Energy Briefing Note

Short-term Western Canadian Conventional, Tight and Shale Oil Deliverability 2015 - 2017

Appendices

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CO_2	Carbon dioxide
EIA	Energy Information Administration
EOR	Enhanced oil recovery
FID	Final investment decision
IP	Initial Production
LNG	Liquefied natural gas
MSW	Mixed Sweet Blend
NEB	National Energy Board
NGLs	Natural gas liquids
SAGD	Steam-assisted gravity drainage
WCS	Western Canadian Select
WCSB	Western Canada Sedimentary Basin
WTI	West Texas Intermediate

Units

m^3	cubic metres
bbl	barrel
m^3/d	cubic metres per day
$10^3m^3/d$	thousand cubic metres per day
$10^6m^3/d$	million cubic metres per day
bbl/d	barrel per day
MMb/d	million barrels per day

Common Oil Conversion Factor

1.0 m^3 = 6.2898108 bbl [1]

1 Energy Conversion Tables

Appendix A

A1 Methods (Detailed Description)

Deliverability is the future projection of production capability from a group of wells as determined by the production characteristics of each well, not accounting for reductions in actual production due to weather conditions, low oil prices, equipment failure, or other potential production interruptions. Total deliverability is the production capability of a well multiplied by the expected number of wells. The oil price outlook applied to overall production provides the revenue available to the industry. The reinvestment of a portion of the revenue as capital expenditures enables the industry to drill new wells. The capital expenditures divided by the daily cost of drilling provides the number of drill days available in a year. The number of new wells drilled in each year is equal to the number of drill days per year, divided by the number of days required to drill and complete an average well. The projected production performance of an average well is based on historical performance, specifically on how the initial production (IP) rates and decline rates change over time.

For this analysis, western Canada is disaggregated into groupings based on geography and stratigraphy. The number of producing wells and well performance, both historical and projected, are analysed for each grouping and their deliverability calculated. The deliverability projections for all groupings are then summed to determine total western Canadian deliverability. Details on how the Board disaggregates western Canada into groupings are in Appendix A1.1. The methods used to determine well performance are discussed in Appendix A1.2. The results for each grouping, including IP rates and decline parameters, are provided in Appendix B and Appendix C.

A1.1 Groupings for Production Decline Analysis

To assess oil deliverability for western Canada, oil production and wells are split into various categories as shown in Figure A1.2. Splitting out western Canada by area, class, type, and grouped geological formations resulted in 250 total groupings, which are listed in Appendix A3.2. Of the 250 groupings, approximately 150 have, or have had, producing wells and thus historical production data. The remaining groupings are placeholders for potential future development.

FIGURE A1.1

Overall Deliverability Method

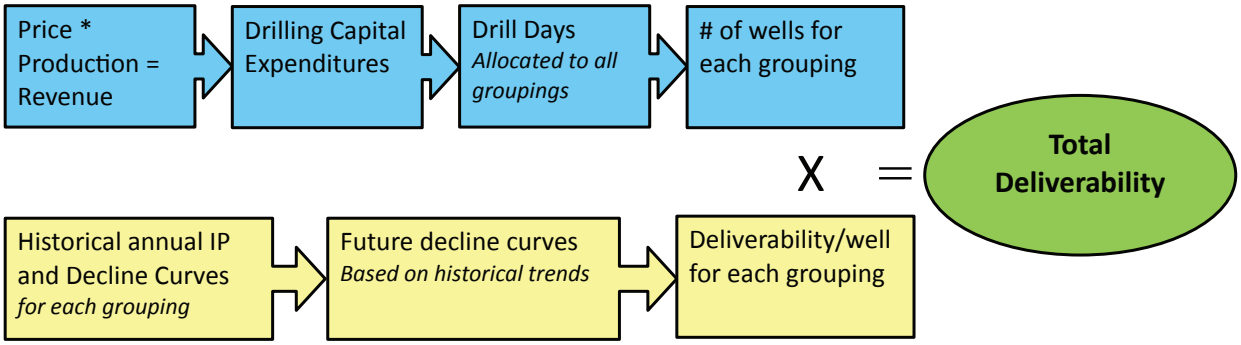
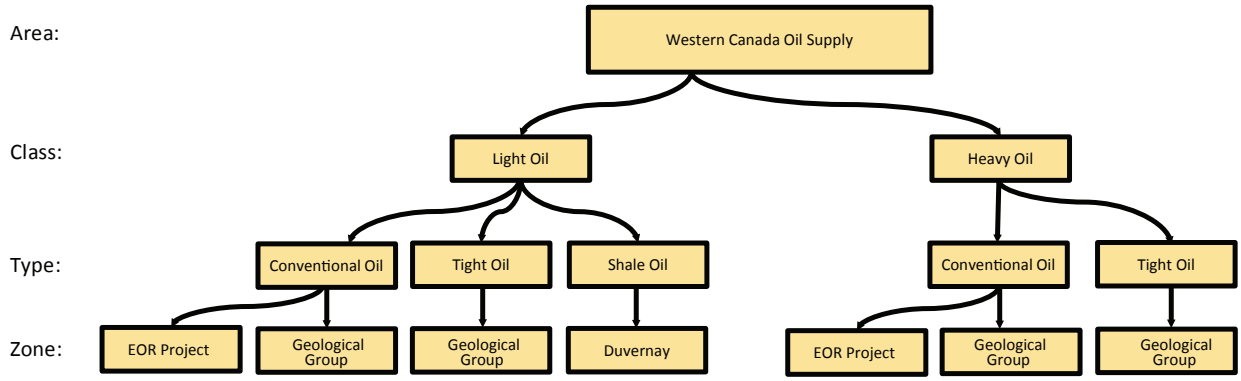


FIGURE A1.2

WCSB Oil Supply Categories for Deliverability Assessment



A1.1.1 Oil Areas

Oil wells and production are grouped geographically based on petroCUBE[1] area for Alberta, B.C., Saskatchewan, and Manitoba, as shown in Figure A1.3. The Lloydminster area is further broken down by province. There are 10 areas in Alberta and three in Saskatchewan. Northeast BC is considered one area, as is Southwest Manitoba.

1 PetroCUBE is an online production analysis service, from geoLOGIC Systems.

FIGURE A1.3

Western Canada Oil Areas Map

A1.1.2 Class – Light or Heavy

Each provincial regulator has its own criteria for classifying crude oil as light, heavy, extra-heavy, or medium. For this report, consistent with NEB practice, oil production has been categorized into only two classes: light and heavy.

B.C. oil production with a density of less than 900 kg/m^3 (25.6 °API[2]) is classified as light, and oil with a density of more than 900 kg/m^3 is classified as heavy. If the density information is missing for a well, it is classified based on other wells in the same pool. The same criteria were used to classify oil wells in Alberta.

The classification of Saskatchewan oil wells is based on their oil density and geographic area. Lloydminster wells have historically been classified by the Saskatchewan regulator as heavy when their oil production has a density greater than 945 kg/m^3 (18.1 °API). Light oil in the Kindersley area has a density ranging between 840 and 875 kg/m^3(36.8 and 30.1 °API), while heavy oil in this area ranges between 949 and 996 kg/m^3 (17.5 and 10.4 °API). Swift Current area wells with oil densities ranging between 885 and 997 kg/m^3 (28.2 and 10.3 °API), are classified as medium by the provincial regulator,

2 The American Petroleum Institute gravity, or API gravity, is a measure of how heavy or light a petroleum liquid is compared to water.

but for this report they are classified as heavy for greater consistency with the categories of other provinces. Oil wells in the Estevan/Weyburn area that are classified as light by the provincial regulator were also classified as light in this report, and have oil densities ranging from 760 to 896 kg/m^3 (54.5 and 26.3 °API). Estevan/Weyburn wells classified as medium by the provincial regulator are classified in this report as heavy if the well is a conventional oil well and light if the well is a tight oil well because crude oil developed like tight oil in Saskatchewan tends to be on the much lighter side of medium (see section A1.1.2 for information on well types). Historically, these wells have had densities ranging from 827 to 956 kg/m^3 (39.4 and 16.4 °API). Wells with missing classification or density information are classified as light or heavy based on the area.

All oil wells in Manitoba are classified as light. Oil densities in Manitoba have ranged between 838 and 903 kg/m^3 (37.2 and 25.0 °API).

A1.1.3 Type – Conventional, Tight or Shale

For this report's purposes, once an oil well is classified as light or heavy, it is further categorized as either conventional, tight, or shale.

An oil well is classified as tight if it is a horizontal well that produces from the following formations and was drilled after a certain date:

- **Bakken/Three Forks/Torquay:** after 2004; MB, SK (Estevan) or AB; Bakken,Torquay and Exshaw Formations,
- **Beaverhill:** after 2008 in AB; Beaverhill Lake Group or Swan Hills Formation (not the Slave Point Formation),
- **Belly River:** after 2009 in AB; Belly River Group,
- **Cardium:** after 2007 in AB; Cardium Formation,
- **Charlie Lake:** after 2008 in AB; Charlie Lake, Halfway, and Boundary Formations,
- **Dunvegan:** after 2009 in AB; Dunvegan Formation,
- **Lower Shaunavon:** after 2005 in SK, Shaunavon Formation,
- **Montney/Doig:** after 2008 in AB and after 2010 in BC; Montney, Doig, or Triassic Formations,
- **Pekisko:** after 2008 in AB; Pekisko Formation,
- **Slave Point:** after 2008 in AB; Slave Point Formation,
- **Spearfish:** after 2008 in MB; Lower Amaranth Formation,
- **Viking:** after 2007 in SK and AB; Viking Formation.

An oil well is considered shale oil if it is horizontal, drilled after 2007 in Alberta and is producing from the Duvernay Formation.

A1.1.4 Zone – Formation Groups

There are thousands of stratigraphic horizons identified in the well data from the WCSB. This report aggregates these horizons into broader geologic zones, or groupings of formations. The geologic zones are:

- Tertiary
- Upper Cretaceous
- Upper Colorado
- Colorado
- Upper Mannville
- Middle Mannville
- Lower Mannville
- Jurassic
- Upper Triassic
- Lower Triassic
- Permian
- Mississippian
- Upper Devonian
- Middle Devonian
- Lower Devonian
- Siluro/Ordivician
- Cambrian
- PreCambrian

These geologic zones may be further aggregated into groupings of particular formations, based on criteria such as the area, similar well characteristics, or number of wells.

Within each grouping, oil wells were grouped by well year, with all wells drilled prior to 1999 forming a single group, and separate yearly classifications for each year from 1999 through 2015. Thus, for each grouping, average well performance can by analysed over time to see how IP rates and declines change as the resource is developed and as technology evolves.

A1.1.5 Enhanced Oil Recovery Projects

There are 10 thermal projects in Saskatchewan in Area 12, two CO_2-EOR projects in Area 14 in Saskatchewan and one in Area 10 in Northwest Alberta. Each of these projects are identified as separate groupings in the analysis. Since these methods of oil extraction are more 'project-based', wells that are identified as part of these projects are not included in the overall decline analysis. Instead, deliverability projections for these projects are based on recent production trends as well as producer plans for continued development.

