

PETROLEUM EXPLORATION AND DEVELOPMENT IN IRELAND

**Report Covering Period
1 January 2018 – 30 June 2018**

Report by the Minister for Communications, Climate Action and Environment for the six months ended 30 June 2018, in accordance with Section 57 of the *Petroleum and Other Minerals Development Act, 1960*, and the said Section 57 as applied by the *Continental Shelf Act, 1968*.

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Note: Block numbers refer to blocks in the Williams Grid.

INTRODUCTION

This Report sets out:

- the particulars of all Authorisations granted by the Minister for Communications, Climate Action and Environment that were current during the reporting period;
- the amount of money relating to petroleum exploration and development collected by the Minister during the reporting period, and
- other information relating to petroleum exploration and development in Ireland.

PART ONE
PETROLEUM AUTHORISATIONS

PETROLEUM LEASES

A **Petroleum Lease** vests in the Lessee the exclusive right to produce petroleum from the leased areas.

Lease	Commencement Date	Block Numbers (p) = part block	Area (km²)	Participants (* = Operator)	% Interest
<u>Offshore Petroleum Lease No. 1: Kinsale/Ballycotton</u>	7 May 1970	48/20, 48/25, 49/16 & 49/21	1033.91	PSE Kinsale Energy Limited.	100%
<u>Corrib Petroleum Lease</u>	15 November 2001	18/20(p) & 18/25(p)	29.6694	*Shell E&P Ireland Limited Statoil Exploration (Ireland) Ltd. Vermilion Energy Ireland Limited	45% 36.5% 18.5%
<u>Seven Heads Petroleum Lease</u>	13 November 2002	48/23(p), 48/24(p), 48/29(p) & 48/30(p)	168.5057	*PSE Seven Heads Limited Island Oil and Gas Plc. Sunningdale Oils (Ireland) Ltd.	86.5% 12.5% 1%

Lease Undertakings

A **Lease Undertaking** gives the Holder the right to a Petroleum Lease over that part of the area covered by the Undertaking.

Undertaking	Licence Period	Block No. (p) = part block	Area (km ²)	Participants (* = Operator)	% Interest
<u>Dunmore Lease Undertaking</u>	1 March 2016 – 28 February 2018 (extension under consideration)	50/6(p) & 50/7(p)	15.1778	*Providence Resources PLC Atlantic Petroleum (Ireland) Limited Sosina Exploration Limited Marginal Field Development Co	65.25% 16.50% 8.25% 10%
<u>Helvick Lease Undertaking</u>	1 March 2016 – 28 February 2018 (extension under consideration)	49/9(p)	4.6317	*Providence Resources PLC Atlantic Petroleum (Ireland) Limited Sosina Exploration Limited Lansdowne Oil and Gas Limited Marginal Field Development Co	56.25% 16.50% 8.25% 9% 10%

OFFSHORE PETROLEUM EXPLORATION LICENCES

A **Petroleum Exploration Licence** vests in the Holder the exclusive right of carrying out exploration for petroleum in a specific licensed offshore area.

Thirty six offshore Petroleum Exploration Licences were current during the reporting period. **Eight** of these Licences were subject to the 1992 '*Licensing Terms for Offshore Oil and Gas Exploration and Development*'. **Twenty eight** Licences were subject to the 2007 '*Licensing Terms for Offshore Oil and Gas Exploration, Production and Development*'.

A **Standard Exploration Licence** is issued for a period of six years in respect of an area with water depths of up to 200 metres and is subject to an annual rental fee for the first three years of €182 per km², increasing to €365 per km² thereafter.

A **Deepwater Exploration Licence** is issued for a period of nine years in respect of areas in which the water depth exceeds 200 metres and is subject to an annual rental fee for the first three years of €91 per km², increasing to €182 per km² for years 4 to 6 and €365 per km² for the remainder of the licence. There are no extant Deepwater Exploration Licences during the period.

A **Frontier Exploration Licence** may be issued in respect of an area with special difficulties related to physical environment, geology or technology – where such an area is specified and announced by the Minister for Communications, Climate Action and Environment as a 'Frontier Area'. This Licence type is valid for a period of not less than twelve years and is comprised of a maximum of four phases. Annual rental during the first phase is €29 per km², €60 per km² during the second phase and €121 per km² for the remainder of the licence.

