

Upstream Petroleum Industry Flaring and Venting Report

**Industry Performance for Year
Ending December 31, 2015**

February 2017



ST60B-2016

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Executive Summary

The Alberta Energy Regulator (AER) annually publishes *ST60B: Upstream Petroleum Industry Flaring and Venting Report* to fulfil the commitment it made in *Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting* to make flaring and venting data accessible.

The report's primary focus is on solution gas flaring and venting from crude oil and crude bitumen production operations. The report includes flared and vented volumes from in situ bitumen facilities, gas batteries, well testing, gas plants, gas gathering systems, and natural gas transmission lines. Also included are emission statistics from glycol dehydrators, surface casing vent flow (SCVF), and gas migration (GM). The report does not include flared and vented volumes from bitumen upgraders and oil sands mine operations. The data used to compile the report are obtained from Canada's Petroleum Information Network (Petrinex) and the AER. The AER recognizes that there are currently emissions in the upstream petroleum industry that are not required to be reported to the AER and thus are not included in *ST60B*.

Key statistics from 2015 include the following (some totals may not sum exactly due to rounding):

- Crude bitumen production increased by 7.2 per cent to 80 million cubic metres (10^6 m^3).
- Crude oil production decreased by 9.9 per cent to 30 10^6 m^3 .
- Solution gas produced from crude bitumen batteries increased by 8.3 per cent to 2644 10^6 m^3 .
- Solution gas produced from crude oil batteries increased by 0.9 per cent to 18 535 10^6 m^3 .
- Solution gas conservation increased to 96.4 per cent from 95.6 per cent in 2014.
- Solution gas flared from crude bitumen and crude oil batteries was 419 10^6 m^3 , down from 490 10^6 m^3 in 2014, a 14.5 per cent decrease.
 - Total solution gas flared represented 1.5 million tonnes of carbon dioxide equivalent ($10^6 \text{ tCO}_2\text{e}$) of greenhouse gas (GHG) emissions.
 - Flaring from crude bitumen batteries was 99 10^6 m^3 , up from 87 10^6 m^3 in 2014, a 13.6 per cent increase.
 - Flaring from crude oil batteries was 320 10^6 m^3 , down from 403 10^6 m^3 in 2014, a 20.6 per cent decrease.
- Solution gas vented from crude bitumen and crude oil batteries was 354 10^6 m^3 , down from 429 10^6 m^3 in 2014, a 17.6 per cent decrease.
 - Total solution gas vented represented 6.0 $10^6 \text{ tCO}_2\text{e}$ of GHG emissions.
 - Venting from crude bitumen batteries was 187 10^6 m^3 , down from 254 10^6 m^3 in 2014, a 26.3 per cent decrease.
 - Venting from crude oil batteries was 166 10^6 m^3 , down from 175 10^6 m^3 in 2014, a 4.9 per cent decrease.

- Flaring and venting from other sources:
 - Gas batteries
 - Flaring – $82 \times 10^6 \text{ m}^3$, down from $100 \times 10^6 \text{ m}^3$ in 2014, an 18.4 per cent decrease
 - Venting – $18 \times 10^6 \text{ m}^3$, down from $30 \times 10^6 \text{ m}^3$ in 2014, a 40.8 per cent decrease
 - Well testing
 - Flaring – $152 \times 10^6 \text{ m}^3$, down from $238 \times 10^6 \text{ m}^3$ in 2014, a 36.2 per cent decrease
 - Venting – $22 \times 10^6 \text{ m}^3$, down from $24 \times 10^6 \text{ m}^3$ in 2014, a 7.8 per cent decrease
 - Gas plants
 - Flaring – $151 \times 10^6 \text{ m}^3$, up from $148 \times 10^6 \text{ m}^3$ in 2014, a 2.5 per cent increase
 - Venting – $3 \times 10^6 \text{ m}^3$, the same as in 2014
 - Gas gathering systems
 - Flaring – $62 \times 10^6 \text{ m}^3$, down from $64 \times 10^6 \text{ m}^3$ in 2014, a 2.2 per cent decrease
 - Venting – $9 \times 10^6 \text{ m}^3$, up from $7 \times 10^6 \text{ m}^3$ in 2014, a 37.5 per cent increase
 - Transmission lines
 - Flaring – $4 \times 10^6 \text{ m}^3$, up from $1 \times 10^6 \text{ m}^3$ in 2014, a 602.3 per cent increase
 - Venting – $8 \times 10^6 \text{ m}^3$, down from $13 \times 10^6 \text{ m}^3$ in 2014, a 33.8 per cent decrease
- Emissions from glycol dehydrators
 - 1778 glycol dehydrators emitted 609 tonnes of benzene after controls in 2015 compared with 1886 glycol dehydrators and 746 tonnes of benzene emissions after controls in 2014
- Emissions from SCVF and GM
 - 10 247 SCVF and GM wells emitted $86 \times 10^6 \text{ m}^3$ of natural gas in 2015 compared with 9982 SCVF and GM wells and $84 \times 10^6 \text{ m}^3$ of natural gas in 2014

For questions about this report, email the AER Environment and Operational Performance Branch, Resource Compliance Team, at ResourceCompliance@aer.ca, or call the Customer Contact Centre at 403-297-8311 or toll free at 1-855-297-8311.

1 Introduction

The Alberta Energy Regulator (AER) is the province's single energy regulator whose core functions include conserving Alberta's energy resource, protecting public safety and the environment, and disseminating energy-related information. The AER's activities on reducing flaring and venting, including its partnership work, address conservation, public safety, and information dissemination.

The AER worked with the consensus-based, multistakeholder Flaring and Venting Project Team of the Clean Air Strategic Alliance (CASA) to develop flaring and venting management recommendations for the Province of Alberta. The recommendations included determining flaring and venting baselines, flaring reduction targets, and operational requirements for the upstream oil and gas industry. The AER adopted the recommendations put forward by CASA and incorporated them into the 1999 edition of *Guide 60: Upstream Petroleum Industry Flaring Guide* (subsequently known as *Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting*). The AER will continue to work with CASA, industry, and other stakeholders to reduce the volume of solution gas flared and vented in Alberta.

ST60B: Upstream Petroleum Industry Flaring and Venting Report, published annually, fulfils the AER's commitment to report flaring and venting volumes, as set out in *Directive 060*.

The report's primary focus is on solution gas flaring and venting from crude oil and crude bitumen production operations. The report includes flared and vented volumes from in situ bitumen facilities, gas batteries, well testing, gas plants, gas gathering systems, and natural gas transmission lines. Also included are emission statistics from glycol dehydrators, surface casing vent flow (SCVF), and gas migration (GM). The report does not include flared and vented volumes from bitumen upgraders and oil sands mine operations. The data used to compile the report are obtained from Canada's Petroleum Information Network (Petrinex) and the AER. The AER recognizes that there are currently emissions in the upstream petroleum industry that are not required to be reported to the AER and thus are not included in *ST60B*.

For this report,

- crude bitumen is oil that is produced within the AER-designated oil sands areas¹ and that has a density of 920 kilograms per cubic metre (kg/m³) or more;
- crude oil is all other crude oil production in the province, including oil with a density of 920 kg/m³ or more produced outside the designated oil sands areas;
- all reported flared volumes include gas that was incinerated, unless otherwise stated;
- venting is defined as the noncombusted release of gas to the atmosphere;
- gas conservation is calculated as

$$\text{conservation} = \frac{\text{Volume of gas produced} - (\text{Volume of gas flared} + \text{volume of gas vented})}{\text{Volume of gas produced}}; \text{ and}$$

¹ See *ST98-2016: Alberta's Energy Reserves 2015 and Supply/Demand Outlook*, figure R3.1, available on the AER website, www.aer.ca.

- greenhouse gas (GHG) emissions are expressed in tonnes of carbon dioxide equivalent (tCO₂e).² The GHG emission factors for flared and vented gas vary depending on the type of production as follows:
 - Crude oil³
 - Vented gas GHG emission factor = 16.8 tCO₂e per thousand cubic metres (10³ m³) of gas
 - Flared gas⁴ GHG emission factor = 3.9 tCO₂e per 10³ m³ of gas
 - Crude bitumen within the Peace River area^{5,6}
 - Vented gas GHG emission factor = 17.6 tCO₂e per 10³ m³ of gas
 - Flared gas GHG emission factor = 2.8 tCO₂e per 10³ m³ of gas
 - Crude bitumen outside the Peace River area⁷
 - Vented gas GHG emission factor = 17.0 tCO₂e per 10³ m³ of gas
 - Flared gas GHG emission factor = 2.7 tCO₂e per 10³ m³ of gas

For information on flaring, incinerating, and venting requirements, see *Directive 060*. For questions about this report, email the AER Environment and Operational Performance Branch, Resource Compliance Team, at ResourceCompliance@aer.ca or call the Customer Contact Centre at 403-297-8311 or toll free at 1-855-297-8311.

2 Solution Gas Conserved, Flared, and Vented, 1996–2015

Gas conservation is the recovery of solution gas to use as fuel for production facilities, to sell, to inject for enhanced recovery from oil or condensate pools, or to generate power, among other uses. Industry achieved a 96.4 per cent solution gas conservation rate in 2015, compared with 95.6 per cent in 2014 (see figure 1). Data from all crude oil and crude bitumen batteries were used in calculating the percentage of solution gas conserved.

The combined volume of flared and vented solution gas decreased 22.1 per cent to 773 million cubic metres (10⁶ m³) in 2015 from 920 10⁶ m³ in 2014.⁸ The total volume of gas flared and vented at crude oil and crude bitumen batteries represented 7.5 million tonnes of carbon dioxide equivalent (10⁶ tCO₂e) of GHG emissions.

² Methane, which is a major component in venting, has 25 times more global warming potential than carbon dioxide.

³ Solution gas from crude oil production is assumed to have a methane content of 53 per cent.

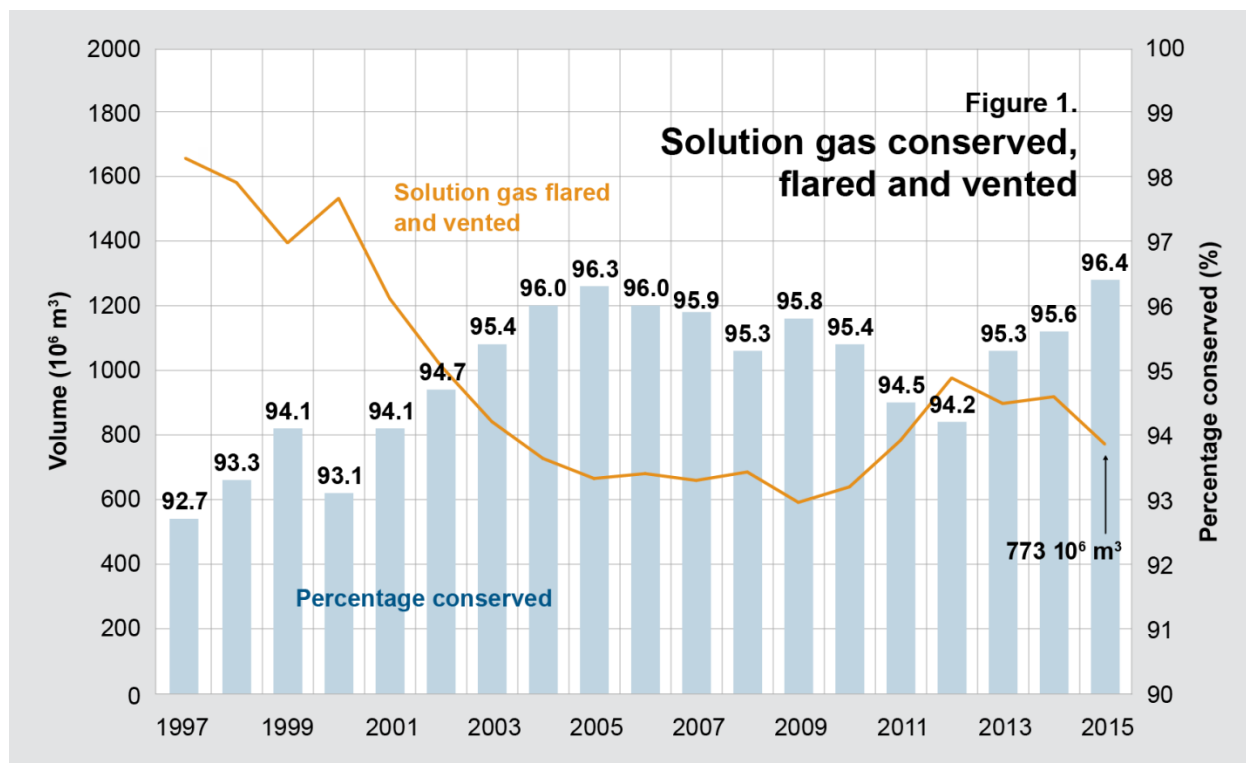
⁴ Flaring is assumed to have a 95 per cent conversion efficiency.

⁵ See *Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting*, figure 10, available on the AER website, www.aer.ca.

⁶ Solution gas from crude bitumen production within the Peace River area is assumed to have a methane content of 89 per cent.

⁷ Solution gas from crude bitumen production outside the Peace River area is assumed to have a methane content of 94 per cent.

⁸ Values in this report have been rounded to the nearest 10⁶ m³.



3 Solution Gas Flaring and Venting Performance

In 2015, 419 10^6 m^3 of gas was flared, which represented 1.5 $10^6 \text{ tCO}_2\text{e}$ of GHG emissions, and 354 10^6 m^3 was vented, which represented 6.0 $10^6 \text{ tCO}_2\text{e}$ of GHG emissions. The flared volumes were 68.7 per cent less than the 1996 flaring baseline of 1340 10^6 m^3 and were 14.5 per cent less than 2014 volumes (see figure 2). Flaring was also below the annual flaring limit of 670 10^6 m^3 . The vented volumes were 49.8 per cent less than the 2000 venting baseline of 704 10^6 m^3 and 17.6 per cent less than the 2014 volumes (see figure 3).

The years 1996 and 2000 were selected as the baseline years for solution gas flaring and venting, respectively, since data from these years were the most recent available to the CASA Flaring and Venting Project Team.

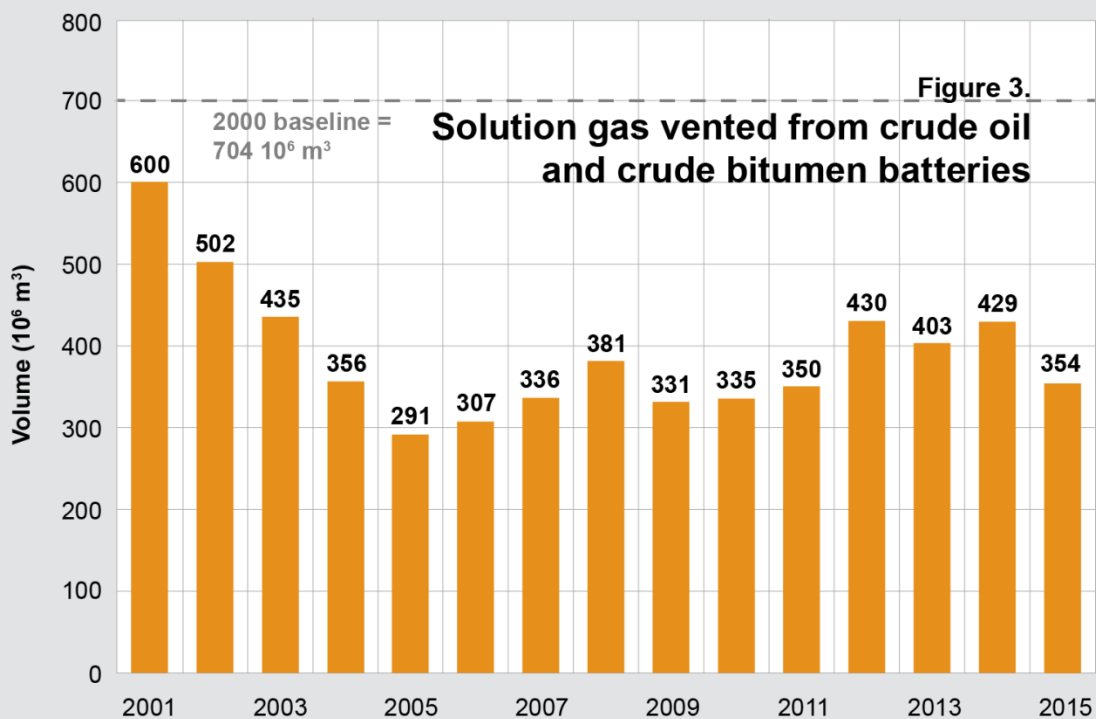
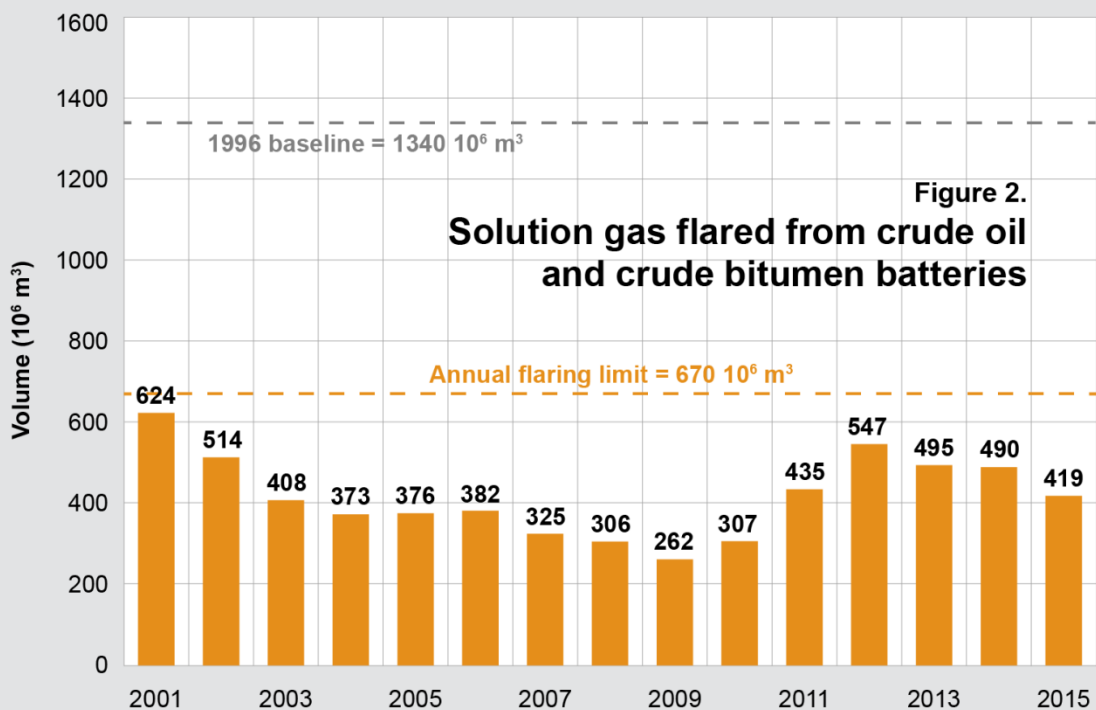


Table 1 shows the statistics for oil and bitumen production and solution gas flaring, venting, production, and conservation for crude oil and crude bitumen batteries, comparing 2015 to 2014. Crude oil production decreased and crude bitumen production increased in 2015. Total solution gas flared and vented decreased despite the increased gas production in 2015. Solution gas conservation increased for both crude oil and crude bitumen production in 2015. For crude bitumen batteries, gas venting decreased while gas flaring increased. This is more desirable from a GHG perspective because flaring has a lower impact than venting.

The table also shows the total number of batteries operating in 2015 and the number of batteries flaring, venting, and with gas conservation. There was an overall decrease in the number of batteries operating in 2015 compared with 2014.

Table 1. Flaring and venting statistics for crude oil and crude bitumen batteries, 2014–2015

	2015			2014			2015 vs. 2014 % change		
	Crude bitumen batteries	Crude oil batteries	Crude oil & crude bitumen batteries	Crude bitumen batteries	Crude oil batteries	Crude oil & crude bitumen batteries	Crude bitumen batteries	Crude oil batteries	Crude oil & crude bitumen batteries
Crude oil or bitumen production (10^6 m^3)	80	30	110	74	34	108	7.2	-9.9	2.0
Solution gas flaring (10^6 m^3)	99	320	419	87	403	490	13.6	-20.6	-14.5
Solution gas venting (10^6 m^3)	187	166	353	254	175	429	-26.3	-4.9	-17.6
Solution gas production (10^6 m^3)	2644	18 535	21 179	2442	18 365	20 807	8.3	0.9	1.8
Solution gas conservation (10^6 m^3)	89.2%	97.4%	96.4%	86.0%	96.9%	95.6%	3.2	0.5	0.8
Total number of batteries	3711	10 539	14 250	3621	11 551	15 172	2.5	-8.8	-6.1
Number of batteries flaring gas ^a	168	1 875	2 043	197	2 424	2 621	-14.7	-22.6	-22.1
Number of batteries venting gas ^a	2764	5 106	7 870	2817	5 458	8 275	-1.9	-6.4	-4.9
Number of batteries with gas conservation ^b	1153	5029	6 182	1014	5 304	6 318	13.7	-5.2	-2.2

a. Batteries can report flared gas, vented gas, or both.

b. Batteries with an annual gas conservation of more than 89.99 per cent.

Discussion

Directive 060, starting with the edition that went into effect on January 31, 2007, requires that all solution gas flares or vents releasing more than $900 \text{ m}^3/\text{day}$ must be economically evaluated to see if gas conservation is viable. If the net present value (NPV) of gas conservation at a crude oil battery is found to be greater than negative \$55 000, the well or battery must not be produced until the gas is conserved. At crude bitumen batteries, as soon as gas flow rates exceed an average of $900 \text{ m}^3/\text{day}$ for any consecutive

three-month period within a rolling six-month window, operators have up to six months to conserve the solution gas if the NPV of gas conservation is greater than negative \$55 000. Before 2007, *Directive 060* required at least a neutral NPV (i.e., \$0.00) before solution gas conservation was necessary.

Despite the change in the NPV threshold for solution gas conservation, low natural gas prices and higher pipeline and compression capital costs in 2015 continued to challenge the economic viability of conservation.

Crude bitumen batteries accounted for 37.1 per cent of the solution gas flared and vented in 2015, with 65.4 per cent of this volume being vented. Crude bitumen generally has lower gas-to-oil ratios than crude oil, which means that the lower gas rates associated with bitumen makes the solution gas less likely to be combusted.

There are two types of crude bitumen operations: primary and in situ oil sands. Primary oil sands include operations such as cold heavy oil production with sand while in situ oil sands include operations such as thermal production. In situ oil sands operations generally have less flaring and venting because the produced gas is more economic to conserve. Table 2 below shows the statistics for primary operations compared with in situ oil sands operations for 2015.

Table 2. Flaring and venting statistics for primary and in situ oil sands operations for 2015

	Primary operations	In situ oil sands operations	Total crude bitumen operations
Solution gas production (10^6 m^3)	1382	1262	2644
Solution gas flaring (10^6 m^3)	83	17	99
Solution gas venting (10^6 m^3)	183	4	187
Crude bitumen production (10^6 m^3)	16	64	80
Solution gas conservation	80.8%	98.3%	89.2%
Number of batteries	3656	55	3711

The AER has taken action to address emissions and odours from heavy oil operations in the Peace River area. In April 2014, the AER accepted an independent panel of hearing commissioners' recommendations that are within the AER's jurisdiction. As a result of these recommendations, requirements have been implemented to effectively eliminate venting and minimize flaring in the area.

The oil and gas industry is constructively using a large portion of produced solution gas from primary crude bitumen operations as fuel to run pump motors and tank heaters. Unfortunately, conserving the remaining small volume of gas is more economically challenging.

4 Flaring from All Upstream Oil and Gas Sources, 2000–2015

The total flared volume from all upstream oil and gas sources in 2015 was $871 \times 10^6 \text{ m}^3$, a decrease of 16.3 per cent from 2014 (see figure 4). The data in table 3 were used to prepare figure 4.

