

# EARTH RESOURCES REGULATION

2014 – 2015 STATISTICAL REPORT



## TABLE OF CONTENTS

Executive Summary.....	3
Introduction .....	4
Petroleum, Geothermal and Pipelines.....	5
Petroleum .....	5
Petroleum Tenements .....	5
Petroleum Exploration and Development .....	7
Geothermal Energy .....	8
Geothermal Energy Tenements .....	8
Geothermal Energy Exploration.....	8
Pipelines.....	9
Minerals .....	10
Mineral Tenements.....	10
Mineral Exploration and Mining Expenditure.....	13
Mineral Production .....	15
Extractive industry .....	18
Revenue and Bonds .....	20
Revenue .....	20
Rehabilitation Bonds.....	21
Monitoring, Compliance and Enforcement.....	23

## EXECUTIVE SUMMARY

In the 2014/15 financial year, activity and investment in the earth resources industries continued consistent with the trend of previous financial years. The petroleum and geothermal sector showed a decrease in activity, and mineral exploration expenditure increased by 5.9% in 2014/15. Brown coal production remained relatively stable, showing a slight increase in production.

In the petroleum sector, production remained limited to production and injection at the Iona gas storage facility and carbon dioxide production at Boggy Creek, both of which are located in the onshore Otway Basin area. A hydrocarbon discovery was reported within the area contained within Offshore Petroleum Production Licence VIC/L1 (V).

Investment in geothermal energy resource exploration totalled \$621,087. No wells were drilled during the financial year due to the continuing moratorium on fracking and onshore natural gas exploration. There was no geothermal energy production.

The number of licence applications received by ERR fell in the 2014/15 financial year. The number of licences granted and renewed fell in the 2014/15 financial year. The total number of active licences at 30 June 2015 fell by 5.5% from 494 to 467 as compared to 30 June 2014.

The minerals sector continued to reflect the trend of the past 5 years that shows that there has been a fluctuating demand for minerals. Production of brown coal showed a marginal increase in production. Gold production volume decreased by almost 12% from 225,168 ounces to 198,387 ounces. Gold production value also fell as a result from \$303.4 million to \$286.9 million, a 5.4% reduction in production value.

Mineral exploration expenditure rose with a reduction in mining expenditure. Mining expenditure rose in relation to brown coal yet declined in relation to gold and heavy mineral sands. Exploration expenditure increased in relation to all mineral resources.

Value sales of extractive industry products increased by \$75.35 million in 2014/15, an increase of 11.1%. Volume sales increased from 40.3 million tonnes to 50.0 million tonnes, an increase of 24.1%.

In 2014/15, state revenue (rent, royalty and administrative charges) derived from the earth resources sector totalled \$51.8 million, an increase of \$1.7 million or 3.3%. The amounts collected in relation to rent and fees & charges fell while amounts collected in relation to royalty and mine stability levy increased.

The Statistical Report is a compilation of data as reported by Victoria's earth resources industry. The report includes data on production, exploration, expenditure, licensing, revenues and regulatory actions.

Victoria's earth resource industry production includes:

- gas and carbon dioxide – from onshore;
- brown coal – used almost exclusively for power generation;
- gold;
- antimony;
- industrial minerals – including gypsum, feldspar, rutile, zircon, ilmenite and kaolin; and
- rock, sand and clay – used mainly for building and road construction.

Earth Resources Regulation Branch in the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) - is responsible for the regulation of the minerals, extractives, petroleum, pipelines, geothermal and carbon storage industries in Victoria and offshore (Victorian) waters. The Branch provides a consistent and transparent tenement management regime, together with monitoring and enforcement that ensure these industries comply with their statutory obligations and meet community expectations.

Earth Resources Regulation Branch administers the following Acts:

- *Mineral Resources (Sustainable Development) Act 1990* (MRSDA) (mineral exploration, mining and quarrying);
- *Offshore Petroleum and Greenhouse Gas Storage Act 2010* (OPGGSA) (petroleum exploration and development, greenhouse gas storage and pipelines in the Victorian offshore waters);
- *Petroleum Act 1998* (petroleum exploration and development onshore);
- *Pipelines Act 2005* (licensing and regulation of high pressure pipelines onshore);
- *Geothermal Energy Resources Act 2005* (geothermal energy exploration and development); and
- *Greenhouse Gas Geological Sequestration Act 2008* (greenhouse gas storage onshore).

PETROLEUM

Victoria’s petroleum exploration is concentrated in the Otway and Gippsland Basins, with activities undertaken onshore and within Victorian offshore waters. Production activity is limited to the Otway Basin.

Offshore activities concern waters effectively within three nautical miles of the coast, as covered by Victorian legislation. Waters greater than three nautical miles offshore from the coast are Commonwealth waters and are as such covered by Commonwealth legislation and therefore not included in this report.

PETROLEUM TENEMENTS

In 2014/15, no offshore petroleum production licence applications were received. One offshore petroleum production licence received in the last financial year, was granted. Two offshore petroleum exploration permits were granted, these applications were made in the previous financial year. No offshore petroleum retention leases were granted and no applications were received.

**Table 1.1 Overview of petroleum tenements current as at 30 June 2015**

	Petroleum Exploration Permits (PEPs)	Petroleum Retention Leases (PRLs)	Petroleum Production Licences (PPLs)
Onshore	11	3	13
Offshore (Vic)	3	1	1

Source: DEDJTR

ONSHORE

No onshore petroleum retention licence applications were received or granted. No onshore petroleum exploration permits were granted with no applications received.

**Table 1.2 Overview of onshore petroleum exploration permits (PEPs)**

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
PEP Application Received	0	0	0	4	1	0	0	0
PEP Granted	1	0	0	1	0	2	2	0

Source: DEDJTR

**Table 1.3 Overview of onshore petroleum retention licences (PRLs)**

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
PRL Application Received	0	0	0	0	0	0	0	0
PRL Granted	1	0	0	0	0	0	0	0

Source: DEDJTR

## OFFSHORE (STATE WATERS)

Two offshore petroleum exploration permits were granted with no applications received. No applications for offshore petroleum retention licences were received nor were any granted. One offshore petroleum production licence was granted with no applications received.

**Table 1.4 Overview of offshore petroleum exploration permits (VIC/P(V)s)**

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
VIC/P(V) Application Received	0	0	1	0	0	2	0
VIC/P(V) Granted	0	0	0	1	0	0	2

Source: DEDJTR

**Table 1.5 Overview of offshore petroleum retention leases (VIC/RL(V)s)**

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
VIC/RL(V) Application Received	1	0	0	0	0	0	0
VIC/RL(V) Granted	1	0	0	0	0	0	0

Source: DEDJTR

**Table 1.6 Overview of offshore petroleum production licences (VIC/L(V)s)**

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
VIC/L(V) Application Received	0	0	0	0	0	1	0
VIC/L(V) Granted	0	0	0	0	0	0	1

Source: DEDJTR

## PETROLEUM EXPLORATION AND DEVELOPMENT

No drilling or seismic activities occurred in Victoria. \$1,525,134 in expenditure was reported on onshore petroleum exploration permits and retention leases. The majority of this expenditure was spent on geophysical studies, geophysical logging and administration.

\$2,645,908 in expenditure was reported on offshore tenements. No wells were drilled, nor any seismic surveys undertaken, the majority of expenditure was represented by geological studies, studies on licensing and permits, ongoing capital appraisal work and market studies.