The 1992 & 2007 Terms also provide for an application fee of €9,122 in each case.

Licence	Licence Period	Block No. (p) = part block	Area (km ²)	Participants (* = Operator)	% Interest
1/04 Frontier	15 April 2004 - 14 April 2020	26/27 (p), 26/28, 35/2 (p) & 35/3 (p)	622.0148	*Island Assets Porcupine Limited Valhalla Oil and Gas (Porcupine) Limited Supernova Ireland Resources B.V.	41.5% 38.5% 20%
2/04 Frontier	15 November 2004 - 14 March 2023	35/8 & 35/9	500.9704	*Capricorn Ireland Ltd Chrysaor E&P Ireland Limited Providence Resources Plc Sosina Exploration Limited	38% 26% 32% 4%
3/04 Frontier	15 November 2004- 14 November 2025	44/18, 44/23, 44/24, 44/29, & 44/30	1,295.6387	*Eni Ireland BV Providence Resources Plc Sosina Exploration Limited Repsol Exploracion Irlanda SA	36.913% 26.846% 2.684% 33.557%
3/05 Frontier	1 July 2005 - 30 June 2022	18/10, 19/1 & 19/6	715.8703	*Island Rockall JV Limited Island Oil & Gas Plc	50% 50%

Licence	Licence Period	Block No. (p) = part block	Area (km²)	Participants (* = Operator)	% Interest
4/05 Standard	1 November 2005 – 31 October 2011 (Lease Undertaking application under consideration)	49/17(p), 49/22(p) & 49/23(p).	258.4936	*Island Expro Unlimited Company Valhalla Oil and Gas Limited St Stephen's Energy Limited	65% 20% 15%
5/05 Standard	1 November 2005 - 31 October 2011 (Lease Undertaking application under consideration)	48/26 (p), 48/27 (p), 57/1 (p), 57/2	664.2061	*Island Expro Unlimited Company Valhalla Oil and Gas Limited St Stephen's Energy Limited	62.5% 25% 12.5%
1/06 Frontier	1 December 2006 - 30 November 2023	27/4(p), 27/5 (p) & 27/9 (p).	305.2562	Serica Energy Slyne BV	100%
4/06 Frontier	1 December 2006 - 30 November 2022	27/17 (p), 27/18, 27/22 (p) & 27/23	741.4741	*Island Oil and Gas plc Lundin Exploration BV	50% 50%
1/07 Standard	1 February 2007 - 30 June 2014 (Extension under consideration)	41/25 (p), 42/21 (p), 41/30 (p), 42/26 (p), 50/5 (p) & 51/1 (p)	302.2209	Providence Resources Plc	100%
2/07 Standard	1 February 2007- 31 January 2013 (Lease Undertaking application under consideration)	50/11(p)	65.3437	*Providence Resources Plc Atlantic Petroleum (Ireland) Limited Sosina Exploration Limited	72.50% 18.33% 9.17%
3/08 Frontier	12 March 2008 - 11 March 2021	61/9, 61/10 & 62/6	801.5919	*Island Oil and Gas Plc Supernova Ireland Resources BV	50% 50%
4/08 Frontier	12 March 2008 - 30 June 2021	35/2(p), 35/3(p) & 35/4 (p)	370.4221	*Capricorn Ireland Ltd Chrysaor E&P Ireland Limited Providence Resources Plc Sosina Exploration Limited	38% 26% 32% 4%
1/09 Frontier	21 July 2009 – 20 July 2027	5/17, 5/18, 5/22, 5/23, 5/27 & 5/28	390.0463	Serica Energy Rockall BV	100%
1/11 Standard	14 July 2011- 13 July 2021	48/22(p), 48/23(p), 48/24(p), 48/27(p), 48/28(p), 48/29(p) & 48/30(p)	613.9969	*Exola Ltd. Lansdowne Celtic sea Ltd	80% 20%
2/11 Standard	18 August 2011 – 17 August 2020	32/25(p), 33/21(p)	171.3823	Providence Resources Plc	100%
1/13 Frontier	5 July 2013 – 4 July 2030	44/4(p), 44/5(p), 44/9(p), 44/10, 44/14(p) , 44/15(p)	1051.7511	Antrim Exploration (Ireland) Ltd	100%