Each of the thermal projects produces heavy, conventional oil from the Mannville Group. The thermal projects are:

- Senlac
- Onion Lake
- Celtic GP/Sparky
- Rush Lake
- Lashburn
- Pikes Peak
- Pikes Peak South
- Plover Lake
- Sandall
- Bolney/Celtic

The CO_2-EOR projects in Saskatchewan produce heavy, conventional oil from the Mississippian zone. The Alberta project produces light, conventional oil from the Mississippian and Devonian zones. The Saskatchewan and Alberta CO_2-EOR
projects are:

- Weyburn-Midale (Area 14)
- Midale-Midale (Area 14)
- Zama (Area 10)

There are other existing and potential EOR projects in western Canada that may be analysed as individual groupings in future editions of this report.

A1.1.6 Oil Production from Gas Wells

Oil production from natural gas wells is minimal. In Alberta, less than two per cent of conventional and tight oil production comes from gas wells. Since all wells producing oil are included in the existing well analysis, projected oil production from gas wells is embedded in the group projections. Oil production from future gas wells is not directly projected. Analysis of condensate production is not included in this report as the NEB's condensate projections are included in the *Energy Futures* report.

A1.2 Oil Well Performance Methods

For this report, historical production data was analysed to determine production declines which were then used to determine future performance. In some cases, newer tight and shale oil development historical data is more limited and production decline trends are not as established. Information gathered during consultations with industry and from publicly available data played a larger role in establishing expected well performance for these newer tight and shale oil groupings.

Analysis includes wells drilled since 2000, which creates a large dataset of historical well production trends. The methods applied to project deliverability for existing wells differ from those used to project deliverability for future wells.

Historical production data is analysed to determine production declines for each grouping (oil area/class/type/zone/well year) to develop two sets of parameters:

1. Group deliverability parameters – describing deliverability expectations for the entire oil grouping.
2. Average well deliverability parameters – describing deliverability expectations for the average oil well in the grouping for each year.

The group deliverability parameters and average well deliverability parameters resulting from this analysis are contained in Appendices A3.3 and A4, respectively.

Oil wells are grouped by area, class, type, geological zone, and well year. For each of these groupings, a data set of oil production history is created and, where the grouping represents a specific well year, a data set of average well production history is also generated.

The data sets used to estimate group deliverability parameters are generated by the following:

- Oil production in each grouping is summed to estimate total group oil production (bbl/d) by calendar month.
- Using this data set, plots of total daily oil production rate versus total cumulative oil production are generated for each grouping.

The data sets used to determine average well deliverability parameters are generated by the following:

- The historical, monthly oil production for each well in the grouping is put in a database.
- For each well, the production months are normalized such that the month the well started producing becomes the first production month.
- The total oil production by normalized production month is then divided by the total number of wells in the grouping to determine normalized, monthly oil production for the average well.
- The normalized, monthly oil production is then divided by the average number of days in a month, or 30.4375, to determine the daily production rates for the average well in the grouping.
- Using this data set, plots of daily oil production rate versus cumulative oil production for the average well were generated for each grouping.

After the average well's historical production for each grouping and year is determined, each average well is evaluated in sequence, from 2000 through 2014.

a. Production Decline Analysis for the Average Well:

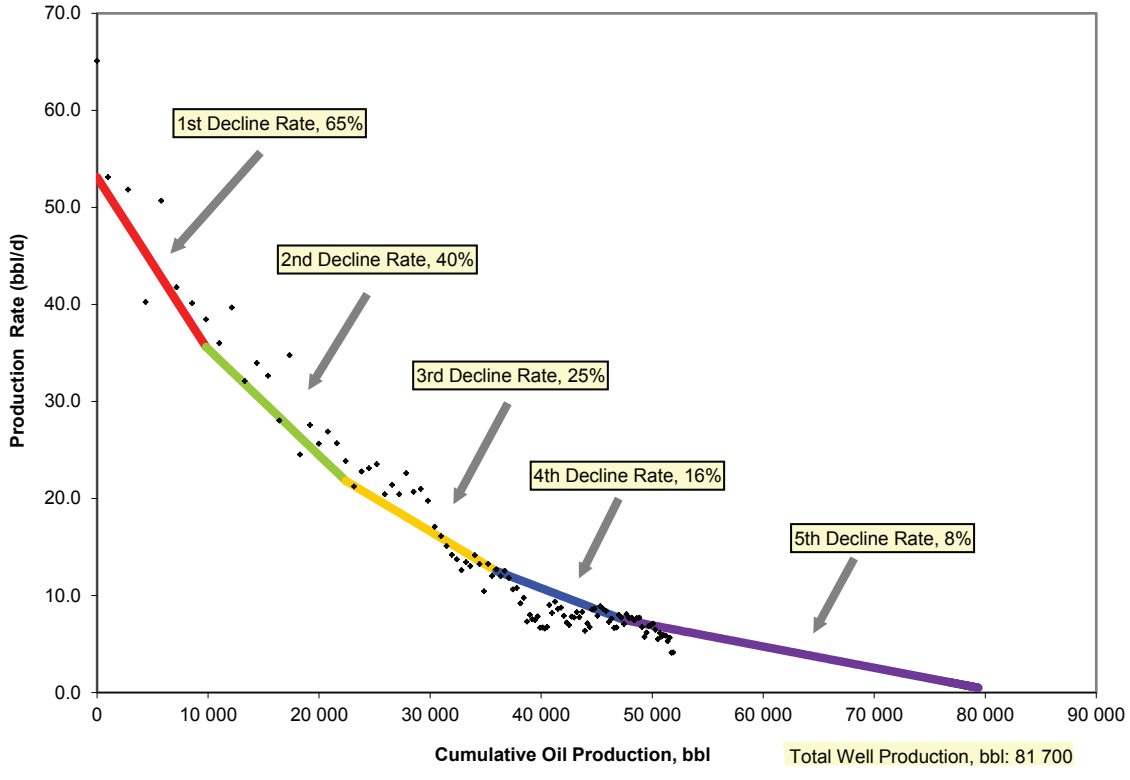
For each well year, the daily rate versus cumulative production plot for the average well is evaluated first to establish:

- Initial Production Rate
- First Decline Rate
- Second Decline Rate
- Months to Second Decline Rate – usually around seven months
- Third Decline Rate
- Months to Third Decline Rate – usually around 25 months
- Fourth Decline Rate
- Months to Fourth Decline Rate – usually around 45 months
- Fifth Decline Rate
- Months to Fifth Decline Rate – usually around 90 months.

Figure A1.4 shows an example of the plots used to evaluate average well performance, and the different decline rates that are applied to describe the production.

FIGURE A1.4

Example of an Average Well Production Decline Analysis Plot



"Older" average wells usually have sufficient data to establish all of the above parameters. However, "younger" average wells have historical production data of shorter duration. Therefore, the projected long-term performance of a "younger" average well is assumed to be similar to the historical long-term performance of an "older" average well. In Figure A1.4, the available data is sufficient to determine parameters defining the first, second, third, and fourth decline periods for the well, but the parameters defining the fifth decline period must be assumed based on the analysis of earlier well years.

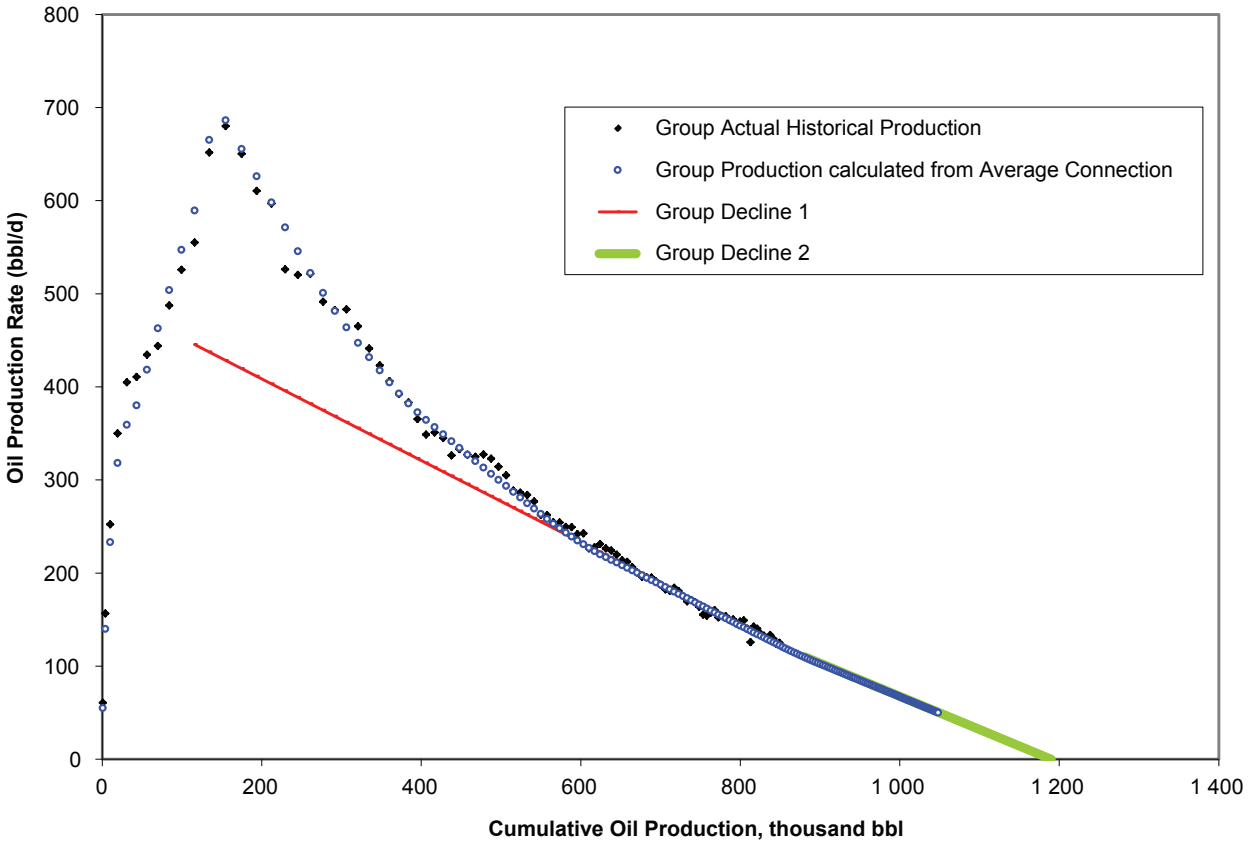
The estimated decline parameters for average wells are available in Appendix A4.

b. Production Decline Analysis for the Grouped Data:

Performance parameters for an average well are used to calculate the expected group performance. If the data calculated from average well performance data does not provide a good match with the actual historical production data for the group, then the average well parameters may be revised until a good match is obtained between calculated group production data (from average well data) and actual group production data. An example is shown in Figure A1.5.