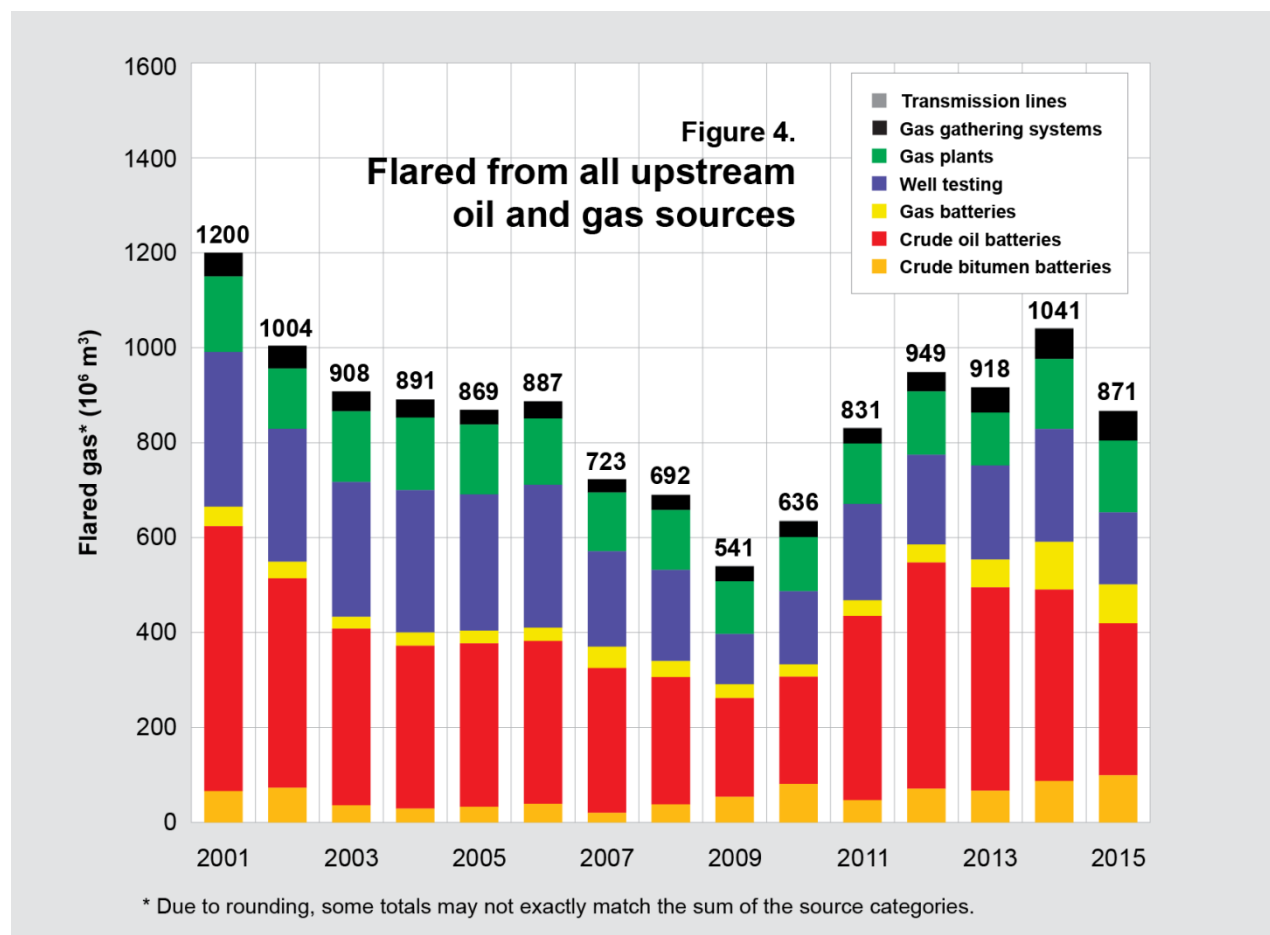


Table 3. Flaring from upstream oil and gas sources (10^6 m^3)^a

Year	Crude bitumen batteries	Crude oil batteries	Gas batteries ^{b,c}	Well testing	Gas plants ^d	Gas gathering systems ^d	Transmission lines ^e	Total flared (10^6 m^3)
2000	76	755	36	335	196	48	-	1446
2001	66	558	41	326	159	50	-	1200
2002	73	441	35	280	127	48	-	1004
2003	36	372	25	284	149	42	-	908
2004	29	343	28	300	153	38	-	891
2005	33	344	27	287	147	31	-	869
2006	39	343	28	301	140	36	-	887
2007	20	305	45	201	124	28	-	723
2008	38	268	34	192	126	32	2	692
2009	54	208	29	106	111	31	2	541
2010	81	226	26	154	114	33	2	636
2011	47	388	33	203	127	32	1	831

Year	Crude bitumen batteries	Crude oil batteries	Gas batteries ^{b,c}	Well testing	Gas plants ^d	Gas gathering systems ^d	Transmission lines ^e	Total flared (10 ⁶ m ³)
2012	70.8	476.7	37.9	189.0	133.6	40.1	1.1	949
2013	66.6	428.6	58.5	198.4	111.1	52.9	2.0	918
2014	87.4	403.0	100.5	237.7	147.8	63.5	0.6	1041
2015	99.3	320.0	82.0	151.7	151.4	62.1	4.2	871
2015 vs 2014 change	13.6%	-20.6%	-18.4%	-36.2%	2.5%	-2.2%	602.3%	-16.3%

- a. Due to rounding, some totals may not exactly match the sum of the source categories. An additional decimal place has been added to the volumes since 2012 to more accurately reflect the percentage changes.
- b. As of ST60B-2015, the category for "CBM & shale gas wells" (CBM = coalbed methane) has been excluded from figure 4 and table 3. The flared volumes from this category have been combined in the "gas batteries" category.
- c. The increase seen in the gas battery flaring in 2012 and 2013 relative to previous years' ST60B is due to corrections made by including flared gas volumes reported at gas wells for gas batteries.
- d. The figures for gas plants and gas gathering systems include both flared *and* vented volumes for the years 2000 to 2006.
- e. Transmission lines data are submitted to the AER for the purposes of this report voluntarily. The AER does not regulate these lines. Flaring from transmission lines was not tracked in ST60B until 2008.

Table 3 shows an increase in 2015, compared with 2014, in flaring from crude bitumen batteries, gas plants, and transmission lines. There were decreases in flaring from crude oil batteries, gas batteries, well testing, and gas gathering systems in 2015.

Discussion

In 2015, flared gas volumes from gas batteries was 82 10⁶ m³, a decrease of 18.4 per cent from 2014. This was not likely due to changes in gas production because gas production from gas batteries only decreased 1.6 per cent from 2014. Flaring from gas batteries is mainly attributed to horizontal multistage hydraulically fractured gas wells. It takes longer to clean out the wells in these operations to meet pipeline specifications before transmission, so flare volumes are higher and flaring duration is longer. The flared volume during this cleanup period is reported as gas battery flaring and not as well test flaring.

An AER review of 85 well tests showed that 44 per cent of the flared gas was reported incorrectly. The reported flare volumes during well testing may have included some nonhydrocarbon gas, such as carbon dioxide and nitrogen from fracturing operations. In other situations, pipelined gas volumes during well tests (testing in line) were incorrectly reported as flared gas volumes. The AER subtracted these gas volumes from the reported flared volumes to get the actual hydrocarbon gas that was flared during these well tests. This adjustment was only made for the 85 well tests reviewed, and the volumes were not prorated for the entire well test dataset.

In 2015, 1211 well tests were conducted compared with 1691 tests in 2014. There were 1121 well tests conducted that flared or vented compared with 1605 tests in 2014.

When considering all well tests conducted in 2015, the average gas volume flared per test was 125.2 10³ m³, compared with 140.6 10³ m³ per test in 2014, a decrease of 10.9 per cent (see table 4). This

can be attributed to a decrease of 184 horizontal multistage fractured gas wells tested in 2015. It takes longer to recover load fluids and clean out wells in these operations, resulting in greater flare volumes and longer flaring durations than with vertical wells and wells that are not fractured.

Table 4. Average volume of gas flared per well test, and number of wells drilled by type

Year	Volume flared per well test (10^3 m^3)	Number of horizontal multistage fractured oil wells	Number of horizontal multistage fractured oil wells	Total number of wells drilled
2005	34.6	-	-	20 179
2006	40.8	-	-	18 878
2007	40.1	-	-	14 723
2008	45.6	93	53	12 914
2009	39.3	160	120	6 392
2010	63.5	350	778	8 946
2011	83.2	645	1645	9 303
2012	102.3	530	1839	8 143
2013	109.8	626	1612	7 812
2014	140.6	846	1506	7 543
2015	125.2	662	573	3 411

Directive 060 requires that operators seek alternatives to well test flaring. Operators are required to test in line when it is both economically viable and safe to do so. Testing in line can mean either connecting to an existing gas gathering system directly or laying a temporary surface pipeline to connect a well to a remote gas gathering system. By either method, the gas from the well test is conserved.

The data in table 5 represent the flaring from well tests conducted by 25 companies in 2015 and the average volume of gas flared per test. The well tests summarized in the table represent 83.8 per cent of the well tests and 79.4 per cent of the flaring.

Table 5. Well test flaring, 2015 ranked by number of well tests conducted

Company	Number of well tests	Gas flared (10^6 m^3)	Average gas flared per test (10^3 m^3)
Encana Corporation	367	4.8	13.2
Tourmaline Oil Corp.	125	15.1	120.6
Seven Generations Energy Ltd.	55	22.1	401.5
Bonavista Energy Corporation	50	6.3	126.7
ConocoPhillips Canada Operations Ltd.	46	5.6	121.8
Birchcliff Energy Ltd.	36	1.6	45.2
Paramount Resources Ltd.	33	14.6	441.3
Vermilion Energy Inc.	33	4.0	120.8
Shell Canada Limited	32	4.3	135.4
Bellatrix Exploration Ltd.	30	6.3	209.2
Exshaw Oil Corp.	28	3.4	120.2
NuVista Energy Ltd.	17	1.4	82.1
Canadian Natural Resources Limited	17	1.7	101.7
ConocoPhillips Canada Resources Corp.	17	2.6	154.0
TAQA North Ltd.	15	3.5	230.9

Company	Number of well tests	Gas flared (10 ⁶ m ³)	Average gas flared per test (10 ³ m ³)
Cequence Energy Ltd.	15	2.8	184.5
Boulder Energy Ltd.	14	3.7	264.0
Cenovus Energy Inc.	13	0.4	32.7
Chevron Canada Limited	12	1.8	149.4
Velvet Energy Ltd.	11	3.1	281.1
ORLEN Upstream Canada Ltd.	11	3.3	301.6
Omers Energy Inc.	10	2.6	263.9
Modern Resources Inc.	10	2.6	257.2
Athabasca Oil Corporation	9	1.7	190.0
Kelt Exploration Ltd.	9	1.2	138.2
Total	1015	120.5	
% of total well tests	83.8%	79.4%	

Of the 1127 gas plants reporting gas receipts in 2015, only 384 gas plants reported flared gas volumes. The total flared gas volume was 151 10⁶ m³, which is a 2.5 per cent increase from 2014. All gas plant subtypes contribute to this report, including sweet gas, acid gas flare, acid gas injection, sulphur recovery, straddle, and fractionation. Table 6 shows the top 30 gas plants that flared in 2015, representing 69.3 per cent of flaring from all gas plants. The gas flared as a percentage of gas plant receipts shows the magnitude of the flared gas volumes in relation to the size of the gas plant.

Table 6. Top 30 flaring gas plants in 2015

Gas plant	Location	Operator name	Gas flared (10 ⁶ m ³)	Gas flared as a percentage of gas plant receipts (10 ⁶ m ³)
ABGP0001707	09-01-056-22W4	Pembina NGL Corporation	15.7	N/A ^a
ABGP0001060	09-27-031-04W5	AltaGas Ltd.	12.4	0.46
ABGP0118855	08-13-063-05W6	Paramount Resources Ltd.	7.1	0.49
ABGP0094954	08-11-060-03W6	Pembina Gas Services Ltd.	5.6	0.55
ABGP0001004	02-05-044-01W5	Keyera Energy Ltd.	5.6	0.16
ABGP0001740	04-25-062-06W6	Pembina Gas Services Ltd.	5.3	0.23
ABGP0001192	01-08-070-10W5	Apache Canada Ltd.	3.8	12.99 ^b
ABGP0001058	08-09-064-19W5	Trilogy Resources Ltd.	3.3	0.37
ABGP0001113	09-06-063-25W5	Keyera Energy Ltd.	3.3	0.26
ABGP0001506	01-01-078-10W6	Canadian Natural Resources Limited	3.3	0.26
ABGP0001129	13-26-067-05W6	Canadian Natural Resources Limited	3.2	0.49
ABGP0001350	04-08-070-11W6	ConocoPhillips Canada (BRC) Partnership	3.2	0.13
ABGP0134628	09-26-062-06W6	Pembina Gas Services Ltd.	3.0	0.37
ABGP0001133	11-35-037-09W5	Keyera Energy Ltd.	2.8	0.13
ABGP0126279	12-36-057-23W5	Pembina Gas Services Ltd.	2.7	0.13
ABGP0001530	01-35-019-28W4	Lexin Resources Ltd.	2.6	1.04
ABGP0001892	04-08-075-07W6	Encana Corporation	2.4	0.12

Gas plant	Location	Operator name	Gas flared (10 ⁶ m ³)	Gas flared as a percentage of gas plant receipts (10 ⁶ m ³)
ABGP0001520	06-19-073-08W6	ConocoPhillips Canada Energy Partnership	2.3	0.23
ABGP0001147	11-18-074-12W6	Veresen Midstream General Partner Inc.	2.0	0.06
ABGP0001169	15-03-081-04W6	Canadian Natural Resources Limited	1.9	0.35
ABGP0001107	01-12-062-20W5	SemCAMS ULC	1.8	0.18
ABGP0135330	03-10-077-07W6	Exshaw Oil Corp.	1.6	0.57
ABGP0001360	15-02-049-20W5	CQ Energy Canada Resources Partnership	1.5	0.10
ABGP0001002	16-33-038-22W4	Keyera Energy Ltd.	1.5	0.44
ABGP0001121	06-10-044-12W5	Keyera Energy Ltd.	1.4	0.24
ABGP0130964	15-07-060-18W5	XTO Energy Canada	1.2	0.32
ABGP0001351	04-08-069-08W6	Canadian Natural Resources Limited	1.2	0.04
ABGP0001069	15-25-064-11W5	Pengrowth Energy Corporation	1.1	0.37
ABGP0001056	02-20-004-30W4	Shell Canada Energy	1.1	0.08
ABGP0135716	04-25-065-07W6	Harvest Operations Corp.	1.1	0.46
Total			105.0	
% of total gas plant flaring			69.3%	

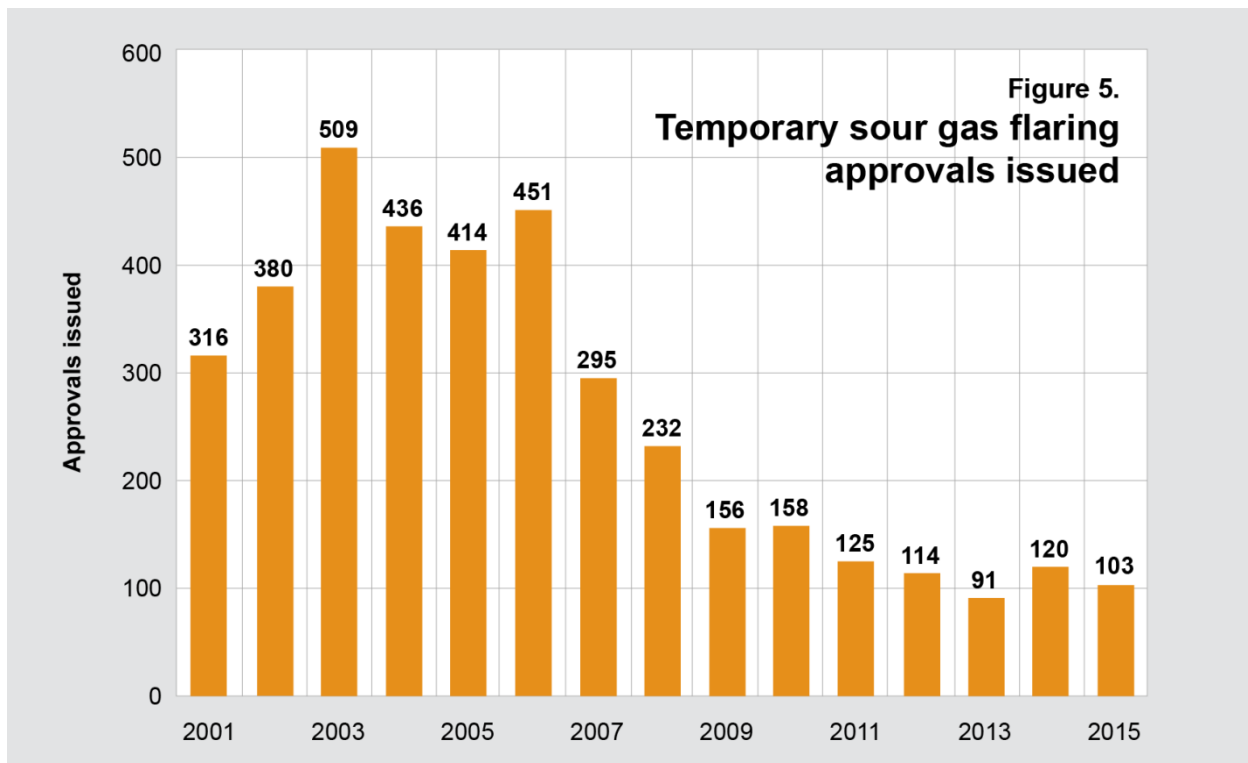
a. This is a fractionation gas plant that reported zero gas receipts.

b. Flaring was due to a downstream outage.

In 2015, 50 per cent of the total volume flared from gas gathering systems came from 5 of the 5563 systems.

In cases of sour gas or sour oil well testing, if the gas to be flared contains more than 5 per cent hydrogen sulphide (H₂S), a sour gas flaring approval is required. The temporary sour gas approval process involves a detailed review of air quality dispersion modelling and is conducted to ensure that the Alberta Ambient Air Quality Objectives (AAAQO) of Alberta Environment and Parks will not be exceeded. The application for a sour gas flaring approval may also include plans that document how any predicted exceedances of the AAAQO will be mitigated. When the AER is satisfied that the AAAQO will be met, and that levels of all other parameters (such as flared volumes and sulphur emissions) are justified and minimized, a temporary sour gas flaring approval may be issued.

In 2015, the AER issued 103 temporary sour gas flaring approvals, a decrease from the 120 issued in 2014 (see figure 5 below).



The reason for the decreases in sour gas flaring approvals since 2006 may be twofold. First, market conditions for natural gas have not been as favourable in recent years, which may have resulted in upstream oil and gas licensees rebalancing their capital and operating budgets.

Second, with the release of the revised *Directive 060* at the end of January 2007, a new allowance to flare small volumes of gas containing H_2S volumes in excess of 5 per cent without a sour gas flaring approval was introduced. With this new allowance, companies are still required to conduct dispersion modelling if the H_2S concentration of the gas to be flared is in excess of 1 per cent, and proper notification to the AER and public at least 24 hours in advance of flaring operations is still required.

5 Venting from All Upstream Oil and Gas Sources, 2000–2015

Figure 6 shows vented volumes broken down by source for 2000 to 2015. The data in table 7 were used to prepare figure 6. As indicated in the table, the total volume vented from all upstream oil and gas sources in 2015 was $414 \times 10^6 \text{ m}^3$, a decrease of 18.0 per cent from 2014.

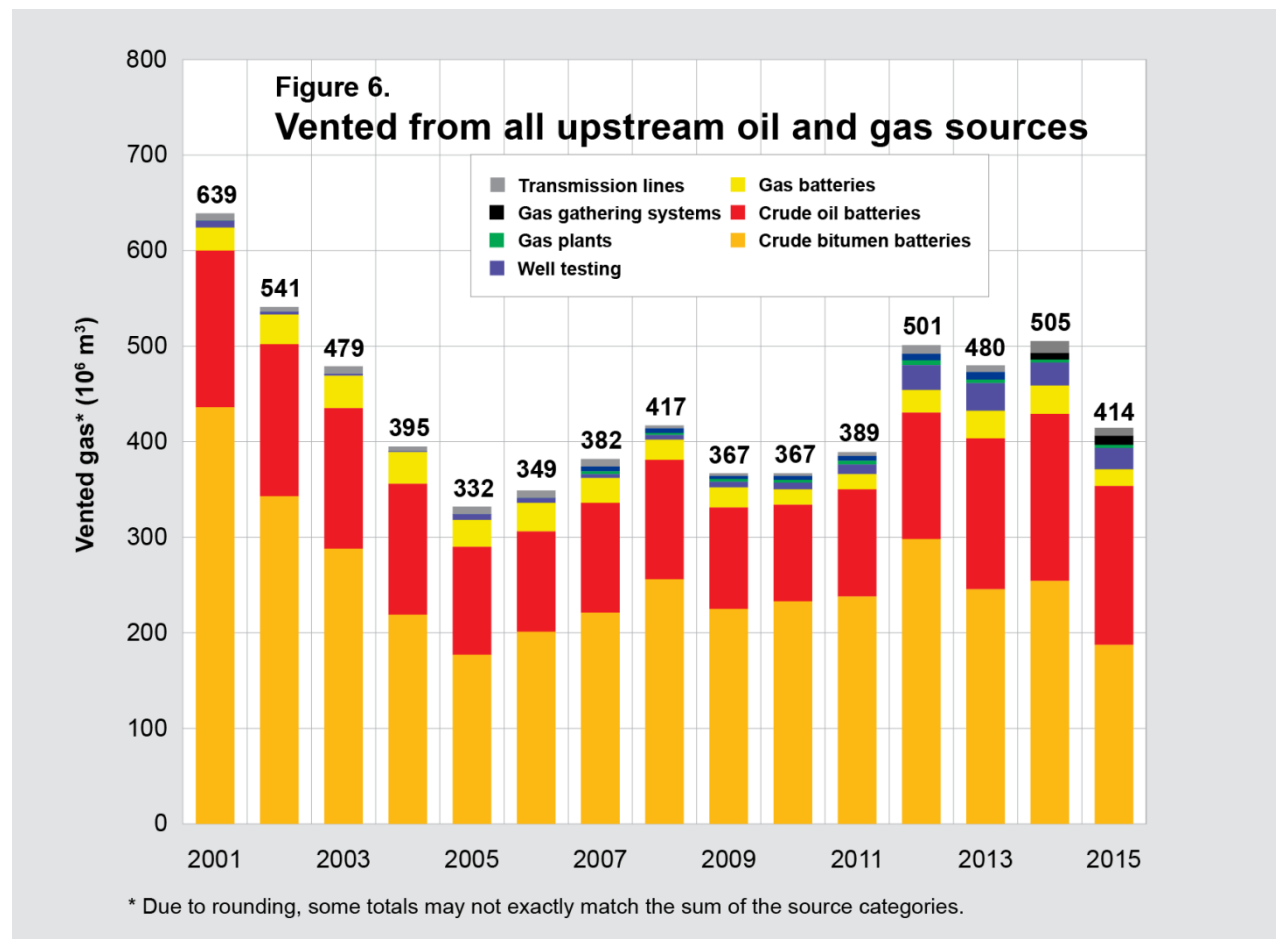


Table 7. Venting from upstream oil and gas sources (10^6 m^3)^a

Year	Crude bitumen batteries	Crude oil batteries	Gas batteries ^b	Well testing	Gas plants	Gas gathering systems	Transmission lines ^c	Total vented (10^6 m^3)
2000	554	150	12	7	0	0	12	735
2001	436	164	24	7	0	0	8	639
2002	343	159	31	3	0	0	5	541
2003	288	147	34	2	0	0	8	479
2004	219	137	33	1	0	0	5	395
2005	177	113	28	6	0	0	8	332
2006	201	105	30	5	0	0	8	349
2007	221	115	26	4	3	5	8	382
2008	256	125	21	5	2	5	3	417
2009	225	106	21	6	3	3	3	367
2010	233	101	16	7	3	4	3	367

Year	Crude bitumen batteries	Crude oil batteries	Gas batteries ^b	Well testing	Gas plants	Gas gathering systems	Transmission lines ^c	Total vented (10 ⁶ m ³)
2011	238	112	16	10	4	5	4	389
2012	298.0	132.4	23.7	26.0	5.1	6.8	9.0	501
2013	245.5	157.9	29.0	28.8	3.7	8.0	7.0	480
2014	254.2	174.8	29.7	24.1	3.1	6.8	12.7	505
2015	187.3	166.2	17.6	22.2	3.4	9.4	8.4	414
2015 vs 2014 change	-26.3%	-5.0%	-40.9%	-8.0%	11.5%	37.0%	-33.6%	-18.0%

a. Due to rounding, some totals may not exactly match the sum of the source categories.

b. As of ST60B-2015, the category for "CBM & shale gas wells" (CBM = coalbed methane) has been excluded from figure 6 and table 7. The vented volumes from this category have been combined in the "gas batteries" category.

c. Transmission lines data are submitted to the AER for the purposes of this report voluntarily. The AER does not regulate these lines.

Table 7 shows a decrease in 2015 compared with 2014 in venting from crude bitumen batteries, crude oil batteries, gas batteries, well testing, and transmission lines. Venting from gas plants and gas gathering systems increased in 2015.

Discussion

Although the AER does not collect data on greenhouse gas emissions, it is concerned about the impact that these gases can have on the environment. Accordingly, *Directive 060* requires that vented gas that can sustain continuous combustion and that is uneconomic to conserve must be burned.

The most significant source of venting is crude bitumen batteries, where solution gas is vented from the production casing annulus at a large number of individual wells. In some instances, small volumes of solution gas are also vented from treaters and stock tanks at crude oil and crude bitumen batteries. Venting during well testing is primarily from shallow, sweet, low-deliverability gas wells, including coalbed methane wells.

In *ST60B-2004: Upstream Petroleum Industry Flaring and Venting Report, 2003*, the AER made commitments to identify and set out conservation measures aimed at reducing the volumes of solution gas vented from crude bitumen operations. As a result of industry implementing these measures, there was a net decrease in venting from crude bitumen batteries between 2004 and 2007. However, in 2008 this trend was reversed and there was an increase of 16.9 per cent compared with 2004. This can be mainly attributed to the increase in crude bitumen operations in the province. In 2015, venting from crude bitumen batteries was 14.5 per cent lower than the venting baseline from 2004.

In 2015, venting from crude bitumen batteries decreased by 26.3 per cent to 187 10⁶ m³ compared with 2014. Crude bitumen production grew by 7.2 per cent to 80 10⁶ m³ in 2015 compared with 2014, with 90 more crude bitumen batteries operating. Gas conservation from crude bitumen batteries increased to 89.2 per cent in 2015 from 86.0 per cent in 2014.

In 2015, venting from crude oil batteries decreased by 4.9 per cent to $166 \times 10^6 \text{ m}^3$ compared with 2014. Crude oil production decreased by 9.9 per cent to $30 \times 10^6 \text{ m}^3$ in 2015 compared with 2014, with 1012 fewer crude oil batteries operating. Gas conservation from crude oil batteries increased to 97.4 per cent in 2015 from 96.9 per cent in 2014.

6 Emissions from Glycol Dehydrators

This section of the report summarizes the statistics for benzene emissions from glycol dehydrators (dehydration and refrigeration) regulated by the requirements in *Directive 039: Revised Program to Reduce Benzene Emissions from Glycol Dehydrators*. The AER and Alberta Environment and Parks (AEP) in cooperation with the Canadian Association of Petroleum Producers (CAPP) have established requirements to reduce benzene emissions to ensure that the Alberta Ambient Air Quality Objectives (AAAQO) are not exceeded at public receptor locations, thereby protecting the public and the environment. As outlined in *Directive 039*, licensees must complete and submit to the AER an annual dehydrator inventory list that details the emissions from all glycol dehydrators in the province.

The oil and gas industry has had a benzene reduction program in place since 1997. The program was managed by the Benzene Technical Advisory Team, which has included representatives from AEP, the AER, B.C. Environment, CAPP, Environment Canada, Health Canada, and Saskatchewan Environment. As of 2007, the program is regulated by the AER at upstream oil and gas operations.