### DRILLING

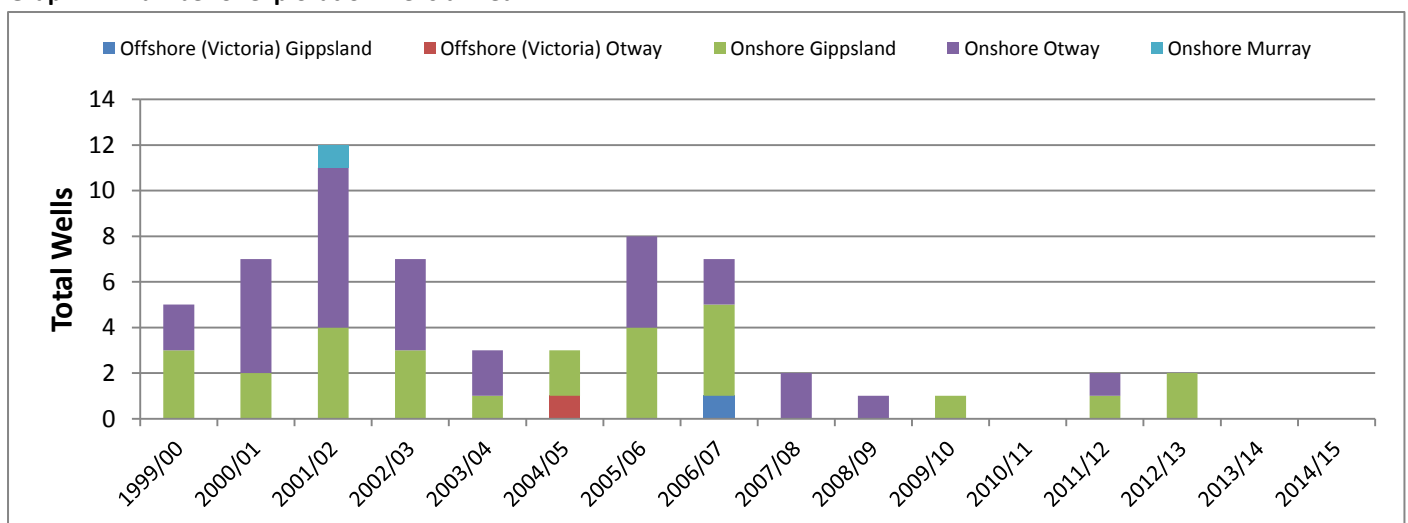
In the course of 2014/15, no onshore wells were drilled in Victoria as a result of the moratorium on onshore natural gas and hydraulic fracturing.

**Table 1.7 Number of exploration wells drilled in Victoria**

Year	Offshore (Vic) Gippsland	Offshore (Vic) Otway	Onshore Gippsland	Onshore Otway	Onshore Murray	Total wells
1999/00	0	0	3	2	0	5
2000/01	0	0	2	5	0	7
2001/02	0	0	4	7	1	12
2002/03	0	0	3	4	0	7
2003/04	0	0	1	2	0	3
2004/05	0	1	2	0	0	3
2005/06	0	0	4	4	0	8
2006/07	1	0	4	2	0	7
2007/08	0	0	0	2	0	2
2008/09	0	0	0	1	0	1
2009/10	0	0	1	0	0	1
2010/11	0	0	0	0	0	0
2011/12	0	0	1	1	0	2
2012/13	0	0	2	0	0	2
2013/14	0	0	0	0	0	0
2014/15	0	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>1</b>	<b>27</b>	<b>30</b>	<b>1</b>	<b>60</b>

Source: DEDJTR

**Graph 1.1 Number of exploration wells drilled**



Source: DEDJTR

## GEOPHYSICAL SURVEYS

No geophysical surveys were conducted in 2014/15.

## HYDROCARBON DISCOVERIES

There was one hydrocarbon discovery made by Origin Energy Resources Pty Ltd, in an offshore area on 9 December 2014 within the area contained in Offshore Petroleum Production Licence VIC/L1 (V).

## PRODUCTION

Production is currently limited to carbon dioxide production at Boggy Creek and gas injection and production at the Iona gas storage facility which are both onshore facilities located in the Otway basin.

**Table 1.8: Otway onshore production and injection 2014/15**

Field	Condensate (bbl*)	Gas Production (MMscf**)	CO2 Prod. (tonnes)	Gas Injection (MMscf)	Comments
Iona	669.82	10,290.98	-	11,797.26	Gas Storage
Boggy Creek	Negligible	-	35,103.20	-	CO2 Production

Source: DEDJTR

\*bbl = barrels \*\*MMscf = million standard cubic feet

## GEOTHERMAL ENERGY

As at 30 June 2015, six geothermal energy exploration permits were current, following the surrender of seven permits in 2013/14. There were no granted geothermal energy retention leases or production licences. Any geothermal energy activities in Victoria remain limited to exploration.

## GEOTHERMAL ENERGY TENEMENTS

No geothermal energy tenements were applied for or granted in 2014/15.

**Table 1.9 Overview of geothermal energy tenements**

Description	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
GEP Application Received	26	0	0	0	0	0	0	0
GEP Granted	11	0	0	0	0	0	0	0

Source: DEDJTR

## GEOTHERMAL ENERGY EXPLORATION

There were no exploration activities that involved drilling or geophysical surveys. Most of the reported activities comprised of geological and geophysical data compilation and analysis, geothermal modelling and administration.



## PIPELINES

Licences are granted for the construction and operation of high pressure pipelines, primarily to convey hydrocarbons, including natural gas, crude oil and petroleum products. Pipeline licences are granted onshore under the *Pipelines Act 2005* and offshore in Victorian waters under the *Offshore Petroleum and Greenhouse Gas Storage Act 2010*. Pipeline licences in offshore Victorian waters are used to convey onshore hydrocarbons originating from petroleum production facilities in offshore (Commonwealth) waters to onshore processing facilities.

In 2014/15, three pipeline licences were applied for, and no pipeline licences were granted. There were a total of 18 alterations to pipeline routes registered, with 11 classified as minor alterations and 7 classified as significant alterations.

**Table 1.10 Onshore pipeline licences (PL) applications received and granted**

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
PL Application Received	0	0	0	1	0	0	2	3
PL Granted	2	1	0	0	1	0	1	0

Source: DEDJTR

**Table 1.11 Offshore pipeline licences (PL) applications received and granted (state waters)**

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
PL Application Received	0	1	0	0	0	0	0	0
PL Granted	0	0	0	0	0	0	0	0

Source: DEDJTR

**Table 1.12 Pipeline licences (PLs) current as at 30 June 2015**

Tenement	Number of PLs
Onshore	214
Offshore (Vic)	13

Source: DEDJTR

**Table 1.13 Onshore pipeline licence alterations of route registered**

Type of Alteration of Route	Number of registrations
Minor	11
Significant	7
<b>Total</b>	<b>18</b>

Source: DEDJTR

MINERAL TENEMENTS

The number of exploration and mining licences fell in relation to the previous year due to licence expirations and surrenders as well as a reduction in the overall number of applications received for new licences. The number of current retention and prospecting licences increased in comparison to 2013/14.

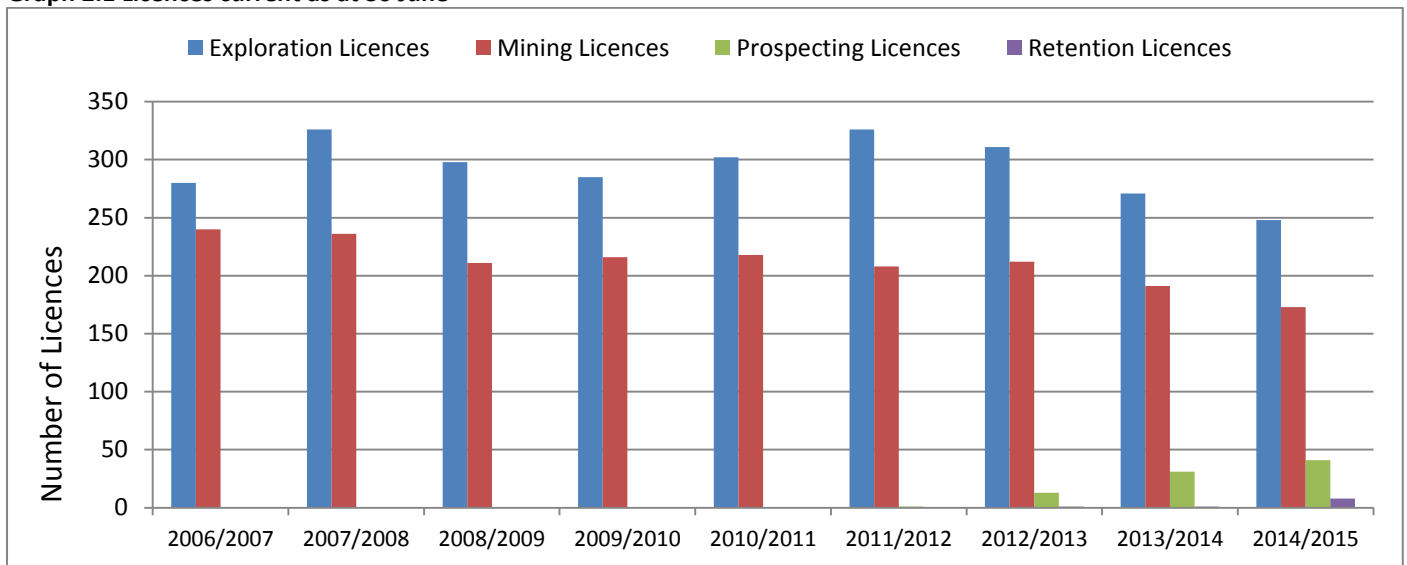
As in the previous year, the majority of the applications for new licences under the MRSDA were made for exploration licences. The overall number of applications dropped from 151 to 130, all application types showed a decrease in the number of applications made in comparison to 2013/14.