FIGURE A1.5

Example of Group Production Decline Analysis Plot



The following group performance parameters are determined from the plot of calculated and actual production:

- Production Rate as of December 2014
- First Decline Rate
- Second Decline Rate (if applicable)
- Months to Second Decline Rate (if applicable)
- Third Decline Rate (if applicable)
- Months to Third Decline Rate (if applicable)
- Fourth Decline Rate (if applicable)
- Months to Fourth Decline Rate (if applicable)
- Fifth Decline Rate (if applicable)
- Months to Fifth Decline Rate (if applicable)

A1.2.1 Methods for Existing Wells

In this report, "existing wells" are those brought on production prior to 1 January 2015. Group deliverability parameters are used to project deliverability for existing wells.

In groupings of older wells (2001, 2002, etc.), actual group production from recent years is usually stabilized or is near the terminal decline rate established by the pre-1999 aggregate grouping. In these cases, a single decline rate sufficiently describes the entire remaining productive life of the grouping and the expected performance of the calculated average well has little influence over determination of the group parameters.

In groupings of wells drilled more recently (2012, 2013, etc.), actual group production history data is unlikely to provide a good basis upon which to project future deliverability. In these cases, the expected performance of the average well is more speculative with respect to the applicable current and future decline rates.

Group performance parameters are available in Appendix A3.3.

A1.2.2 Methods for Future Wells

In this report, "future wells" are those brought on production from 1 January 2015 onwards. For future wells, projected deliverability is based on the number of future wells to be drilled and the expected average performance characteristics of those wells. Historical trends in average well performance, obtained from production decline analysis of existing oil wells, are used to estimate average well performance for future wells.

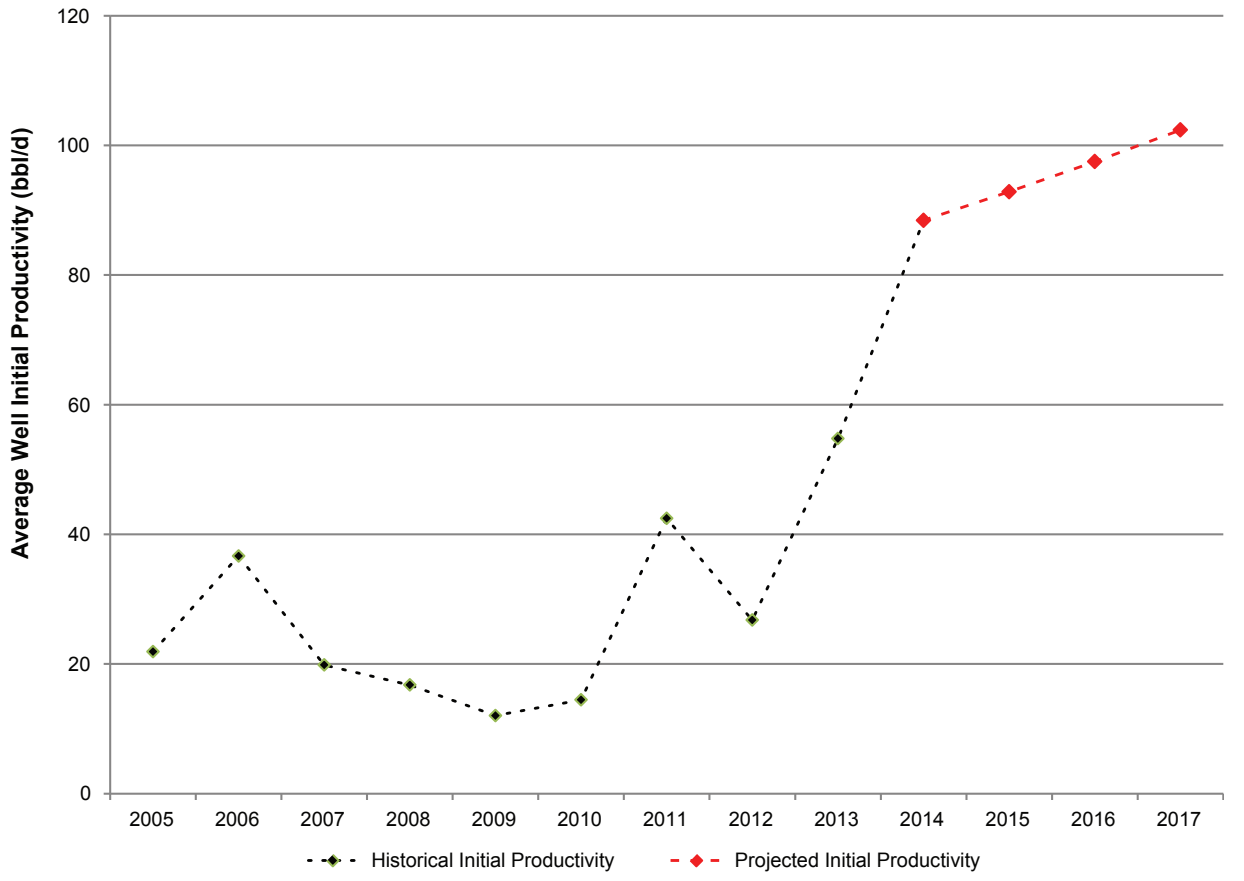
A1.2.2.1 Performance of Future Wells

The performance of future wells is obtained for each oil grouping by extrapolating the production performance trends for average wells in past years, namely initial productivity of the average well and its associated decline rates.

In some groupings, the initial productivity of the average oil well decreases over time. Recently however, some conventional and tight groupings have average oil wells with initial productivity which has been increasing due to technology, as displayed in Figure A1.6. This graph shows the IP rates for oil wells in the Southern Alberta light conventional Colorado grouping. The IP rate for future oil wells is estimated by extrapolating the trend in each oil grouping, taking into account technological trends and possible recovery constraints. Historical and projected initial productivities for average wells for future oil groupings are in Appendix A4.

FIGURE A1.6

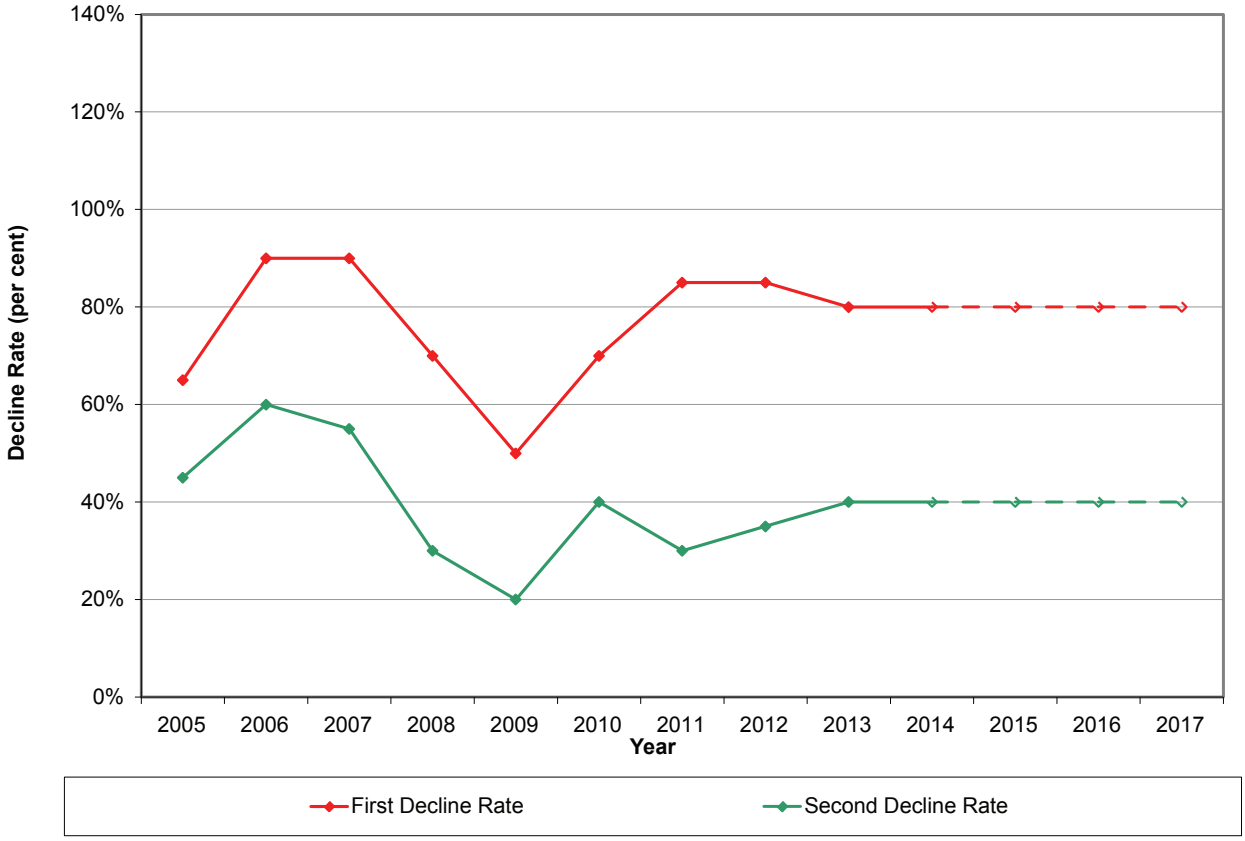
Example of Initial Productivity of Average Wells by Year – Southern Alberta Light Conventional Colorado Grouping



The key decline parameters for short-term deliverability are the first decline rate, second decline rate, and the months elapsed to reach the second decline rate. Figure A1.7 shows the historical and projected values of these parameters for the average wells during the years 2005 through 2017 for heavy conventional Mannville, Jurassic, and Triassic oil wells in the Eastern Alberta area grouping. As shown in Figure A1.7, trends in past well years are used to establish parameters for future years.

FIGURE A1.7

Example of Key Decline Parameters for Average Wells Over Time - Eastern Alberta Heavy Conventional Mannville, Jurassic, Triassic Grouping



A1.2.2.2 Number of Future Wells

Projecting the number of future wells requires an estimate of the annual number of oil wells to be drilled and placed into production for each grouping.