In 2015, 1778 glycol dehydrators were processing 153.5 billion cubic metres of gas. Table 8 shows the number of glycol dehydrators, the volume of gas processed, the benzene emissions before and after controls, and the overall control efficiency each year since 2008.

Table 8. Benzene emissions from glycol dehydrators

Year	Number of dehydrators ^a	Volume of gas processed (10^6 m^3)	Benzene emissions before controls (tonnes) ^b	Benzene emissions after controls (tonnes) ^c	Overall control efficiency (%) ^d
2008	2396	159 417	3011	1248	58.6
2009	2236	153 323	2750	1093	60.3
2010	2107	134 681	2365	989	58.2
2011	2006	137 790	2286	849	62.9
2012	1985	148 334	2228	794	64.4
2013	1905	142 110	2757	777	71.8
2014	1886	146 036	2640	746	71.7
2015	1778	153 486	2376	609	74.4

a. Only operating dehydrators have been included.

b. Benzene occurs in varying concentrations in natural gas streams throughout the province, and some locations may not have any benzene. All operating dehydrators are included, regardless of the concentration of benzene in the gas stream. Benzene emissions in this report have been rounded to the nearest tonne.

c. Controls are methods for reducing benzene emissions. Examples include condenser systems, incinerators, flare stacks, and burners.

d. The control efficiency is the total benzene emissions before controls minus the total benzene emissions after controls divided by the total benzene emissions before controls. The control efficiencies for individual dehydrators are usually estimates provided by the licensees.

In 2015, there were 609 tonnes of benzene emissions after controls compared to 1248 tonnes in 2008—a 51.2 per cent reduction. This can mainly be attributed to a decrease in the number of glycol dehydrators operating and to the emission reduction requirements specified in *Directive 039*. The overall control efficiency also increased since 2008, indicating that controls were used more often and were more effective at reducing emissions.

Table 9 lists the top 30 companies by the number of glycol dehydrators in 2015. The data in the table represents 72.9 per cent of the total number of operating glycol dehydrators and 70.9 per cent of the benzene emissions after controls.

Table 9. Top 30 companies listed by the number of glycol dehydrators in 2015

Company	Number of dehydrators^a	Benzene emissions before controls (tonnes)	Benzene emissions after controls (tonnes)
Canadian Natural Resources Limited	307	306	110
Husky Oil Operations Limited	94	60	19
ConocoPhillips Canada Operations Ltd.	73	157	45
Cenovus Energy Inc.	71	14	12
TAQA North Ltd.	66	80	25
Bonavista Energy Corporation	55	190	26
Ember Resources Inc.	55	4	4
Penn West Petroleum Ltd.	45	40	12
AltaGas Ltd.	42	13	13
Long Run Exploration Ltd.	40	35	6
Direct Energy Marketing Limited	38	12	7
Apache Canada Ltd.	37	100	27
Pengrowth Energy Corporation	35	52	18
Tourmaline Oil Corp.	27	197	8
Bellatrix Exploration Ltd.	25	74	15
Harvest Operations Corp.	25	73	11
Keyera Energy Ltd.	25	54	11
ARC Resources Ltd.	23	9	6
Peyto Exploration & Development Corp.	21	42	4
Perpetual Energy Operating Corp.	21	7	2
Encana Corporation	21	5	4
ATCO Energy Solutions Ltd.	21	4	3
Repsol Oil & Gas Canada Inc.	20	105	14
Trilogy Resources Ltd.	19	23	7
Quicksilver Resources Canada Inc.	17	0	0
Enerplus Corporation	16	8	6
Shell Canada Limited	15	55	5
Sinopec Daylight Energy Ltd.	15	24	4
Niska Gas Storage Ltd.	14	43	4
Baytex Energy Ltd.	14	34	4
Total	1297		432
% of total glycol dehydrators	72.9%		70.9%

a. Only operating dehydrators have been included.

Glycol is the most commonly used desiccant for the dehydration process, but it has a high affinity for water and benzene. Benzene emissions mainly result from the glycol regeneration process, where the water is separated from the glycol through boiling. AER regulations require that benzene emissions are managed to ensure that AAAQO are not exceeded at public receptors.

7 Emissions from Surface Casing Vent Flow and Gas Migration

This section of the report summarizes the emission statistics from surface casing vent flow (SCVF) and gas migration (GM). SCVF is the flow of gas or liquid, or both, out of the surface casing or casing annulus of a well; GM is a flow of gas that is detectable at the surface outside of the outermost casing string.

After recognizing an increase in the number of wells with SCVF, in 1995 the AER issued *Interim Directive 95-01: Surface Casing Vent Flow / Gas Migration Requirement*, which specified the categorization of SCVF and GM wells, reporting and monitoring requirements, and a SCVF and GM repair schedule. In 2003, the interim directive was updated and included the reporting of SCVF and GM electronically through the AER's Digital Data Submission system. Over the years, the AER has worked with licensees to ensure proper reporting of SCVF and GM.

Table 10 shows the number of wells with SCVF, GM, or both and the estimated natural gas emissions each year since 2000. In 2015, 10 247 wells reported a SCVF or GM, totalling $86 \times 10^6 \text{ m}^3$ of natural gas emissions.

Table 10. Emissions from SCVF and GM

Year	Number of wells with SCVF, GM, or both ^{a,b}	Annual natural gas emission (10^6 m^3) ^{c,d,e}
2000	4 404	53
2001	4 557	55
2002	5 197	70
2003	5 663	84
2004	6 052	86
2005	6 479	94
2006	7 337	95
2007	7 880	100
2008	8 495	104
2009	8 762	98
2010	8 926	95
2011	9 318	92
2012	9 563	88
2013	9 624	89
2014	9 982	84
2015	10 247	86

a. The natural gas emissions are calculated for wells with SCVF, GM, or both, that have not been repaired.

b. There are wells that have SCVF flow rates that are too small to measure and GM where a flow rate cannot be determined. For these cases, a flow rate of $1 \text{ m}^3/\text{day}$ was used.

- c. The flow rates reported are from a single point in time and are extrapolated to determine annual emissions. Flow rates for SCVF and GM can fluctuate significantly over a period of time and are usually not stable flow.
- d. Typically, the methane content of natural gas in SCVF and GM is between 95 and 99 per cent.
- e. SCVF or GM with no reported emission type are assumed to be natural gas and have a flow rate equal to the average of all other reported natural gas SCVFs.

The age, construction, and operation of the well affects the rates of SCVF and GM. As a result, the rates of SCVF and GM occurrence differ throughout the well life cycle. Table 11 shows the percentage of wells with SCVF or GM in 2015, both repaired and unrepaired, based on the well life cycle status. For all wells that were not abandoned, 6.8 per cent had a reported SCVF or GM.

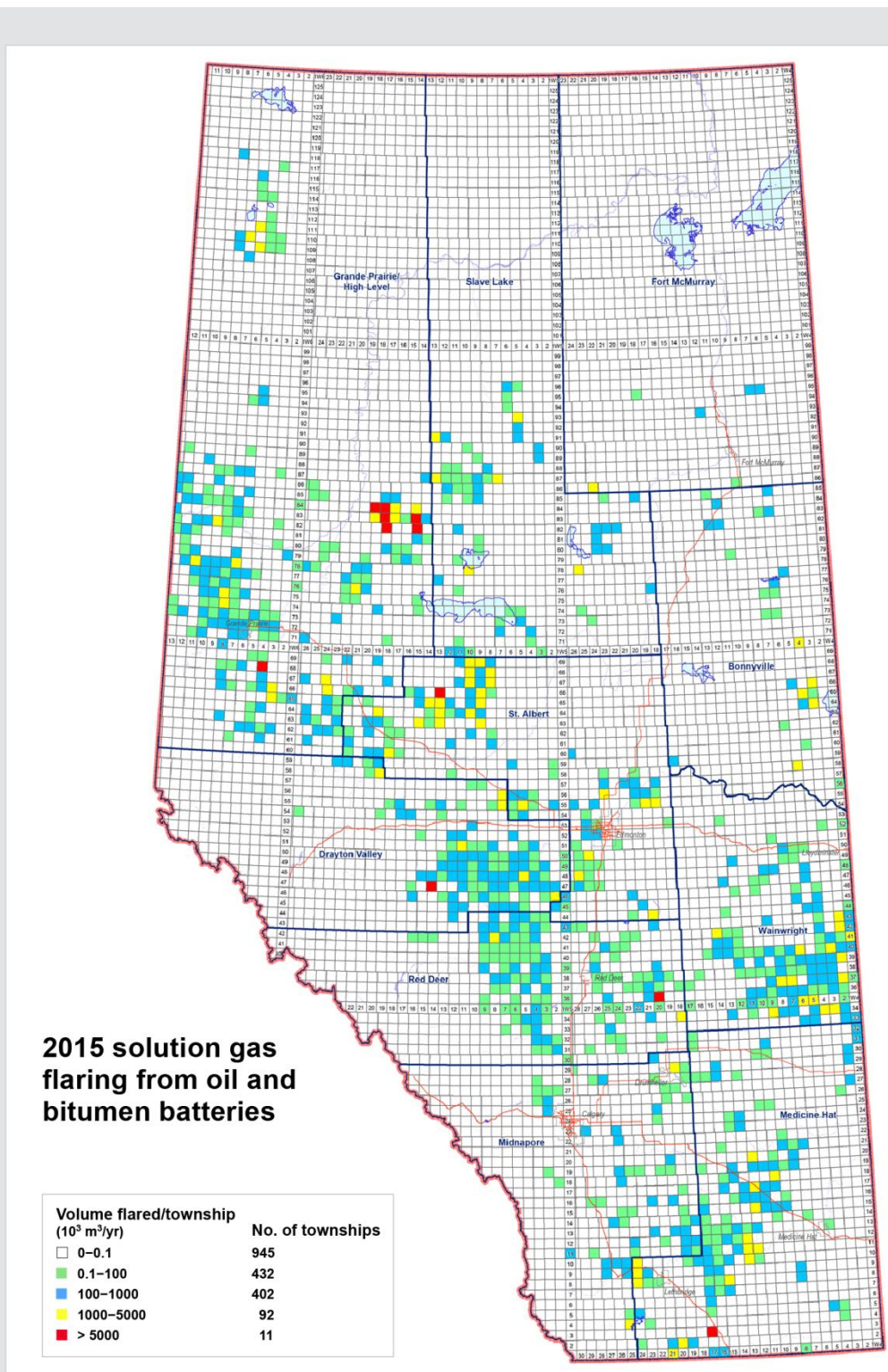
Table 11. Percentage of wells with SCVF, GM, or both by well life cycle status in 2015

Well life cycle status	Number of wells	Number of wells that reported SCVF or GM	Percentage of wells with SCVF or GM (%)
New drills	1 420	34	2.4
Active	184 481	9 632	5.2
Inactive	82 985	8 525	10.3
Total	268 886	18 191	6.8

New drills are wells that have been recently drilled and for which licensees are required to test and report any SCVF or GM identified. Active wells are those that are currently producing or injecting and reporting volumetric activity on Petrinex. Inactive wells are those that have not reported any volumetric activity for either 6 or 12 months, based on the risk of the well as defined in *Directive 013: Suspension Requirements for Wells*. However, the number of inactive wells shown in the table also includes other wells that are not part of *Directive 013*, such as observation wells and training wells.

8 Provincial Solution Gas Flaring and Venting Maps

The following maps of the province depict solution gas flaring and venting by township.

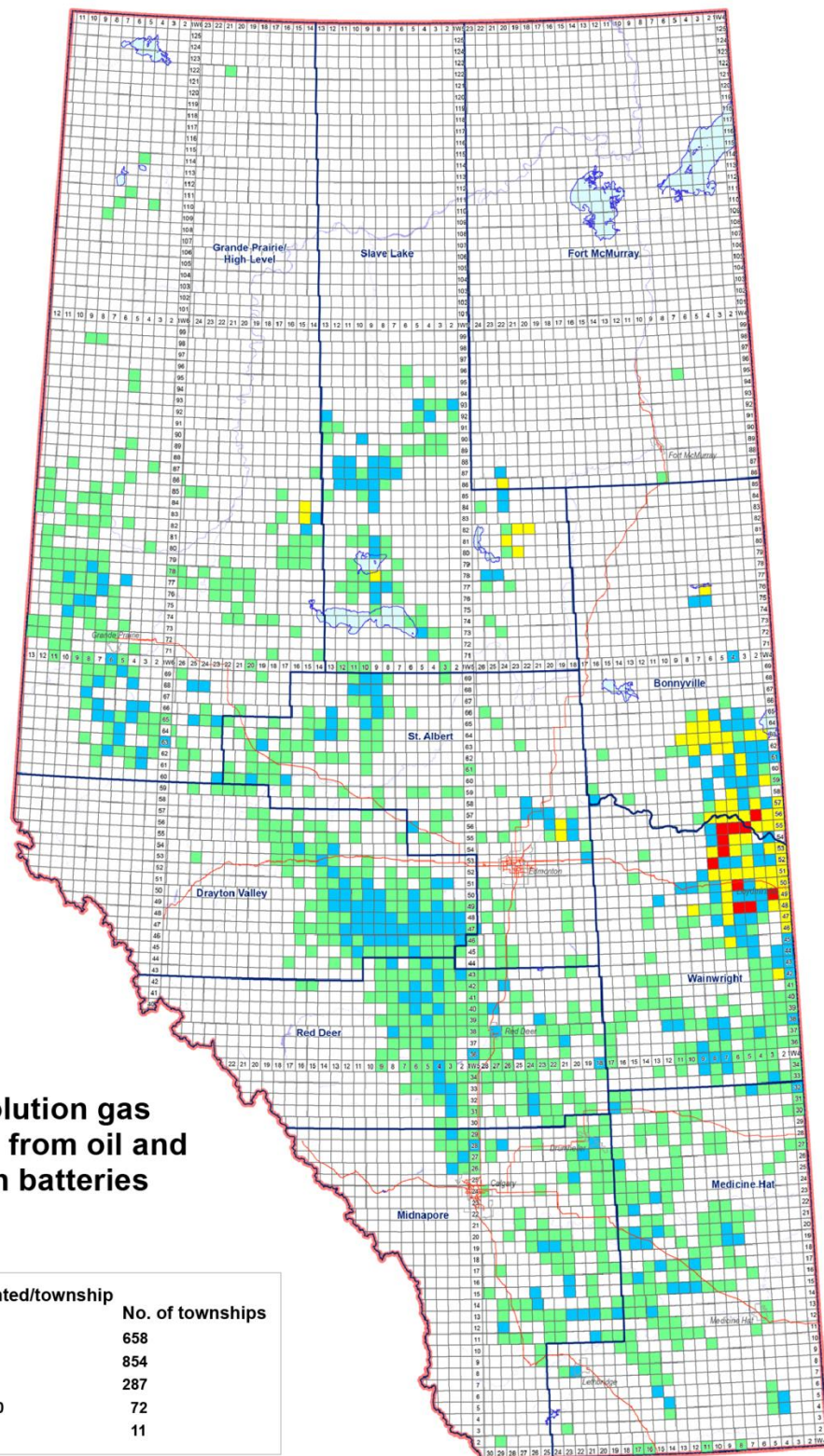


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2015 solution gas venting from oil and bitumen batteries

Volume vented/township (10 ³ m ³ /yr)	No. of townships
0–0.1	658
0.1–100	854
100–1000	287
1000–5000	72
> 5000	11



The AER does not warrant the accuracy or completeness of the information contained in this map and is not responsible for any errors or omissions in its content, and accepts no liability for the use of this information.
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9 Solution Gas Emissions Ranking of Operators for 2015

The AER has ranked companies based on volumes from operated crude oil and crude bitumen batteries of (1) solution gas production, (2) vented solution gas, and (3) flared plus vented solution gas. The tables in this section provide information on individual companies. The second column in the tables shows the percentage of solution gas conserved by an operator. The operator's performance can be compared with the provincial average of 96.4 per cent solution gas conservation.

In this analysis, all crude oil and crude bitumen batteries have been included except for batteries that had an experimental well reporting fluid production in a month. The information on experimental wells remains confidential. This is the reason for the variance between the numbers from the text of this report and the ranking tables in this section.

Note that it is possible for an operator to flare or vent a significant volume of solution gas due to the magnitude of the company's operations and still have a high percentage of gas conserved.

Companies are ranked province-wide and within each AER field centre area. The following describes the fields that appear in the ranking tables:

Company: Name of company operating crude oil and crude bitumen batteries.

Gas cons: Percentage of solution gas conserved.

Gas cons change: Percentage change in gas conservation from the previous year. Blanks represent companies that did not report in 2014 due to mergers, name changes, acquisitions, etc.

Gas flared + vented (1000 m³): Solution gas flared plus vented from operated crude oil and crude bitumen batteries.

Gas flared + vented rank: The company's ranking compared with other companies based on the operated volume of solution gas flared plus vented.

Gas flared (1000 m³): Solution gas flared from operated crude oil and crude bitumen batteries.

Flare rank: The company's ranking compared with other companies based on the volume of solution gas flared.

Gas vented (1000 m³): Solution gas vented from operated crude oil and crude bitumen batteries.

Vent rank: The company's ranking compared with other companies based on the volume of solution gas vented.

Oil prod (m³): Volume of crude oil and crude bitumen produced from operated crude oil and crude bitumen batteries.

Sol'n gas prod (1000 m³): Volume of solution gas produced from operated crude oil and crude bitumen batteries.

Sol'n gas rank: The company's ranking compared with other companies based on the volume of solution gas produced.

GHG emissions (tCO₂e): The total GHG emissions based on flared and vented gas volumes.

GHG emissions rank: The company's ranking compared with other companies based on the GHG emissions.

In the tables that follow, the companies are ranked and listed based on solution gas flared plus vented from their operating facilities in 2015.

- Operators with the Largest Volumes of Produced Solution Gas in 2015
- Operators with the Largest Volumes of Vented Solution Gas in 2015
- Provincial Ranking of Operators—2015 Conservation Performance
- Field Centre Ranking of Operators—2015 Conservation Performance

Operators with the Largest Solution Gas Produced Volumes in 2015¹

Crude Oil and Crude Bitumen Batteries for Alberta

Run Date: May 02, 2016

Company	Gas cons	Gas cons change	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)	Gas rank
Canadian Natural Resources Limited	93.9%	3.0%	146,463	1	23,299	3	123,164	1	19,222,548	2,412,633	1
Husky Oil Operations Limited	95.6%	0.5%	75,296	2	8,865	6	66,431	2	3,977,138	1,706,872	2
Encana Corporation	99.9%	0.7%	975	81	841	74	134	106	386,992	868,377	3
Penn West Petroleum Ltd.	93.7%	-1.6%	49,545	3	42,195	1	7,350	7	2,098,504	787,513	4
Pengrowth Energy Corporation	98.8%	0.6%	9,299	16	8,518	10	780	36	1,758,961	778,686	5
ARC Resources Ltd.	98.7%	0.0%	9,859	15	8,114	12	1,745	21	1,115,599	737,772	6
Bellatrix Exploration Ltd.	99.4%	0.6%	3,756	38	2,172	45	1,584	22	216,078	639,644	7
Whitecap Resources Inc.	98.8%	0.2%	6,863	24	4,386	27	2,478	14	1,016,342	574,777	8
Long Run Exploration Ltd.	98.7%	1.1%	6,283	26	4,443	26	1,840	19	507,523	474,779	9
Cenovus Energy Inc.	97.4%	0.6%	11,449	11	1,217	60	10,232	6	2,768,445	444,075	10
Imperial Oil Resources	99.2%	-0.3%	3,377	45	2,963	36	414	55	9,208,496	430,816	11
Exshaw Oil Corp.	99.6%	0.2%	1,655	64	1,655	52	0	258	306,116	411,425	12
RMP Energy Inc.	99.5%	-0.3%	1,904	58	1,903	51	0	254	307,596	362,399	13
Apache Canada Ltd.	97.7%	0.1%	8,307	19	6,477	19	1,830	20	572,955	358,179	14
Lightstream Resources Ltd.	97.1%	2.4%	10,215	14	8,675	9	1,541	23	537,128	355,639	15
Trilogy Resources Ltd.	98.5%	0.1%	5,027	30	4,650	25	376	57	352,631	331,353	16
Journey Energy Inc.	98.9%	0.8%	3,576	40	2,582	40	994	30	284,395	314,891	17
Bonavista Energy Corporation	98.9%	0.8%	3,378	44	1,301	58	2,077	17	282,304	314,197	18
NAL Resources Limited	99.5%	0.1%	1,534	65	1,079	65	455	52	216,951	291,277	19
ConocoPhillips Canada (BRC) Partnership	99.4%	0.2%	1,824	60	812	75	1,011	28	254,411	280,267	20
TAQA North Ltd.	97.8%	-0.4%	5,953	27	3,082	34	2,871	12	343,574	275,511	21
Cenovus FCCL Ltd.	98.3%	-0.2%	4,643	34	2,012	48	2,630	13	16,272,091	273,402	22
Keyera Energy Ltd.	99.8%	-0.1%	411	122	411	101	0	258	45,723	261,449	23
Kelt Exploration Ltd.	98.7%	1.3%	3,089	46	3,016	35	73	130	260,031	241,442	24
Omers Energy Inc.	99.4%	3.4%	1,363	67	1,255	59	108	118	94,448	230,751	25
Subtotal			376,043		145,924		230,119		62,406,979	14,158,125	
% of Provincial Total			49.0%		35.1%		65.2%		67.8%	67.4%	

¹Caution is required when comparing with last year's report due to corporate mergers, acquisitions, and divestments.

Operators with the Largest Solution Gas Vented Volumes in 2015¹

Crude Oil and Crude Bitumen Batteries for Alberta

Run Date: May 02, 2016

Company	Gas cons	Gas cons change	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Canadian Natural Resources Limited	93.9%	3.0%	146,463	1	23,299	3	123,164	1	19,222,548	2,412,633
Husky Oil Operations Limited	95.6%	0.5%	75,296	2	8,865	6	66,431	2	3,977,138	1,706,872
Devon Canada	76.8%	-5.6%	36,916	4	70	194	36,846	3	6,654,373	158,935
Twin Butte Energy Ltd.	75.1%	10.5%	20,619	7	6,792	18	13,827	4	710,542	82,654
Gear Energy Ltd.	66.7%	-11.7%	10,626	12	15	233	10,611	5	249,493	31,938
Cenovus Energy Inc.	97.4%	0.6%	11,449	11	1,217	60	10,232	6	2,768,445	444,075
Penn West Petroleum Ltd.	93.7%	-1.6%	49,545	3	42,195	1	7,350	7	2,098,504	787,513
Cardinal Energy Ltd.	85.5%	-0.8%	11,773	10	5,450	22	6,323	8	615,767	81,210
Tamarack Acquisition Corp.	96.5%	6.1%	5,408	29	1,304	57	4,103	9	234,416	153,256
Murphy Oil Company Ltd.	74.5%	-13.8%	22,540	6	18,655	4	3,886	10	311,816	88,383
Surge Energy Inc.	94.0%	-0.4%	11,917	9	8,685	8	3,232	11	461,367	197,734
TAQA North Ltd.	97.8%	-0.4%	5,953	27	3,082	34	2,871	12	343,574	275,511
Cenovus FCCL Ltd.	98.3%	-0.2%	4,643	34	2,012	48	2,630	13	16,272,091	273,402
Whitecap Resources Inc.	98.8%	0.2%	6,863	24	4,386	27	2,478	14	1,016,342	574,777
Repsol Oil & Gas Canada Inc.	86.5%	N/A	4,844	33	2,416	42	2,429	15	573,078	35,856
Harvest Operations Corp.	94.4%	3.6%	10,447	13	8,162	11	2,284	16	801,882	187,044
Bonavista Energy Corporation	98.9%	0.8%	3,378	44	1,301	58	2,077	17	282,304	314,197
TORC Oil & Gas Ltd.	89.8%	3.3%	8,984	17	7,006	15	1,978	18	229,232	88,382
Long Run Exploration Ltd.	98.7%	1.1%	6,283	26	4,443	26	1,840	19	507,523	474,779
Apache Canada Ltd.	97.7%	0.1%	8,307	19	6,477	19	1,830	20	572,955	358,179
ARC Resources Ltd.	98.7%	0.0%	9,859	15	8,114	12	1,745	21	1,115,599	737,772
Bellatrix Exploration Ltd.	99.4%	0.6%	3,756	38	2,172	45	1,584	22	216,078	639,644
Lightstream Resources Ltd.	97.1%	2.4%	10,215	14	8,675	9	1,541	23	537,128	355,639
Crescent Point Energy Corp.	88.2%	3.0%	18,965	8	17,635	5	1,330	24	433,163	160,434
Deltastream Energy Corporation	50.6%	16.9%	1,739	62	591	86	1,149	25	29,670	3,521
Subtotal			506,786		193,016		313,770		60,235,028	10,624,339
% of Provincial Total			66%		46.5%		88.9%		65.4%	50.6%

¹Caution is required when comparing with last year's report due to corporate mergers, acquisitions, and divestments.