Table 2.1 Licences current as at 30 June

Tenement Type	2008	2009	2010	2011	2012	2013	2014	2015
Exploration Licences	326	298	285	302	326	311	271	247
Mining Licences	236	211	216	218	208	212	191	171
Prospecting Licences	n/a	n/a	n/a	n/a	1	13	31	41
Retention Licences	n/a	n/a	n/a	0	0	1	1	8
<b>Totals</b>	<b>562</b>	<b>509</b>	<b>501</b>	<b>520</b>	<b>535</b>	<b>537</b>	<b>494</b>	<b>467</b>
<b>Change year-on-year (%)</b>	-	-9.4	-1.6	3.8	2.9	0.4	-8.0	-5.5

Source: DEDJTR

Graph 2.1 Licences current as at 30 June



Source: DEDJTR

**Table 2.2 New licence applications and licence renewals in 2014/15**

	Received	Granted / Renewed	Withdrawn	Refused
New Exploration Licence Applications	49	37	14	0
Renewal Exploration Licence Applications	35	19	3	0
<b>Sub Total Exploration Licence Applications</b>	<b>84</b>	<b>56</b>	<b>17</b>	<b>0</b>
New Mining Licence Applications	3	3	1	0
Renewal Mining Licence Applications	20	14	0	0
<b>Sub Total Mining Licence Applications</b>	<b>23</b>	<b>17</b>	<b>1</b>	<b>0</b>
New Prospecting Licence Applications	14	13	1	0
New Retention Licence Applications	9	7	1	0
<b>Total</b>	<b>130</b>	<b>93</b>	<b>20</b>	<b>0</b>

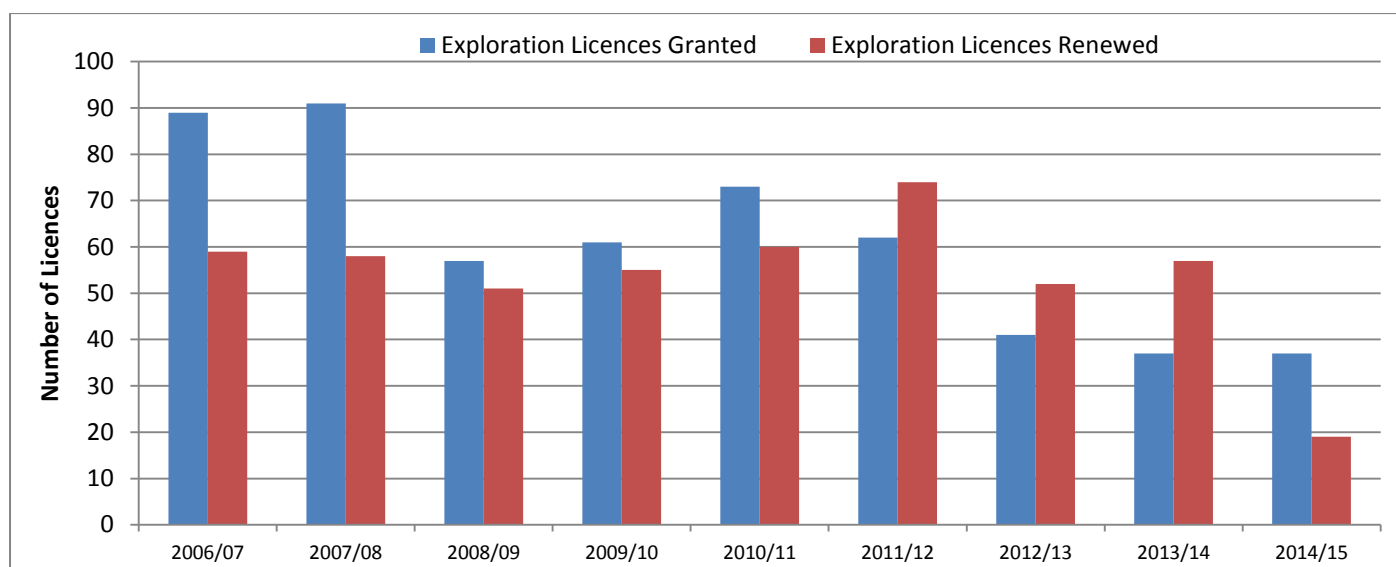
Source: DEDJTR

**Table 2.3 Licences granted and renewed**

Year	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Exploration Licences Granted	91	57	61	73	62	41	37	37
Exploration Licences Renewed	58	51	55	60	74	52	57	19
<b>Subtotal Exploration Licences Granted and Renewed</b>	<b>149</b>	<b>108</b>	<b>116</b>	<b>133</b>	<b>136</b>	<b>93</b>	<b>94</b>	<b>56</b>
Mining Licences Granted	11	14	15	20	12	11	9	3
Mining Licences Renewed	21	41	30	23	21	14	28	14
<b>Sub Total Mining Licences Granted and Renewed</b>	<b>32</b>	<b>55</b>	<b>45</b>	<b>43</b>	<b>33</b>	<b>25</b>	<b>37</b>	<b>17</b>
Prospecting Licences Granted	0	0	0	0	1	12	18	13
Retention Licences Granted	0	0	0	0	0	0	1	7
<b>Total Licences</b>	<b>181</b>	<b>163</b>	<b>161</b>	<b>176</b>	<b>170</b>	<b>130</b>	<b>150</b>	<b>93</b>