Licence	Licence Period	Block No. (p) = part block	Area (km²)	Participants (* = Operator)	% Interest
2/13 Frontier	5 July 2013 – 4 July 2028	43/9, 43/10(p), 43/14 & 43/15(p).	768.0209	Europa Oil and Gas (Ireland West) Ltd	100%
3/13 Frontier	5 July 2013 – 4 July 2028	54/1(p), 54/2, 54/6(p) & 54/7.	781.968	Europa Oil and Gas (Ireland East) Ltd	100%
4/13 Frontier	1 December 2013- 30 November 2030	11/10, 11/15, 12/1(p), 12/6 & 12/11(p)	925.0465	Serica Energy Rockall BV	100%
5/13 Frontier	13 December 2013- 12 December 2028	35/25(p), 35/30, 36/21(p), 36/26(p), 44/5(p) & 45/1(p)	951.5563	*Woodside Energy (Ireland) Pty Ltd Bluestack Energy Ltd	90% 10%
2/14 Frontier	1 January 2014 – 31 December 2028	52/5(p), 52/10(p), 52/15(p), 53/1(p), 53/6(p) and 53/11(p)	872.0474	*Total E&P Ireland BV Providence Resources Plc Capricorn Ireland Ltd Sosina Exploration Limited	35% 28% 30% 7%
3/14 Frontier	1 March 2014 – 31 August 2030	35/23(p), 35/24(p) and 35/25(p)	474.8583	*Woodside Energy (Ireland) Pty Ltd Petrel Resources Plc	85% 15%
5/14 Frontier	1 March 2014 to 31 August 2030	34/19(p), 34/20(p), 34/24(p), 34/25(p), 35/16(p) and 35/21(p)	1,135.8951	*Woodside Energy (Ireland) Pty Ltd AzEire Ltd	60% 40%
6/14 Frontier	1 April 2014 to 31 March 2029	61/13(p) , 61/14, 61/15, 61/18(p), 61/19(p), 61/20(p), 62/11(p) and 62/16(p)	1,203.9441	*Providence Resources Plc Sosina Exploration Limited	80% 20%
1/17 Frontier	1 July 2017 – 30 June 2032	54/3 and 54/8	522.5155	Europa Oil & Gas (East) Plc	100%
1/18 Frontier	1 March 2018 – 28 February 2033	61/7(p), 61/8(p), 61/11, 61/12 & 61/13(p)	731.0954	Nexen Petroleum U.K. Limited	100%
2/18 Frontier	1 March 2018 – 28 February 2033	61/20(p), 61/22(p), 61/23(p), 61/24(p) & 61/25	874.3265	Nexen Petroleum U.K. Limited	100%
3/18 Frontier	1 March 2018 – 28 February 2033	43/27, 52/2, 52/3, 52/4, 52/9(p) & 52/10(p)	1300.6126	Nexen Petroleum U.K. Limited	100%