Provincial Ranking of Operators – 2015 Flared + Vented Volume¹
Crude Oil and Crude Bitumen Batteries for Alberta

Company	Gas cons	Gas cons change	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)	GHG emissions (tCO ₂ e)	GHG emissions rank
Canadian Natural Resources Limited	94.0%	3.1%	147,098	1	23,231	4	123,867	1	19,272,076	2,431,474	2,183,173	1
Husky Oil Operations Limited	95.6%	0.5%	75,201	2	8,777	7	66,425	2	3,977,377	1,706,736	1,152,587	2
Penn West Petroleum Ltd.	93.2%	-2.1%	48,340	3	41,513	1	6,827	7	1,880,846	708,219	245,543	5
Devon Canada	76.7%	-5.7%	36,992	4	70	194	36,922	3	6,654,457	159,017	624,031	3
Baytex Energy Ltd.	84.5%	2.6%	35,618	5	34,939	2	679	40	1,361,302	229,690	111,330	11
Crescent Point Energy Corp.	89.3%	4.1%	26,482	6	24,544	3	1,938	19	681,885	247,040	127,682	9
Murphy Oil Company Ltd.	74.5%	-13.8%	22,540	7	18,655	5	3,886	10	311,816	88,383	120,258	10
Twin Butte Energy Ltd.	75.1%	10.5%	20,619	8	6,792	15	13,827	4	710,574	82,657	260,207	4
Cardinal Energy Ltd.	89.7%	3.4%	11,949	9	5,595	22	6,354	8	741,730	116,502	128,476	8
Surge Energy Inc.	94.0%	-0.4%	11,917	10	8,685	8	3,232	11	457,706	197,315	88,019	12
Cenovus Energy Inc.	97.4%	0.6%	11,441	11	1,217	60	10,225	6	2,767,530	443,716	176,764	7
Gear Energy Ltd.	66.7%	-11.7%	10,626	12	15	233	10,611	5	249,493	31,938	178,675	6
Lightstream Resources Ltd.	97.1%	2.4%	10,216	13	8,675	9	1,541	23	536,946	355,607	59,571	18
ARC Resources Ltd.	98.7%	0.0%	9,752	14	8,039	10	1,713	21	1,113,603	737,084	59,987	16
Pengrowth Energy Corporation	98.7%	0.5%	9,522	15	8,884	6	638	44	1,497,187	750,265	43,266	23
Harvest Operations Corp.	94.9%	4.1%	9,053	16	6,797	14	2,255	16	764,513	177,759	64,278	14
TORC Oil & Gas Ltd.	89.8%	3.3%	8,984	17	7,006	12	1,978	18	229,232	88,382	60,430	15
Apache Canada Ltd.	97.7%	0.1%	8,395	18	6,566	17	1,830	20	572,909	358,268	56,230	20
Novus Energy Inc.	41.6%	-13.3%	7,837	19	7,806	11	31	168	10,463	13,419	30,825	28
Canadian International Oil Operating Corp.	95.2%	3.3%	7,172	20	6,993	13	179	94	82,458	148,114	30,161	29
Spyglass Resources Corp.	87.3%	1.8%	6,941	21	6,758	16	183	93	250,825	54,682	29,306	31
InPlay Oil Corp.	66.3%	-18.7%	6,811	22	6,320	18	491	52	92,280	20,182	32,789	27
Whitecap Resources Inc.	98.9%	0.3%	6,698	23	4,196	29	2,502	14	1,026,977	583,157	58,332	19
Boulder Energy Ltd.	94.8%	N/A	6,264	24	6,216	19	49	140	272,900	120,961	24,951	34
TAQA North Ltd.	97.9%	-0.3%	5,898	25	3,030	34	2,869	12	343,474	275,499	59,957	17
Aspenleaf Energy Limited	80.5%	N/A	5,866	26	5,664	21	202	86	198,894	30,029	25,393	33
Bearspaw Petroleum Ltd.	33.6%	3.6%	5,862	27	5,855	20	7	219	50,077	8,831	22,854	36
Long Run Exploration Ltd.	98.8%	1.2%	5,788	28	4,302	28	1,486	24	477,892	470,158	41,670	24
Tamarack Acquisition Corp.	97.0%	6.6%	5,469	29	1,325	57	4,144	9	249,494	183,627	74,764	13
Granite Oil Corp.	90.3%	2.0%	5,202	30	5,202	23	-	285	187,201	53,528	20,200	40
Trilogy Resources Ltd.	98.5%	0.1%	5,026	31	4,650	26	376	61	344,395	324,831	24,367	35
Imaginea Energy Corp.	91.0%	6.8%	5,003	32	4,969	24	34	161	281,223	55,595	19,866	42
Kainai Energy Corp.	0.0%	0.0%	4,903	33	4,903	25	-	285	22,825	4,903	19,040	44
Repsol Oil & Gas Canada Inc.	86.5%	N/A	4,844	34	2,416	41	2,429	15	573,078	35,856	50,179	21
Cenovus FCCL Ltd.	98.3%	-0.2%	4,643	35	2,012	46	2,630	13	16,272,091	273,402	49,956	22
Mancal Energy Inc.	93.3%	10.6%	4,559	36	4,343	27	216	82	203,354	68,241	20,212	39
Enerplus Corporation	97.2%	0.7%	3,761	37	3,625	32	137	105	627,736	133,603	16,371	49
High North Resources Ltd.	17.1%	12.0%	3,761	38	3,761	30	-	285	10,110	4,539	14,605	54
Bellatrix Exploration Ltd.	99.4%	0.6%	3,756	39	2,172	43	1,584	22	216,078	639,644	35,046	26
Bonterra Energy Corp.	98.2%	1.7%	3,704	40	2,525	40	1,179	25	497,515	210,006	29,613	30

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Company	Gas cons	Gas cons change	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)	GHG emissions (tCO ₂ e)	GHG emissions rank
Madalena Energy Inc.	25.4%	-74.6%	3,630	41	3,628	31	2	244	6,704	4,869	14,121	56
Journey Energy Inc.	98.9%	0.8%	3,583	42	2,582	39	1,001	29	286,062	315,227	26,845	32
Gryphon Petroleum Corp.	0.1%	-0.6%	3,564	43	3,559	33	6	225	31,021	3,568	13,910	57
Imperial Oil Resources	99.2%	-0.3%	3,377	44	2,963	36	414	60	9,208,496	430,816	14,932	52
Bonavista Energy Corporation	98.9%	0.8%	3,319	45	1,280	58	2,039	17	276,455	311,656	39,225	25
Kelt Exploration Ltd.	98.7%	1.3%	3,089	46	3,016	35	73	127	266,459	242,157	12,934	62
ORLEN Upstream Canada Ltd.	97.7%	3.4%	2,899	47	2,899	37	-	285	113,039	128,638	11,258	68
Connaught Oil & Gas Ltd.	0.7%	0.1%	2,812	48	2,812	38	-	285	6,689	2,832	10,919	69
Sinopec Daylight Energy Ltd.	98.4%	-0.3%	2,513	49	1,954	47	559	47	346,800	158,331	16,975	47
Arsenal Energy Inc.	86.8%	-6.9%	2,457	50	2,161	44	297	67	107,813	18,632	13,373	60
Predator Oil Ltd.	31.1%	13.7%	2,432	51	1,621	51	811	33	72,169	3,532	19,915	41
Chinook Energy Inc.	96.5%	3.6%	2,286	52	1,928	48	358	62	86,408	65,503	13,499	59
LGX Oil + Gas Inc.	65.5%	-17.9%	2,189	53	2,173	42	15	194	30,455	6,340	8,696	78
Spry2 Energy Inc.	90.2%	0.9%	2,082	54	2,065	45	17	190	33,043	21,165	8,306	80
Vermilion Energy Inc.	98.7%	0.2%	2,082	54	1,133	62	949	31	424,149	160,598	20,338	38
Rifle Shot Oil Corp.	77.7%	N/A	1,953	56	1,512	52	441	57	72,128	8,747	13,282	61
RMP Energy Inc.	99.5%	-0.3%	1,904	57	1,903	49	-	272	307,596	362,399	7,397	86
Blackpearl Resources Inc.	95.0%	-2.7%	1,837	58	833	72	1,004	28	214,668	36,677	19,608	43
Mosaic Energy Ltd.	97.1%	-0.8%	1,814	59	1,020	65	794	35	42,786	63,540	17,299	46
Deltastream Energy Corporation	50.6%	16.9%	1,739	60	591	86	1,149	26	29,670	3,521	21,593	37
Exshaw Oil Corp.	99.6%	0.2%	1,655	61	1,655	50	-	285	306,116	411,425	6,426	89
ConocoPhillips Canada (BRC) Partnership	99.4%	0.2%	1,568	62	812	74	756	37	250,438	275,540	15,858	51
Omers Energy Inc.	99.6%	3.6%	1,565	63	1,432	53	133	106	111,568	370,698	7,787	83
NAL Resources Limited	99.5%	0.1%	1,549	64	1,082	64	467	54	220,299	304,758	12,052	65
Shackleton Exploration Ltd.	92.7%	-6.7%	1,417	65	1,397	54	20	183	16,069	19,533	5,761	92
BLZ Energy Ltd.	0.0%	0.0%	1,357	66	1,357	55	-	285	1,816	1,357	5,268	96
Osum Production Corp.	93.8%	-5.5%	1,335	67	1,333	56	2	241	448,844	21,463	3,592	119
Toro Oil & Gas Ltd.	75.2%	67.0%	1,334	68	1,224	59	110	116	21,102	5,371	6,602	88
Progress Energy Canada Ltd.	99.2%	0.4%	1,306	69	565	88	741	39	167,968	160,685	14,646	53
Canadian Oil & Gas International Inc.	94.8%	5.3%	1,295	70	869	69	426	59	66,658	24,903	10,534	74
Anegada Energy Corp.	98.3%	4.4%	1,225	71	1,113	63	112	114	85,506	72,675	6,199	90
ConocoPhillips Western Canada Partnership	98.9%	-0.2%	1,223	72	1,194	61	28	171	146,516	112,294	5,110	98
Lone Pine Resources Canada Ltd.	90.3%	3.0%	1,186	73	97	184	1,089	27	112,112	12,252	18,675	45
City Of Medicine Hat	30.6%	3.2%	1,161	74	260	136	901	32	20,104	1,672	16,148	50
Summerland Energy Inc.	91.9%	-4.3%	1,150	75	656	83	494	51	99,375	14,201	10,841	72
Spur Resources Ltd.	97.6%	-0.3%	1,135	76	380	107	755	38	119,360	47,848	14,162	55
Baccalieu Energy Inc.	98.9%	1.1%	1,053	77	542	92	511	50	135,815	94,358	10,689	73
Crew Energy Inc.	86.1%	-2.8%	1,031	78	457	98	574	46	92,990	7,407	10,900	70
Changhua Energy Canada Ltd.	0.0%	0.0%	992	79	992	66	-	285	3,145	992	3,853	113
Goldenkey Oil Inc.	84.3%	1.9%	991	80	737	78	255	73	17,386	6,314	7,138	87
Palliser Oil & Gas Corporation	16.8%	-10.7%	984	81	10	243	974	30	9,935	1,183	16,474	48
Marquee Energy Ltd.	98.5%	0.1%	979	82	330	119	649	42	138,051	66,235	12,185	64
New Star Energy Ltd.	99.3%	1.2%	972	83	688	79	285	68	65,474	131,367	7,452	85
Beringer Energy Inc.	95.1%	-1.2%	959	84	952	67	7	218	22,871	19,687	3,816	114
Enercapita Energy Ltd.	50.3%	N/A	944	85	386	106	559	48	9,941	1,900	10,880	71

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Company	Gas cons	Gas cons change	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)	GHG emissions (tCO ₂ e)	GHG emissions rank
Ascensun Oil And Gas Ltd.	13.5%	1.8%	941	86	941	68	-	285	14,663	1,087	3,652	117
ConocoPhillips Canada Energy Partnership	98.9%	0.5%	917	87	843	71	74	126	83,873	81,565	4,511	106
Traverse Energy Ltd.	96.5%	3.9%	891	88	800	75	91	120	27,089	25,777	4,636	104
Anderson Energy Inc.	98.0%	N/A	891	89	242	140	649	43	55,112	45,296	11,840	66
NEP Canada ULC	98.4%	4.2%	863	90	863	70	-	285	173,872	54,153	3,351	123
Bernum Petroleum Ltd.	90.8%	12.6%	841	91	799	76	42	151	41,908	9,153	3,811	115
Manitok Energy Inc.	99.5%	4.4%	829	92	494	94	335	63	226,297	183,357	7,544	84
Encana Corporation	99.9%	0.7%	826	93	826	73	-	282	354,795	826,076	3,210	130
Zargon Oil & Gas Ltd.	96.1%	1.6%	818	94	793	77	26	174	108,072	20,939	3,506	121
Kasten Energy Inc.	51.9%	-4.5%	802	95	-	271	802	34	19,573	1,669	13,571	58
Perpetual Energy Operating Corp.	98.1%	4.7%	760	96	3	256	757	36	95,443	40,041	12,737	63
Canamax Energy Ltd.	97.5%	7.4%	743	97	315	122	428	58	50,078	29,938	8,406	79
Lexin Resources Ltd.	96.6%	N/A	728	98	247	139	481	53	11,385	21,530	9,036	76
Insignia Energy Ltd.	96.1%	-1.5%	708	99	671	82	38	155	19,760	18,019	3,237	127
Ember Resources Inc.	84.6%	-8.5%	696	100	29	224	666	41	16,426	4,514	11,308	67
Jupiter Resources Inc.	97.3%	0.4%	688	101	492	95	196	88	30,397	25,359	5,200	97
Connacher Oil And Gas Limited	96.7%	-1.7%	685	102	685	80	-	285	843,780	20,699	1,829	162
Verity Energy Ltd.	0.0%	-0.4%	675	103	675	81	-	285	1,134	675	2,623	139
Broadview Energy Ltd.	91.9%	36.2%	668	104	645	84	23	180	30,896	8,239	2,889	135
Rife Resources Ltd.	97.6%	4.1%	648	105	429	100	219	81	101,897	27,161	5,319	95
Virginia Hills Oil Corp.	90.7%	N/A	627	106	3	251	623	45	86,197	6,751	10,486	75
Rolling Hills Energy Ltd.	87.0%	-9.2%	622	107	604	85	18	187	7,756	4,788	2,645	138
Birchcliff Energy Ltd.	99.6%	0.4%	605	108	587	87	18	186	194,176	160,245	2,582	140
Striker Exploration Corp.	98.8%	1.7%	583	109	560	89	24	179	92,030	48,518	2,570	141
Bering Exploration Company ULC	71.1%	N/A	582	110	374	109	208	85	20,992	2,010	4,938	101
Caltex Resources Ltd.	95.6%	5.7%	577	111	305	124	272	70	121,575	12,982	5,760	93
Firenze Energy Ltd.	87.0%	-1.0%	563	112	105	181	458	55	31,579	4,323	8,108	81
Rally Canada Resources Ltd.	97.0%	N/A	552	113	552	90	-	285	48,464	18,337	2,142	153
Arrow Point Oil & Gas Ltd.	79.6%	N/A	550	114	38	212	512	49	30,080	2,694	8,747	77
Venturion Oil Limited	95.0%	-3.1%	549	115	548	91	-	282	140,253	11,010	2,131	154
Fort Calgary Resources Ltd.	72.4%	28.6%	541	116	92	187	449	56	8,903	1,959	7,897	82
Bow River Energy Ltd.	35.7%	-13.8%	539	117	539	93	-	285	24,951	837	2,091	158
Tangle Creek Energy Ltd.	99.4%	1.9%	532	118	218	147	314	65	164,332	82,750	6,128	91
Triaxon Oil Operations Ltd.	96.6%	-0.8%	505	119	344	114	160	98	47,148	14,887	4,032	111
Vesta Energy Ltd.	93.8%	-1.8%	501	120	278	131	222	78	19,235	8,066	4,815	102
ConocoPhillips Canada Resources Corp.	98.0%	-0.4%	491	121	483	96	8	216	1,622,367	24,776	1,422	182
Paramount Resources Ltd.	97.3%	1.3%	483	122	475	97	8	217	22,564	17,952	1,976	159
High Ground Energy Inc.	85.2%	N/A	443	123	443	99	-	285	2,978	2,990	1,719	170
Avalon Energy Ltd.	57.9%	-42.1%	442	124	426	101	16	193	7,176	1,050	1,922	161
Velvet Energy Ltd.	99.4%	0.1%	434	125	206	149	228	77	28,533	72,758	4,628	105
NuVista Energy Ltd.	43.0%	-44.9%	430	126	424	102	6	222	6,640	753	1,744	169
Questfire Energy Corp.	98.1%	0.4%	426	127	304	125	121	110	16,983	22,065	3,221	128
Shell Canada Energy	99.8%	0.0%	418	128	350	111	68	130	821,687	206,867	2,112	156
Keyera Energy Ltd.	99.8%	-0.1%	411	129	411	103	-	285	45,723	261,449	1,597	174
Shield Energy Ltd.	94.3%	-0.8%	409	130	345	113	64	132	12,494	7,182	2,406	146

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Company	Gas cons	Gas cons change	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)	GHG emissions (tCO ₂ e)	GHG emissions rank
Georox Resources Inc.	38.9%	N/A	403	131	403	104	-	285	610	660	1,564	176
Response Energy Corporation	78.8%	2.4%	397	132	127	169	270	71	8,921	1,878	5,035	100
Nordegg Resources Inc.	96.7%	1.9%	395	133	329	120	66	131	21,565	11,848	2,383	147
Wolf Coulee Resources Inc.	96.4%	0.1%	388	134	375	108	13	198	10,839	10,842	1,666	173
Laricina Energy Ltd.	57.5%	-12.8%	387	135	387	105	-	285	22,781	910	1,032	198
Signalta Resources Limited	89.5%	2.1%	379	136	158	157	222	79	7,580	3,612	4,335	108
Grandview Exploration Inc.	54.4%	0.2%	375	137	347	112	28	172	5,920	823	1,815	163
Petrus Resources Corp.	99.7%	N/A	373	138	369	110	3	234	126,246	123,875	1,489	178
Freehold Royalties Ltd.	90.7%	4.6%	358	139	206	149	151	100	7,349	3,841	3,340	124
Sequence Energy Ltd.	98.2%	0.9%	346	140	309	123	36	157	19,146	19,453	1,813	165
ExxonMobil Canada Ltd. & ExxonMobil Resources Comp	99.7%	0.0%	346	141	220	146	126	108	259,984	116,373	2,969	132
Huron Resources Corp.	0.0%	N/A	342	142	342	115	-	285	227	342	1,329	185
Quattro Exploration and Production Ltd.	94.8%	2.6%	341	143	341	116	-	285	11,702	6,588	1,324	186
Flow-Back Oil & Gas Ltd.	32.1%	10.5%	335	144	335	117	-	285	248	493	1,300	187
Suncor Energy Inc.	97.9%	-1.4%	335	145	335	118	-	285	12,618,492	15,593	893	208
Nexen Energy ULC	98.9%	98.9%	324	146	324	121	-	285	2,259,845	28,902	864	212
Ener T Corporation	0.0%	-42.1%	320	147	-	271	320	64	4,909	320	5,371	94
Westdrum Energy Ltd.	68.3%	-8.0%	318	148	284	129	34	160	2,123	1,001	1,674	172
Eagle-Coda Petroleum Inc.	97.9%	N/A	309	149	261	134	48	143	27,233	14,438	1,813	164
Blackspur Oil Corp.	99.5%	2.0%	306	150	289	127	17	189	67,057	58,705	1,414	183
HESC Energy Corporation	89.4%	-10.0%	303	151	303	126	-	285	3,891	2,861	1,176	189
Dark Warrior Resources Ltd.	0.0%	0.0%	303	152	-	271	303	66	4,104	303	5,101	99
Relentless Resources Ltd.	95.6%	2.6%	284	153	284	128	-	285	7,104	6,474	1,104	192
MEG Energy Corp.	99.7%	N/A	282	154	282	130	-	285	4,644,370	95,046	753	217
Canuck North Resources Ltd.	0.0%	-39.3%	282	155	-	271	282	69	1,357	282	4,736	103
Anterra Energy Inc.	95.3%	-2.0%	275	156	272	132	3	233	26,764	5,897	1,112	191
Petro Viking Management Corp.	30.0%	-11.6%	272	157	272	133	-	285	1,191	388	1,055	193
Exall Energy Corporation	86.1%	-9.6%	266	158	207	148	59	134	35,999	1,919	1,800	166
Yangarra Resources Corp.	99.7%	1.8%	266	159	17	231	249	75	42,845	88,803	4,247	110
Shiningstar Energy Ltd.	99.4%	2.4%	265	160	117	176	148	101	25,668	43,368	2,946	133
Coastal Resources Limited	79.8%	-4.7%	264	161	148	163	116	112	7,434	1,303	2,525	144
Edge Resources Inc.	4.0%	-31.4%	261	162	261	135	-	285	4,554	272	1,015	199
Hard Rock Resources Ltd.	5.3%	-2.0%	260	163	-	271	260	72	1,820	274	4,365	107
Long Term Asset Management Inc.	54.9%	-15.4%	258	164	168	156	90	121	1,847	572	2,116	155
Insch Commodity Ltd.	92.0%	N/A	256	165	154	158	102	119	2,809	3,194	2,308	149
Sojourn Energy Inc.	0.0%	0.0%	254	166	-	271	254	74	9,783	254	4,274	109
Procyon Energy Corp.	82.3%	N/A	252	167	252	137	-	285	1,580	1,420	979	201
Hemisphere Energy Corporation	97.7%	3.4%	250	168	249	138	-	279	36,233	10,941	972	203
Panam Energy Services Ltd.	40.0%	0.1%	242	169	242	141	-	285	602	403	940	205
CQ Energy Canada Resources Partnership	99.3%	0.4%	240	170	192	151	49	141	114,373	36,006	1,560	177

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Shoreline Energy Corp.	91.7%	3.9%	239	171	8	245	231	76	3,084	2,898	3,918	112
Sabanero Energy Corp.	29.7%	-35.4%	236	172	232	142	4	232	4,831	336	967	204
Border Petroleum Limited	0.1%	0.0%	236	172	37	214	199	87	1,495	236	3,482	122
Coral Hill Energy Ltd.	0.0%	-86.1%	228	174	228	143	-	285	2,192	228	885	210
Taku Gas Limited	35.6%	9.5%	226	175	41	210	185	92	4,803	351	3,263	125
C Group Energy Inc.	6.6%	N/A	224	176	224	144	-	285	4,872	240	869	211
Trident Exploration (wx) Corp.	95.4%	0.0%	223	177	220	145	3	235	5,784	4,821	908	207
Westbrick Energy Ltd.	99.4%	-0.1%	220	178	-	271	220	80	35,607	35,796	3,691	116
Butte Energy Inc.	0.0%	0.0%	215	179	-	271	215	83	74	215	3,610	118
Derrick Petroleum Ltd.	38.7%	-30.0%	212	180	-	271	212	84	918	346	3,560	120
Inception Exploration Ltd.	98.8%	-0.4%	200	181	63	198	137	104	5,411	16,954	2,543	143
Clampett Energy Ltd.	27.4%	0.5%	199	182	190	154	9	212	2,729	274	891	209
Dark Energy Ltd.	39.6%	-15.1%	193	183	-	271	193	89	6,583	319	3,241	126
97837 Resources Ltd.	13.8%	-15.6%	192	184	192	153	-	277	465	223	749	218
Teric Power Ltd.	0.0%	-24.3%	192	185	192	152	-	285	143	192	744	220
Grizzly Resources Ltd.	0.5%	0.5%	192	186	-	271	192	90	23,875	193	3,217	129
Copper Island Resources Ltd.	90.2%	0.3%	189	187	-	271	189	91	2,608	1,931	3,172	131
Strategic Oil & Gas Ltd.	99.6%	1.4%	184	188	69	196	115	113	106,206	46,643	2,197	152
Sphere Energy Corp.	95.9%	6.2%	184	189	15	234	169	96	7,497	4,488	2,898	134
Hyperion Exploration Corp.	94.3%	0.5%	178	190	121	173	57	136	4,438	3,100	1,424	181
Modern Resources Inc.	99.1%	-0.9%	177	191	108	179	70	128	29,602	18,884	1,588	175
XTO Energy Canada	98.8%	2.2%	177	192	154	159	24	178	25,302	14,332	996	200
Owl River Resources Ltd.	76.2%	-1.9%	175	193	55	206	120	111	497	735	2,226	151
Westhill Resources Limited	95.4%	-4.6%	173	194	173	155	-	285	217	3,795	673	228
Topanga Resources Ltd.	70.4%	N/A	171	195	-	271	171	95	6,673	579	2,873	136
Ridal Resource Ltd.	0.0%	0.0%	164	196	-	271	164	97	1,475	164	2,759	137
1576442 Alberta Ltd.	98.9%	N/A	158	197	153	161	5	226	5,728	14,166	682	227
Glenogle Energy Inc.	99.7%	2.9%	157	198	147	164	10	209	57,068	55,032	740	222
Hitic Energy Ltd.	98.5%	1.8%	157	199	31	222	126	107	18,012	10,626	2,242	150
Perpetual Energy Inc.	0.0%	0.0%	153	200	153	160	-	285	120	153	594	234
Redwater Energy Corp.	87.5%	-5.1%	152	201	152	162	-	285	4,529	1,214	591	235
Second Wave Petroleum Inc.	98.9%	0.2%	152	202	65	197	87	124	11,261	14,096	1,711	171
Kaiser Exploration Ltd.	82.9%	-10.8%	152	203	-	271	152	99	932	884	2,547	142
Thoroughbred Energy Ltd.	11.5%	1.7%	144	204	-	271	144	102	2,922	163	2,419	145
Japan Canada Oil Sands Limited	96.3%	5.9%	143	205	143	165	-	285	306,373	3,890	382	260
Iberdrola Canada Energy Services Ltd.	99.8%	0.0%	139	206	-	271	139	103	3,742	70,770	2,340	148
Executive Adventures 2008 Inc.	47.5%	-0.7%	137	207	137	166	-	285	695	262	533	242
Barnwell of Canada Limited	72.1%	N/A	135	208	135	167	-	279	2,003	483	526	243
Alexander Oilfield Services Ltd.	70.2%	-7.5%	133	209	133	168	-	285	1,101	447	516	245
Tournament Exploration Ltd.	99.8%	1.1%	133	210	101	182	32	166	24,269	69,737	929	206
Forent Energy Ltd.	93.0%	3.4%	132	211	77	189	55	138	6,984	1,885	1,225	188
Alberta Petroleum Energy Limited	14.5%	6.4%	131	212	106	180	25	175	2,949	153	835	213
Scavenger Energy Gp Inc.	0.0%	0.0%	128	213	124	171	4	229	495	128	553	240
Goodland Energy Ltd.	48.7%	-9.2%	127	214	121	173	6	224	2,377	247	567	237
Joli Fou Petroleums Ltd	19.2%	-9.7%	127	214	125	170	2	245	1,935	157	516	246