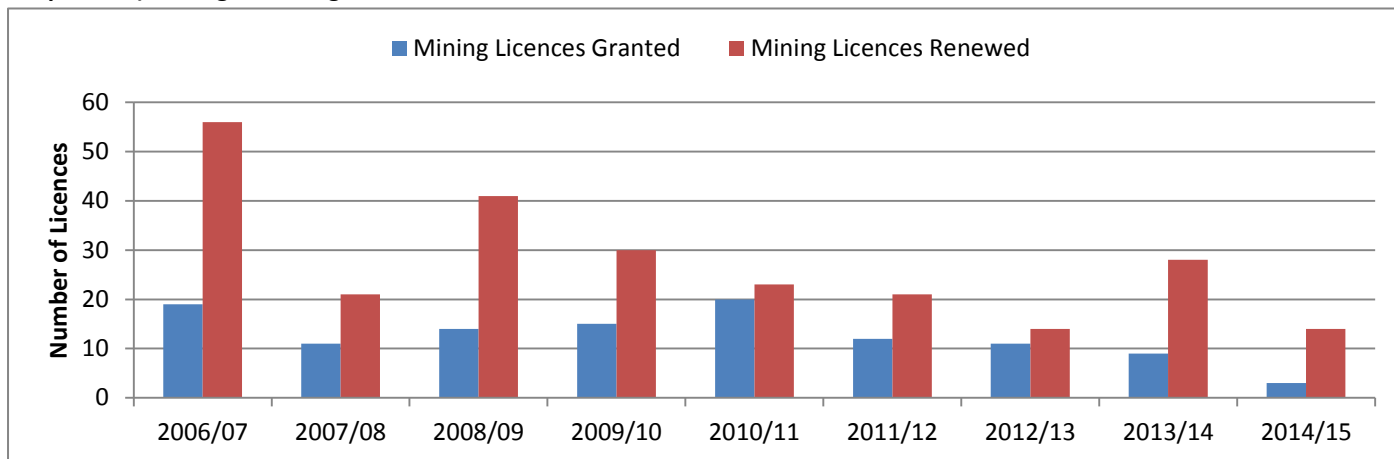
Source: DEDJTR

**Graph 2.3 a) Exploration licences granted and renewed**



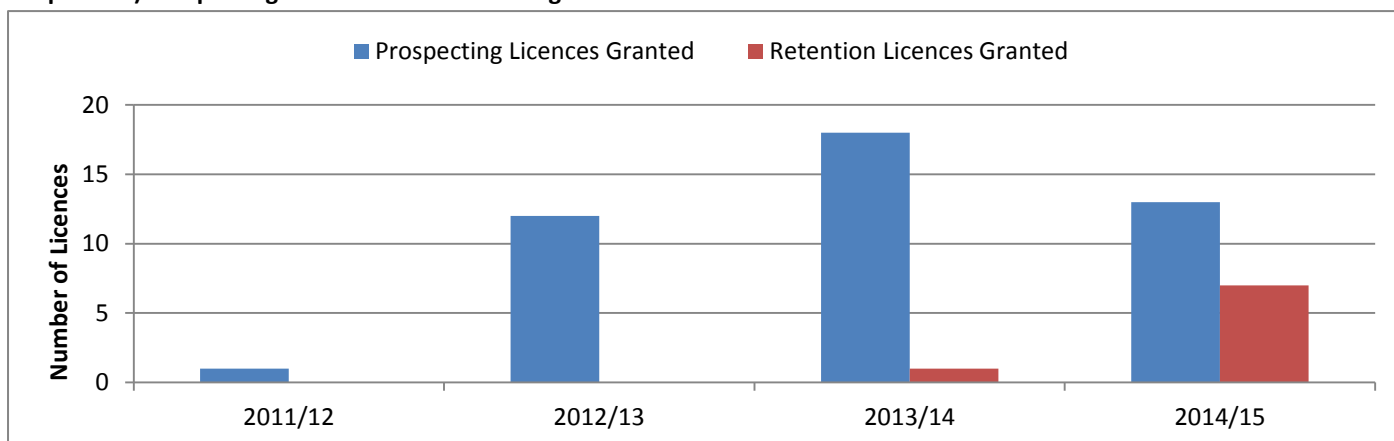
Source: DEDJTR

**Graph 2.3 b) Mining licences granted and renewed**



Source: DEDJTR

**Graph 2.3 c) Prospecting\* and retention licences granted**



Source: DEDJTR \* Prospecting licence cannot be renewed.

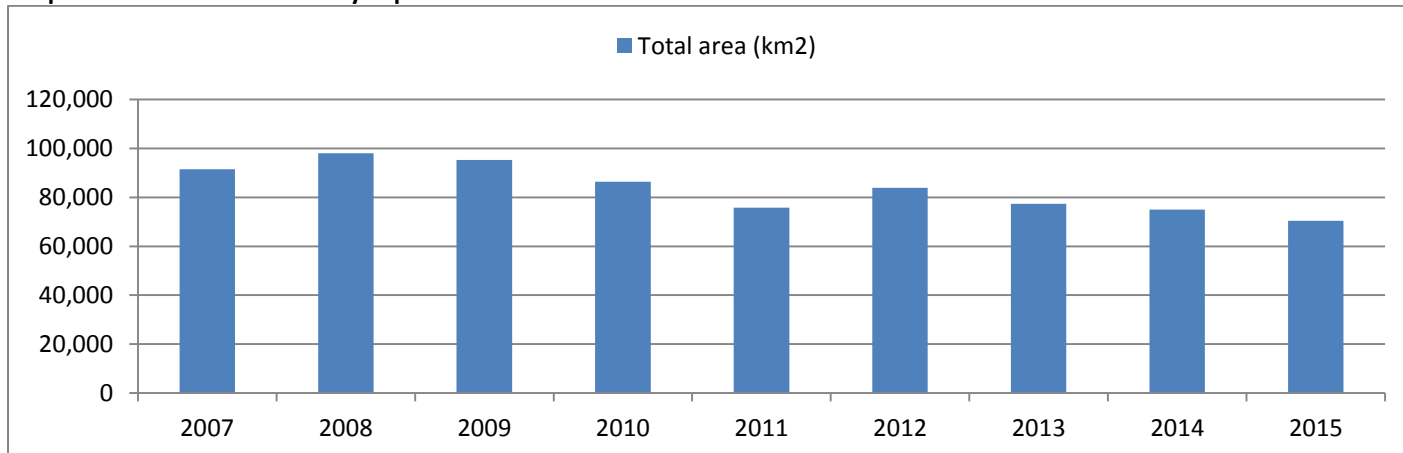
The total area of Victoria covered by exploration licences (current and in application) on 30 June 2015 was 70,474km<sup>2</sup>, which marked a reduction in comparison to the 2014 figure. This correlates to a downward trend as observed within the industry and points to a reduction in the scale of the mining industry.

**Table 2.4 Total area covered by exploration licences (current and in application as at 30 June)**

	2008	2009	2010	2011	2012	2013	2014	2015
<b>Total area (km2)</b>	98,086	95,240	86,365	75,753	83,900	77,366	75,018	70,474

Source: DEDJTR

**Graph 2.4 Total area covered by exploration licences**



Source: DEDJTR

## MINERAL EXPLORATION AND MINING EXPENDITURE

Mineral exploration expenditure is an indicator of activity within the mineral industry. Australian Bureau of Statistics (ABS) data shows a decrease of 29.75% in Victorian exploration expenditure in 2014/15 as compared to 2013/14. This is a sharp decline and reflects the trend in overall exploration expenditure Australia wide over the same period, from \$2,108.8 million to \$1,575 million, a decrease of 25.28%. *Mineral Resources (Sustainable Development) Act 1990 (MRSDA)* data on mining exploration shows an increase in the amount spent on exploration from \$30.5 million to \$32.3 million, a modest increase of 5.9%. MRSDA data shows that expenditure on mining has fallen 4.3% from \$650.3 million to \$622.3 million.

**Table 2.5 Expenditure on mineral exploration and mining development (\$A million)**

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
<b>Mineral Exploration (ABS)<sup>1</sup></b>	93.7	62.2	84.8	57.4	58.5	38.6	32.6	22.9
<b>MRSDA Exploration<sup>2</sup></b>	76.7	69.9	58.4	31.7	37.8	39.7	30.5	32.3
<b>MRSDA Mining<sup>3</sup></b>	576.6	923.3	742	719.2	813.8	701.2	650.3	622.3

Source: Figures collated from activity reports forwarded to DEDJTR required by the MRSDA, and ABS, Actual and Expected Private Mineral Exploration (Catalogue No. 8412.0)

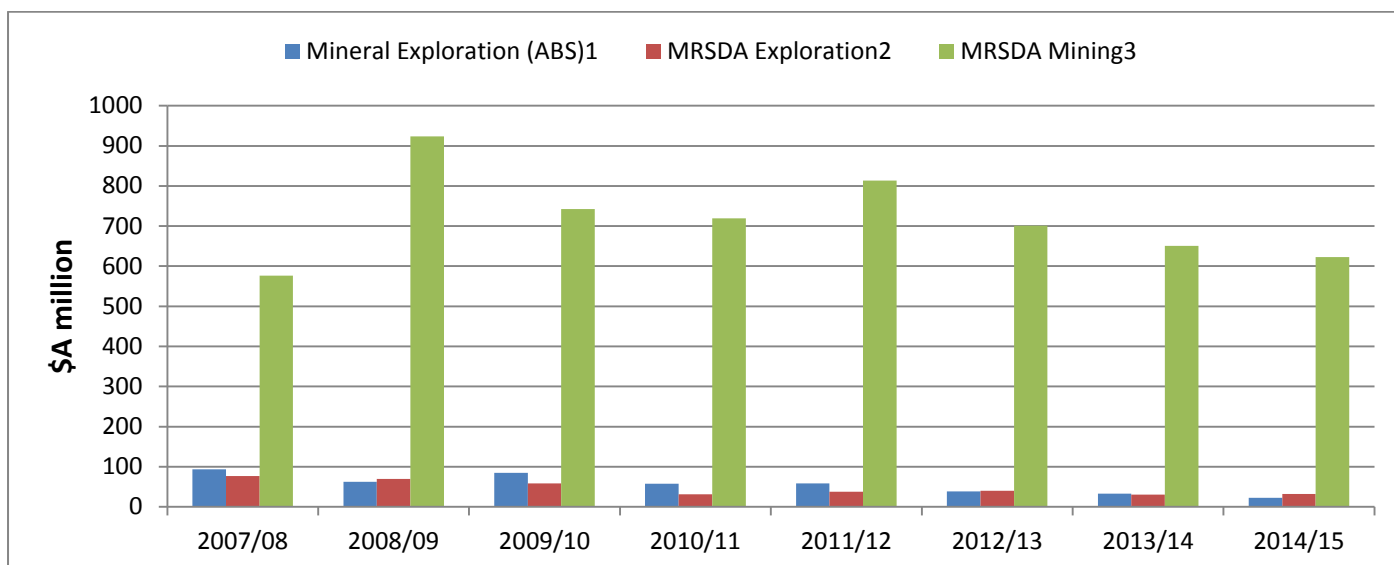
<sup>1</sup> The Australian Bureau of Statistics (ABS) reports quarterly on private mineral exploration expenditure for all Australian States and the Northern Territory (NT). Victorian mineral exploration and mining expenditure is also reported in accordance with the requirement of the MRSDA. The ABS exploration expenditure statistics can vary significantly from expenditure reported under the MRSDA. The difference between these two exploration expenditure data sets is mainly due to the difference in methodologies for data collection, and the inclusion of the exploration expenditure on mining licences in the MRSDA figure. The ABS statistics are a valid basis for comparison of Victorian expenditure with that of other States/NT. However, the MRSDA figures provide greater detail.