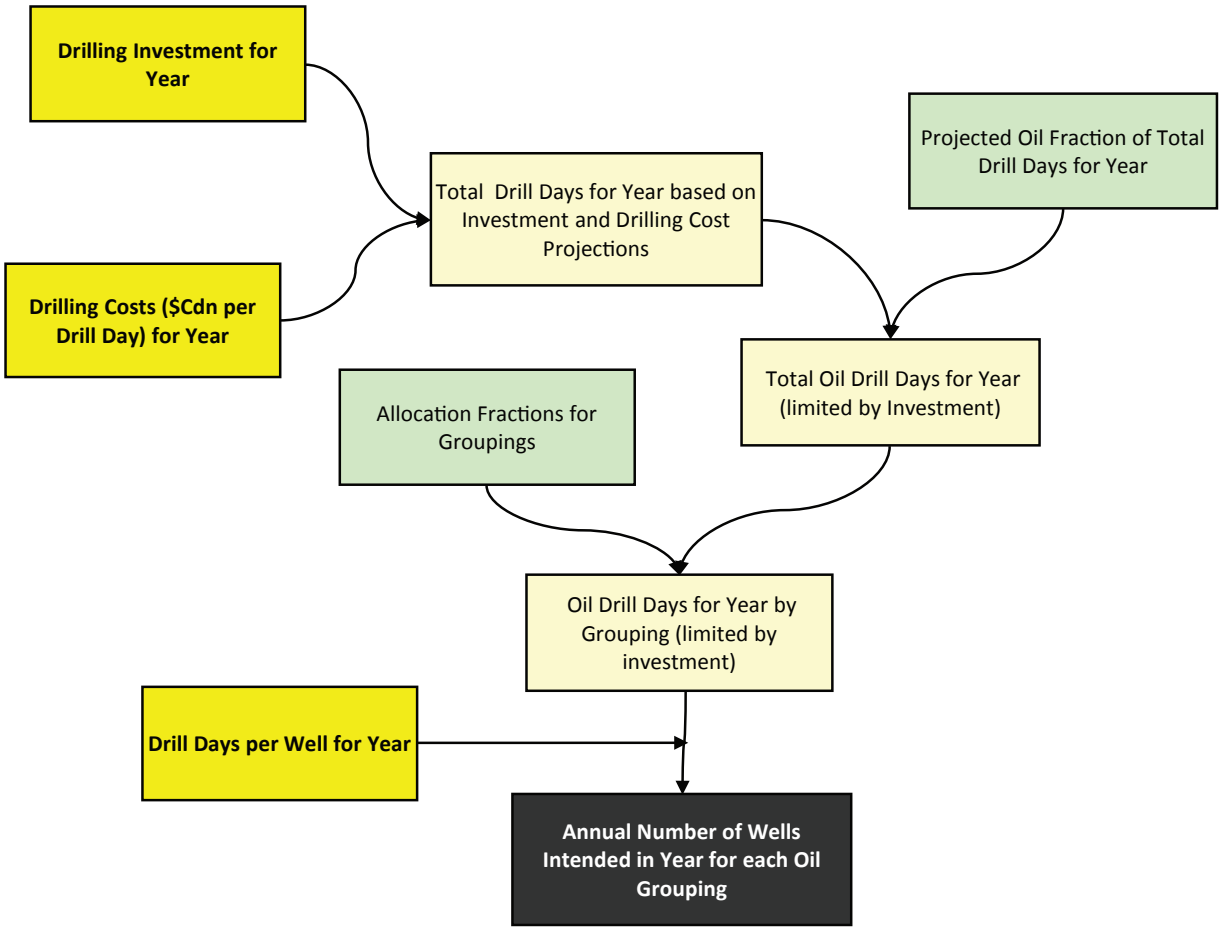
Figure A1.8 is the flowchart describing the methodology for projecting the number of oil wells for each year over the projection period. The key inputs are **Annual Drilling Investment**, **Costs per Drill Day** and **Days to Drill a Well**. Adjustments to these three key inputs (shown as yellow boxes in Figure A1.8) produce different projections of drilling activity in the WCSB. Other required inputs are shown in the green boxes in Figure A1.8. The values for these other inputs are estimated from an analysis of historical data.

For the projection, the Board allocates oil drill days between each of the oil groupings. The allocation fractions are determined from historical trends and the Board's projection of development potential for each of the groupings. Recently, the allocation fractions reflect the historical trends of an increasing focus on deeper formations and increasing development of tight oil plays and the Duvernay Shale. Tables of the historical data (drill days and allocation fractions) and the projected allocation fractions are available in Appendix B.

The number of oil wells drilled in each year for a grouping is calculated by dividing the drill days targeting that grouping, by the average number of drill days per well.

FIGURE A1.8

Flowchart of Drilling Projection Method



Appendix A2 - Deliverability Parameters – Results

A2.1 Production from Existing Oil Wells

The decline parameters describing the expected future deliverability of each grouping are in Appendix A3.3.

The parameters describing future deliverability for all of these groupings are the production rate as of December 2014 and as many as five future decline rates that apply to specified timeframes in the future. For the older groupings of wells, where production appears to have stabilized at a final decline rate, only one future decline rate is needed to describe future group deliverability. For newer wells, the decline rate that applies over future months changes as the group performance progresses towards the final stable decline period. For these newer well groupings, three to four different decline rates have been determined to describe future performance.

The future deliverability projected for these groupings represents the deliverability that would occur from the WCSB if no further oil wells were added after the end of 2014.

The Board's projections show that aggregate production for these groupings will decline by 28 per cent in 2015, 25 per cent in 2016 and nine per cent in 2017.

A2.1.1 Production from Future Oil Wells

While deliverability projections for existing oil wells are more predictable, deliverability projections for future oil wells are much less so. The key uncertainty is the level of oil drilling that will occur. Three price cases are analysed to address the uncertainty inherent in the oil drilling projections.

A2.2.1 Performance Parameters for Future Average Oil Wells

The overall trend for initial productivity of the average oil well in the WCSB is shown in Figure A2.1. Between 2002 and 2007, initial productivity decreased as conventional resources matured, however the trend reversed upward from 2008 to 2014. It is expected to continue increasing over the projection period as the more productive conventional and tight wells represent a growing share of the wells drilled in a year.

FIGURE A2.1

Average Initial Productivity of all WCSB Oil Wells by Well Year

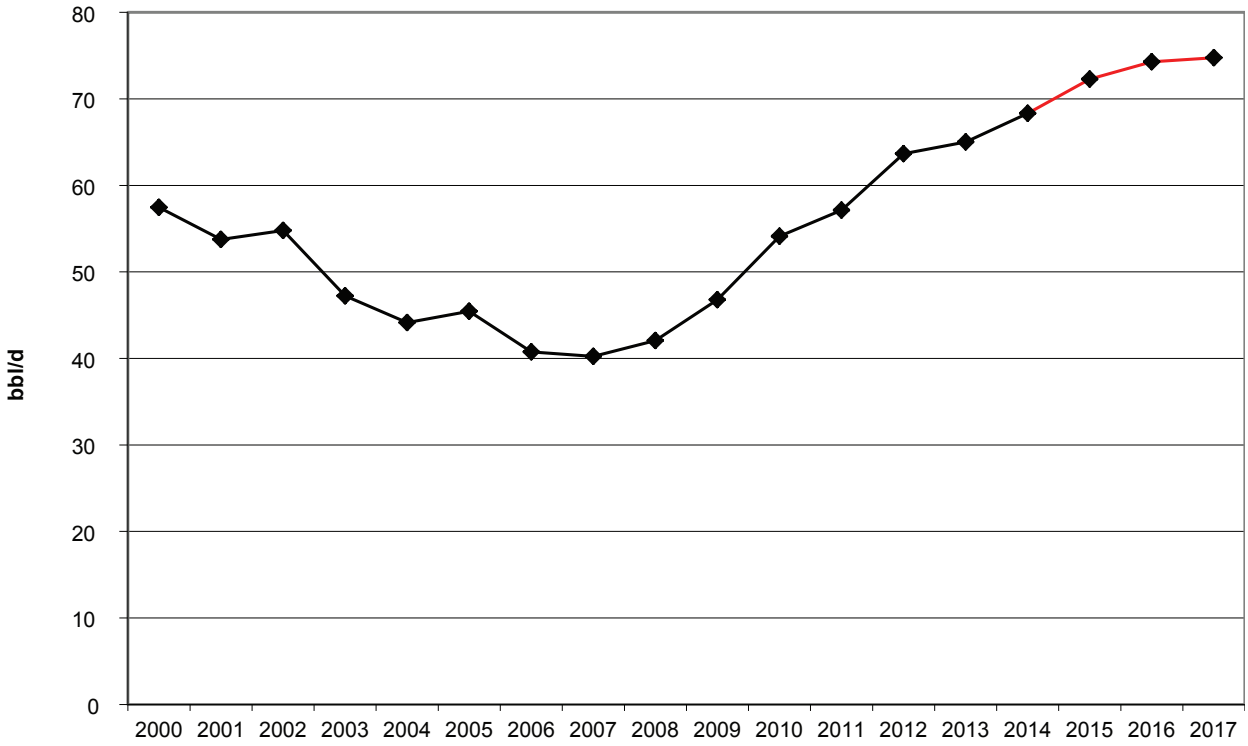


Table A2.1 shows the historical average IP rates for the average oil wells for each area.

TABLE A2.1

Average Initial Productivity of Oil Wells by Year by Area - bbl/d

Area	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
01 - Southern Alberta	37	36	47	43	44	58	85	107	110	116	121
02 - Lloydminster AB	30	32	35	35	33	44	45	51	51	52	52
03 - Eastern Alberta	39	29	17	37	37	40	39	46	46	46	47
04 - Central Alberta	33	52	53	65	80	79	97	111	113	116	116
05 - West Central Alberta	62	35	94	113	105	116	126	126	124	125	126
06 - Foothills	73	23	51	38	62	104	141	121	125	127	129
07 - Kaybob	55	48	58	99	136	155	162	152	151	153	153
08 - Peace River	57	55	65	71	98	112	128	106	99	102	100
09 - Northeast Alberta	10	10	130	23	24	19	21	81	68	70	68
10 - Northwest Alberta	93	133	94	80	64	90	46	123	126	133	139
11 - Fort St. John	77	75	63	137	122	101	139	270	256	262	258
12 - Lloydminster Saskatchewan	30	26	29	32	30	29	29	31	32	32	33
13 - Southwest Saskatchewan	45	33	39	37	35	37	41	58	64	68	70
14 - Southeast Saskatchewan	49	62	55	59	50	52	58	66	68	70	71
15 - Manitoba	29	28	55	64	67	67	60	54	36	38	36

Average well performance projected for the years 2015 through 2017 is the same in the three price cases assessed for this report. Overall deliverability varies in the three cases as deliverability is affected by the application of differing levels of oil drilling activity; as discussed further in the next section.