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Polar Star Canadian Oil And Gas Inc.	97.7%	N/A	126	216	124	171	2	240	11,070	5,466	520	244
Highvale Operating Corp.	37.9%	-44.5%	125	217	1	261	124	109	1,209	202	2,093	157
BDJ Energy Inc.	93.5%	-1.7%	120	218	120	175	-	285	11,609	1,834	464	251
Sekur Energy Management Corp.	25.2%	-27.7%	119	219	75	190	44	146	1,337	159	1,033	197
Standard Exploration Ltd.	44.2%	-1.8%	118	220	73	192	45	145	4,072	211	1,041	195
Athabasca Oil Corporation	99.9%	0.4%	117	221	116	177	1	257	165,206	114,717	389	258
One Earth Oil & Gas Inc.	29.8%	-70.2%	111	222	-	271	111	115	8,894	159	1,955	160
Enhance Energy Inc.	99.3%	-0.1%	109	223	109	178	-	285	49,729	14,894	421	255
385417 Alberta Ltd.	58.5%	-7.4%	104	224	-	271	104	117	975	251	1,751	167
Zeal Energy Inc.	61.4%	20.3%	104	225	-	271	104	118	764	270	1,749	168
Gamet Resources Ltd.	93.0%	57.1%	99	226	99	183	-	285	1,364	1,404	383	259
Beaver Lake Resources Corporation	0.0%	0.0%	94	227	94	185	-	285	512	94	363	264
Halo Exploration Ltd.	0.0%	N/A	93	228	93	186	-	285	136	93	361	266
Kairos Resources (2011) Ltd.	7.2%	7.2%	88	229	-	271	88	122	704	95	1,483	179
Bumper Development Corporation Ltd.	98.1%	-0.8%	87	230	-	271	87	123	7,932	4,471	1,460	180
Sun Century Petroleum Corporation	88.9%	17.7%	87	231	56	205	31	167	7,884	783	739	224
Silver Blaze Energy Ltd.	64.1%	-0.9%	83	232	-	271	83	125	403	232	1,396	184
Crimson Oil & Gas Ltd.	71.8%	-16.6%	83	233	83	188	-	282	6,015	293	323	269
Magnum Energy Inc.	86.8%	5.5%	83	234	26	226	56	137	2,234	626	1,050	194
Sino-Western Petroleum Inc.	76.8%	N/A	73	235	73	191	-	285	1,080	317	285	273
Tourmaline Oil Corp.	99.9%	0.3%	72	236	61	200	12	202	82,210	104,951	429	252
Lockwood Resources Ltd.	57.5%	57.5%	72	237	61	199	11	207	1,100	169	417	256
Convega Energy Ltd.	96.8%	10.5%	71	238	71	193	-	285	1,755	2,215	277	274
1316751 Alberta Ltd.	27.4%	-0.6%	70	239	70	195	-	285	848	96	271	275
Superman Resources Inc.	98.6%	2.0%	69	240	-	271	69	129	3,299	5,019	1,164	190
Midlake Oil & Gas Limited	38.5%	19.6%	62	241	-	271	62	133	786	100	1,037	196
Regco Petroleums Ltd.	0.0%	0.0%	61	242	61	201	-	285	897	61	235	278
Rockeast Energy Corp.	96.0%	96.0%	60	243	60	202	-	285	13,393	1,492	232	279
Andora Energy Corporation	33.3%	33.3%	60	243	60	202	-	285	20,210	90	160	290
Top Oil Production Ltd.	84.6%	15.5%	58	245	-	271	58	135	1,021	378	976	202
Dewpoint Resources Ltd.	35.2%	35.2%	57	246	57	204	-	285	272	88	222	280
Waldron Energy Corporation	99.0%	-0.4%	56	247	45	208	11	204	6,027	5,806	365	263
Success Energy Ltd.	0.0%	N/A	54	248	54	207	-	285	179	54	209	283
Range 3 Inc.	20.2%	-4.7%	51	249	3	253	48	142	143	64	825	214
Indra Oil & Gas Ltd.	0.0%	0.0%	51	250	35	217	16	192	1,241	51	407	257
Surat Energy Inc.	0.0%	0.0%	49	251	36	215	13	197	965	49	359	267
Wilcox Energy Corp.	28.4%	-18.0%	49	252	35	217	15	195	970	69	380	261
Sanford Petroleum Ltd.	94.7%	94.7%	49	253	-	271	49	139	1,963	914	822	215
KinMerc Oil & Gas Inc.	80.2%	0.1%	48	254	23	227	25	177	11,315	240	505	248
Whitehall Energy Ltd.	83.3%	7.8%	47	255	-	271	47	144	3,788	280	785	216
Tykewest Limited	81.2%	-4.7%	46	256	9	244	37	156	2,892	243	655	230
Sitka Exploration Ltd.	99.2%	N/A	45	257	1	262	44	146	4,235	5,969	746	219
Vulture Energy Ltd.	53.1%	N/A	45	258	31	222	15	196	614	96	362	265
Sifton Petroleum Inc.	99.5%	N/A	45	259	4	250	40	152	9,189	8,447	695	226
Canadian Coyote Energy Ltd.	96.1%	0.9%	44	260	18	229	26	173	7,228	1,137	508	247

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Concerto Resources Ltd.	48.5%	-3.3%	44	261	44	209	-	285	113	86	172	288
Windtalker Energy Corp.	94.9%	-0.3%	44	262	-	271	44	148	38,677	864	742	221
Petromin Resources Ltd.	83.1%	16.0%	44	263	-	271	44	149	524	258	739	223
Croverro Energy Ltd.	0.0%	0.0%	43	264	-	271	43	150	1,743	43	725	225
South Ridge Management Ltd.	0.0%	0.0%	39	265	39	211	-	285	253	39	153	291
Golden Spike Energy Inc.	31.5%	5.4%	39	266	-	271	39	153	364	57	655	229
Petrocapita GP I Ltd.	95.6%	-2.6%	38	267	-	271	38	154	9,654	870	639	231
Brevia Energy Inc.	97.7%	1.5%	37	268	37	213	-	285	11,726	1,591	145	292
Statoil Canada Ltd.	99.5%	4.0%	36	269	36	216	-	285	1,156,223	7,506	96	304
Brahma Resources Ltd.	76.4%	10.1%	36	270	-	271	36	158	1,462	152	600	232
New North Resources Ltd.	97.3%	6.4%	35	271	-	271	35	159	1,381	1,324	595	233
Ribbon Creek Resources Inc.	98.9%	1.7%	34	272	12	240	23	181	3,477	3,136	425	253
611890 Alberta Inc.	0.0%	0.0%	34	273	-	271	34	162	3,743	34	568	236
Primrose Drilling Ventures Ltd.	0.0%	0.0%	34	274	-	271	34	163	812	34	566	238
Pine Cliff Energy Ltd.	40.7%	-59.3%	33	275	-	271	33	164	189	56	561	239
TimberRock Energy Corp.	93.7%	-2.5%	33	276	14	236	19	185	1,188	523	369	262
Artisan Energy Corporation	96.6%	1.2%	33	277	32	219	-	279	2,635	952	129	296
Barcomp Petroleum Ltd.	0.0%	0.0%	32	278	-	271	32	165	6,483	32	547	241
Fogo Energy Corp.	17.9%	4.3%	31	279	31	220	-	285	253	38	121	297
Blaze Energy Ltd.	99.9%	-0.1%	31	280	31	221	-	285	9,217	23,195	120	298
Regent Resources Ltd.	99.6%	2.2%	30	281	21	228	10	210	18,012	8,323	244	276
Shanpet Resources Ltd.	0.0%	-77.0%	29	282	-	271	29	169	1,178	29	492	249
Ascent Energy Ltd.	78.5%	-21.1%	29	283	-	271	29	170	325	134	484	250
Sydco Energy Inc.	99.3%	0.9%	28	284	28	225	-	285	1,484	3,876	107	302
545279 Alberta Limited	0.0%	0.0%	25	285	-	271	25	175	178	25	423	254
NEO Exploration Inc.	77.7%	-1.7%	23	286	11	241	12	202	684	102	237	277
Successor Resources Ltd.	96.5%	-1.0%	21	287	4	249	17	191	1,634	610	302	271
Sogar Resources Ltd.	99.1%	0.0%	20	288	-	271	20	182	829	2,316	343	268
Crazy Hill Resources Ltd.	50.4%	42.1%	19	289	-	271	19	184	272	39	321	270
Summerfield Energy Inc.	81.6%	-18.4%	18	290	18	230	-	285	283	96	69	308
Tallahassee Resources Inc.	0.0%	0.0%	18	291	-	271	18	188	388	18	296	272
Raimount Energy Inc.	0.0%	0.0%	16	292	16	232	-	285	58	16	63	309
Ouro Preto Resources Inc.	33.9%	33.9%	15	293	15	235	-	285	861	22	57	312
Petro Buyers Inc.	97.1%	-2.9%	14	294	14	236	-	285	2,802	483	55	313
Terra Energy Corp.	91.8%	4.3%	14	295	13	238	-	277	2,957	166	57	311
Tower Ridge Enterprises Corp.	73.5%	11.6%	13	296	-	271	13	198	452	47	210	281
Incipient Exploration Ltd.	99.6%	0.2%	12	297	-	271	12	200	4,303	3,278	209	282
Deckland Inc.	88.0%	-4.8%	12	298	-	271	12	201	374	103	207	284
Painted Pony Petroleum Ltd.	0.0%	-81.0%	12	298	12	239	-	285	-	12	48	316
Jast Energy Ltd.	80.7%	-1.9%	12	300	7	247	5	227	1,826	63	112	299
Rustum Petroleums Limited	63.3%	5.8%	11	301	-	271	11	205	1,771	31	190	285
Check Energy Ltd.	0.0%	0.0%	11	302	-	271	11	206	385	11	188	286
Tanager Energy Inc.	0.0%	N/A	11	303	11	242	-	285	30	11	43	317
Taber Water Disposal Inc.	0.0%	0.0%	11	304	-	271	11	208	621	11	178	287
Corinthian Oil Corp.	99.2%	N/A	10	305	-	271	10	211	2,016	1,164	161	289

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RON Resources Ltd.	99.2%	1.7%	8	306	-	271	8	213	573	1,020	141	293
935821 Alberta Ltd.	0.0%	0.0%	8	307	-	271	8	214	1,295	8	141	293
Bashaw Oil Corp.	97.3%	-2.2%	8	308	-	271	8	215	2,147	298	138	295
Dirham Oil (2000) Inc.	0.0%	0.0%	8	309	8	246	-	285	19	8	30	324
Tuscany Energy Ltd.	31.3%	-66.7%	7	310	-	271	7	220	2,269	10	111	300
Welleco Ventures Ltd.	7.0%	-8.6%	7	310	-	271	7	220	162	7	111	301
Eclipse Resources Ltd.	99.8%	0.1%	6	312	3	252	3	238	14,600	3,997	61	310
Endurance Energy Ltd.	99.4%	N/A	6	313	-	271	6	222	371	1,068	99	303
Mato Inc.	99.6%	2.9%	5	314	-	271	5	228	400	1,126	79	305
Persta Resources Inc.	95.1%	9.8%	5	315	5	248	-	285	3,098	95	18	336
Bridgeoil Corporation	0.0%	0.0%	4	316	-	271	4	230	-	4	69	306
Norwegian Petroleum Inc.	97.1%	N/A	4	316	-	271	4	230	366	143	69	306
Benjaka Exploration Inc.	75.2%	31.8%	3	318	-	271	3	236	270	13	52	314
Clearbrook Resources Inc.	99.4%	12.7%	3	319	3	253	-	285	4,370	515	12	345
Success Resources Ltd.	99.9%	2.2%	3	319	3	253	-	285	2,530	3,383	12	345
Questerre Energy Corporation	9.1%	9.1%	3	319	-	271	3	237	539	3	50	315
Stonepoint Energy Inc.	99.5%	N/A	3	322	-	271	3	239	158	489	42	318
Forge Oil & Gas Limited	0.0%	N/A	2	323	2	257	-	285	9	2	9	348
Koch Oil Sands Operating ULC	58.5%	42.3%	2	324	-	266	2	245	1,155	5	31	321
Mistahiya Resources Ltd.	95.1%	0.1%	2	325	-	271	2	241	606	43	35	319
Rock Energy Inc.	99.9%	0.5%	2	325	-	271	2	241	1,093	3,114	35	319
Delphi Energy Corp.	99.4%	-0.6%	2	327	2	258	-	285	259	328	7	351
Pennine Petroleum Corporation	98.4%	-1.6%	2	328	-	271	2	245	656	111	30	322
First Mountain Exploration Inc.	99.2%	3.3%	2	328	-	271	2	245	336	234	30	322
Golden Coast Energy Corp.	87.8%	-12.2%	2	330	2	259	-	285	48	14	7	355
Tri-Ment Corporation Ltd.	44.8%	3.1%	2	331	-	271	2	249	21	3	27	325
Nexstep Resources Ltd.	99.3%	-0.2%	2	332	-	271	2	250	153	228	27	326
Reber Exploration Ltd.	12.5%	12.5%	1	333	-	271	1	251	104	2	24	327
Wildcat Rentals Ltd.	82.9%	73.5%	1	334	-	271	1	252	1,488	7	20	328
The Locke Stock & Barrel Company Ltd.	0.0%	0.0%	1	334	-	271	1	252	265	1	20	328
Band Energy Resources Ltd.	73.9%	-3.0%	1	336	-	271	1	254	301	5	20	330
Eastnell Resources Ltd.	0.0%	0.0%	1	336	-	271	1	254	61	1	20	330
Murelle Enterprises Inc.	99.4%	1.3%	1	336	-	271	1	254	412	215	20	330
MKE Canada Ltd.	33.3%	-15.6%	1	336	1	260	-	285	221	2	5	357
Trident Exploration (Alberta) Corp.	98.2%	-1.6%	1	340	-	271	1	257	4	61	18	333
Ruger Energy Inc.	87.9%	-12.1%	1	340	-	271	1	257	114	9	18	333
Hutton Energy Ltd.	0.0%	N/A	1	340	-	271	1	257	262	1	18	333
South Bay Resources Canada ULC	96.5%	N/A	1	343	-	268	1	262	1,193	29	16	338
Ish Energy Ltd.	99.7%	-0.3%	1	343	-	271	1	261	75	378	17	337
Tidewater Midstream And Infrastructure Ltd.	99.8%	N/A	1	343	1	262	-	285	154	537	4	358
Sahara Energy Ltd.	0.0%	0.0%	1	346	-	271	1	262	289	1	15	339
Cote Resources Ltd.	0.0%	N/A	1	347	-	271	1	264	78	1	14	340
Five O Oil & Gas Ltd.	0.0%	0.0%	1	348	-	271	1	265	167	1	12	341
Grizzly Oil Sands ULC	98.9%	0.4%	1	348	1	264	-	285	18,054	62	2	360
Bounty Developments Ltd.	0.0%	-100.0%	1	348	1	264	-	285	19	1	3	359

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Company	Gas cons	Gas cons change	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)	GHG emissions (tCO ₂ e)	GHG emissions rank
Altura Energy Inc.	100.0%	N/A	1	348	-	271	1	265	18,445	3,196	12	342
Roswell Petroleum Corporation	95.1%	95.1%	1	348	-	271	1	265	353	14	12	342
Corval Energy Ltd.	99.7%	0.0%	1	348	-	271	1	265	1,109	247	12	342
Hillsdale Drilling Ltd.	0.0%	0.0%	1	354	-	271	1	269	267	1	10	347
HBC Energy Ltd.	0.0%	N/A	1	355	-	271	1	270	99	1	8	349
Signa Oilfield Canada Inc.	0.0%	N/A	1	355	-	268	-	272	183	1	7	352
Mount Dakota Energy Corp.	97.3%	-2.7%	1	355	-	271	1	270	223	19	8	349
Richbar Energy Ltd.	99.5%	0.4%	-	358	-	271	-	272	200	86	7	353
Wescan Energy Corp.	100.0%	N/A	-	358	-	271	-	272	4,712	1,437	7	353
Gunnarr Resources Inc.	96.3%	96.3%	-	360	-	271	-	276	861	8	5	356
Steppe Petroleum Inc.	99.7%	-0.3%	-	361	-	267	-	285	242	114	1	361
Writers Oil & Gas Limited	0.0%	0.0%	-	362	-	268	-	285	44	-	0	362
Frontier Energy Inc.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Mooncor Energy Inc.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Mika Resources Ltd	0.0%	-100.0%	-	363	-	271	-	285	-	-	0	363
Land Petroleum International Inc.	0.0%	0.0%	-	363	-	271	-	285	208	-	0	363
Canyon Oil & Gas Corporation	100.0%	0.0%	-	363	-	271	-	285	82	581	0	363
Centennial Petroleum Company Ltd.	100.0%	0.0%	-	363	-	271	-	285	392	1,234	0	363
WLA Investment Ltd.	100.0%	0.0%	-	363	-	271	-	285	1,291	478	0	363
Canstone Energy Ltd.	0.0%	-99.6%	-	363	-	271	-	285	71	-	0	363
Grand Rapids Petroleum Ltd.	0.0%	0.0%	-	363	-	271	-	285	-	-	0	363
Desmarais Energy Corporation	0.0%	-98.6%	-	363	-	271	-	285	-	-	0	363
Artis Exploration Ltd.	100.0%	N/A	-	363	-	271	-	285	5,840	153	0	363
1288131 Alberta Ltd.	100.0%	0.0%	-	363	-	271	-	285	755	325	0	363
Freehold Royalties Partnership	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Peyto Exploration & Development Corp.	100.0%	0.0%	-	363	-	271	-	285	573	1,138	0	363
Innes Oilfield Services Ltd.	0.0%	N/A	-	363	-	271	-	285	6	-	0	363
Extra Energy Inc.	100.0%	N/A	-	363	-	271	-	285	107	200	0	363
Spartan Energy Corp.	100.0%	0.6%	-	363	-	271	-	285	19,142	3,294	0	363
Sun Star Energy Inc.	100.0%	0.0%	-	363	-	271	-	285	371	730	0	363
Milen's Oilfield Enterprises Ltd.	100.0%	0.0%	-	363	-	271	-	285	116	2,317	0	363
Pinecrest Energy Inc.	0.0%	-90.9%	-	363	-	271	-	285	-	-	0	363
Duel Energy Inc.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Sunshine Oilsands Ltd.	0.0%	0.0%	-	363	-	271	-	285	4	-	0	363
Adanac Oil & Gas Limited	100.0%	0.0%	-	363	-	271	-	285	2,075	1,287	0	363
Pocahontas Petroleum Ltd.	0.0%	0.0%	-	363	-	271	-	285	-	-	0	363
CNPC International (Canada) Ltd.	0.0%	0.0%	-	363	-	271	-	285	-	-	0	363
LOF Energy Ltd.	0.0%	0.0%	-	363	-	271	-	285	-	-	0	363
Vital Energy Inc.	100.0%	66.7%	-	363	-	271	-	285	577	2	0	363
Logic Energy Ltd.	100.0%	0.0%	-	363	-	271	-	285	12,646	11,037	0	363
EOG Canada Oil & Gas Inc.	100.0%	N/A	-	363	-	271	-	285	1,107	398	0	363
Sutton Energy Ltd.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
White Ram Resources Ltd.	0.0%	-47.7%	-	363	-	271	-	285	-	-	0	363
SW Resources ULC	0.0%	N/A	-	363	-	271	-	285	18	-	0	363
Seven Generations Energy Ltd.	100.0%	0.2%	-	363	-	271	-	285	540	506	0	363

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Company	Gas cons	Gas cons change	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)	GHG emissions (tCO ₂ e)	GHG emissions rank
Hawk Exploration Ltd.	100.0%	0.0%	-	363	-	271	-	285	12,340	1,258	0	363
Touchstone Exploration Inc.	0.0%	0.0%	-	363	-	271	-	285	-	-	0	363
Camino Industries Inc.	100.0%	0.0%	-	363	-	271	-	285	120	135	0	363
Renenergy Petroleum (Canada) Co. Ltd.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Just Freehold Energy Corp.	100.0%	N/A	-	363	-	271	-	285	964	324	0	363
Transaction Oil & Gas Ventures Inc.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
AltaGas Ltd.	100.0%	0.0%	-	363	-	271	-	285	1,212	1,498	0	363
Dolomite Energy Inc.	0.0%	-100.0%	-	363	-	271	-	285	-	-	0	363
Ferrybank Resources Ltd.	100.0%	0.0%	-	363	-	271	-	285	1,989	670	0	363
Kam's Sand Coating Ltd.	0.0%	0.0%	-	363	-	271	-	285	-	-	0	363
Malak Energy Inc.	100.0%	0.0%	-	363	-	271	-	285	427	125	0	363
Canadian Quantum Energy Corporation	0.0%	0.0%	-	363	-	271	-	285	-	-	0	363
Qwest Diversified Capital Corporation	100.0%	5.8%	-	363	-	271	-	285	1,776	1,384	0	363
Rimfire Energy Inc.	100.0%	0.0%	-	363	-	271	-	285	1,198	1,181	0	363
Raging River Exploration Inc.	100.0%	100.0%	-	363	-	271	-	285	1,260	909	0	363
Unit 18 Corp.	100.0%	0.0%	-	363	-	271	-	285	14,205	96	0	363
Gateway Petroleum Inc.	0.0%	-100.0%	-	363	-	271	-	285	-	-	0	363
Rockbridge Energy Alberta Inc.	100.0%	0.0%	-	363	-	271	-	285	158	86	0	363
Northern Utilities (sask.) Ltd.	100.0%	0.0%	-	363	-	271	-	285	194	1	0	363
Accurate Energy Solutions Ltd.	0.0%	0.0%	-	363	-	271	-	285	-	-	0	363
Yoho Resources Inc.	100.0%	0.0%	-	363	-	271	-	285	156	1,033	0	363
Glencoe Resources Ltd.	100.0%	0.3%	-	363	-	271	-	285	3,811	9,608	0	363
1506928 Alberta Ltd.	100.0%	16.7%	-	363	-	271	-	285	1,026	1	0	363
Aqua Terra Water Management Inc.	0.0%	-100.0%	-	363	-	271	-	285	-	-	0	363
Nytis Exploration Company Inc.	100.0%	0.0%	-	363	-	271	-	285	308	61	0	363
Freemont Resources Ltd.	100.0%	0.0%	-	363	-	271	-	285	2,352	5	0	363
Silver Bay Resources Ltd.	100.0%	0.0%	-	363	-	271	-	285	24	15	0	363
Stout Energy Inc.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Marksmen Energy Inc.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Sarg Oils Ltd.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Red Coat Oil & Gas (2005) Ltd.	0.0%	0.0%	-	363	-	271	-	285	-	-	0	363
G. Herman Group Inc.	100.0%	0.0%	-	363	-	271	-	285	46	320	0	363
Corse Energy Corp.	100.0%	0.0%	-	363	-	271	-	285	605	1,073	0	363
Nextraction Energy Corp.	100.0%	0.9%	-	363	-	271	-	285	51	3	0	363
Blackrock Ventures Inc.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Edalis Energy Inc.	100.0%	0.0%	-	363	-	271	-	285	2,834	825	0	363
Southern Pacific Resource Corp.	100.0%	0.0%	-	363	-	271	-	285	44,962	3,581	0	363
Bradley Oil & Gas Inc.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Total E&P Canada Ltd.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Avalon Oil & Gas Ltd.	100.0%	1.1%	-	363	-	271	-	285	6,206	536	0	363
Big Lake Energy Ltd.	0.0%	0.0%	-	363	-	271	-	285	23	-	0	363
Devon NEC Corporation	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
International Frontier Resources Corporation	100.0%	0.0%	-	363	-	271	-	285	2,092	190	0	363
Tervita Corporation	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
ZNX Energy Ltd.	100.0%	0.0%	-	363	-	271	-	285	1,810	1,772	0	363

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Company	Gas cons	Gas cons change	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)	GHG emissions (tCO ₂ e)	GHG emissions rank
Ramier Resources Ltd.	0.0%	N/A	-	363	-	271	-	285	-	-	0	363
Mapan Energy Ltd.	100.0%	0.0%	-	363	-	271	-	285	1,436	4,381	0	363
Provincial Totals	96.4%		769,888		416,803		353,091		109,844,355	21,148,097	7,472,664	

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Field Centre Ranking of Operators – 2015 Flared + Vented Volume¹
Bonnyville Crude Oil and Crude Bitumen Batteries for Alberta
Run Date: May 02, 2016

Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Canadian Natural Resources Limited	86.0%	108,361	1	4,186	1	104,175	1	16,372,149	772,858
Devon Canada	82.5%	22,377	2	70	15	22,307	2	6,442,720	128,116
Husky Oil Operations Limited	85.2%	19,717	3	444	10	19,273	3	1,677,446	132,875
Twin Butte Energy Ltd.	33.6%	10,163	4	-	22	10,163	4	143,933	15,295
Cenovus Energy Inc.	72.9%	5,936	5	457	9	5,480	5	1,482,010	21,925
Cenovus FCCL Ltd.	98.3%	4,643	6	2,012	3	2,630	6	16,272,091	273,402
Imperial Oil Resources	99.2%	3,377	7	2,963	2	414	11	9,208,496	430,816
Gear Energy Ltd.	80.5%	1,616	8	-	22	1,616	7	34,096	8,285
Blackpearl Resources Inc.	31.6%	1,556	9	552	7	1,004	8	93,300	2,274
Osum Production Corp.	93.8%	1,335	10	1,333	4	2	28	448,844	21,463
Pengrowth Energy Corporation	95.8%	860	11	860	5	-	31	626,874	20,250
Kasten Energy Inc.	4.9%	724	12	-	22	724	9	10,635	761
Connacher Oil And Gas Limited	96.7%	685	13	685	6	-	31	843,780	20,699
Baytex Energy Ltd.	88.1%	571	14	-	22	571	10	55,307	4,783
ConocoPhillips Canada Resources Corp.	97.6%	483	15	483	8	-	31	1,600,094	19,776
Bernum Petroleum Ltd.	89.1%	432	16	411	11	21	21	13,376	3,950
Laricina Energy Ltd.	57.5%	387	17	387	12	-	31	22,781	910
Japan Canada Oil Sands Limited	96.3%	143	18	143	13	-	31	306,373	3,890
Rife Resources Ltd.	98.1%	101	19	-	22	101	12	57,284	5,371
Legacy Oil + Gas Inc.	93.6%	93	20	66	17	27	20	1,989	1,461
Crescent Point Energy Corp.	89.3%	87	21	81	14	6	27	1,658	809
Enercapita Energy Ltd.	22.1%	73	22	44	18	29	18	301	94
Athabasca Oil Corporation	88.2%	68	23	67	16	1	29	114,512	571
White Ram Resources Ltd.	34.3%	51	24	-	22	51	13	175	77
Windtalker Energy Corp.	94.9%	44	25	-	22	44	14	38,677	864
Petromin Resources Ltd.	0.0%	44	26	-	22	44	15	271	44
Spur Resources Ltd.	97.0%	39	27	-	22	39	16	34,777	1,295
Bellatrix Exploration Ltd.	0.0%	36	28	-	22	36	17	1,420	36
Statoil Canada Ltd.	99.5%	36	29	36	19	-	31	1,115,110	7,142
Perpetual Energy Operating Corp.	51.3%	29	30	-	22	29	19	209	59
Harvest Operations Corp.	98.9%	17	31	-	22	17	22	17,356	1,557
Incipient Exploration Ltd.	10.8%	12	32	-	22	12	23	2,614	14
Check Energy Ltd.	0.0%	11	33	-	22	11	24	385	11
XTO Energy Canada	98.9%	8	34	-	22	8	25	296	677
Deltastream Energy Corporation	87.8%	7	35	-	22	7	26	8,379	58
Suncor Energy Inc.	99.9%	3	36	3	20	-	31	1,781,308	1,781
Cote Resources Ltd.	0.0%	1	37	-	22	1	30	78	1
Grizzly Oil Sands ULC	98.9%	1	38	1	21	-	31	18,054	62
Southern Pacific Resource Corp.	100.0%	-	39	-	22	-	31	44,962	3,581
Sunshine Oilsands Ltd.	0.0%	-	39	-	22	-	31	4	-
Totals for Bonnyville	90.3%	184,123		15,281		168,842		58,894,125	1,907,893