<sup>2</sup> Change of metric - expenditure on Exploration and Retention Licences with an Expenditure Reporting Period that ends within the Financial Year

<sup>3</sup> The MRSDA mining expenditure figure covers all expenditure on mining and prospecting licences (including capital and operating expenses), less any specified exploration expenditure on mining and prospecting licences.

By sector, exploration in gold mining accounted for almost one quarter (23.3%) of all exploration expenditure. Exploration in brown coal accounted only for 1.2% of total exploration expenditure, reflective of wider industry and social trends.

**Graph 2.5 Expenditure on mineral exploration and mining development**



Source: DEDJTR

**Table 3.6 Expenditure on mineral exploration and mining development by sector\***

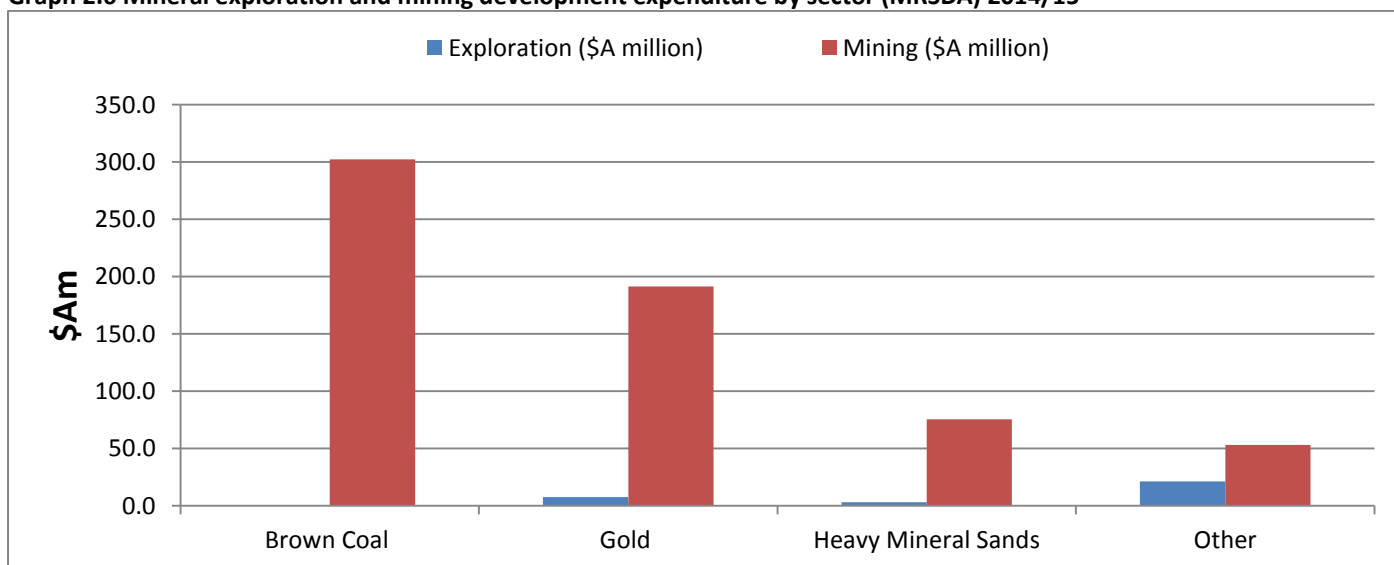
Sector	Exploration (\$A million)	As % of total	Mining (\$A million)	As % of total
Brown Coal	0.4	1.2%	302.4	49%
Gold	7.5	23.3%	191.5	31%
Heavy Mineral Sands	3.1	9.6%	75.4	12%
Other**	21.3	65.9%	53.0	9%
<b>Total</b>	<b>32.3</b>	<b>100.0%</b>	<b>622.3</b>	<b>100%</b>

Source: DEDJTR

\*Notes: Expenditures are allocated to commodity according to the primary nominated mineral commodity on the licence. Brown coal includes all coal types.

\*\* "Other" includes cases where there is more than one primary mineral

**Graph 2.6 Mineral exploration and mining development expenditure by sector (MRSDA) 2014/15**



Source: DEDJTR

## MINERAL PRODUCTION

Victorian mineral production is comprised mainly of brown coal, gold, mineral sands and antimony.

Brown coal production continues to be dominated by electricity generation companies in the Latrobe Valley, Hazelwood Power Corporation, AGL and Energy Australia. The Maddingley Brown Coal company produces a small amount of coal in Bacchus Marsh for fuel and soil conditioning.

Brown coal production increased by 2.95 million tonnes in 2014/15, a 5.1% increase as compared to 2013/14.

Gold production dropped from 225,168 ounces to 198,387 ounces, a reduction of 11.9%. Gold production values dropped from \$303.4 million to \$286.9 million, a 5.4% reduction in gold production value.

**Table 2.7 Mineral production over time\***

Year	Brown Coal	Gold	Antimony	Copper Concentrate	Zinc Concentrate	Zircon	Rutile	Ilmenite	Feldspar	Gypsum	Kaolin and fine clay
1993/94	49,683	125,960	-	16,287	1,012	-	-	-	-	176,800	105,400
1994/95	49,922	138,876	-	13,163	5,947	-	-	-	-	193,100	79,500
1995/96	54,281	155,550	-	1,338	6,384	-	-	-	-	198,667	55,065
1996/97	60,795	151,229	-	-	-	-	-	-	-	501,495	114,778
1997/98	65,274	160,122	-	-	-	-	-	-	25,703	479,820	166,100
1998/99	66,648	159,088	-	-	-	-	-	-	45,293	404,917	180,634
1999/00	67,363	154,043	-	-	-	-	-	-	46,162	462,806	201,436
2000/01	64,958	122,632	-	-	-	1,307	5,921	-	53,148	437,694	203,753
2001/02	66,661	112,283	-	-	-	3,702	16,805	28,123	56,757	600,931	202,370
2002/03	66,809	107,544	-	-	-	10,841	28,329	50,984	68,198	420,293	248,692
2003/04	66,343	104,188	-	-	-	4,645	11,239	19,978	69,552	439,906	251,392
2004/05	67,152	123,308	-	-	-	-	-	-	75,683	346,522	189,237
2005/06	67,737	203,352	-	-	-	-	-	-	69,876	416,294	149,218
2006/07	65,613	224,927	1,033	-	-	48,636	22,263	-	76,187	235,266	170,727
2007/08	66,033	181,100	1,468	-	-	140,853	72,166	13,503	75,384	395,717	151,669
2008/09	68,252	248,918	2,133	-	-	102,123	80,317	-	73,893	313,145	90,553
2009/10	68,750	241,965	2,357	-	-	90,671	117,314	27,904	66,507	315,509	92,862
2010/11	66,733	186,146	4,859	-	-	188,663	209,919	82,075	74,806	289,528	31,683
2011/12	69,124	211,201	5,007	-	-	187,538	261,744	42,814	95,310	630,258	80,202
2012/13	59,854	225,776	4,558	-	-	86,243	140,842	67,067	61,578	499,681	204,164
2013/14	58,001	225,168	5,336	-	-	128,064	243,355	563,371	44,254	454,526	167,333
2014/15	60,957	198,387	3,684	-	-	77,162	85,983	383,369	40,232	335,374	152,047
<b>Change year-on-year (%)</b>	<b>5.1%</b>	<b>-11.9%</b>	<b>-31.0%</b>	<b>-</b>	<b>-</b>	<b>-39.7%</b>	<b>-64.7%</b>	<b>-32.0%</b>	<b>-9.1%</b>	<b>-26.2%</b>	<b>-9.1%</b>

Source: DEDJTR, statutory returns under the MRSDA.

\*Gold reported in ounces, brown coal in thousand tonnes, gypsum in cubic meters, and the remainder in tonnes.