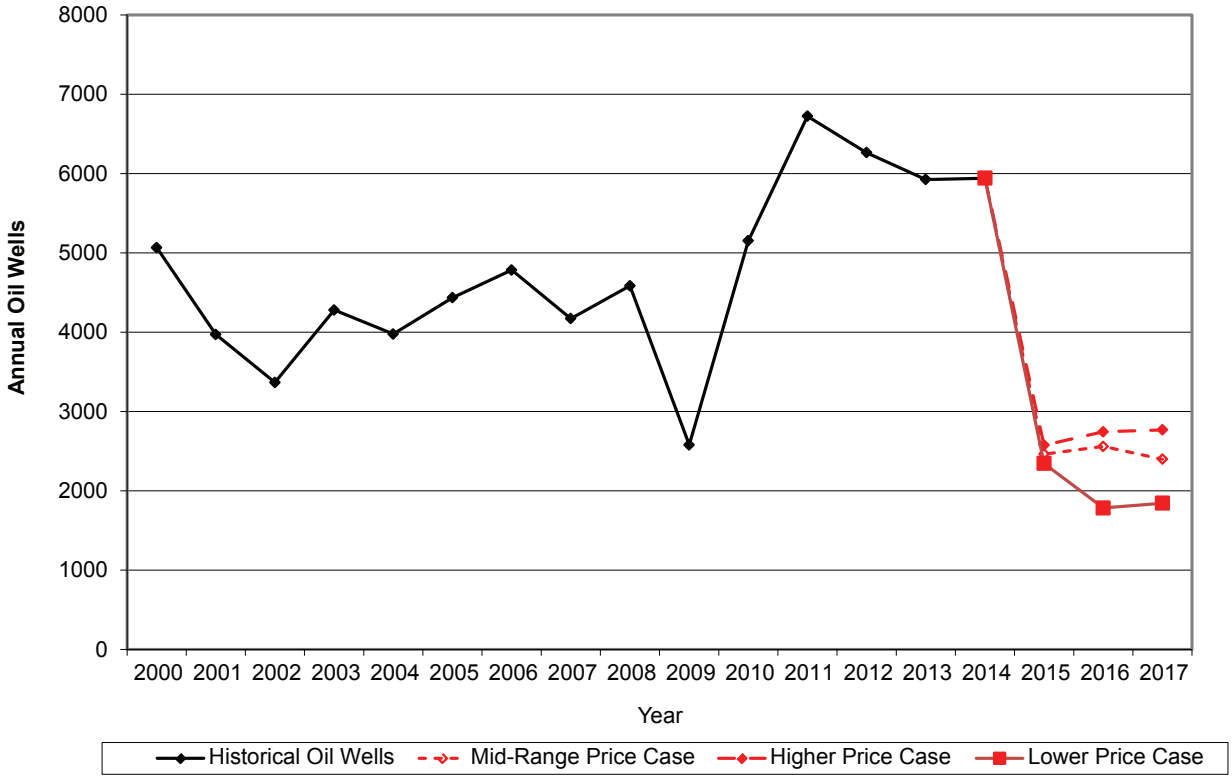
A2.2.2 Number of Future Oil Wells

Global oil prices have declined dramatically because of recent over supply in the market. It remains uncertain how quickly markets will rebalance themselves and what future prices might be. This reflects a high degree of uncertainty for expected oil drilling activity in the WCSB. The three drilling activity cases (Mid-Range, Higher, and Lower) are based on projections of future oil prices that reflect a range of potential market conditions. Figure A2.2 indicates the projected number of oil wells for all groupings in each case.

Appendix B contains detailed tabulations of projected annual oil wells for each grouping, by case.

FIGURE A2.2

Oil Wells by Case



A2.3 Thermal and CO_2 Oil Projects

As indicated in Appendix A1.1.5, deliverability projections for the thermal and CO_2 oil recovery projects are based on the extrapolation of historical trends and currently announced plans of producers. This results in total thermal project production rising from 7 949 m^3/d (50 000 bbl/d) in 2015 to 11 924 m^3/d (75 000 bbl/d) in 2017 in both the Mid-Range Price Case and the Higher Price Case, and 9 946 m^3/d (62 560 bbl/d) in 2017 in the Lower Price Case.

A3 – Decline Parameters for Groupings of Existing Oil Wells

TABLE A3.1

Formation Index

Formation	Abbreviation	Group Number
Tertiary	Tert	02
Upper Cretaceous	UprCret	03
Upper Colorado	UprCol	04
Colorado	Colr	05
Upper Mannville	UprMnvl	06
Middle Mannville	MdlMnvl	07
Lower Mannville	LwrMnvl	08
Mannville	Mnvl	06;07;08
Jurassic	Jur	09
Upper Triassic	UprTri	10
Lower Triassic	LwrTri	11
Triassic	Tri	10;11
Permian	Perm	12
Mississippian	Miss	13
Upper Devonian	UprDvn	14
Middle Devonian	MdlDvn	15
Lower Devonian	LwrDvn	16
Siluro/Ordivician	Sil	17
Cambrian	Camb	18
PreCambrian	PreCamb	19

TABLE A3.2

Grouping Index

Area Name	Area Number	Resource Class	Resource Type	Resource Group
Southern Alberta	01	Heavy	Conventional	03;04;05;06
Southern Alberta	01	Heavy	Conventional	07
Southern Alberta	01	Heavy	Conventional	08
Southern Alberta	01	Heavy	Conventional	09;10
Southern Alberta	01	Heavy	Conventional	13;14;15
Southern Alberta	01	Heavy	Tight	03;04;05;06
Southern Alberta	01	Heavy	Tight	07;08
Southern Alberta	01	Heavy	Tight	09;10
Southern Alberta	01	Heavy	Tight	13;14;15
Southern Alberta	01	Light	Conventional	03;04;05;06
Southern Alberta	01	Light	Conventional	07
Southern Alberta	01	Light	Conventional	08
Southern Alberta	01	Light	Conventional	09;10
Southern Alberta	01	Light	Conventional	13;14;15
Southern Alberta	01	Light	Tight	03;04;05;06
Southern Alberta	01	Light	Tight	07;08;09;10
Southern Alberta	01	Light	Tight	13;14;15

Area Name	Area Number	Resource Class	Resource Type	Resource Group
Lloydminster Alberta	02	Heavy	Conventional	03;04;05
Lloydminster Alberta	02	Heavy	Conventional	06
Lloydminster Alberta	02	Heavy	Conventional	07;08
Lloydminster Alberta	02	Heavy	Conventional	13
Lloydminster Alberta	02	Heavy	Conventional	14
Lloydminster Alberta	02	Heavy	Tight	03;04;05;06;07;08
Lloydminster Alberta	02	Heavy	Tight	13;14
Lloydminster Alberta	02	Light	Conventional	03;04;05
Lloydminster Alberta	02	Light	Conventional	06
Lloydminster Alberta	02	Light	Conventional	07;08
Lloydminster Alberta	02	Light	Conventional	13;14
Lloydminster Alberta	02	Light	Tight	03;04;05;06
Lloydminster Alberta	02	Light	Tight	07;08
Lloydminster Alberta	02	Light	Tight	13;14
Eastern Alberta	03	Heavy	Conventional	03;04;05
Eastern Alberta	03	Heavy	Conventional	06
Eastern Alberta	03	Heavy	Conventional	07;08;09;10
Eastern Alberta	03	Heavy	Conventional	13;14;15
Eastern Alberta	03	Heavy	Tight	03;04;05;06
Eastern Alberta	03	Heavy	Tight	07;08;09;10
Eastern Alberta	03	Heavy	Tight	13;14;15
Eastern Alberta	03	Light	Conventional	03;04;05
Eastern Alberta	03	Light	Conventional	06
Eastern Alberta	03	Light	Conventional	07;08;09;10
Eastern Alberta	03	Light	Conventional	13;14;15
Eastern Alberta	03	Light	Tight	03;04;05;06
Eastern Alberta	03	Light	Tight	07;08;09;10
Eastern Alberta	03	Light	Tight	13;14;15
Central Alberta	04	Heavy	Conventional	02;03
Central Alberta	04	Heavy	Conventional	04;05;06
Central Alberta	04	Heavy	Conventional	07;08
Central Alberta	04	Heavy	Conventional	09;10
Central Alberta	04	Heavy	Conventional	13
Central Alberta	04	Heavy	Conventional	14;15
Central Alberta	04	Heavy	Tight	02;03;04;05;06;07;08
Central Alberta	04	Heavy	Tight	09;10
Central Alberta	04	Heavy	Tight	13;14;15
Central Alberta	04	Light	Conventional	02;03
Central Alberta	04	Light	Conventional	04;05;06
Central Alberta	04	Light	Conventional	07;08
Central Alberta	04	Light	Conventional	09;10
Central Alberta	04	Light	Conventional	13
Central Alberta	04	Light	Conventional	14;15
Central Alberta	04	Light	Tight	02;03;04;05;06;07;08

Area Name	Area Number	Resource Class	Resource Type	Resource Group
Central Alberta	04	Light	Tight	09;10
Central Alberta	04	Light	Tight	13;14;15
Central Alberta	04	Light	Shale	Duvernay
West Central Alberta	05	Heavy	Conventional	03
West Central Alberta	05	Heavy	Conventional	04;05;06;07;08
West Central Alberta	05	Heavy	Conventional	09
West Central Alberta	05	Heavy	Conventional	12;13
West Central Alberta	05	Heavy	Conventional	14;15
West Central Alberta	05	Heavy	Tight	03;04;05;06;07;08;09
West Central Alberta	05	Heavy	Tight	12;13;14;15
West Central Alberta	05	Light	Conventional	03
West Central Alberta	05	Light	Conventional	04;05;06;07;08
West Central Alberta	05	Light	Conventional	09
West Central Alberta	05	Light	Conventional	12;13
West Central Alberta	05	Light	Conventional	14;15
West Central Alberta	05	Light	Tight	03
West Central Alberta	05	Light	Tight	04;05
West Central Alberta	05	Light	Tight	06;07;08;09
West Central Alberta	05	Light	Tight	12;13;14;15
West Central Alberta	05	Light	Shale	Duvernay
Foothills	06	Heavy	Conventional	03;04;05;06;07;08;09
Foothills	06	Heavy	Conventional	13;14
Foothills	06	Heavy	Tight	03;04;05;06;07;08;09
Foothills	06	Heavy	Tight	13;14
Foothills	06	Light	Conventional	03;04;05;06;07;08;09
Foothills	06	Light	Conventional	13;14
Foothills	06	Light	Tight	03;04;05;06;07;08;09
Foothills	06	Light	Tight	13;14
Kaybob	07	Heavy	Conventional	03;04;05;06;07;08
Kaybob	07	Heavy	Conventional	09;10;11;12
Kaybob	07	Heavy	Conventional	13;14;15;16
Kaybob	07	Heavy	Tight	03;04;05;06;07;08
Kaybob	07	Heavy	Tight	09;10;11;12
Kaybob	07	Heavy	Tight	13;14;15;16
Kaybob	07	Light	Conventional	03;04;05;06;07;08
Kaybob	07	Light	Conventional	09;10;11;12
Kaybob	07	Light	Conventional	13;14;15;16
Kaybob	07	Light	Tight	03;04;05;06;07;08
Kaybob	07	Light	Tight	09;10;11;12
Kaybob	07	Light	Tight	13;14;15;16
Kaybob	07	Light	Shale	Duvernay

