2010, compared with an expense of \$22 million in the Half Year to 31 December 2009.

## 7. ORIGIN'S INTERESTS

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

Basin/Project Area	Permits (Origin current beneficial interest) (* Denotes Operatorship)
<b>Australia</b>	
<i>Surat Basin (Qld)</i>	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%*); ATP 470P Formosa Downs (42.7192%*); 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%)
<i>CSG (Qld)</i>	ATP788P Shallows (100%*)
<i>Onshore Otway Basin</i>	
- <i>Victoria</i>	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>	
- <i>Victoria</i>	VIC/L23 and VIC/P43 (67.23%*); VIC/RL2(V) (100%*)
- <i>Tasmania</i>	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>	
- <i>Qld</i>	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%)
- <i>SA</i>	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%*) and PML 38140 (below base of Tikorangi Formation) and PML 38141 (below base of Tikorangi Formation) (50%*); PML 38146 (50%*) and PEP 38485 (33.33%)
<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 (75%*)
<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)
<b>Laos</b>	
<i>Khorat Plateau</i>	Savannahket PSC (30%) (subject to farm-in agreement with Salamander)

## 7.2 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) (* 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)

## 8. CONVERSION FACTORS AND ABBREVIATIONS

### 8.1 Conversion Factors

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

## 8.2 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>mmscfd</b>	million standard cubic feet per day
<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>Water Inj</b>	water injection well