**Table 2.8 Mineral production sales values (A\$ million)**

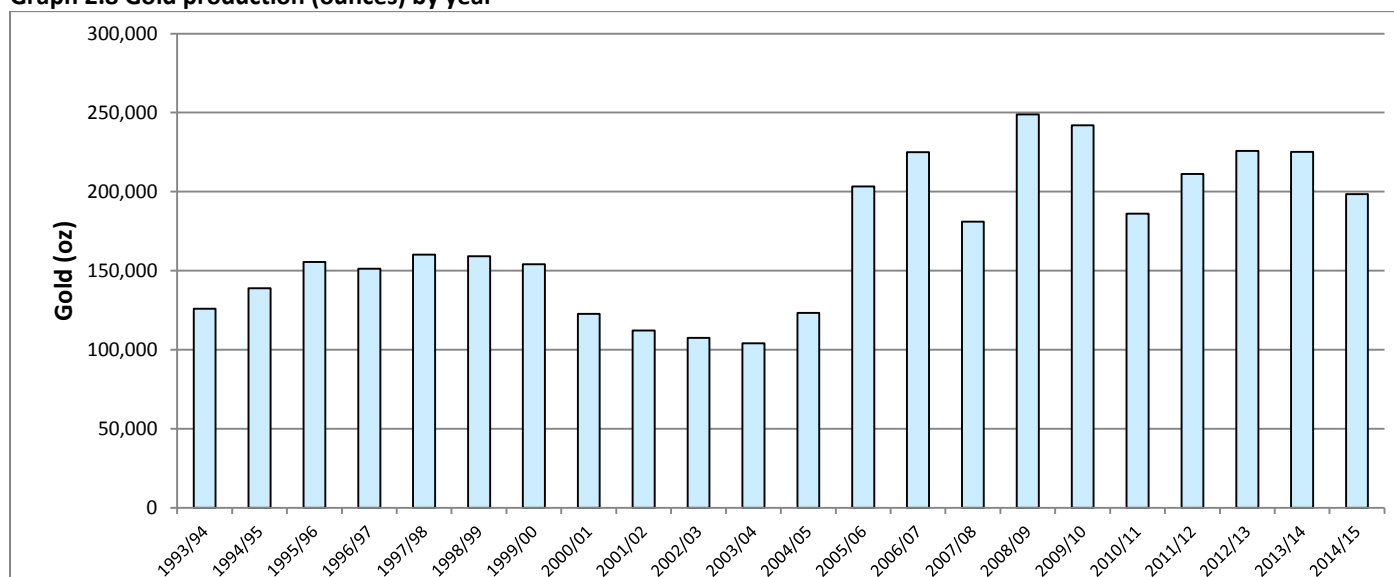
Mineral	2013/14	2014/15	Change year-on-year (%)
Brown Coal*	N/A	N/A	N/A
Gold	303.4	286.9	-5.4%
Antimony	12.5	37.8	202.2%
Heavy Mineral Sands (Zircon, Rutile, Ilmenite)	316.5	185.1	-41.5%
Industrial Minerals (Feldspar, Gypsum, Kaolin & fine clay)	14.1	10.2	-27.4%
Others	0.2	0.1	-30.5%
<b>Total (excl. brown coal)</b>	<b>646.7</b>	<b>520.1</b>	<b>-19.6%</b>

Source: DEDJTR, statutory returns under the MRSDA.

\*No unit value is assigned to brown coal for the purposes of determining its production value. Brown coal is almost entirely used for electricity production and is largely an internal transfer within mining/generation entities. As such, there is no available market price for brown coal.



**Graph 2.8 Gold production (ounces) by year**



Source: DEDJTR

**Table 3.9 Brown coal production (thousand tonnes) by year**

Year	Maddingley Brown Coal Co. Bacchus Marsh	Alcoa Anglesea	SECV*	Loy Yang	Yallourn	Hazelwood	Annual Total
1993/94	31	1,093	48,559	-	-	-	49,683
1994/95	43	1,162	48,717	-	-	-	49,922
1995/96	40	836	-	25,000	17,460	10,945	54,281
1996/97	39	1,005	-	27,808	17,083	14,860	60,795
1997/98	28	1,030	-	29,766	17,924	16,525	65,274
1998/99	22	1,091	-	30,510	17,350	17,675	66,648
1999/00	4	926	-	30,865	16,098	19,470	67,363
2000/01	11	963	-	28,686	16,234	19,063	64,958
2001/02	10	1,069	-	30,949	15,650	18,982	66,661
2002/03	15	1,051	-	29,017	17,515	19,210	66,809
2003/04	18	1,107	-	29,577	16,585	19,056	66,343
2004/05	19	943	-	29,826	17,663	18,701	67,152
2005/06	22	1,101	-	30,937	16,933	18,743	67,737
2006/07	15	1,049	-	29,146	16,090	19,313	65,613
2007/08	16	1,066	-	30,745	15,467	18,739	66,033
2008/09	14	966	-	29,007	18,229	20,036	68,252
2009/10	11	1,077	-	30,446	17,685	19,531	68,750
2010/11	16	1,070	-	29,895	17,705	18,047	66,733
2011/12	21	1,022	-	30,237	17,404	20,440	69,124
2012/13	18	913	-	28,921	12,885	17,118	59,854
2013/14	19	1,034	-	26,967	13,494	16,487	58,001
2014/15	19	-	-	27,624	17,171	16,144	60,957

Source: DEDJTR, statutory returns under the MRSDA.

\* State Electricity Commission of Victoria, disaggregated in 1994.

## EXTRACTIVE INDUSTRY

Extractive industries produce the raw material necessary for building and construction, which is vital to the State's development, as well as contributing to the agricultural industry via soil additives. The industry operates quarries that produce a range of "stone" products, predominantly being hard rock, clay, sand and gravel.

As at 30 June 2015, 887 quarries were operating under the MRSDA in Victoria. The total number of quarries has remained stable over the last decade.

**Table 3.1 Status of extractive industry work authorities\* as at 30 June 2015**

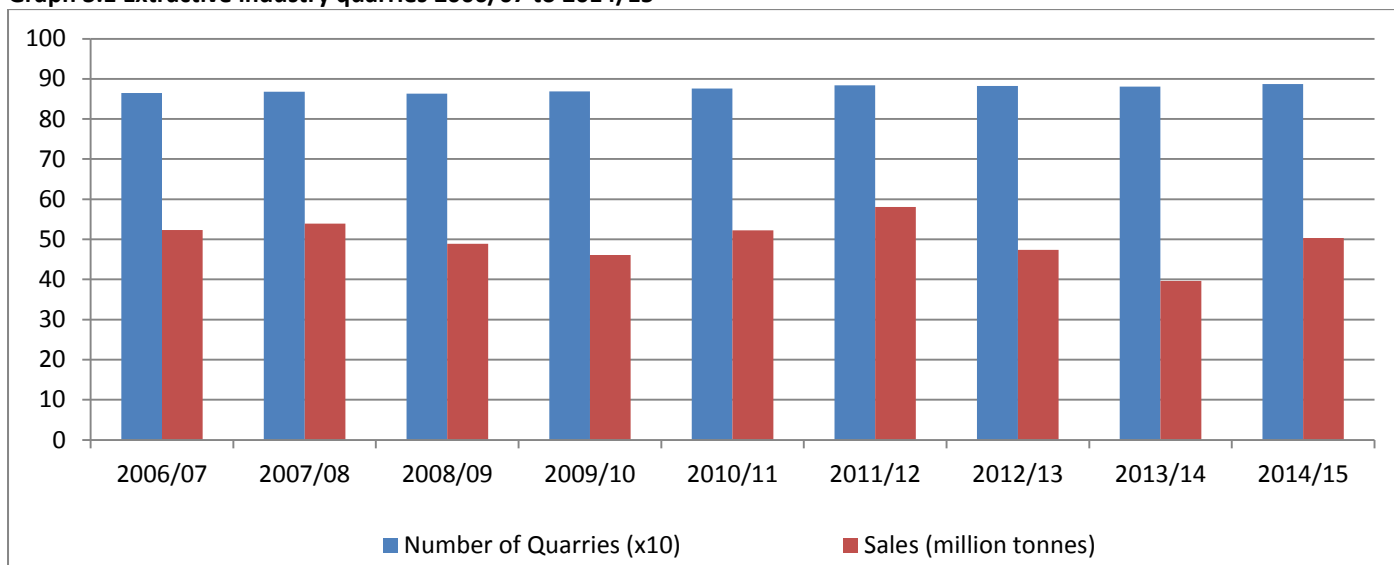
Tenement	Application**	Current
Work Authority	49	887

Source: DEDJTR

\*A Work Authority is granted under the MRSDA.