Area Name	Area Number	Resource Class	Resource Type	Resource Group
Peace River	08	Heavy	Conventional	03;04;05
Peace River	08	Heavy	Conventional	06;07
Peace River	08	Heavy	Conventional	08
Peace River	08	Heavy	Conventional	09;10;11
Peace River	08	Heavy	Conventional	12;13
Peace River	08	Heavy	Conventional	14
Peace River	08	Heavy	Conventional	15
Peace River	08	Heavy	Conventional	16
Peace River	08	Heavy	Tight	03;04;05;06;07;08
Peace River	08	Heavy	Tight	09;10;11
Peace River	08	Heavy	Tight	12;13;14;15;16
Peace River	08	Light	Conventional	03;04
Peace River	08	Light	Conventional	05
Peace River	08	Light	Conventional	06;07
Peace River	08	Light	Conventional	08
Peace River	08	Light	Conventional	09;10;11
Peace River	08	Light	Conventional	12;13
Peace River	08	Light	Conventional	14
Peace River	08	Light	Conventional	15
Peace River	08	Light	Conventional	16
Peace River	08	Light	Tight	03;04
Peace River	08	Light	Tight	05;06;07;08;09;10;11
Peace River	08	Light	Tight	12;13;14;15;16
Northeast Alberta	09	Heavy	Conventional	01;02;03
Northeast Alberta	09	Heavy	Conventional	04;05;06;07;08
Northeast Alberta	09	Heavy	Conventional	14
Northeast Alberta	09	Heavy	Tight	01;02;03
Northeast Alberta	09	Heavy	Tight	04;05;06;07;08
Northeast Alberta	09	Heavy	Tight	14
Northeast Alberta	09	Light	Conventional	01;02;03;04;05;06;07
Northeast Alberta	09	Light	Conventional	08
Northeast Alberta	09	Light	Conventional	14
Northeast Alberta	09	Light	Tight	01;02;03
Northeast Alberta	09	Light	Tight	04;05;06;07;08;14
Northwest Alberta	10	Heavy	Conventional	08;13;14;15
Northwest Alberta	10	Heavy	Tight	08;13;14;15
Northwest Alberta	10	Light	Conventional	08;13;14;15
Northwest Alberta	10	Light	Tight	08;13;14;15
Fort St. John	11	Heavy	Conventional	04;05;06;07;08
Fort St. John	11	Heavy	Conventional	10;11
Fort St. John	11	Heavy	Conventional	12;13;14
Fort St. John	11	Heavy	Tight	04;05;06;07;08
Fort St. John	11	Heavy	Tight	10;11;12;13;14
Fort St. John	11	Light	Conventional	04;05;06;07;08

Area Name	Area Number	Resource Class	Resource Type	Resource Group
Fort St. John	11	Light	Conventional	10;11
Fort St. John	11	Light	Conventional	12;13;14
Fort St. John	11	Light	Tight	04;05;06;07;08
Fort St. John	11	Light	Tight	10;11;12;13;14
Lloydminster Saskatchewan	12	Heavy	Conventional	03;04;05
Lloydminster Saskatchewan	12	Heavy	Conventional	06
Lloydminster Saskatchewan	12	Heavy	Conventional	Celtic Sparky
Lloydminster Saskatchewan	12	Heavy	Conventional	Sparky
Lloydminster Saskatchewan	12	Heavy	Conventional	Lashburn
Lloydminster Saskatchewan	12	Heavy	Conventional	Pikes Peak
Lloydminster Saskatchewan	12	Heavy	Conventional	Plover Lake
Lloydminster Saskatchewan	12	Heavy	Conventional	Sandall Colony
Lloydminster Saskatchewan	12	Heavy	Conventional	Colony
Lloydminster Saskatchewan	12	Heavy	Conventional	Bolney
Lloydminster Saskatchewan	12	Heavy	Conventional	07;08
Lloydminster Saskatchewan	12	Heavy	Conventional	Seniac
Lloydminster Saskatchewan	12	Heavy	Conventional	Onion
Lloydminster Saskatchewan	12	Heavy	Conventional	Celtic GP
Lloydminster Saskatchewan	12	Heavy	Conventional	13
Lloydminster Saskatchewan	12	Heavy	Conventional	14;15
Lloydminster Saskatchewan	12	Heavy	Tight	03;04;05;06;07;08
Lloydminster Saskatchewan	12	Heavy	Tight	13;14;15
Lloydminster Saskatchewan	12	Light	Conventional	03;04;05;06;07;08
Lloydminster Saskatchewan	12	Light	Conventional	13;14;15
Lloydminster Saskatchewan	12	Light	Tight	03;04;05;06;07;08
Lloydminster Saskatchewan	12	Light	Tight	13;14;15

Area Name	Area Number	Resource Class	Resource Type	Resource Group
Southwest Saskatchewan	13	Heavy	Conventional	03;04;05;06;07;08
Southwest Saskatchewan	13	Heavy	Conventional	09;13;14
Southwest Saskatchewan	13	Heavy	Tight	03;04;05;06;07;08
Southwest Saskatchewan	13	Heavy	Tight	09;13;14
Southwest Saskatchewan	13	Light	Conventional	03;04;05;06;07;08;09;13
Southwest Saskatchewan	13	Light	Tight	03;04;05;06;07;08;09;13
Southeast Saskatchewan	14	Heavy	Conventional	06;07;08
Southeast Saskatchewan	14	Heavy	Conventional	09;10;11
Southeast Saskatchewan	14	Heavy	Conventional	13
Southeast Saskatchewan	14	Heavy	Conventional	14;15;16;17;18;19
Southeast Saskatchewan	14	Heavy	Tight	06;07;08;09;10;11
Southeast Saskatchewan	14	Heavy	Tight	13
Southeast Saskatchewan	14	Heavy	Tight	14;15
Southeast Saskatchewan	14	Heavy	Tight	17;18;19
Southeast Saskatchewan	14	Light	Conventional	06;07;08;09;10;11
Southeast Saskatchewan	14	Light	Conventional	13
Southeast Saskatchewan	14	Light	Conventional	14;15
Southeast Saskatchewan	14	Light	Conventional	17;18;19
Southeast Saskatchewan	14	Light	Tight	06;07;08;09;10;11
Southeast Saskatchewan	14	Light	Tight	13
Southeast Saskatchewan	14	Light	Tight	14;15
Southeast Saskatchewan	14	Light	Tight	17;18;19
Manitoba	15	Heavy	Conventional	09;10;11;13;14
Manitoba	15	Heavy	Tight	09;10;11
Manitoba	15	Heavy	Tight	13;14
Manitoba	15	Light	Conventional	09;10;11;13;14
Manitoba	15	Light	Tight	09;10;11;13;14