Licence	Licence Period	Block No. (p) = part block	Area (km²)	Participants (* = Operator)	% Interest
4/18 Frontier	1 March 2018 – 28 February 2033	60/13, 60/14, 60/15, 60/18(p), 60/19, 60/20 & 61/16(p)	1611.7667	Nexen Petroleum U.K. Limited	100%
5/18 Frontier	1 March 2018 – 28 February 2033	52/7, 52/8, 52/9(p), 52/12, 52/13, 52/14(p), 52/17(p) & 52/18 (p)	1557.3513	*ExxonMobil Exploration and Production Ireland (Offshore South) Limited Equinor Energy Ireland Limited	50% 50%
6/18 Frontier	1 March 2018 – 28 February 2033	61/17, 61/18(p), 61/19(p), 61/22(p) & 61/23(p)	881.2274	*ExxonMobil Exploration and Production Ireland (Offshore South) Limited Equinor Energy Ireland Limited	50% 50%
7/18 Frontier	1 March 2018 – 28 February 2033	53/27(p), 53/28(p), 53/29(p), 53/30(p), 61/2(p), 61/3, 61/4, 61/5(p), 61/7(p) & 61/8(p)	1597.2843	* Equinor Energy Ireland Limited ExxonMobil Exploration and Production Ireland (Offshore South) Limited	50% 50%
8/18 Frontier	1 March 2018 – 28 February 2033	53/26(p), 53/27(p), 60/4(p), 60/5, 60/8(p), 60/9(p), 60/10(p), 61/1, 61/2(p), 61/6(p) & 61/7(p)	1598.7622	* Equinor Energy Ireland Limited ExxonMobil Exploration and Production Ireland (Offshore South) Limited	50% 50%
9/18 Frontier	1 March 2018 – 28 February 2033	60/10(p), 61/6(p), 61/7(p) & 61/8(p)	473.1863	* Equinor Energy Ireland Limited ExxonMobil Exploration and Production Ireland (Offshore South) Limited	50% 50%
10/18 Frontier	1 March 2018 – 28 February 2033	52/27(p), 52/28(p), 52/29(p), 60/2, 60/3, 60/4(p), 60/7(p) & 60/8(p)	1597.722	* Equinor Energy Ireland Limited ExxonMobil Exploration and Production Ireland (Offshore South) Limited	50% 50%
11/18 Frontier	1 March 2018 – 28 February 2033	54/11, 54/12, 54/13, 54/16, 54/17 & 54/18	1578.584	*Woodside Energy (Ireland) Pty Limited Petrel Resources plc	90% 10%

(p) – part block

LICENSING OPTIONS

A **Licensing Option** gives the Holder the first right to an Exploration Licence over all or part of the area covered by the Option.

Option No	Option Period	Block Nos. (p) = part block	Area (km ²)	Participants (* = Operator)	% Interest
16/1 Offshore	1 March 2016 – 28 February 2018 (follow-on application under consideration)	53/29(p), 53/30(p), 54/21, 54/22, 54/26, 54/27 & 61/5(p)	1405.276	ENI Ireland B.V.	100%
16/3 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 5/18)	52/7, 52/8, 52/9(p), 52/12, 52/13, 52/14(p), 52/17(p) & 52/18 (p)	1557.3513	*ExxonMobil Exploration and Production Ireland (Offshore South) Limited Equinor Energy Ireland Limited	50% 50%
16/4 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 6/18)	61/17, 61/18(p), 61/19(p), 61/22(p) & 61/23(p)	881.2274	*ExxonMobil Exploration and Production Ireland (Offshore South) Limited Equinor Energy Ireland Limited	50% 50%
16/5 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 1/18)	61/7(p), 61/8(p), 61/11, 61/12 & 61/13(p)	731.0954	Nexen Petroleum UK Limited	100%
16/6 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 2/18)	61/20(p), 61/22(p), 61/23(p), 61/24(p) & 61/25	874.3265	Nexen Petroleum UK Limited	100%
16/7 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 3/18)	43/27, 52/2, 52/3, 52/4, 52/9(p) & 52/10(p)	1300.6126	Nexen Petroleum UK Limited	100%
16/8 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 4/18)	60/13, 60/14, 60/15, 60/18(p), 60/19, 60/20 & 61/16(p)	1611.7667	Nexen Petroleum UK Limited	100%
16/10 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 7/18)	53/27(p), 53/28(p), 53/29(p), 53/30(p), 61/2(p), 61/3, 61/4, 61/5(p), 61/7(p) & 61/8(p)	1597.2843	* Equinor Energy Ireland Limited ExxonMobil Exploration and Production Ireland (Offshore South) Limited	50% 50%
16/11 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 8/18)	53/26(p), 53/27(p), 60/4(p), 60/5, 60/8(p). 60/9(p), 60/10(p), 61/1, 61/2(p), 61/6(p) & 61/7(p)	1598.7622	* Equinor Energy Ireland Limited ExxonMobil Exploration and Production Ireland (Offshore South) Limited	50% 50%