\*\*Application stage is when a Work Authority application is lodged with all requirements to obtain an approved Work Plan.

**Graph 3.1 Extractive industry quarries 2006/07 to 2014/15**



Source: DEDJTR

Sales of quarry products fluctuate based on the demand for products from the domestic building and construction sector. The increase in demand is explained by the increase in active quarries and the initiation of major infrastructure projects.

A total of 302 quarries reported production in 2014/15 with the total sales volume being 50.0 million tonnes. In 2013/14 the number of producing quarries was 485 with a total sales volume of 40.3 million tonnes.

Volume sales of extractive industry products in 2014/15 increased by around 10 million tonnes or 23.9% in comparison to 2013/14. Sales value increased by \$75.35 million or 11.1% as compared to 2013/14.

**Table 3.2 Victorian extractive industries sales by rock type 2014/15**

Product Group	Product Type	Sales Volume (million tonnes)	Sales Value (\$Am)
Hard Rock	BASALT	18.4	304.0
	GNEISS	0.0	0.0
	GRANITE	3.2	58.9
	HORNFELS	5.4	84.5
	IGNIMBRITE	0.0	0.0
	MUDSTONE	0.0	0.0
	QUARTZITE	0.2	1.2
	RHYODACITE	1.6	33.4
	SCHIST	0.0	3.9
	SEDIMENTARY	2.7	25.7
	SLATE	0.0	0.8
	TRACHYTE	0.0	0.4
<b>Hard Rock Total</b>		<b>31.5</b>	<b>512.8</b>
Soft Rock	CLAY & CLAY SHALE	1.2	3.4
	LIMESTONE	2.2	30.9
	SAND & GRAVEL	13.5	187.4
	SANDSTONE	0.0	0.0
	SCORIA	1.1	13.8
	SOIL	0.1	0.3
	TUFF	0.4	3.2
<b>Soft Rock Total</b>		<b>18.5</b>	<b>239.0</b>
Other/Aggregates		0.0	0.1
<b>GRAND TOTAL</b>		<b>50.0</b>	<b>751.9</b>

Source: DEDJTR, statutory returns under the MRSDA.

## REVENUE AND BONDS

### REVENUE

In 2014/15, a total of \$51.8 million was collected from industry in royalties, rentals, levies, fees and charges under the Acts administered by the department. This compares with \$50.1 million collected in 2013/14.

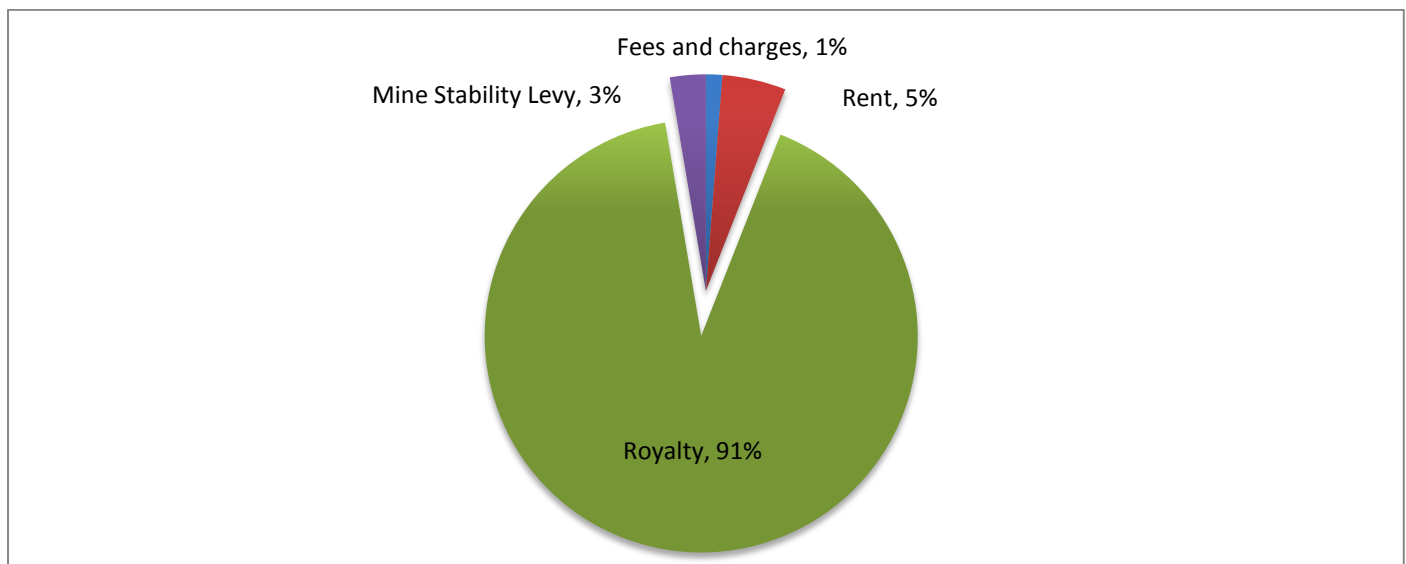
Royalties rose from \$45.1 million in 2013/14 to \$47.3 million, as a result of increased production from the mining and extractive industry sectors. Petroleum royalties remained stable, totalling \$0.1 million.

**Table 4.1 Mineral, extractive and petroleum revenue 2014/15**

Revenue Stream	Revenue (\$A million)
Fees and charges	0.6
Rent	2.5
Royalty	47.3
Mine Stability Levy	1.4
<b>Total</b>	<b>51.8</b>

Source: DEDJTR

**Graph 4.1 Mineral, extractive and petroleum revenue 2014/15**



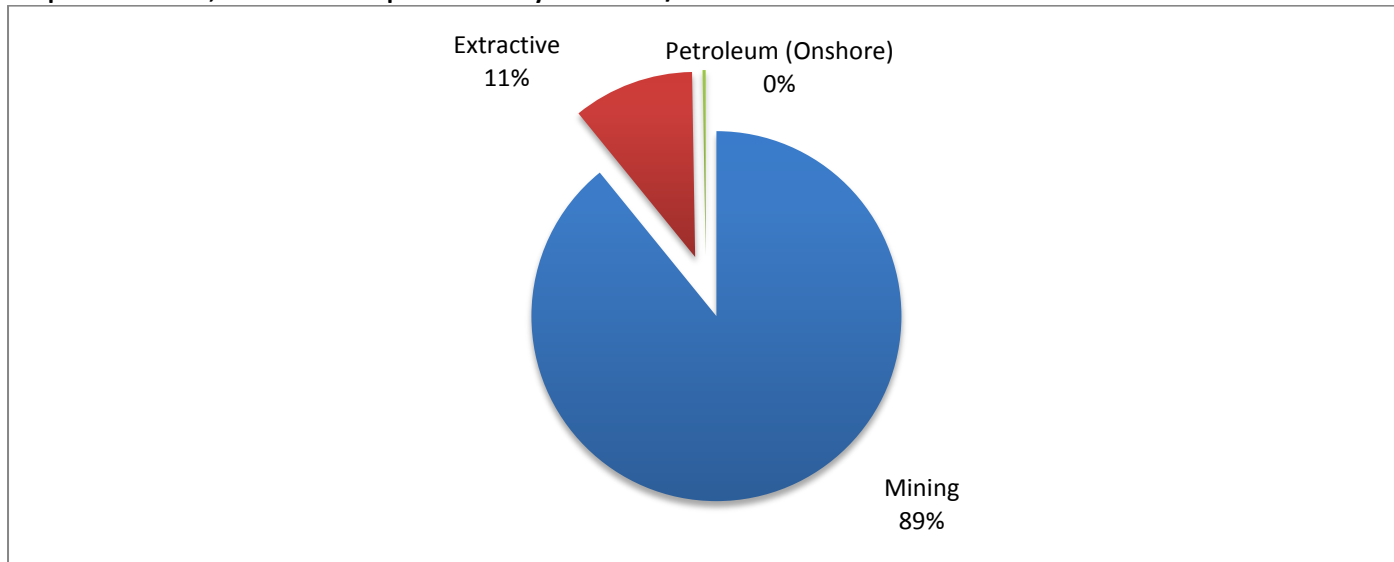
Source: DEDJTR

**Table 5.2 Minerals, extractive and petroleum royalties 2014/15**

Sector	Royalties (\$A million)
Mining	42.2
Extractive	5.0
Petroleum (Onshore)*	0.1
<b>Total</b>	<b>47.3</b>