TABLE A3.3

Decline Parameters for Groupings of Oil Wells

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Southern Alberta - Heavy - Conventional - 03;04;05;06						
2007	300.89	0.12	0.12	12	0.12	25
2008	360.88	0.20	0.20	12	0.12	25
2009	403.37	0.22	0.22	12	0.12	25
2010	315.63	0.30	0.30	12	0.12	25
2011	304.94	0.20	0.20	12	0.12	25
2012	187.34	0.30	0.30	12	0.12	25
2013	502.80	0.35	0.35	12	0.12	25
2014	1 288.70	0.30	0.30	7	0.12	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Southern Alberta - Heavy - Conventional - 07						
2007	700.53	0.16	0.16	12	0.08	25
2008	1 204.24	0.25	0.16	7	0.08	25
2009	1 311.89	0.25	0.16	7	0.08	25
2010	1 204.97	0.25	0.16	7	0.08	25
2011	1 689.42	0.20	0.16	7	0.08	25
2012	1 968.90	0.30	0.16	7	0.08	25
2013	2 768.58	0.30	0.16	7	0.08	25
2014	5 754.17	0.30	0.16	7	0.08	25
Resource Grouping - Southern Alberta - Heavy - Conventional - 08						
2007	661.05	0.16	0.12	7	0.05	25
2008	892.75	0.20	0.12	7	0.05	25
2009	441.88	0.20	0.12	7	0.05	25
2010	1 739.36	0.16	0.12	7	0.05	25
2011	2 064.08	0.20	0.12	7	0.05	25
2012	3 317.64	0.20	0.12	7	0.05	25
2013	3 188.85	0.20	0.12	7	0.05	25
2014	3 067.30	0.20	0.12	7	0.05	25
Resource Grouping - Southern Alberta - Heavy - Conventional - 09;10						
2007	297.86	0.20	0.20	0	0.20	0
2008	1 172.11	0.20	0.20	0	0.20	0
2009	364.55	0.20	0.20	0	0.20	0
2010	481.68	0.20	0.20	0	0.20	0
2011	553.64	0.20	0.20	0	0.20	0
2012	264.72	0.20	0.20	0	0.20	0
2013	462.40	0.20	0.20	0	0.20	0
2014	205.30	0.20	0.20	0	0.20	0
Resource Grouping - Southern Alberta - Heavy - Conventional - 13;14;15						
2007	73.72	0.40	0.25	7	0.14	25
2008	141.09	0.40	0.25	7	0.14	25
2009	74.74	0.40	0.25	7	0.14	25
2010	195.22	0.40	0.25	7	0.14	25
2011	234.61	0.40	0.25	7	0.14	25
2012	157.14	0.40	0.25	7	0.14	25
2013	13.66	0.40	0.25	7	0.14	25
2014	3.85	0.40	0.25	7	0.14	25
Resource Grouping - Southern Alberta - Heavy - Tight - 07;08						
2010	45.30	0.65	0.55	7	0.25	25
2011	523.45	0.65	0.55	7	0.25	25
2012	346.41	0.65	0.55	7	0.25	25
2013	456.21	0.65	0.55	7	0.25	25
2014	74.49	0.20	0.10	7	0.05	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Southern Alberta - Heavy - Tight - 13;14;15						
2009	447.15	0.60	0.50	7	0.20	25
2010	541.73	0.60	0.50	7	0.20	25
2011	275.15	0.60	0.50	7	0.20	25
2012	97.54	0.60	0.50	7	0.20	25
2013	12.32	0.60	0.50	7	0.20	25
2014	45.22	0.60	0.50	7	0.20	25
Resource Grouping - Southern Alberta - Light - Conventional - 03;04;05;06						
2007	242.43	0.50	0.40	12	0.20	60
2008	396.22	0.50	0.40	7	0.20	60
2009	117.58	0.50	0.40	7	0.20	25
2010	418.35	0.50	0.40	7	0.20	25
2011	516.25	0.50	0.40	7	0.20	25
2012	660.54	0.50	0.40	7	0.20	25
2013	1 073.17	0.50	0.40	7	0.20	25
2014	1 008.82	0.50	0.40	7	0.20	25
Resource Grouping - Southern Alberta - Light - Conventional - 07						
2007	328.50	0.30	0.12	7	0.05	25
2008	248.46	0.30	0.12	7	0.05	25
2009	125.35	0.30	0.12	7	0.05	25
2010	178.91	0.30	0.12	7	0.05	25
2011	384.10	0.30	0.12	7	0.05	25
2012	846.78	0.30	0.12	7	0.05	25
2013	1 075.59	0.30	0.12	7	0.05	25
2014	1 593.31	0.30	0.12	7	0.05	25
Resource Grouping - Southern Alberta - Light - Conventional - 08						
2007	884.93	0.20	0.12	7	0.08	25
2008	710.23	0.20	0.12	7	0.08	25
2009	452.25	0.20	0.12	7	0.08	25
2010	775.35	0.20	0.12	7	0.08	25
2011	1 276.19	0.20	0.12	7	0.08	25
2012	1 524.03	0.20	0.12	7	0.08	25
2013	3 728.05	0.20	0.12	7	0.08	25
2014	4 428.52	0.20	0.12	7	0.08	25
Resource Grouping - Southern Alberta - Light - Conventional - 09;10						
2007	169.86	0.20	0.12	7	0.05	25
2008	231.07	0.20	0.12	7	0.05	25
2009	123.64	0.20	0.12	7	0.05	25
2010	110.99	0.20	0.12	7	0.05	25
2011	85.26	0.20	0.12	7	0.05	25
2012	0.00	0.20	0.12	7	0.05	25
2013	48.82	0.20	0.12	7	0.05	25
2014	0.00	0.20	0.12	7	0.05	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Southern Alberta - Light - Conventional - 13;14;15						
2007	178.06	0.30	0.12	7	0.05	25
2008	105.33	0.30	0.12	7	0.05	25
2009	114.17	0.30	0.12	7	0.05	25
2010	72.44	0.30	0.12	7	0.05	25
2011	307.41	0.30	0.12	7	0.05	25
2012	176.70	0.30	0.12	7	0.05	25
2013	1 041.64	0.30	0.12	7	0.05	25
2014	868.12	0.30	0.12	7	0.05	25
Resource Grouping - Southern Alberta - Light - Tight - 03;04;05;06						
2010	0.05	0.25	0.12	7	0.05	25
2011	0.00	0.25	0.12	7	0.05	25
2012	0.00	0.25	0.12	7	0.05	25
2013	3 779.71	0.25	0.12	7	0.05	25
2014	5 494.36	0.25	0.12	7	0.05	25
Resource Grouping - Southern Alberta - Light - Tight - 07;08;09;10						
2009	142.82	0.70	0.60	7	0.30	25
2010	252.90	0.70	0.60	7	0.30	25
2011	129.53	0.70	0.60	7	0.30	25
2012	175.58	0.70	0.60	7	0.30	25
2013	185.97	0.70	0.60	7	0.30	25
2014	91.05	0.20	0.10	7	0.05	25
Resource Grouping - Southern Alberta - Light - Tight - 13;14;15						
2009	118.82	0.40	0.20	7	0.12	25
2010	69.22	0.40	0.20	7	0.12	25
2011	200.60	0.40	0.20	7	0.12	25
2012	854.68	0.40	0.20	7	0.12	25
2013	1 354.38	0.40	0.20	7	0.12	25
2014	1 082.43	0.40	0.20	7	0.12	25
Resource Grouping - Lloydminster Alberta - Heavy - Conventional - 03;04;05						
2007	154.82	0.25	0.12	7	0.05	25
2008	108.72	0.25	0.12	7	0.05	25
2009	209.71	0.25	0.12	7	0.05	25
2010	196.53	0.25	0.12	7	0.05	25
2011	445.80	0.25	0.12	7	0.05	25
2012	203.85	0.25	0.12	7	0.05	25
2013	1 407.66	0.25	0.12	7	0.05	25
2014	95.85	0.25	0.12	7	0.05	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Lloydminster Alberta - Heavy - Conventional - 06						
2007	1 132.31	0.25	0.12	7	0.10	25
2008	988.64	0.25	0.12	7	0.10	25
2009	2 364.72	0.25	0.12	7	0.10	25
2010	3 181.44	0.25	0.12	7	0.10	25
2011	4 182.52	0.25	0.12	7	0.10	25
2012	3 868.44	0.25	0.12	7	0.10	25
2013	9 376.04	0.25	0.12	7	0.10	25
2014	7 592.78	0.25	0.12	7	0.10	25
Resource Grouping - Lloydminster Alberta - Heavy - Conventional - 07;08						
2007	1 845.10	0.25	0.12	7	0.08	25
2008	1 480.23	0.25	0.12	7	0.08	25
2009	2 212.97	0.25	0.12	7	0.08	25
2010	2 727.38	0.25	0.12	7	0.08	25
2011	6 190.69	0.25	0.12	7	0.08	25
2012	7 120.88	0.25	0.12	7	0.08	25
2013	6 043.46	0.25	0.12	7	0.08	25
2014	7 405.38	0.25	0.12	7	0.08	25
Resource Grouping - Lloydminster Alberta - Heavy - Conventional - 14						
2007	97.22	0.30	0.12	7	0.05	25
2008	121.56	0.30	0.12	7	0.05	25
2009	79.24	0.30	0.12	7	0.05	25
2010	366.03	0.30	0.12	7	0.05	25
2011	303.59	0.30	0.12	7	0.05	25
2012	126.78	0.30	0.12	7	0.05	25
2013	120.52	0.30	0.12	7	0.05	25
2014	305.81	0.30	0.12	7	0.05	25
Resource Grouping - Lloydminster Alberta - Light - Conventional - 03;04;05						
2007	8.53	0.20	0.12	7	0.08	25
2008	2.55	0.20	0.12	7	0.08	25
2009	13.38	0.20	0.12	7	0.08	25
2010	0.00	0.20	0.12	7	0.08	25
2011	12.06	0.20	0.12	7	0.08	25
2012	82.10	0.20	0.12	7	0.08	25
2013	67.42	0.20	0.12	7	0.08	25
2014	0.00	0.20	0.12	0	0.08	0