Option No	Option Period	Block Nos. (p) = part block)	Area (km ²)	Participants (* = Operator)	% Interest
16/12 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 9/18)	60/10(p), 61/6(p), 61/7(p) & 61/8(p)	473.1863	* Equinor Energy Ireland Limited ExxonMobil Exploration and Production Ireland (Offshore South) Limited	50% 50%
16/13 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 10/18)	52/27(p), 52/28(p), 52/29(p), 60/2, 60/3, 60/4(p), 60/7(p) & 60/8(p)	1597.722	* Equinor Energy Ireland Limited ExxonMobil Exploration and Production Ireland (Offshore South) Limited	50% 50%
16/14 Offshore	1 March 2016 – 28 February 2018 (converted to FEL 11/18)	54/11, 54/12, 54/13, 54/16, 54/17 & 54/18	1578.584	*Woodside Energy (Ireland) Pty Limited Petrel Resources Plc	90% 10%
16/15 Offshore	1 May 2016 – 30 April 2018 (extension under consideration)	55/9, 55/10, 55/14 and 55/15	1048.7154	Theseus Limited	100%
16/16 Offshore	1 July 2016 – 30 June 2018	35/6, 35/7, 35/11 and 35/12	1003.8733	AzEire Limited	100%
16/17 Offshore	1 July 2016 – 30 June 2018	44/14(p), 44/15(p), 44/19, 44/20, 44/25, 45/21 and 45/26	1498.4821	AzEire Limited	100%
16/18 Offshore	1 July 2016 – 30 June 2018	34/29, 34/30, 35/26, 43/4, 43/5 and 44/1	1528.441	Capricorn Ireland Limited	100%
16/19 Offshore	1 July 2016 – 30 June 2018	35/27(p), 43/10(p), 43/15(p), 44/2(p), 44/6, 44/7(p) and 44/11(p)	975.5783	*Capricorn Ireland Limited Europa Oil and Gas (Holdings) PLC	70% 30%
16/20 Offshore	1 July 2016 – 30 June 2019	18/14, 18/15, 18/19 and 18/20(p)	945.0947	Europa Oil and Gas (Inishkea) Limited	100%
16/21 Offshore	1 July 2016 – 30 June 2019	11/27(p), 11/28(p), 19/2, 19/3 and 19/4(p)	831.8929	Europa Oil and Gas (Holdings) PLC	100%
16/22 Offshore	1 July 2016 – 30 June 2019	75/21, 75/26, 82/25 and 82/30	992.4618	Europa Oil and Gas (Holdings) PLC	100%
16/23 Offshore	1 July 2016 – 30 June 2019	19/7, 19/8(p), 19/11(p), 19/12(p), 19/16(p) and 19/17	959.7287	*Nexen Petroleum UK Limited Faroe Petroleum (U.K.) Limited	80% 20%
16/24 Offshore	1 July 2016 – 30 June 2018	26/26, 26/27(p), 35/1 and 35/2(p)	663.988	Petrel Resources Plc	100%

Option No	Option Period	Block Nos. (p) = part block)	Area (km ²)	Participants (* = Operator)	% Interest
16/25 Offshore	1 July 2016 – 30 June 2018	45/27	259.8712	Petrel Resources Plc	100%
16/26 Offshore	1 July 2016 – 30 June 2018	18/24(p), 18/25(p), 18/29(p) and 18/30(p)	302.4861	*Predator Oil and Gas Ventures Limited Theseus Limited	50% 50%
16/27 Offshore	1 July 2016 – 30 June 2018	44/2(p), 44/3(p), 44/7(p), 44/8(p), 44/11(p), 44/12, 44/13(p), 44/16(p) and 44/17	1323.5121	*Total E&P Ireland BV Providence Resources Plc Sosina Exploration Ltd	50% 40% 10%
16/28 Offshore	1 July 2016 – 30 June 2018	44/22, 44/27, 44/28, 53/2, 53/3 and 53/8	1561.9983	Ratio Petroleum Limited	100%
16/30 Offshore	1 December 2016 - 30 November 2018	49/13(p), 49/14(p), 49/15(p), 49/18(p), 49/19, 49/20 and 49/23(p)	799.4052	*Predator Oil and Gas Ventures Limited Theseus Limited	50% 50%
16/31 Offshore	1 December 2016 - 30 November 2019	56/26(p), 56/27(p), 63/5 (p), 63/8(p), 63/9(p), 63/10(p), 63/13(p), 63/14 63/15(p), 63/14, 64/1 , 64/2(p) and 64/6(p)	1654.2923	AzEire Limited	100%
16/32 Offshore	1 December 2016 - 30 November 2019	56/5(p), 56/10, 56/14, 56/15, 56/19, 56/20(p), 57/1(p) and 57/6(p)	1508.9519	AzEire Limited	100%
17/1 Offshore	1 June 2017 - 30 November 2018	57/6(p), 57/7, 57/8(p), 57/9(p), 57/11 and 57/12(p)	1086.2318	Faroe Petroleum (UK) Limited	100%
17/2 Offshore	1 June 2017 - 30 November 2018	48/28(p), 48/29(p), 48/30(p), 49/26(p), 57/3(p), 57/4(p) and 57/5(p)	1035.7391	Faroe Petroleum (UK) Limited	100%