Source: DEDJTR

**Graph 4.2 Mineral, extractive and petroleum royalties 2014/15**



Source: DEDJTR

## REHABILITATION BONDS

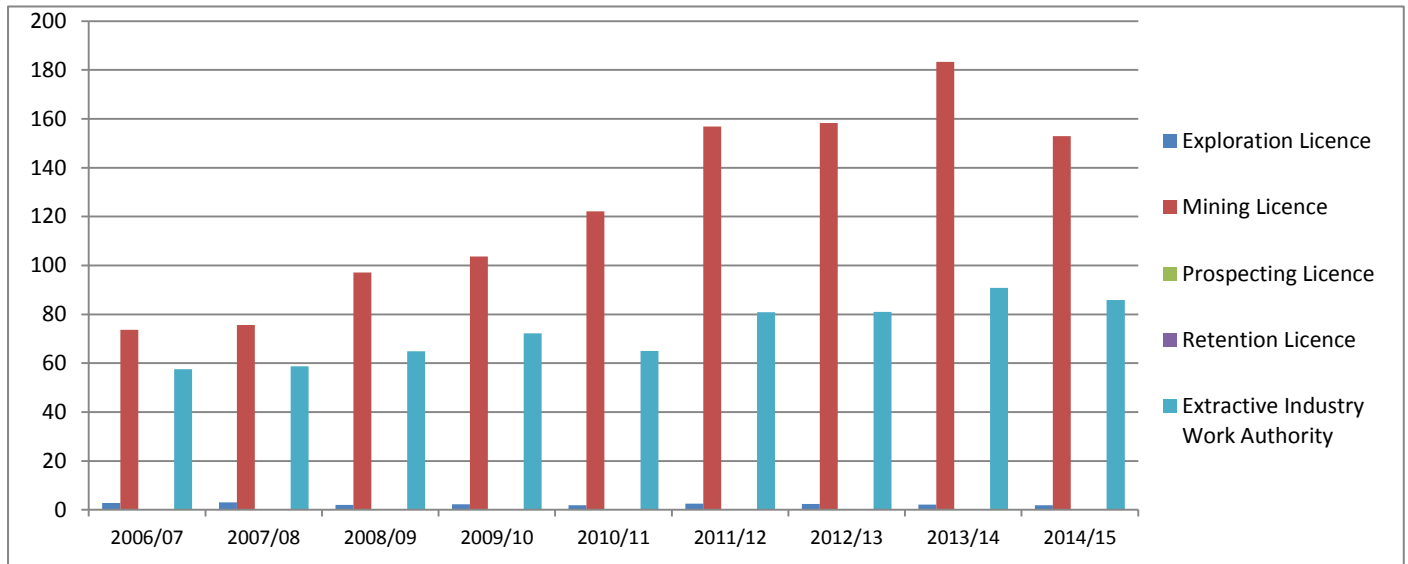
The sum of rehabilitation bonds held by the Department in 2014/15 was \$241 million. A reduction in the value of exploration licence, mining licence and extractive industry work authority bonds between 2013/14 and 2014/15 reflects the reduction in the number of such licences held. In addition, this reflected the return of bonds following the rehabilitation of sites without licences necessarily being cancelled, expired or surrendered. In addition, recalculation of rehabilitation liability on sites has resulted in a reduction of the total rehabilitation liability attached to sites in Victoria.

**Table 4.3 Value of rehabilitation bonds by authority type (\$A million)**

Year	Exploration Licence	Mining Licence	Prospecting Licence	Retention Licence	Extractive Industry Work Authority	Total
2006/07	2.8	73.7	N/A	N/A	57.5	<b>134.0</b>
2007/08	3.1	75.6	N/A	N/A	58.8	<b>137.5</b>
2008/09	2.0	97.1	N/A	N/A	64.9	<b>164.0</b>
2009/10	2.3	103.7	N/A	N/A	72.3	<b>178.3</b>
2010/11	1.9	122.1	N/A	N/A	65.0	<b>189.0</b>
2011/12	2.5	156.9	0	N/A	80.9	<b>240.3</b>
2012/13	2.4	158.3	0.025	N/A	81.0	<b>241.7</b>
2013/14	2.1	183.4	0.091	0.010	90.9	<b>276.5</b>
2014/15	1.9	153.0	0.138	0.050	85.8	<b>241.0</b>

Source: DEDJTR

**Graph 4.3 Value of rehabilitation bonds by authority type (\$A million) 2006/7 to 2014/15**



Source: DEDJTR

**Table 4.4 Rehabilitation bond reviews over time**

Year	Number of Bonds Reviewed	Result of Review - Increase	Result of Review – No Change	Result of Review - Decrease
2006/07	258	65	190	3
2007/08	402	58	335	9
2008/09	382	49	323	10
2009/10	413	55	344	14
2010/11	185	15	166	4
2011/12	216	19	193	4
2012/13	258	37	220	1
2013/14	214	66	139	9
2014/15	106	54	10	42

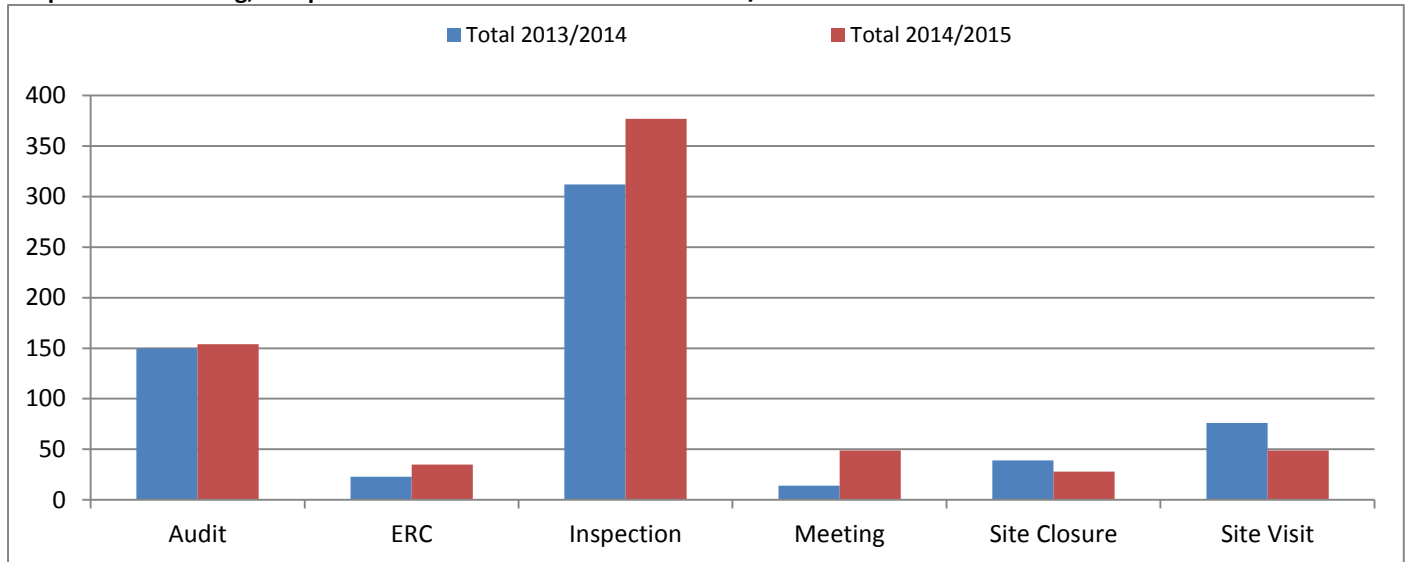
Source: DEDJTR

## MONITORING, COMPLIANCE AND ENFORCEMENT

The Earth Resources Regulation Branch continued to be responsible for the regulation of the earth resources industries in 2014/15. The Branch undertakes a monitoring and compliance program to ensure that authority holders are compliant with their obligations and meet community expectations. DEDJTR monitoring, compliance and enforcement activities under the MRSDA are summarised in the table below.

The Branch has made an effort to increase its monitoring and compliance activity by increasing the amount of audits, inspections, meetings and attendances at Environmental Review Committees (ERC). This has assisted the branch in better communicating with and addressing stakeholder concerns.

**Graph 5.1 Monitoring, compliance and enforcement activities 2014/15**



Source: DEDJTR

Authorised by the Minister for Industry and Employment and Minister for Resources, the Hon. Wade Noonan MP

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