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Field Centre Ranking of Operators – 2015 Flared + Vented Volume¹
Drayton Valley Crude Oil and Crude Bitumen Batteries for Alberta
Run Date: May 02, 2016

Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Penn West Petroleum Ltd.	97.4%	6,020	1	1,603	8	4,417	1	534,419	230,627
InPlay Oil Corp.	70.6%	4,394	2	3,910	1	484	10	80,538	14,921
Madalena Energy Inc.	25.2%	3,628	3	3,628	2	-	74	6,683	4,851
Granite Oil Corp.	92.4%	3,599	4	3,599	3	-	74	125,096	47,070
Bonterra Energy Corp.	98.2%	3,337	5	2,352	5	985	5	469,114	188,694
Lightstream Resources Ltd.	99.1%	2,877	6	1,736	7	1,141	4	453,720	310,859
Boulder Energy Ltd.	96.1%	2,661	7	2,613	4	48	34	144,951	67,951
Whitecap Resources Inc.	98.4%	2,422	8	1,275	10	1,147	3	342,796	146,697
TORC Oil & Gas Ltd.	96.4%	2,262	9	911	17	1,351	2	98,626	63,482
Spry2 Energy Inc.	64.7%	2,065	10	2,065	6	-	74	24,166	5,846
Vermilion Energy Inc.	98.8%	1,945	11	1,120	12	824	6	375,187	157,096
Sinopec Daylight Energy Ltd.	98.6%	1,683	12	1,130	11	553	8	318,181	118,188
ARC Resources Ltd.	99.0%	1,612	13	1,505	9	107	27	496,824	166,232
Tamarack Acquisition Corp.	98.6%	1,535	14	922	15	613	7	139,411	112,314
Bellatrix Exploration Ltd.	99.3%	1,445	15	913	16	532	9	87,468	196,659
Journey Energy Inc.	99.4%	1,021	16	551	20	470	11	80,085	165,442
Changhua Energy Canada Ltd.	0.0%	992	17	992	13	-	74	3,145	992
New Star Energy Ltd.	99.3%	972	18	688	18	285	14	65,474	131,367
Beringer Energy Inc.	95.1%	959	19	952	14	7	55	22,871	19,687
Long Run Exploration Ltd.	99.6%	734	20	591	19	143	20	33,477	187,404
TAQA North Ltd.	98.9%	655	21	299	25	356	12	34,253	58,286
ConocoPhillips Canada (BRC) Partnership	99.4%	568	22	346	23	222	16	72,339	95,560
Keyera Energy Ltd.	99.8%	411	23	411	21	-	74	45,723	261,449
Spyglass Resources Corp.	2.4%	363	24	360	22	3	65	1,974	372
Freehold Royalties Ltd.	87.6%	352	25	206	29	146	19	7,029	2,842
Surge Energy Inc.	91.6%	343	26	343	24	-	74	18,343	4,088
Velvet Energy Ltd.	99.5%	335	27	200	30	135	22	23,034	67,344
Baytex Energy Ltd.	97.5%	323	28	283	26	40	38	22,154	12,762
Bonavista Energy Corporation	98.8%	317	29	6	52	311	13	16,179	25,883
Baccalieu Energy Inc.	99.2%	301	30	57	41	243	15	61,862	35,517
Questfire Energy Corp.	55.0%	281	31	236	27	45	36	2,292	624
Enerplus Corporation	95.6%	230	32	108	37	122	24	24,052	5,196
Westbrick Energy Ltd.	99.4%	220	33	-	61	220	17	35,607	35,796
Mancal Energy Inc.	98.0%	218	34	210	28	9	52	8,791	10,664
Ikkuma Resources Corp.	90.9%	217	35	153	33	64	33	1,995	2,392
Derrick Petroleum Ltd.	38.7%	212	36	-	61	212	18	918	346
97837 Resources Ltd.	13.8%	192	37	192	31	0	73	465	223
Owl River Resources Ltd.	6.5%	175	38	55	42	120	26	258	187
Canadian Natural Resources Limited	97.6%	172	39	78	40	94	29	13,759	7,025
CQ Energy Canada Resources Partnership	92.9%	162	40	162	32	-	74	1,959	2,291

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Hyperion Exploration Corp.	88.0%	154	41	121	36	33	40	3,186	1,280
ConocoPhillips Western Canada Partnership	94.0%	144	42	142	34	2	66	29,821	2,378
Iberdrola Canada Energy Services Ltd.	99.8%	139	43	-	61	139	21	3,742	70,770
Joli Fou Petroleums Ltd	19.2%	127	44	125	35	2	68	1,935	157
Highvale Operating Corp.	37.9%	125	45	1	56	124	23	1,209	202
Hitic Energy Ltd.	98.8%	125	46	31	47	94	30	17,442	10,593
Lexin Resources Ltd.	98.9%	121	47	-	61	121	25	2,446	10,733
385417 Alberta Ltd.	58.5%	104	48	-	61	104	28	975	251
Husky Oil Operations Limited	97.7%	96	49	83	38	13	47	23,447	4,089
Baccalieu Energy Inc.	99.3%	87	50	9	51	79	31	19,101	11,599
Gamet Resources Ltd.	93.9%	81	51	81	39	-	74	780	1,335
Superman Resources Inc.	98.5%	69	52	-	61	69	32	3,277	4,715
Lockwood Resources Ltd.	0.0%	58	53	47	43	11	49	508	58
Kaiser Exploration Ltd.	0.0%	47	54	-	61	47	35	113	47
Canadian Oil & Gas International Inc.	98.5%	44	55	2	55	42	37	1,960	2,987
Insch Commodity Ltd.	95.2%	39	56	1	59	38	39	814	801
Anterra Energy Inc.	97.7%	38	57	38	44	0	73	2,495	1,654
Wilcox Energy Corp.	6.9%	31	58	31	45	-	74	529	34
Blaze Energy Ltd.	99.9%	31	59	31	46	-	74	9,217	23,195
Regent Resources Ltd.	99.5%	30	60	21	49	10	50	11,197	5,487
Blackspur Oil Corp.	99.9%	30	61	30	48	-	74	8,821	29,275
Sifton Petroleum Inc.	99.4%	29	62	4	53	25	41	4,291	4,691
Pengrowth Energy Corporation	99.9%	25	63	-	61	25	42	4,682	24,129
NAL Resources Limited	98.6%	24	64	-	61	24	43	2,884	1,766
Omers Energy Inc.	99.8%	22	65	2	55	20	44	10,433	9,527
Pine Cliff Energy Ltd.	48.9%	20	66	-	61	20	45	174	39
Shiningstar Energy Ltd.	95.6%	20	66	-	61	20	45	330	453
Crazy Hill Resources Ltd.	50.4%	19	67	-	61	19	46	272	39
Petro Buyers Inc.	97.1%	14	68	14	50	-	74	2,802	483
Anderson Energy Inc.	98.8%	12	69	-	61	12	48	948	994
Harvest Operations Corp.	99.9%	9	70	-	61	9	51	4,718	8,301
ConocoPhillips Canada Resources Corp.	99.8%	8	71	-	61	8	53	2,397	4,777
Marquee Energy Ltd.	96.2%	8	72	-	61	8	54	623	207
ConocoPhillips Canada Energy Partnership	100.0%	7	73	-	61	7	55	27,276	48,516
Insignia Energy Ltd.	99.3%	7	74	-	61	7	56	919	899
Eclipse Resources Ltd.	99.9%	6	75	3	54	3	64	14,600	3,997
Trilogy Resources Ltd.	99.7%	5	76	-	61	5	57	157	1,934
Zargon Oil & Gas Ltd.	99.1%	5	77	-	61	5	58	1,020	503
1851328 Alberta Ltd.	97.2%	5	78	-	61	5	59	179	162
New North Resources Ltd.	99.4%	4	79	-	61	4	60	400	691
Rife Resources Ltd.	99.4%	3	80	-	61	3	61	1,272	599
Petrus Resources Corp.	100.0%	3	81	-	61	3	62	60,191	81,068
Benjaka Exploration Inc.	75.2%	3	82	-	61	3	63	270	13
Signalta Resources Limited	99.7%	3	83	1	57	2	67	1,367	919
Striker Exploration Corp.	100.0%	2	84	0	60	1	69	40,374	23,910

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Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Arrow Point Oil & Gas Ltd.	95.4%	1	85	-	61	1	70	224	26
Murelle Enterprises Inc.	99.4%	1	85	-	61	1	70	412	215
Arsenal Energy Inc.	0.0%	1	86	-	61	1	71	138	1
Perpetual Energy Operating Corp.	100.0%	1	87	1	58	-	74	1,325	6,305
HBC Energy Ltd.	0.0%	1	88	-	61	1	72	99	1
Mount Dakota Energy Corp.	97.3%	1	88	-	61	1	72	223	19
Adanac Oil & Gas Limited	100.0%	-	89	-	61	-	74	2,075	1,287
Bumper Development Corporation Ltd.	100.0%	-	89	-	61	-	74	77	1,153
Canamax Energy Ltd.	100.0%	-	89	-	61	-	74	735	4,510
Crimson Oil & Gas Ltd.	100.0%	-	89	-	61	-	74	72	72
Delphi Energy Corp.	100.0%	-	89	-	61	-	74	33	150
Encana Corporation	100.0%	-	89	-	61	-	74	247	142
Enercapita Energy Ltd.	100.0%	-	89	-	61	-	74	0	2
Executive Adventures 2008 Inc.	100.0%	-	89	-	61	-	74	109	124
Ferrybank Resources Ltd.	100.0%	-	89	-	61	-	74	624	92
G. Herman Group Inc.	100.0%	-	89	-	61	-	74	46	320
Inception Exploration Ltd.	100.0%	-	89	-	61	-	74	715	2,453
Incipient Exploration Ltd.	100.0%	-	89	-	61	-	74	1,663	3,230
Ish Energy Ltd.	100.0%	-	89	-	61	-	74	36	373
KinMerc Oil & Gas Inc.	100.0%	-	89	-	61	-	74	543	3
Land Petroleum International Inc.	0.0%	-	89	-	61	-	74	192	-
Mapan Energy Ltd.	100.0%	-	89	-	61	-	74	60	157
Mosaic Energy Ltd.	100.0%	-	89	-	61	-	74	12,886	5,356
Nordegg Resources Inc.	100.0%	-	89	-	61	-	74	1,235	6,718
ORLEN Upstream Canada Ltd.	100.0%	-	89	-	61	-	74	6,837	21,870
Paramount Resources Ltd.	100.0%	-	89	-	61	-	74	832	615
Procyon Energy Corp.	100.0%	-	89	-	61	-	74	265	240
Qwest Diversified Capital Corporation	100.0%	-	89	-	61	-	74	185	215
Repsol Oil & Gas Canada Inc.	100.0%	-	89	-	61	-	74	913	920
Rimfire Energy Inc.	100.0%	-	89	-	61	-	74	408	699
Shell Canada Energy	100.0%	-	89	-	61	-	74	19	4,394
Tourmaline Oil Corp.	100.0%	-	89	-	61	-	74	3,507	1,360
Waldron Energy Corporation	100.0%	-	89	-	61	-	74	83	383
White Ram Resources Ltd.	100.0%	-	89	-	61	-	74	26	12
WLA Investment Ltd.	100.0%	-	89	-	61	-	74	1,291	478
Yangarra Resources Corp.	100.0%	-	89	-	61	-	74	1,839	4,527
Totals for Drayton Valley	98.4%	54,194		37,579		16,615		4,660,781	3,433,901

¹ Caution is required when comparing with last year's report due to corporate mergers, acquisitions, and divestments.

Field Centre Ranking of Operators – 2015 Flared + Vented Volume¹
Edmonton Crude Oil and Crude Bitumen Batteries for Alberta
Run Date: May 02, 2016

Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Murphy Oil Company Ltd.	74.7%	21,708	1	17,823	1	3,886	1	292,991	85,768
Crescent Point Energy Corp.	52.1%	13,663	2	12,795	2	867	7	124,187	28,515
Penn West Petroleum Ltd.	94.1%	10,973	3	9,135	3	1,839	4	766,304	186,905
Canadian Natural Resources Limited	92.3%	9,527	4	8,752	4	775	9	530,896	124,196
Coral Hill Energy Ltd.	71.4%	7,518	5	6,978	5	541	13	135,869	26,259
Lightstream Resources Ltd.	61.7%	7,090	6	6,927	6	163	22	70,379	18,510
Harvest Operations Corp.	77.7%	4,316	7	2,939	10	1,377	5	222,088	19,365
Baytex Energy Ltd.	70.7%	3,972	8	3,901	7	71	36	173,124	13,540
Aspenleaf Energy Limited	81.1%	3,403	9	3,337	8	66	39	112,652	17,987
Trilogy Resources Ltd.	98.8%	3,369	10	3,283	9	87	31	277,324	284,671
ARC Resources Ltd.	86.3%	2,888	11	2,402	12	487	14	208,386	21,054
Surge Energy Inc.	83.6%	2,852	12	444	23	2,408	3	60,195	17,404
Tamarack Acquisition Corp.	68.3%	2,828	13	76	52	2,752	2	43,806	8,921
Arcan Resources Ltd.	79.5%	2,463	14	2,327	13	136	23	86,242	12,042
Predator Oil Ltd.	31.1%	2,432	15	1,621	18	811	8	72,169	3,532
InPlay Oil Corp.	1.6%	2,418	16	2,411	11	7	67	5,887	2,458
Husky Oil Operations Limited	88.7%	2,398	17	1,695	17	703	11	54,209	21,285
Mancal Energy Inc.	77.8%	2,263	18	2,191	14	72	35	93,286	10,212
Apache Canada Ltd.	96.3%	1,990	19	1,966	15	24	53	288,180	53,695
ORLEN Upstream Canada Ltd.	95.2%	1,801	20	1,801	16	-	92	57,543	37,293
Long Run Exploration Ltd.	97.1%	1,687	21	697	22	990	6	177,923	58,656
Shackleton Exploration Ltd.	93.9%	1,156	22	1,138	19	18	56	14,443	18,857
TAQA North Ltd.	90.7%	1,062	23	977	20	85	32	5,506	11,452
TORC Oil & Gas Ltd.	95.2%	917	24	298	30	619	12	73,143	19,045
NEP Canada ULC	98.4%	863	25	863	21	-	92	173,872	54,153
Pengrowth Energy Corporation	99.6%	743	26	427	24	316	16	387,924	187,554
Lone Pine Resources Canada Ltd.	91.3%	704	27	0	94	704	10	101,947	8,123
Tangle Creek Energy Ltd.	99.3%	532	28	218	38	314	17	156,653	77,431
Journey Energy Inc.	98.8%	445	29	398	26	47	44	75,211	36,428
Virginia Hills Oil Corp.	90.5%	411	30	3	86	407	15	56,676	4,302
Arsenal Energy Inc.	50.6%	408	31	408	25	1	88	17,769	827
Nordegg Resources Inc.	89.0%	380	32	329	27	51	42	19,975	3,443
Response Energy Corporation	80.0%	345	33	127	46	218	18	6,187	1,723
HESC Energy Corporation	89.4%	303	34	303	28	-	92	3,891	2,861
ConocoPhillips Canada (BRC) Partnership	98.7%	302	35	292	32	11	64	35,684	22,749
Blackpearl Resources Inc.	99.1%	302	36	302	29	-	92	121,368	34,403
Quattro Exploration and Production Ltd.	0.0%	298	37	298	31	-	92	640	298
Exall Energy Corporation	86.5%	258	38	207	39	51	43	35,259	1,911
Zargon Oil & Gas Ltd.	0.0%	256	39	245	33	12	61	1,995	250
Sabanero Energy Corp.	29.7%	236	40	232	34	4	73	4,831	336

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Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Vesta Energy Ltd.	84.0%	224	41	224	35	-	92	1,743	1,396
Anterra Energy Inc.	92.9%	224	42	223	36	1	88	22,568	3,135
Iberdrola Canada Energy Services Ltd.	95.4%	223	43	220	37	3	76	5,784	4,821
Pinecrest Energy Inc.	91.1%	216	44	-	96	216	19	28,203	2,423
Repsol Oil & Gas Canada Inc.	97.1%	207	45	204	40	3	75	6,866	7,017
Border Petroleum Limited	0.0%	204	46	6	83	199	20	1,332	204
Striker Exploration Corp.	0.0%	200	47	200	41	-	92	302	200
Dark Energy Ltd.	39.6%	193	48	-	96	193	21	6,583	319
Second Wave Petroleum Inc.	98.8%	186	49	65	58	120	25	16,757	15,932
Coastal Resources Limited	57.6%	184	50	148	45	37	47	6,619	435
Westhill Resources Limited	95.4%	173	51	173	42	-	92	217	3,795
Redwater Energy Corp.	86.9%	152	52	152	43	-	92	4,279	1,163
Kootenay Energy Inc.	9.6%	148	53	148	44	-	92	3,594	164
Vermilion Energy Inc.	96.0%	129	54	13	78	116	26	47,984	3,246
Shiningstar Energy Ltd.	23.9%	128	55	-	96	128	24	93	169
Novus Energy Inc.	52.0%	121	56	121	47	-	92	1,124	252
Petrus Resources Corp.	0.0%	119	57	119	48	-	92	2,526	119
One Earth Oil & Gas Inc.	55.9%	116	58	-	96	116	27	9,175	262
Enerplus Corporation	99.4%	106	59	71	56	34	48	31,056	18,563
Enercapita Energy Ltd.	6.3%	100	60	-	96	100	28	1,299	107
Beaver Lake Resources Corporation	0.0%	94	61	94	49	-	92	512	94
Indepth Energy Inc.	36.3%	92	62	92	50	-	92	3,904	144
Spur Resources Ltd.	45.1%	89	63	-	96	89	29	3,780	161
White Ram Resources Ltd.	21.2%	88	64	-	96	88	30	951	112
Spyglass Resources Corp.	55.3%	86	65	20	74	67	38	3,259	193
Rifle Shot Oil Corp.	96.7%	84	66	2	88	82	33	20,296	2,576
Crimson Oil & Gas Ltd.	62.5%	83	67	83	51	0	91	5,944	221
Gryphon Petroleum Corp.	4.1%	78	68	72	55	5	70	5,589	81
C Group Energy Inc.	0.0%	75	69	75	53	-	92	1,277	75
Sino-Western Petroleum, Inc.	48.9%	73	70	73	54	-	92	341	144
Questfire Energy Corp.	62.5%	73	71	-	96	73	34	3,772	193
Barnwell of Canada, Limited	17.9%	69	72	69	57	-	92	604	84
Bonterra Energy Corp.	82.0%	68	73	28	70	41	46	1,957	380
Shell Canada Energy	100.0%	68	74	-	96	68	37	452,406	164,216
Shoreline Energy Corp.	0.0%	64	75	-	96	64	40	869	64
Midlake Oil & Gas Limited	38.5%	62	76	-	96	62	41	786	100
Regco Petroleums Ltd.	0.0%	61	77	61	59	-	92	897	61
Andora Energy Corporation	33.3%	60	78	60	60	-	92	20,210	90
Success Energy Ltd.	0.0%	54	79	54	61	-	92	179	54
Procyon Energy Corp.	0.0%	52	80	52	62	-	92	86	52
Surat Energy Inc.	0.0%	49	81	36	64	13	59	965	49
Summerland Energy Inc.	86.9%	47	82	24	72	23	54	7,056	358
Whitehall Energy Ltd.	83.3%	47	83	-	96	47	45	3,788	280
Cardinal Energy Ltd.	98.7%	41	84	35	65	6	69	11,412	3,204
Brevia Energy Inc.	97.7%	37	85	37	63	-	92	11,726	1,591

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Primrose Drilling Ventures Ltd.	0.0%	34	86	-	96	34	49	812	34
Goldenkey Oil Inc.	44.9%	33	87	33	66	-	92	2,512	60
Vulture Energy Ltd.	57.4%	33	88	31	67	2	79	399	77
Hitic Energy Ltd.	0.0%	32	89	-	96	32	50	570	32
New North Resources Ltd.	0.0%	31	90	-	96	31	51	500	31
Athabasca Oil Corporation	100.0%	30	91	30	68	-	92	49,282	112,294
RMP Energy Inc.	99.6%	28	92	28	69	-	92	4,871	7,285
Canuck North Resources Ltd.	0.0%	-	93	-	96	26	52	181	26
Enhance Energy Inc.	16.6%	25	94	25	71	-	92	127	30
Rally Canada Resources Ltd.	97.8%	22	95	22	73	-	92	8,501	1,003
Bernum Petroleum Ltd.	99.5%	21	96	-	96	21	55	13,479	4,177
Whitecap Resources Inc.	93.7%	21	96	19	75	2	77	2,326	335
Velvet Energy Ltd.	99.5%	17	97	-	96	17	57	2,566	3,548
XTO Energy Canada	99.8%	16	98	-	96	16	58	6,456	6,845
Indra Oil & Gas Ltd.	0.0%	16	99	16	76	-	92	418	16
KinMerc Oil & Gas Inc.	87.7%	16	100	9	82	7	66	7,474	127
Lockwood Resources Ltd.	87.2%	14	101	14	77	-	92	592	111
Edge Resources Inc.	35.9%	13	102	-	96	13	60	215	20
Qwest Diversified Capital Corporation	99.2%	12	103	12	79	-	92	1,809	1,476
Painted Pony Petroleum Ltd.	0.0%	12	104	12	80	-	92	-	12
Kelt Exploration Ltd.	99.3%	12	105	12	81	-	92	15,482	1,681
Ember Resources Inc.	94.8%	12	106	-	96	12	62	135	221
Rustum Petroleums Limited	63.3%	11	107	-	96	11	63	1,771	31
ConocoPhillips Canada Energy Partnership	99.8%	8	108	0	95	7	65	17,401	3,321
Welleco Ventures Ltd.	7.0%	7	109	-	96	7	68	162	7
CQ Energy Canada Resources Partnership	99.7%	6	110	6	84	-	92	6,234	2,152
Sinopec Daylight Energy Ltd.	97.3%	5	111	-	96	5	71	1,089	188
Chinook Energy Inc.	0.0%	5	112	-	96	5	72	227	5
Persta Resources Inc.	95.1%	5	112	5	85	-	92	3,098	95
Perpetual Energy Operating Corp.	94.0%	4	113	2	90	2	80	132	61
Mosaic Energy Ltd.	99.8%	4	114	-	96	4	74	402	1,831
Clearbrook Resources Inc.	99.4%	3	115	3	87	-	92	4,338	515
Koch Oil Sands Operating ULC	58.5%	2	116	0	93	2	81	1,155	5
Mistahiya Resources Ltd.	95.1%	2	117	-	96	2	78	606	43
Madalena Energy Inc.	88.7%	2	118	-	96	2	79	21	18
Delphi Energy Corp.	97.9%	2	119	2	89	-	92	193	90
Golden Coast Energy Corp.	87.8%	2	120	2	91	-	92	48	14
Nexstep Resources Ltd.	99.3%	2	121	-	96	2	82	153	228
Eastnell Resources Ltd.	0.0%	1	122	-	96	1	83	61	1
Sun Century Petroleum Corporation	0.0%	1	123	-	96	1	84	391	1
Ish Energy Ltd.	80.8%	1	124	-	96	1	85	39	5
1576442 Alberta Ltd.	99.1%	1	125	-	96	1	86	91	104
Bounty Developments Ltd.	0.0%	1	126	1	92	-	92	19	1
Hillsdale Drilling Ltd.	0.0%	1	127	-	96	1	87	267	1
Broadview Energy Ltd.	0.0%	0	128	-	96	0	89	83	0

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Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Bonavista Energy Corporation	100.0%	0	129	-	96	0	90	736	2,120
Owl River Resources Ltd.	0.0%	0	129	-	96	0	90	4	0
AltaGas Ltd.	100.0%	-	130	-	96	-	92	-	4
Artisan Energy Corporation	100.0%	-	130	-	96	-	92	6	34
Bering Exploration Company, ULC	100.0%	-	130	-	96	-	92	360	9
Centennial Petroleum Company Ltd.	100.0%	-	130	-	96	-	92	392	1,234
ConocoPhillips Western Canada Partnership	100.0%	-	130	-	96	-	92	4,475	1,578
Dolomite Energy Inc.	100.0%	-	130	-	96	-	92	1,318	26
Extra Energy Inc.	100.0%	-	130	-	96	-	92	107	200
Hawk Exploration Ltd.	0.0%	-	130	-	96	-	92	9	-
Kelt Exploration (LNG) Ltd.	100.0%	-	130	-	96	-	92	6,604	776
Land Petroleum International Inc.	0.0%	-	130	-	96	-	92	16	-
Malak Energy Inc.	100.0%	-	130	-	96	-	92	427	125
Mapan Energy Ltd.	100.0%	-	130	-	96	-	92	1,376	4,224
MOGL Corp.	100.0%	-	130	-	96	-	92	268	280
Norwegian Petroleum Inc.	100.0%	-	130	-	96	-	92	84	40
Omers Energy Inc.	100.0%	-	130	-	96	-	92	6	3
Rife Resources Ltd.	100.0%	-	130	-	96	-	92	738	173
Spartan Energy Corp.	100.0%	-	130	-	96	-	92	19,142	3,294
Spry2 Energy Inc.	100.0%	-	130	-	96	-	92	1,622	1,140
SW Resources ULC	0.0%	-	130	-	96	-	92	18	-
Twin Butte Energy Ltd.	100.0%	-	130	-	96	-	92	1,450	426
Yoho Resources Inc.	100.0%	-	130	-	96	-	92	156	1,033
Totals for Edmonton	93.5%	127,049		103,898		23,177		6,103,282	1,941,581

¹ Caution is required when comparing with last year's report due to corporate mergers, acquisitions, and divestments.