(p) – part block * operator

LOs 16/1, 16/2, 16/3, 16/4, 16/5, 16/6, 16/7, 16/8, 16/10, 16/11, 16/12, 16/13 & 16/14 expired 28 February 2018

PETROLEUM PROSPECTING LICENCES

A **Petroleum Prospecting Licence** is non-exclusive and confers on the Licensee the right to search for petroleum in any area where an Exploration Licence, Reserved Area Licence or Petroleum Lease is not in force.

Licence No.	No. of Years	Licence From	Licensee
2/16	3	1 May 2016	Woodside Energy (Ireland) Pty Limited
3/16	3	23 April 2016	Providence Resources Plc
4/16	3	1 May 2016	Polarcus MC Ltd
5/16	3	1 May 2016	CGG Services SA
6/16	3	1 July 2016	ExxonMobil Exploration and Production Ireland (Offshore South) Limited
7/16	2	1 July 2016	Nexen Petroleum U.K. Limited
8/16	3	1 July 2016	TGS-NOPEC Geophysical Company ASA
9/16	3	1 July 2016	Equinor Energy Ireland Limited
10/16	3	1 July 2016	PGS Exploration (UK) Limited
11/16	3	1 November 2016	Europa Oil and Gas (Holdings) PLC
12/16	2	1 November 2016	ENI Ireland B.V.
13/16	2	1 November 2016	Predator Oil and Gas Ventures Limited
15/16	2	1 November 2016	AzEire Limited
16/16	2	1 December 2016	Ratio Petroleum Limited
17/16	2	1 December 2016	Petrel Resources Plc
18/16	3	1 December 2016	Faroe Petroleum (U.K.) Limited
1/17	3	1 July 2016	Capricorn Ireland Limited
2/17	3	1 November 2017	Total E&P Ireland BV

PART TWO
MONEYS RECEIVED

During the six months ended 30 June 2018 the total amount of all moneys collected by the Minister either by way of rentals under or by virtue of any lease, licence or permit, sale of data, gas storage and application fees was **€1,265,524**. Details are as follows:

Rentals	Application fees	Assignments of interest	Sale of Data	Gas storage	Total
€1,086,759	€65,374	€22,800	€90,591	€0	€1,265,524

PART THREE
OTHER INFORMATION

EXPLORATION/APPRAISAL WELLS drilled during the 6 months ended 30 June 2018

There were no exploration wells spudded during the period 1 Jan 2018 to 30 June 2018.

There were no appraisal wells spudded during the period 1 Jan 2018 to 30 June 2018.

SEISMIC SURVEYS carried out or commenced in the 6 months to 30 June 2018

Operator	Authorisation	Contractor	Vessel	2D Line Km	3D Km ²	Survey Area
Providence Resources	PPL3/16	Gardline	M/V Kommandor	79.5 km	Nil	Goban Spur

**Actual versus forecast levels of exploration activity – IOSEA5 area
Exploration and Production activities (i.e. seismic surveying,
exploration, appraisal and development / production drilling)
forecast in the IOSEA5 area between 2015 and 2020 (from Table
2.1 of IOSEA5 Environmental Report)**

Type of activity	2015		2016		2017		2018		2019		2020	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
2D seismic survey (km)	0	25000	0	25000	0	25000	0	25000	0	25000	0	25000
3D seismic survey (km ²)	0	20000	0	20000	0	20000	0	20000	0	20000	0	20000
Numbers of wells	0	10	0	10	0	10	0	10	0	10	0	10

Seismic Surveys in the IOSEA5 Area



Drilling in the IOSEA5 Area