Field Centre Ranking of Operators – 2015 Flared + Vented Volume¹
Grande Prairie Crude Oil and Crude Bitumen Batteries for Alberta
Run Date: May 02, 2016

Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Baytex Energy Ltd.	84.0%	30,691	1	30,691	1	-	63	1,094,650	191,336
Penn West Petroleum Ltd.	34.0%	26,603	2	26,497	2	107	23	309,720	40,298
Canadian Natural Resources Limited	99.3%	7,509	3	6,497	4	1,012	3	1,152,045	1,024,374
Canadian International Oil Operating Corp.	95.2%	7,172	4	6,993	3	179	15	82,458	148,114
Surge Energy Inc.	95.9%	5,451	5	5,344	5	106	24	190,510	131,989
High North Resources Ltd.	17.1%	3,761	6	3,761	6	-	63	10,110	4,539
ARC Resources Ltd.	99.4%	3,436	7	2,303	9	1,134	2	368,066	543,837
Kelt Exploration Ltd.	98.7%	3,077	8	3,004	7	73	26	244,550	239,761
Long Run Exploration Ltd.	98.7%	2,967	9	2,798	8	168	17	284,980	222,787
Whitecap Resources Inc.	97.5%	2,943	10	2,209	10	734	6	190,505	118,535
TAQA North Ltd.	94.7%	2,785	11	1,346	15	1,439	1	50,447	52,105
RMP Energy Inc.	99.5%	1,875	12	1,875	11	0	61	302,349	353,004
Mosaic Energy Ltd.	96.7%	1,764	13	1,000	17	764	5	26,902	53,791
Mancal Energy Inc.	96.3%	1,759	14	1,642	13	117	21	95,221	47,047
Exshaw Oil Corp.	99.6%	1,655	15	1,655	12	-	63	306,116	411,425
Trilogy Resources Ltd.	96.3%	1,652	16	1,368	14	285	12	75,150	44,748
Husky Oil Operations Limited	99.5%	1,157	17	340	39	817	4	120,558	227,069
Progress Energy Canada Ltd.	99.3%	1,120	18	558	27	562	7	167,968	159,081
Omers Energy Inc.	97.5%	1,038	19	1,037	16	1	58	38,471	41,176
Chinook Energy Inc.	98.5%	971	20	654	25	317	10	69,066	62,889
Apache Canada Ltd.	73.2%	928	21	924	18	4	53	4,837	3,466
Murphy Oil Company Ltd.	68.2%	832	22	832	19	-	63	18,825	2,615
Sinopec Daylight Energy Ltd.	97.9%	830	23	824	21	6	48	28,619	40,143
Encana Corporation	99.9%	826	24	826	20	-	63	353,945	824,031
Harvest Operations Corp.	97.5%	817	25	709	23	109	22	89,973	32,781
ConocoPhillips Canada Energy Partnership	87.1%	810	26	805	22	5	49	4,026	6,289
Insignia Energy Ltd.	96.1%	708	27	671	24	38	33	19,760	18,019
Jupiter Resources Inc.	97.3%	688	28	492	29	196	13	30,397	25,359
Birchcliff Energy Ltd.	99.6%	605	29	587	26	18	38	194,176	160,245
Canamax Energy Ltd.	93.6%	588	30	172	44	417	8	33,817	9,207
Venturion Oil Limited	93.7%	527	31	527	28	-	63	15,797	8,359
ConocoPhillips Canada (BRC) Partnership	99.5%	521	32	170	45	351	9	73,420	107,619
Paramount Resources Ltd.	94.0%	471	33	466	30	5	51	7,072	7,787
Rife Resources Ltd.	97.5%	468	34	396	31	72	27	2,653	18,809
Shield Energy Ltd.	94.3%	409	35	345	35	64	29	12,484	7,125
Enerplus Corporation	98.8%	383	36	343	36	40	32	43,130	31,718
Crescent Point Energy Corp.	99.2%	365	37	364	33	1	60	53,103	43,651
Georox Resources Inc.	14.4%	365	38	365	32	-	63	398	426
Canadian Oil & Gas International Inc.	96.7%	352	39	40	72	312	11	16,020	10,770
Shell Canada Energy	99.1%	350	40	350	34	-	63	369,262	38,258

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Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Sequence Energy Ltd.	97.7%	346	41	309	40	36	34	12,799	14,840
Flow-Back Oil & Gas Ltd.	31.7%	342	42	342	37	-	63	248	501
Iberdrola Canada Energy Services Ltd.	82.3%	340	43	340	38	-	63	1,178	1,927
Enercapita Energy Ltd.	16.3%	297	44	139	52	159	19	2,661	355
Bering Exploration Company, ULC	0.0%	258	45	84	62	174	16	4,603	258
Petrus Resources Corp.	99.4%	250	46	250	41	-	63	63,530	42,688
Panam Energy Services Ltd.	40.0%	242	47	242	42	-	63	602	403
Indepth Energy Inc.	0.0%	222	48	127	53	95	25	1,869	222
Inception Exploration Ltd.	98.6%	200	49	63	66	137	20	4,696	14,501
Clampett Energy Ltd.	27.4%	199	50	190	43	9	45	2,729	274
Grizzly Resources Ltd.	0.5%	192	51	-	90	192	14	23,875	193
Modern Resources Inc.	99.1%	177	52	108	58	70	28	29,597	18,884
Shoreline Energy Corp.	93.8%	175	53	8	83	167	18	2,215	2,834
Glenogle Energy Inc.	99.7%	157	54	147	49	10	43	56,725	54,328
XTO Energy Canada	96.4%	154	55	154	46	-	63	9,934	4,226
Perpetual Energy Inc.	0.0%	153	56	153	47	-	63	120	153
Bernum Petroleum Ltd.	77.9%	153	57	153	48	0	62	14,370	690
Terra Energy Corp.	79.7%	149	58	140	50	8	46	4,633	733
Executive Adventures 2008 Inc.	11.6%	140	59	140	51	-	63	585	158
Spyglass Resources Corp.	95.8%	134	60	120	56	14	40	129,330	3,154
Pengrowth Energy Corporation	93.1%	130	61	120	55	10	44	10,387	1,865
Polar Star Canadian Oil And Gas, Inc.	97.7%	126	62	124	54	2	57	11,070	5,466
BDJ Energy Inc.	93.5%	120	63	120	57	-	63	11,609	1,834
Bonavista Energy Corporation	97.8%	119	64	73	63	46	31	10,767	5,357
Shiningstar Energy Ltd.	99.8%	104	65	104	59	-	63	25,028	42,439
Goldenkey Oil Inc.	0.0%	102	66	97	60	5	52	878	102
Halo Exploration Ltd.	0.0%	93	67	93	61	-	63	136	93
Tourmaline Oil Corp.	99.9%	72	68	61	67	12	42	78,436	103,416
ORLEN Upstream Canada Ltd.	91.9%	68	69	68	64	-	63	7,809	845
Barnwell of Canada, Limited	83.5%	66	70	66	65	-	63	1,359	399
White Ram Resources Ltd.	0.0%	62	71	-	90	62	30	762	62
Firenze Energy Ltd.	90.6%	59	72	55	69	4	54	9,274	625
Dewpoint Resources Ltd.	35.2%	57	73	57	68	-	63	272	88
EOG Canada Oil & Gas Inc.	96.6%	50	74	37	75	14	41	171	1,475
Procyon Energy Corp.	0.0%	46	75	46	70	-	63	13	46
Huron Resources Corp.	0.0%	42	76	42	71	-	63	15	42
Taku Gas Limited	0.0%	38	77	37	73	0	62	680	38
Storm Resources Ltd.	99.7%	37	78	37	73	-	63	12,675	13,884
EOG Canada Oil & Gas ULC	0.0%	37	79	37	74	-	63	133	37
Ribbon Creek Resources Inc.	98.9%	34	80	12	82	23	36	3,477	3,136
Border Petroleum Limited	0.9%	32	81	31	76	0	62	162	32
Ascent Energy Ltd.	71.0%	29	82	-	90	29	35	156	98
Sydco Energy Inc.	99.3%	28	83	28	77	-	63	1,484	3,876
Toro Oil & Gas Ltd.	0.0%	24	84	24	78	-	63	1,304	24
Summerland Energy Inc.	99.6%	21	85	1	87	20	37	8,538	5,629

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Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Athabasca Oil Corporation	98.9%	20	86	20	79	-	63	1,411	1,852
Summerfield Energy Inc.	81.6%	18	87	18	80	-	63	283	96
Tallahassee Resources Inc.	0.0%	18	88	-	90	18	39	388	18
NAL Resources Limited	100.0%	14	89	14	81	-	63	65,234	138,411
Bashaw Oil Corp.	0.0%	8	90	-	90	8	47	223	8
Dirham Oil (2000) Inc.	0.0%	8	91	8	84	-	63	19	8
Stonepoint Energy Inc.	99.5%	5	92	-	90	5	50	337	995
Legacy CEC Ltd.	100.0%	-	93	4	85	0	61	17,836	28,830
Scavenger Energy Gp Inc.	0.0%	4	94	-	90	4	55	76	4
Endurance Energy Ltd.	99.5%	3	95	-	90	3	56	193	562
Boulder Energy Ltd.	99.9%	3	96	2	86	1	60	1,728	3,275
Reber Exploration Ltd.	12.5%	1	97	-	90	1	58	104	2
Luxor Oil And Gas Ltd.	0.0%	1	98	-	90	1	59	245	1
Granite Oil Corp.	100.0%	1	99	1	88	-	63	1,125	2,665
Delphi Energy Corp.	99.9%	1	100	1	89	-	63	176	582
Tidewater Midstream And Infrastructure Ltd.	98.9%	1	100	1	89	-	63	11	44
Hutton Energy Ltd.	0.0%	0	101	-	90	0	62	17	0
Canstone Energy Ltd.	0.0%	-	102	-	90	-	63	71	-
CQ Energy Canada Resources Partnership	100.0%	-	102	-	90	-	63	149	143
Lightstream Resources Ltd.	100.0%	-	102	-	90	-	63	795	2,443
Peyto Exploration & Development Corp.	100.0%	-	102	-	90	-	63	573	1,138
Relentless Resources Ltd.	100.0%	-	102	-	90	-	63	721	3,544
Rimfire Energy Inc.	100.0%	-	102	-	90	-	63	790	482
Seven Generations Energy Ltd.	100.0%	-	102	-	90	-	63	540	506
Striker Exploration Corp.	100.0%	-	102	-	90	-	63	52	98
Sun Star Energy Inc.	100.0%	-	102	-	90	-	63	371	730
XTO Energy Canada ULC	100.0%	-	102	-	90	-	63	14,963	7,196
Totals for Grande Prairie	97.9%	127,209		116,423		10,786		7,222,871	6,060,440

¹ Caution is required when comparing with last year's report due to corporate mergers, acquisitions, and divestments.

Field Centre Ranking of Operators – 2015 Flared + Vented Volume¹
High Level Crude Oil and Crude Bitumen Batteries for Alberta
Run Date: May 02, 2016

Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Husky Oil Operations Limited	99.8%	1,879	1	1,857	1	22	1	443,616	1,018,609
BLZ Energy Ltd.	0.0%	1,357	2	1,357	2	-	9	1,816	1,357
Spyglass Resources Corp.	0.0%	1,138	3	1,131	3	7	5	7,882	1,138
Chinook Energy Inc.	8.9%	1,105	4	1,095	5	10	2	10,781	1,213
Apache Canada Ltd.	99.2%	1,101	5	1,101	4	-	9	44,452	136,268
ARC Resources Ltd.	81.1%	611	6	604	6	7	4	12,760	3,226
NuVista Energy Ltd.	0.0%	379	7	378	7	1	6	6,069	379
Ouro Preto Resources Inc.	40.1%	11	8	11	8	-	9	746	19
Canadian Natural Resources Limited	100.0%	9	9	-	9	9	3	37,919	79,258
Strategic Oil & Gas Ltd.	100.0%	0	10	-	9	0	7	103,620	46,245
Barnwell of Canada, Limited	0.0%	0	11	-	9	0	8	40	0
Surge Energy Inc.	100.0%	-	12	-	9	-	9	105	1
Totals for High Level	99.4%	7,591		7,535		56		669,804	1,287,713

¹Caution is required when comparing with last year's report due to corporate mergers, acquisitions, and divestments.

Field Centre Ranking of Operators – 2015 Flared + Vented Volume¹
Medicine Hat Crude Oil and Crude Bitumen Batteries for Alberta
Run Date: May 02, 2016

Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Granite Oil Corp.	90.3%	5,202	1	5,202	1	-	56	187,201	53,528
Imaginea Energy Corp.	87.3%	4,863	2	4,860	2	4	45	120,875	38,227
Cardinal Energy Ltd.	92.2%	4,288	3	3,510	4	778	3	263,147	54,596
TORC Oil & Gas Ltd.	0.0%	4,251	4	4,251	3	-	56	50,685	4,251
Gryphon Petroleum Corp.	0.0%	3,486	5	3,486	5	0	55	25,432	3,487
Canadian Natural Resources Limited	96.7%	3,182	6	3,098	6	84	14	503,957	95,531
Enerplus Corporation	96.1%	3,008	7	3,002	7	6	42	430,211	76,128
Cenovus Energy Inc.	98.1%	2,856	8	703	19	2,154	1	885,680	150,165
Connaught Oil & Gas Ltd.	0.0%	2,812	9	2,812	8	-	56	6,525	2,812
Spyglass Resources Corp.	87.0%	2,384	10	2,319	9	65	15	43,561	18,376
LGX Oil + Gas Inc.	26.6%	2,173	11	2,173	10	-	56	28,674	2,963
Husky Oil Operations Limited	96.2%	1,798	12	1,564	12	233	6	305,096	46,943
Harvest Operations Corp.	81.2%	1,671	13	1,634	11	38	21	114,946	8,879
Kainai Energy Corp.	0.0%	1,405	14	1,405	13	-	56	16,285	1,405
ARC Resources Ltd.	59.9%	1,302	15	1,301	14	1	47	29,108	3,247
City Of Medicine Hat	30.6%	1,161	16	260	29	901	2	20,104	1,672
Crescent Point Energy Corp.	51.3%	958	17	902	16	56	18	10,620	1,967
Penn West Petroleum Ltd.	90.5%	955	18	759	17	197	8	30,252	10,029
Ascensun Oil And Gas Ltd.	13.5%	941	19	941	15	-	56	14,663	1,087
Traverse Energy Ltd.	93.0%	757	20	729	18	28	25	21,051	10,878
Toro Oil & Gas Ltd.	25.4%	671	21	643	20	29	23	2,583	900
Journey Energy Inc.	98.6%	647	22	488	23	159	9	66,334	45,333
Canadian Oil & Gas International Inc.	39.8%	625	23	621	21	4	43	8,891	1,037
Anegada Energy Corp.	99.1%	620	24	508	22	112	12	84,738	72,020
Marquee Energy Ltd.	98.9%	562	25	247	32	315	4	73,674	49,751
Arsenal Energy Inc.	96.4%	463	26	463	24	-	56	43,466	12,947
Avalon Energy Ltd.	42.8%	426	27	426	25	1	51	6,928	745
TAQA North Ltd.	95.1%	342	28	233	33	109	13	57,067	6,958
ConocoPhillips Canada Energy Partnership	98.4%	308	29	-	54	308	5	52,447	18,797
Zargon Oil & Gas Ltd.	86.6%	287	30	287	26	-	56	36,715	2,140
Petro Viking Management Corp.	29.8%	272	31	272	27	-	56	1,056	387
Edge Resources Inc.	4.0%	261	32	261	28	-	56	4,554	272
Hemisphere Energy Corporation	97.7%	250	33	249	30	0	54	36,233	10,941
Chinook Energy Inc.	78.2%	247	34	247	31	-	56	6,115	1,135
Bonavista Energy Corporation	96.5%	204	35	4	51	200	7	52,426	5,865
Strategic Oil & Gas Ltd.	53.9%	184	36	69	42	114	11	2,586	399
Broadview Energy Ltd.	89.4%	175	37	155	34	20	27	6,349	1,653
Novus Energy Inc.	55.6%	171	38	141	36	31	22	923	386
Pengrowth Energy Corporation	99.1%	171	38	114	37	57	17	167,763	18,729
Blackspur Oil Corp.	98.1%	151	39	151	35	-	56	34,670	7,762

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Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Alberta Petroleum Energy Limited	14.5%	131	40	106	39	25	26	2,949	153
XTO Energy Canada	89.0%	123	41	108	38	15	34	4,555	1,112
Iberdrola Canada Energy Services Ltd.	98.7%	118	42	-	54	118	10	12,806	8,918
Baytex Energy Ltd.	96.5%	99	43	40	45	58	16	8,446	2,843
Standard Exploration Ltd.	34.3%	73	44	73	40	-	56	3,509	111
Convega Energy Ltd.	96.8%	71	45	71	41	-	56	1,755	2,215
NuVista Energy Ltd.	94.4%	60	46	45	44	15	33	1,812	1,080
Striker Exploration Corp.	0.0%	49	47	49	43	-	56	7	49
Sanford Petroleum Ltd.	94.4%	49	48	-	54	49	19	1,962	875
ConocoPhillips Canada Resources Corp.	99.0%	44	49	-	54	44	20	7,933	4,249
Tykwest Limited	73.7%	36	50	9	47	28	24	2,410	138
Successor Resources Ltd.	96.5%	21	51	4	50	17	29	1,634	610
Lightstream Resources Ltd.	82.1%	18	52	-	54	18	28	303	98
Raimount Energy Inc.	0.0%	16	53	16	46	-	56	58	16
Indra Oil & Gas Ltd.	0.0%	16	54	-	54	16	30	354	16
Arrow Point Oil & Gas Ltd.	87.9%	16	55	-	54	16	31	3,936	130
Ridal Resource Ltd.	0.0%	15	56	-	54	15	32	171	15
CQ Energy Canada Resources Partnership	99.6%	14	57	8	48	6	41	4,043	3,179
Tower Ridge Enterprises Corp.	73.5%	13	58	-	54	13	35	452	47
Deckland Inc.	88.0%	12	59	-	54	12	36	374	103
Taber Water Disposal Inc.	0.0%	11	60	-	54	11	37	621	11
935821 Alberta Ltd.	0.0%	8	61	-	54	8	38	1,295	8
Exall Energy Corporation	0.0%	8	62	-	54	8	39	740	8
Enercapita Energy Ltd.	0.0%	6	63	-	54	6	40	264	6
Goodland Energy Ltd.	0.0%	6	64	-	54	6	41	222	6
Surge Energy Inc.	85.4%	5	65	5	49	-	56	348	32
Signalta Resources Limited	99.0%	4	66	-	54	4	44	917	373
Canadian Coyote Energy Ltd.	79.1%	4	67	-	54	4	45	1,106	17
Questerre Energy Corporation	9.1%	3	68	-	54	3	46	539	3
Success Resources Ltd.	99.9%	3	68	3	52	-	56	2,530	3,383
Anterra Energy Inc.	0.0%	1	69	0	53	1	48	522	1
Band Energy Resources Ltd.	73.9%	1	70	-	54	1	48	301	5
Ruger Energy Inc.	87.9%	1	71	-	54	1	49	114	9
White Ram Resources Ltd.	42.9%	1	72	-	54	1	50	123	1
Richbar Energy Ltd.	99.5%	0	73	-	54	0	52	200	86
Ascent Energy Ltd.	99.2%	0	74	-	54	0	53	169	36
Corinthian Oil Corp.	100.0%	0	75	-	54	0	54	774	459
Writers Oil & Gas Limited	0.0%	0	76	0	53	-	56	44	0
1288131 Alberta Ltd.	100.0%	-	77	-	54	-	56	755	325
1506928 Alberta Ltd.	100.0%	-	77	-	54	-	56	1,026	1
Canamax Energy Ltd.	100.0%	-	77	-	54	-	56	667	41
Custom Energy Group Ltd.	100.0%	-	77	-	54	-	56	1,016	9
Edalis Energy Inc.	100.0%	-	77	-	54	-	56	510	7
International Frontier Resources Corporation	100.0%	-	77	-	54	-	56	2,092	190
Logic Energy Ltd.	100.0%	-	77	-	54	-	56	194	172

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Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Relentless Resources Ltd.	100.0%	-	77	-	54	-	56	5,509	1,987
Response Energy Corporation	100.0%	-	77	-	54	-	56	62	4
Sekur Energy Management Corp.	100.0%	-	77	-	54	-	56	211	13
Silver Bay Resources Ltd.	100.0%	-	77	-	54	-	56	24	15
Westdrum Energy Ltd.	100.0%	-	77	-	54	-	56	10	1
Totals for Medicine Hat	93.4%	57,546		51,026		6,520		3,935,965	877,497

¹Caution is required when comparing with last year's report due to corporate mergers, acquisitions, and divestments.

Field Centre Ranking of Operators – 2015 Flared + Vented Volume¹
Midnapore Crude Oil and Crude Bitumen Batteries for Alberta
Run Date: May 02, 2016

Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Kainai Energy Corp.	0.0%	3,498	1	3,498	1	-	64	6,540	3,498
Cenovus Energy Inc.	99.0%	2,656	2	57	27	2,599	1	400,755	271,985
Spyglass Resources Corp.	88.1%	2,474	3	2,437	2	36	32	56,788	20,733
Bearspaw Petroleum Ltd.	32.1%	1,834	4	1,832	3	2	56	9,890	2,700
TORC Oil & Gas Ltd.	3.1%	1,554	5	1,546	4	8	49	6,778	1,604
Journey Energy Inc.	97.7%	1,452	6	1,145	5	307	7	51,981	61,774
Husky Oil Operations Limited	98.8%	1,233	7	1,046	6	187	13	92,953	99,138
Crescent Point Energy Corp.	97.4%	936	8	694	7	242	10	94,629	36,263
ORLEN Upstream Canada Ltd.	93.3%	673	9	673	8	-	64	4,108	9,986
Lexin Resources Ltd.	94.2%	603	10	247	12	356	4	8,837	10,358
Manitok Energy Inc.	99.1%	584	11	454	9	130	19	42,610	65,027
Bonavista Energy Corporation	99.5%	542	12	67	25	475	2	80,735	99,714
TAQA North Ltd.	98.6%	459	13	17	33	443	3	50,444	31,813
Wolf Coulee Resources Inc.	96.4%	388	14	375	10	13	44	10,839	10,842
Canadian Natural Resources Limited	99.2%	382	15	159	16	223	11	164,463	46,264
Canadian Oil & Gas International Inc.	53.5%	372	16	20	31	352	5	10,216	799
Arrow Point Oil & Gas Ltd.	70.7%	328	17	-	43	328	6	13,506	1,118
Huron Resources Corp.	0.0%	290	18	290	11	-	64	139	290
Firenze Energy Ltd.	80.2%	283	19	27	29	256	8	17,152	1,425
Long Term Asset Management Inc.	54.9%	258	20	168	15	90	25	1,847	572
ConocoPhillips Canada (BRC) Partnership	95.1%	251	21	-	43	251	9	3,871	5,169
Pengrowth Energy Corporation	99.9%	237	22	205	14	32	33	164,779	195,011
Bernum Petroleum Ltd.	29.9%	235	23	235	13	-	64	682	335
Tamarack Acquisition Corp.	96.6%	211	24	-	43	211	12	5,966	6,171
Harvest Operations Corp.	98.9%	186	25	129	17	57	30	25,893	16,447
Cardinal Energy Ltd.	97.3%	183	26	0	42	183	14	26,910	6,871
Surge Energy Inc.	46.6%	181	27	65	26	116	21	2,626	340
ExxonMobil Canada Ltd. & ExxonMobil Resources Comp	98.3%	157	28	78	22	79	27	101,957	9,480
Ridal Resource Ltd.	0.0%	149	29	-	43	149	15	1,304	149
Thoroughbred Energy Ltd.	11.5%	144	30	-	43	144	16	2,922	163
Alder Ridge Resources Ltd.	96.5%	142	31	-	43	142	17	5,687	4,071
ConocoPhillips Canada Energy Partnership	98.0%	136	32	2	39	135	18	9,786	6,669
Traverse Energy Ltd.	99.1%	134	33	71	24	64	29	6,038	14,899
Encana Corporation	99.7%	131	34	2	38	128	20	31,958	44,050
Canamax Energy Ltd.	95.0%	117	35	106	18	11	46	2,174	2,341
Signalta Resources Limited	43.0%	115	36	-	43	115	22	2,182	202
Triaxon Oil Operations Ltd.	0.0%	113	37	-	43	113	23	728	113
Marquee Energy Ltd.	98.7%	103	38	75	23	28	34	16,943	7,706
Lone Pine Resources Canada Ltd.	86.0%	97	39	97	19	-	64	1,521	691
Kaiser Exploration Ltd.	59.8%	94	40	-	43	94	24	155	233

¹ Caution is required when comparing with last year's report due to corporate mergers, acquisitions, and divestments.

Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Legacy Oil + Gas Inc.	99.7%	90	41	90	20	-	64	89,364	28,441
Zargon Oil & Gas Ltd.	99.3%	85	42	85	21	-	64	31,579	11,462
Iberdrola Canada Energy Services Ltd.	90.9%	79	43	-	43	79	26	744	867
Silver Blaze Energy Ltd.	68.0%	65	44	-	43	65	28	310	203
Standard Exploration Ltd.	55.2%	45	45	-	43	45	31	563	101
Concerto Resources Ltd.	48.5%	44	46	44	28	-	64	113	86
Sphere Energy Corp.	90.0%	42	47	15	34	27	35	1,810	417
Baytex Energy Ltd.	98.8%	29	48	24	30	5	53	8,911	2,345
Shanpet Resources Ltd.	0.0%	26	49	-	43	26	36	993	26
545279 Alberta Limited	0.0%	25	50	-	43	25	37	178	25
Vermilion Energy Inc.	0.0%	24	51	-	43	24	38	86	24
NEO Exploration Inc.	76.1%	23	52	11	35	11	45	573	95
Enercapita Energy Ltd.	32.4%	19	53	-	43	19	39	70	28
Indra Oil & Gas Ltd.	0.0%	19	54	19	32	-	64	469	19
Wilcox Energy Corp.	49.0%	18	55	3	37	15	42	441	35
Avalon Energy Ltd.	94.9%	16	56	-	43	16	40	247	304
LGX Oil + Gas Inc.	99.6%	15	57	-	43	15	41	1,782	3,377
White Ram Resources Ltd.	61.7%	14	58	-	43	14	43	57	36
Anterra Energy Inc.	98.9%	12	59	11	36	1	59	1,179	1,107
Forent Energy Ltd.	97.8%	11	60	-	43	11	47	1,221	488
ARC Resources Ltd.	94.9%	9	61	1	40	8	48	456	176
Second Wave Petroleum Inc.	0.0%	5	62	-	43	5	50	360	5
Jast Energy Ltd.	80.9%	5	63	-	43	5	51	280	26
Hard Rock Resources Ltd.	52.9%	5	64	-	43	5	52	622	10
TimberRock Energy Corp.	99.3%	3	65	-	43	3	54	1,062	445
Blackspur Oil Corp.	100.0%	3	66	-	43	3	55	19,010	20,556
ConocoPhillips Western Canada Partnership	99.7%	2	67	-	43	2	57	103	582
Questfire Energy Corp.	99.8%	2	68	-	43	2	58	58	965
The Locke Stock & Barrel Company Ltd.	0.0%	1	69	-	43	1	60	265	1
Bellatrix Exploration Ltd.	99.9%	1	70	-	43	1	61	91	1,639
Corval Energy Ltd.	99.7%	1	71	-	43	1	62	1,109	247
Steppe Petroleum Inc.	99.7%	0	72	0	41	-	64	242	114
Caltex Resources Ltd.	0.0%	0	73	-	43	0	63	81	0
AltaGas Ltd.	100.0%	-	74	-	43	-	64	1,212	1,494
Connaught Oil & Gas Ltd.	100.0%	-	74	-	43	-	64	165	20
CQ Energy Canada Resources Partnership	100.0%	-	74	-	43	-	64	273	106
Edalis Energy Inc.	100.0%	-	74	-	43	-	64	2,323	818
Logic Energy Ltd.	100.0%	-	74	-	43	-	64	6,721	9,982
Mika Resources Ltd	100.0%	-	74	-	43	-	64	51	288
Petro Viking Management Corp.	100.0%	-	74	-	43	-	64	135	1
Rockbridge Energy Alberta Inc.	100.0%	-	74	-	43	-	64	98	86
Verity Energy Ltd.	0.0%	-	74	-	43	-	64	4	-
Westdrum Energy Ltd.	100.0%	-	74	-	43	-	64	226	154
Whitecap Resources Inc.	0.0%	-	74	-	43	-	64	17	-
Totals for Midnapore	97.9%	24,651		16,118		8,533		1,714,947	1,184,215

¹ Caution is required when comparing with last year's report due to corporate mergers, acquisitions, and divestments.

Field Centre Ranking of Operators – 2015 Flared + Vented Volume¹
Red Deer Crude Oil and Crude Bitumen Batteries for Alberta
Run Date: May 02, 2016

Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Pengrowth Energy Corporation	97.9%	6,778	1	6,525	1	253	14	298,540	321,965
Bearspaw Petroleum Ltd.	34.3%	4,028	2	4,023	2	5	63	40,187	6,132
Bellatrix Exploration Ltd.	99.5%	2,273	3	1,259	3	1,014	2	127,099	441,310
Bonavista Energy Corporation	98.8%	2,196	4	1,151	5	1,045	1	121,461	175,259
Penn West Petroleum Ltd.	99.5%	1,555	5	1,228	4	327	12	345,964	300,529
NAL Resources Limited	99.0%	1,497	6	1,066	6	431	11	148,834	151,099
Whitecap Resources Inc.	99.5%	1,477	7	883	9	594	4	480,699	309,210
ConocoPhillips Western Canada Partnership	99.0%	1,078	8	1,054	7	24	45	112,116	107,757
Crescent Point Energy Corp.	84.0%	1,022	9	1,014	8	9	60	16,591	6,400
Canadian Natural Resources Limited	99.6%	894	10	425	12	469	7	137,042	196,822
Tamarack Acquisition Corp.	96.8%	834	11	307	16	527	6	45,232	25,850
Anderson Energy Inc.	98.3%	687	12	119	27	568	5	46,933	40,412
Ember Resources Inc.	83.9%	666	13	17	51	649	3	15,448	4,139
TAQA North Ltd.	99.4%	644	14	211	21	434	10	142,610	114,716
Striker Exploration Corp.	95.0%	508	15	497	10	11	57	31,732	10,224
Husky Oil Operations Limited	99.1%	489	16	21	48	468	8	48,966	53,793
Surge Energy Inc.	98.0%	483	17	21	47	462	9	22,447	24,227
Baccalieu Energy Inc.	97.6%	453	18	429	11	24	46	26,177	18,509
Triaxon Oil Operations Ltd.	97.4%	392	19	344	15	47	33	46,420	14,774
Grandview Exploration Inc.	54.4%	375	20	347	14	28	43	5,920	823
ORLEN Upstream Canada Ltd.	99.4%	356	21	356	13	-	80	36,561	58,593
Mancal Energy Inc.	0.0%	319	22	300	17	18	51	6,056	319
Omers Energy Inc.	99.8%	302	23	216	20	86	23	45,054	176,795
Relentless Resources Ltd.	69.9%	284	24	284	18	-	80	874	944
Vesta Energy Ltd.	95.9%	277	25	54	34	222	16	17,492	6,670
Yangarra Resources Corp.	99.7%	266	26	17	52	249	15	40,995	84,276
Shackleton Exploration Ltd.	61.4%	261	27	259	19	2	71	1,627	676
Signalta Resources Limited	87.7%	257	28	157	23	101	21	2,851	2,086
Hard Rock Resources Ltd.	3.4%	255	29	-	71	255	13	1,198	264
Lightstream Resources Ltd.	99.0%	230	30	12	55	219	17	11,930	23,730
Coda Petroleum Inc.	97.7%	217	31	180	22	37	37	19,023	9,539
Butte Energy Inc.	0.0%	215	32	-	71	215	18	74	215
Apache Canada Ltd.	99.8%	190	33	1	68	190	19	25,203	91,030
ExxonMobil Canada Ltd. & ExxonMobil Resources Comp	99.8%	188	34	142	24	47	34	158,027	106,893
1851328 Alberta Ltd.	96.1%	173	35	123	26	49	30	5,929	4,443
Harvest Operations Corp.	99.8%	150	36	3	64	147	20	40,389	60,375
Alexander Oilfield Services Ltd.	70.2%	133	37	133	25	-	80	1,101	447
Tournament Exploration Ltd.	99.8%	133	38	101	28	32	39	24,269	69,737
Manitok Energy Inc.	99.9%	115	39	38	41	77	25	152,528	76,037
Canadian Oil & Gas International Inc.	99.0%	107	40	27	45	81	24	41,132	11,079

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Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Eagle-Coda Petroleum Inc.	98.1%	92	41	81	30	10	58	8,210	4,898
ConocoPhillips Canada Energy Partnership	99.6%	91	42	38	39	53	29	34,577	22,946
Iberdrola Canada Energy Services Ltd.	98.1%	87	43	-	71	87	22	7,932	4,471
Enhance Energy Inc.	99.4%	83	44	83	29	-	80	49,603	14,864
Velvet Energy Ltd.	95.6%	82	45	6	61	76	26	2,932	1,865
1576442 Alberta Ltd.	99.4%	81	46	77	31	4	66	4,364	14,226
Sun Century Petroleum Corporation	52.5%	75	47	47	35	28	42	441	158
CQ Energy Canada Resources Partnership	99.8%	73	48	24	46	49	31	106,180	31,563
Summerland Energy Inc.	98.2%	72	49	67	33	5	64	8,887	3,888
Baccalieu Energy Inc.	99.7%	71	50	-	71	71	27	15,203	22,911
Questfire Energy Corp.	99.6%	70	51	68	32	3	70	6,959	18,815
Bonterra Energy Corp.	99.6%	69	52	38	41	31	40	2,659	15,912
ConocoPhillips Canada (BRC) Partnership	99.9%	64	53	1	67	64	28	21,417	44,156
Waldron Energy Corporation	99.0%	56	54	45	36	11	55	5,894	5,333
Sekur Energy Management Corp.	17.3%	54	55	10	58	44	35	319	66
Forent Energy Ltd.	96.0%	51	56	38	40	14	53	3,540	1,296
Range 3 Inc.	20.2%	51	56	3	64	48	32	143	64
Sitka Exploration Ltd.	99.2%	45	57	1	66	44	35	3,946	5,720
Quattro Exploration and Production Ltd.	99.3%	43	58	43	37	-	80	11,063	6,290
South Ridge Management Ltd.	0.0%	39	59	39	38	-	80	253	39
Golden Spike Energy Inc.	31.5%	39	60	-	71	39	36	364	57
Westdrum Energy Ltd.	91.8%	38	61	4	63	34	38	905	462
Artisan Energy Corporation	94.9%	33	62	32	42	0	78	2,361	638
Fogo Energy Corp.	17.9%	31	63	31	43	-	80	253	38
Enerplus Corporation	98.6%	30	64	-	71	30	41	2,189	2,146
TimberRock Energy Corp.	62.5%	30	65	14	53	15	52	126	79
Rally Canada Resources Ltd.	99.7%	28	66	28	44	-	80	17,506	9,009
Hyperion Exploration Corp.	98.7%	24	67	-	71	24	44	1,252	1,820
Glencoe Resources Ltd.	100.0%	23	68	0	70	23	48	20,619	149,178
Vermilion Energy Inc.	98.8%	23	68	-	71	23	47	1,334	1,943
Steppe Petroleum Inc.	0.0%	21	69	21	49	-	80	281	21
Sogar Resources Ltd.	99.1%	20	70	-	71	20	49	829	2,316
Encana Corporation	88.1%	18	71	13	54	6	62	842	154
Silver Blaze Energy Ltd.	37.2%	18	72	-	71	18	50	93	29
Gamet Resources Ltd.	74.3%	18	73	18	50	-	80	584	69
Baytex Energy Ltd.	99.5%	13	74	-	71	13	54	3,458	2,572
Paramount Resources Ltd.	99.9%	12	75	9	59	3	68	14,660	9,550
Journey Energy Inc.	99.8%	11	76	-	71	11	56	10,782	5,914
Kaiser Exploration Ltd.	98.1%	11	76	-	71	11	56	664	604
Tanager Energy Inc.	0.0%	11	77	11	56	-	80	30	11
Huron Resources Corp.	0.0%	11	78	11	57	-	80	73	11
Tykewest Limited	91.1%	9	79	-	71	9	59	482	105
Long Run Exploration Ltd.	99.5%	9	80	7	60	3	69	1,246	1,774
Chinook Energy Inc.	98.6%	7	81	-	71	7	61	431	505
Mato Inc.	99.6%	5	82	-	71	5	65	400	1,126

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Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Firenze Energy Ltd.	99.7%	4	83	4	62	-	80	1,906	1,350
Shanpet Resources Ltd.	84.3%	3	84	-	71	3	67	186	22
Forge Oil & Gas Limited	0.0%	2	85	2	65	-	80	9	2
Rock Energy Inc.	99.9%	2	86	-	71	2	71	946	3,097
First Mountain Exploration Inc.	99.2%	2	87	-	71	2	72	336	234
Arrow Point Oil & Gas Ltd.	99.6%	2	88	-	71	2	73	782	358
Tri-Ment Corporation Ltd.	44.8%	2	88	-	71	2	73	21	3
Goldenkey Oil Inc.	100.0%	-	89	-	71	1	74	7,040	4,484
Terra Energy Corp.	0.0%	1	90	1	67	0	77	508	1
Trident Exploration (Alberta) Corp.	98.2%	1	91	-	71	1	75	4	61
South Bay Resources Canada, ULC	96.5%	1	92	0	70	1	76	1,193	29
KinMerc Oil & Gas Inc.	66.7%	0	93	0	69	-	80	282	1
New North Resources Ltd.	100.0%	0	94	-	71	0	77	262	767
Caltex Resources Ltd.	100.0%	0	95	-	71	0	79	1,679	1,534
NEO Exploration Inc.	98.6%	0	95	-	71	0	79	111	7
1764821 Alberta Ltd.	100.0%	-	96	-	71	-	80	3,808	98
ARC Resources Ltd.	100.0%	-	96	-	71	-	80	-	1
Arsenal Energy Inc.	100.0%	-	96	-	71	-	80	520	506
Artis Exploration Ltd.	100.0%	-	96	-	71	-	80	2,032	55
Bashaw Oil Corp.	100.0%	-	96	-	71	-	80	1,924	290
Camino Industries Inc.	100.0%	-	96	-	71	-	80	120	135
Canadian Coyote Energy Ltd.	100.0%	-	96	-	71	-	80	161	272
Canyon Oil & Gas Corporation	100.0%	-	96	-	71	-	80	82	581
Clearbrook Resources Inc.	0.0%	-	96	-	71	-	80	32	-
Coastal Resources Limited	100.0%	-	96	-	71	-	80	72	2
Corse Energy Corp.	100.0%	-	96	-	71	-	80	605	1,073
EOG Canada Oil & Gas Inc.	100.0%	-	96	-	71	-	80	813	186
EOG Canada Oil & Gas ULC	100.0%	-	96	-	71	-	80	294	212
Ferrybank Resources Ltd.	100.0%	-	96	-	71	-	80	1,338	577
Incipient Exploration Ltd.	100.0%	-	96	-	71	-	80	25	34
Just Freehold Energy Corp.	100.0%	-	96	-	71	-	80	110	78
Knowledge Energy Inc.	100.0%	-	96	-	71	-	80	384	2,159
Logic Energy Ltd.	100.0%	-	96	-	71	-	80	5,731	883
Marquee Energy Ltd.	100.0%	-	96	-	71	-	80	2,157	2,853
Milen's Oilfield Enterprises Ltd.	100.0%	-	96	-	71	-	80	116	2,317
Mosaic Energy Ltd.	100.0%	-	96	-	71	-	80	2,416	2,502
Nytis Exploration Company Inc.	100.0%	-	96	-	71	-	80	308	61
Owl River Resources Ltd.	100.0%	-	96	-	71	-	80	235	548
Petromin Resources Ltd.	100.0%	-	96	-	71	-	80	253	214
Redwater Energy Corp.	100.0%	-	96	-	71	-	80	250	51
Regent Resources Ltd.	100.0%	-	96	-	71	-	80	6,815	2,837
RMP Energy Inc.	100.0%	-	96	-	71	-	80	376	2,110
Rockbridge Energy Alberta Inc.	100.0%	-	96	-	71	-	80	60	0
Sifton Petroleum Inc.	100.0%	-	96	-	71	-	80	1,699	1,213
Spry2 Energy Inc.	100.0%	-	96	-	71	-	80	775	2,345

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Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Superman Resources Inc.	100.0%	-	96	-	71	-	80	22	304
ZNX Energy Ltd.	100.0%	-	96	-	71	-	80	1,810	1,772
Totals for Red Deer	99.0%	34,623		24,258		10,367		3,319,622	3,555,924

¹Caution is required when comparing with last year's report due to corporate mergers, acquisitions, and divestments.

Field Centre Ranking of Operators – 2015 Flared + Vented Volume¹
Wainwright Crude Oil and Crude Bitumen Batteries for Alberta
Run Date: May 02, 2016

Company	Gas cons	Gas flared + vented (1000 m³)	Gas flared + vented rank	Gas flared (1000 m³)	Flare Rank	Gas vented (1000 m³)	Vent rank	Oil prod (m³)	Sol'n gas prod (1000 m³)
Husky Oil Operations Limited	54.9%	46,530	1	1,814	9	44,716	1	1,210,846	103,071
Canadian Natural Resources Limited	75.2%	16,427	2	104	34	16,323	2	310,318	66,305
Devon Canada	52.8%	14,539	3	-	56	14,539	3	211,653	30,820
Twin Butte Energy Ltd.	84.4%	10,456	4	6,792	2	3,665	6	565,159	66,932
Gear Energy Ltd.	61.9%	9,011	5	15	47	8,996	4	215,397	23,653
Cardinal Energy Ltd.	56.1%	7,260	6	1,904	8	5,356	5	314,298	16,538
Novus Energy Inc.	33.6%	7,204	7	7,204	1	-	69	7,238	10,854
Repsol Oil & Gas Canada Inc.	83.4%	4,637	8	2,212	7	2,425	7	565,299	27,918
Apache Canada Ltd.	94.4%	4,098	9	2,486	5	1,612	8	210,284	73,720
Penn West Petroleum Ltd.	82.0%	3,438	10	2,974	3	464	16	111,846	19,125
Harvest Operations Corp.	91.7%	3,280	11	2,749	4	531	14	286,520	39,339
Surge Energy Inc.	86.8%	2,602	12	2,462	6	140	30	166,792	19,653
Crescent Point Energy Corp.	95.5%	1,935	13	1,785	10	150	29	132,375	42,830
Deltastream Energy Corporation	50.0%	1,732	14	591	16	1,142	9	21,291	3,463
Arsenal Energy Inc.	63.5%	1,586	15	1,291	11	295	21	45,922	4,350
Crew Energy Inc.	86.1%	1,031	16	457	20	574	12	92,990	7,407
Palliser Oil & Gas Corporation	16.8%	984	17	10	48	974	10	9,935	1,183
Spur Resources Ltd.	97.6%	889	18	380	22	510	15	67,997	37,474
Long Run Exploration Ltd.	78.7%	887	19	350	23	537	13	9,898	4,158
Spyglass Resources Corp.	93.6%	827	20	827	12	0	65	13,173	12,879
Perpetual Energy Operating Corp.	97.8%	727	21	-	56	727	11	93,763	33,616
Verity Energy Ltd.	0.0%	707	22	675	13	32	47	1,519	707
Rolling Hills Energy Ltd.	87.0%	622	23	604	15	18	51	7,756	4,788
Toro Oil & Gas Ltd.	85.7%	613	24	537	18	76	36	15,467	4,298
Anegada Energy Corp.	7.6%	605	25	605	14	-	69	768	655
Goldenkey Oil Inc.	58.3%	541	26	388	21	153	28	1,164	1,299
Fort Calgary Resources Ltd.	72.4%	541	27	92	35	449	17	8,903	1,959
Bow River Energy Ltd.	35.7%	539	28	539	17	-	69	24,951	837
Broadview Energy Ltd.	92.5%	493	29	491	19	2	59	24,464	6,585
Lone Pine Resources Canada Ltd.	88.8%	385	30	-	56	385	18	8,644	3,438
Pengrowth Energy Corporation	96.1%	356	31	267	28	89	34	98,014	9,183
Rally Canada Resources Ltd.	44.0%	339	32	339	24	-	69	3,148	606
Bering Exploration Company, ULC	81.4%	324	33	290	25	33	45	16,030	1,743
Ener T Corporation	0.0%	320	34	-	56	320	19	4,909	320
Dark Warrior Resources Ltd.	0.0%	303	35	-	56	303	20	4,104	303
Marquee Energy Ltd.	85.8%	293	36	1	53	292	22	37,341	2,066
Westdrum Energy Ltd.	27.3%	280	37	280	26	-	69	970	385
Rifle Shot Oil Corp.	7.4%	274	38	274	27	-	69	5,546	296
Canuck North Resources Ltd.	0.0%	256	39	-	56	256	23	1,177	256
Sojourn Energy Inc.	0.0%	254	40	-	56	254	24	9,783	254

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Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Enerplus Corporation	95.3%	235	41	208	30	27	49	121,150	5,044
Caltex Resources Ltd.	90.6%	220	42	37	41	182	27	21,540	2,341
Iberdrola Canada Energy Services Ltd.	0.0%	217	43	217	29	-	69	3,319	217
Taku Gas Limited	38.7%	192	44	-	56	192	25	4,123	313
Teric Power Ltd.	0.0%	192	45	192	31	-	69	143	192
Copper Island Resources Ltd.	90.2%	189	46	-	56	189	26	2,608	1,931
Zargon Oil & Gas Ltd.	97.2%	185	47	176	32	9	53	36,763	6,584
Brahma Resources Ltd.	77.7%	131	48	-	56	131	31	5,986	586
Goodland Energy Ltd.	48.7%	127	49	121	33	6	56	2,272	247
ConocoPhillips Canada (BRC) Partnership	97.7%	117	50	3	51	114	32	47,681	5,013
Zeal Energy Inc.	61.4%	104	51	-	56	104	33	764	270
Kairos Resources (2011) Ltd.	7.3%	88	52	-	56	88	35	704	95
Sekur Energy Management Corp.	60.1%	85	53	85	36	-	69	2,293	212
Magnum Energy Inc.	86.8%	83	54	26	43	56	38	2,234	626
1576442 Alberta Ltd.	11.2%	76	55	76	37	-	69	1,562	85
Rife Resources Ltd.	96.8%	76	56	34	42	42	42	40,689	2,382
Forent Energy Ltd.	31.3%	70	57	39	40	31	48	2,223	102
1316751 Alberta Ltd.	27.4%	70	58	70	38	-	69	848	96
Rockeast Energy Corp.	96.0%	60	59	60	39	-	69	13,393	1,492
Top Oil Production Ltd.	84.7%	58	60	-	56	58	37	1,021	378
Response Energy Corporation	65.5%	52	61	-	56	52	39	2,674	151
Croverro Energy Ltd.	0.0%	45	62	-	56	45	40	1,788	45
Topanga Resources Ltd.	61.7%	43	63	-	56	43	41	1,716	111
Canadian Coyote Energy Ltd.	95.2%	41	64	18	45	22	50	5,960	848
Petrocapita GP I Ltd.	95.6%	38	65	-	56	38	43	9,686	873
611890 Alberta Inc.	0.0%	34	66	-	56	34	44	3,743	34
Barcomp Petroleum Ltd.	0.0%	32	67	-	56	32	46	6,483	32
Venturion Oil Limited	99.2%	22	68	22	44	0	68	124,456	2,651
Spry2 Energy Inc.	99.9%	17	69	-	56	17	52	6,433	11,790
Jayhawk Resources Ltd.	0.0%	16	70	16	46	-	69	171	16
Sun Century Petroleum Corporation	98.3%	11	71	9	49	2	60	7,016	616
RON Resources Ltd.	99.2%	8	72	-	56	8	54	573	1,020
Jast Energy Ltd.	80.5%	7	73	7	50	-	69	1,546	37
Tuscany Energy Ltd.	31.3%	7	74	-	56	7	55	2,269	10
TAQA North Ltd.	97.2%	5	75	-	56	5	57	3,247	180
Bridgeoil Corporation	0.0%	4	76	-	56	4	58	-	4
Pennine Petroleum Corporation	98.4%	2	77	-	56	2	60	656	111
Wildcat Rentals Ltd.	82.9%	1	78	-	56	1	61	1,488	7
MKE Canada Ltd.	33.3%	1	78	1	52	-	69	221	2
Sahara Energy Ltd.	0.0%	1	79	-	56	1	62	289	1
Roswell Petroleum Corporation	95.1%	1	80	-	56	1	63	353	14
Five O Oil & Gas Ltd.	0.0%	1	80	-	56	1	63	167	1
Omers Energy Inc.	100.0%	1	81	-	56	1	64	484	3,250
Alston Energy Inc.	99.9%	0	82	-	56	0	65	1,667	629
Signa Oilfield Canada Inc.	0.0%	0	83	-	56	0	66	102	0

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Company	Gas cons	Gas flared + vented (1000 m ³)	Gas flared + vented rank	Gas flared (1000 m ³)	Flare Rank	Gas vented (1000 m ³)	Vent rank	Oil prod (m ³)	Sol'n gas prod (1000 m ³)
Gunnarr Resources Inc.	96.3%	0	83	-	56	0	66	861	8
Altura Energy Inc.	100.0%	0	83	-	56	0	66	18,377	3,196
Rock Energy Inc.	98.8%	0	84	-	56	0	67	148	17
LOF Energy Ltd.	0.0%	0	84	0	55	0	68	81	0
Enercapita Energy Ltd.	99.8%	0	84	0	54	-	69	56	125
White Ram Resources Ltd.	100.0%	-	85	-	56	-	69	112	219
Wescan Energy Corp.	100.0%	-	85	-	56	-	69	3,045	808
Waldron Energy Corporation	100.0%	-	85	-	56	-	69	126	113
Vital Energy Inc.	100.0%	-	85	-	56	-	69	577	2
Unit 18 Corp.	100.0%	-	85	-	56	-	69	14,205	96
Striker Exploration Corp.	100.0%	-	85	-	56	-	69	16,582	11,685
Raging River Exploration Inc.	100.0%	-	85	-	56	-	69	1,260	909
Questfire Energy Corp.	100.0%	-	85	-	56	-	69	143	467
Northern Utilities (sask.) Ltd.	100.0%	-	85	-	56	-	69	194	1
Nextraction Energy Corp.	100.0%	-	85	-	56	-	69	51	3
Kasten Energy Inc.	100.0%	-	85	-	56	-	69	1,613	366
InPlay Oil Corp.	100.0%	-	85	-	56	-	69	5,855	2,804
Innes Oilfield Services Ltd.	0.0%	-	85	-	56	-	69	6	-
High Ground Energy Inc.	100.0%	-	85	-	56	-	69	864	936
Hawk Exploration Ltd.	100.0%	-	85	-	56	-	69	12,331	1,258
Freemont Resources Ltd.	100.0%	-	85	-	56	-	69	2,352	5
Fox Creek Petroleum Corp.	100.0%	-	85	-	56	-	69	38	12
Big Lake Energy Ltd.	0.0%	-	85	-	56	-	69	23	-
Baytex Energy Ltd.	100.0%	-	85	-	56	-	69	2,577	50
Avalon Oil & Gas Ltd.	100.0%	-	85	-	56	-	69	6,206	536
Totals for Wainwright	80.1%	151,087		43,204		107,883		5,519,836	759,515

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