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Lloydminster Alberta - Light - Conventional - 06						
2007	96.32	0.25	0.12	7	0.05	25
2008	63.27	0.25	0.12	7	0.05	25
2009	22.27	0.25	0.12	7	0.05	25
2010	46.52	0.25	0.12	7	0.05	25
2011	228.08	0.25	0.12	7	0.05	25
2012	296.51	0.25	0.12	7	0.05	25
2013	79.84	0.25	0.12	7	0.05	25
2014	830.08	0.25	0.12	7	0.05	25
Resource Grouping - Lloydminster Alberta - Light - Conventional - 07;08						
2007	133.98	0.25	0.12	7	0.05	25
2008	88.00	0.25	0.12	7	0.05	25
2009	168.13	0.25	0.12	7	0.05	25
2010	487.30	0.25	0.12	7	0.05	25
2011	139.29	0.25	0.12	7	0.05	25
2012	391.14	0.25	0.12	7	0.05	25
2013	120.68	0.25	0.12	7	0.05	25
2014	875.83	0.25	0.12	7	0.05	25
Resource Grouping - Lloydminster Alberta - Light - Tight - 03;04;05;06						
2010	6.98	0.50	0.25	7	0.16	25
2011	34.55	0.50	0.25	7	0.16	25
2012	53.64	0.50	0.25	7	0.16	25
2013	57.54	0.50	0.25	7	0.16	25
2014	338.54	0.50	0.25	7	0.16	25
Resource Grouping - Lloydminster Alberta - Light - Tight - 13;14						
2014	62.10	0.20	0.10	7	0.05	25
Resource Grouping - Eastern Alberta - Heavy - Conventional - 03;04;05						
2007	11.03	0.22	0.12	7	0.05	25
2008	21.08	0.22	0.12	7	0.05	25
2009	2.51	0.22	0.12	7	0.05	25
2010	2.23	0.22	0.12	7	0.05	25
2011	0.71	0.22	0.12	7	0.05	25
2012	80.96	0.22	0.12	7	0.05	25
2013	27.50	0.22	0.12	7	0.05	25
2014	147.91	0.22	0.12	7	0.05	25
Resource Grouping - Eastern Alberta - Heavy - Conventional - 06						
2007	484.23	0.20	0.12	7	0.05	25
2008	899.37	0.20	0.12	7	0.05	25
2009	0.00	0.00	0.12	0	0.00	0
2010	0.00	0.20	0.12	7	0.05	25
2011	186.04	0.20	0.12	7	0.05	25
2012	159.57	0.20	0.12	7	0.05	25
2013	218.66	0.20	0.12	7	0.05	25
2014	183.16	0.20	0.12	7	0.05	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Eastern Alberta - Heavy - Conventional - 07;08;09;10						
2007	1 062.55	0.25	0.12	7	0.10	25
2008	1 509.01	0.25	0.12	7	0.10	25
2009	227.08	0.25	0.12	7	0.10	25
2010	708.56	0.25	0.12	7	0.10	25
2011	600.33	0.25	0.12	7	0.10	25
2012	198.38	0.25	0.12	7	0.10	25
2013	234.12	0.25	0.12	7	0.10	25
2014	343.74	0.25	0.12	7	0.10	25
Resource Grouping - Eastern Alberta - Heavy - Conventional - 13;14;15						
2007	2 744.20	0.25	0.12	7	0.10	25
2008	1 477.94	0.25	0.12	7	0.10	25
2009	133.24	0.25	0.12	7	0.10	25
2010	0.05	0.25	0.12	7	0.10	25
Resource Grouping - Eastern Alberta - Light - Conventional - 03;04;05						
2007	80.61	0.25	0.12	7	0.08	25
2008	283.81	0.25	0.12	7	0.08	25
2009	137.89	0.25	0.12	7	0.08	25
2010	575.95	0.25	0.12	7	0.08	25
2011	394.69	0.25	0.12	7	0.08	25
2012	414.25	0.25	0.12	7	0.08	25
2013	85.40	0.25	0.12	7	0.08	25
2014	264.58	0.25	0.12	7	0.08	25
Resource Grouping - Eastern Alberta - Light - Conventional - 06						
2007	73.73	0.40	0.30	7	0.16	25
2008	387.84	0.40	0.30	7	0.16	25
2009	513.88	0.40	0.30	7	0.16	25
2010	307.36	0.40	0.30	7	0.16	25
2011	247.56	0.40	0.30	7	0.16	25
2012	655.92	0.40	0.30	7	0.16	25
2013	743.21	0.40	0.30	7	0.16	25
2014	208.65	0.40	0.30	7	0.16	25
Resource Grouping - Eastern Alberta - Light - Conventional - 07;08;09;10						
2007	391.12	0.25	0.12	7	0.10	25
2008	688.68	0.25	0.12	7	0.10	25
2009	304.44	0.25	0.12	7	0.10	25
2010	432.95	0.25	0.12	7	0.10	25
2011	984.04	0.25	0.12	7	0.10	25
2012	1 810.77	0.25	0.12	7	0.10	25
2013	1 894.38	0.25	0.12	7	0.10	25
2014	1 813.19	0.25	0.12	7	0.10	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Eastern Alberta - Light - Conventional - 13;14;15						
2007	5.05	0.20	0.12	7	0.05	25
2008	4.38	0.20	0.12	7	0.05	25
2009	0.00	0.20	0.12	0	0.00	0
2010	44.71	0.20	0.12	7	0.05	25
2011	89.42	0.20	0.12	7	0.05	25
2012	120.56	0.20	0.12	7	0.05	25
2013	397.49	0.20	0.12	7	0.05	25
2014	555.87	0.20	0.12	7	0.05	25
Resource Grouping - Eastern Alberta - Light - Tight - 03;04;05;06						
2009	1.34	0.30	0.12	7	0.05	25
2010	264.36	0.30	0.12	7	0.05	25
2011	779.18	0.30	0.12	7	0.05	25
2012	800.75	0.30	0.12	7	0.05	25
2013	838.78	0.30	0.12	7	0.05	25
2014	393.48	0.30	0.12	7	0.05	25
Resource Grouping - Eastern Alberta - Light - Tight - 07;08;09;10						
2013	57.13	0.22	0.12	7	0.05	25
Resource Grouping - Central Alberta - Light - Conventional - 09;10						
2007	121.50	0.40	0.20	7	0.10	25
2008	1 205.46	0.40	0.20	7	0.10	25
2009	22.73	0.40	0.20	7	0.10	25
2010	111.72	0.40	0.20	7	0.10	25
2011	13.49	0.40	0.20	7	0.10	25
2012	26.11	0.40	0.20	7	0.10	25
2013	8.03	0.40	0.20	7	0.10	25
2014	432.75	0.40	0.20	7	0.10	25
Resource Grouping - Central Alberta - Light - Conventional - 13						
2007	600.61	0.30	0.12	7	0.05	25
2008	1 058.73	0.30	0.12	7	0.05	25
2009	210.45	0.30	0.12	7	0.05	25
2010	335.61	0.30	0.12	7	0.05	25
2011	692.60	0.30	0.12	7	0.05	25
2012	301.55	0.30	0.12	7	0.05	25
2013	234.25	0.30	0.12	7	0.05	25
2014	165.47	0.30	0.12	7	0.05	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Central Alberta - Light - Conventional - 14;15						
2007	2 791.82	0.25	0.12	7	0.05	25
2008	2 413.82	0.25	0.12	7	0.05	25
2009	1 693.84	0.25	0.12	7	0.05	25
2010	1 507.29	0.25	0.12	7	0.05	25
2011	918.70	0.25	0.12	7	0.05	25
2012	1 472.38	0.25	0.12	7	0.05	25
2013	3 686.04	0.25	0.12	7	0.05	25
2014	4 406.11	0.25	0.12	7	0.05	25
Resource Grouping - Central Alberta - Light - Tight - 02;03;04;05;06;07;08						
2008	111.71	0.45	0.30	7	0.20	25
2009	203.56	0.45	0.30	7	0.20	25
2010	1 275.31	0.45	0.30	7	0.20	25
2011	3 611.87	0.45	0.30	7	0.20	25
2012	2 660.65	0.45	0.30	7	0.20	25
2013	3 967.58	0.45	0.30	7	0.20	25
2014	5 021.46	0.45	0.30	7	0.20	25
Resource Grouping - Central Alberta - Light - Tight - 13;14;15						
2009	9.12	0.60	0.45	7	0.20	25
2010	53.28	0.60	0.45	7	0.20	25
2011	29.25	0.60	0.45	7	0.20	25
2012	28.99	0.60	0.45	7	0.20	25
2013	45.97	0.60	0.45	7	0.20	25
2014	42.20	0.60	0.45	7	0.20	25
Resource Grouping - Central Alberta - Light - Shale - Duvernay						
2012	0.52	0.30	0.20	7	0.12	25
2013	0.00	0.30	0.20	7	0.12	25
2014	3.43	0.30	0.20	7	0.12	25
Resource Grouping - West Central Alberta - Heavy - Conventional - 03						
2014	179.24	0.35	0.14	7	0.05	25
Resource Grouping - West Central Alberta - Heavy - Conventional - 04;05;06;07;08						
2007	5.62	0.60	0.40	7	0.30	25
2008	5.98	0.60	0.40	7	0.30	25
2009	0.00	0.60	0.40	0	0.30	0
2010	0.00	0.60	0.40	7	0.30	25
2011	7.84	0.60	0.40	7	0.30	25
2012	34.96	0.60	0.40	7	0.30	25
2013	104.39	0.60	0.40	7	0.30	25
2014	39.00	0.70	0.60	7	0.30	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - West Central Alberta - Heavy - Conventional - 09						
2007	0.31	0.70	0.60	7	0.30	25
2008	0.04	0.70	0.60	7	0.30	25
2009	0.00	0.70	0.60	0	0.30	0
2010	0.01	0.70	0.60	7	0.30	25
2011	0.13	0.70	0.60	7	0.30	25
2012	2.22	0.70	0.60	7	0.30	25
2013	11.13	0.70	0.60	7	0.30	25
2014	10.77	0.70	0.60	7	0.30	25
Resource Grouping - West Central Alberta - Heavy - Conventional - 12;13						
2007	10.00	0.70	0.60	7	0.30	25
2008	245.13	0.70	0.60	7	0.30	25
2009	94.03	0.70	0.60	7	0.30	25
2010	152.48	0.70	0.60	7	0.30	25
2011	10.66	0.70	0.60	7	0.30	25
2012	187.72	0.70	0.60	7	0.30	25
2013	363.76	0.70	0.60	7	0.30	25
2014	183.65	0.70	0.60	7	0.30	25
Resource Grouping - West Central Alberta - Light - Conventional - 03						
2007	458.04	0.30	0.16	7	0.08	25
2008	693.04	0.30	0.16	7	0.08	25
2009	206.43	0.30	0.16	7	0.08	25
2010	238.64	0.30	0.16	7	0.08	25
2011	241.73	0.30	0.16	7	0.08	25
2012	179.40	0.30	0.16	7	0.08	25
2013	356.99	0.30	0.16	7	0.08	25
2014	865.37	0.30	0.16	7	0.08	25
Resource Grouping - West Central Alberta - Light - Conventional - 04;05;06;07;08						
2007	2 171.66	0.30	0.16	7	0.05	25
2008	2 427.15	0.30	0.16	7	0.05	25
2009	1 220.82	0.30	0.16	7	0.05	25
2010	586.31	0.30	0.16	7	0.05	25
2011	2 186.89	0.30	0.16	7	0.05	25
2012	907.72	0.30	0.16	7	0.05	25
2013	3 284.90	0.30	0.16	7	0.05	25
2014	2 878.32	0.30	0.16	7	0.05	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - West Central Alberta - Light - Conventional - 09						
2007	115.57	0.25	0.12	7	0.08	25
2008	195.55	0.25	0.12	7	0.08	25
2009	125.16	0.25	0.12	7	0.08	25
2010	158.07	0.25	0.12	7	0.08	25
2011	254.92	0.25	0.12	7	0.08	25
2012	536.91	0.25	0.12	7	0.08	25
2013	33.35	0.25	0.12	7	0.08	25
2014	467.56	0.25	0.12	7	0.08	25
Resource Grouping - West Central Alberta - Light - Conventional - 12;13						
2007	45.00	0.30	0.20	7	0.10	25
2008	5.44	0.30	0.20	7	0.10	25
2009	0.00	0.30	0.20	0	0.10	0
2010	9.67	0.30	0.20	7	0.10	25
2011	0.87	0.30	0.20	7	0.10	25
2012	72.57	0.30	0.20	7	0.10	25
2013	32.65	0.30	0.20	7	0.10	25
2014	73.48	0.30	0.20	7	0.10	25
Resource Grouping - West Central Alberta - Light - Conventional - 14;15						
2007	1 705.60	0.20	0.14	7	0.10	25
2008	848.36	0.20	0.14	7	0.10	25
2009	91.82	0.20	0.14	7	0.10	25
2010	444.93	0.20	0.14	7	0.10	25
2011	750.04	0.20	0.14	7	0.10	25
Resource Grouping - West Central Alberta - Light - Tight - 03						
2009	2.71	0.40	0.25	7	0.16	25
2010	320.41	0.40	0.25	7	0.16	25
2011	122.74	0.40	0.25	7	0.16	25
2012	200.08	0.40	0.25	7	0.16	25
2013	545.05	0.40	0.25	7	0.16	25
2014	1 309.84	0.40	0.25	7	0.16	25
Resource Grouping - West Central Alberta - Light - Tight - 04;05						
2008	30.63	0.70	0.50	7	0.25	25
2009	433.19	0.70	0.50	7	0.25	25
2010	3 454.57	0.70	0.50	7	0.25	25
2011	6 956.67	0.70	0.50	7	0.25	25
2012	14 346.88	0.70	0.50	7	0.25	25
2013	17 882.14	0.70	0.50	7	0.25	25
2014	13 652.37	0.70	0.50	7	0.25	25
Resource Grouping - West Central Alberta - Light - Shale - Duvernay						
2013	17.78	0.30	0.20	7	0.12	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Foothills - Light - Conventional - 03;04;05;06;07;08;09						
2007	117.36	0.20	0.12	7	0.08	25
2008	52.00	0.20	0.12	7	0.08	25
2009	16.55	0.20	0.12	7	0.08	25
2010	85.54	0.20	0.12	7	0.08	25
2011	154.83	0.20	0.12	7	0.08	25
2012	29.35	0.20	0.12	7	0.08	25
2013	831.52	0.20	0.12	7	0.08	25
2014	78.31	0.20	0.12	7	0.08	25
Resource Grouping - Foothills - Light - Conventional - 13;14						
2007	74.58	0.20	0.12	7	0.08	25
2008	43.26	0.20	0.12	7	0.08	25
2009	0.00	0.20	0.12	0	0.08	0
2010	14.41	0.20	0.12	7	0.08	25
2011	108.56	0.20	0.12	7	0.08	25
2012	438.73	0.20	0.12	7	0.08	25
2013	653.02	0.20	0.12	7	0.08	25
2014	1 178.43	0.20	0.12	7	0.08	25
Resource Grouping - Foothills - Light - Tight - 03;04;05;06;07;08;09						
2009	12.36	0.80	0.60	7	0.30	25
2010	143.46	0.80	0.60	7	0.30	25
2011	115.89	0.80	0.60	7	0.30	25
2012	2 085.40	0.80	0.60	7	0.30	25
2013	2 640.94	0.80	0.60	7	0.30	25
2014	2 562.94	0.80	0.60	7	0.30	25
Resource Grouping - Foothills - Light - Tight - 13;14						
2013	4.39	0.20	0.12	7	0.05	25
Resource Grouping - Kaybob - Heavy - Conventional - 03;04;05;06;07;08						
2011	7.73	0.30	0.12	7	0.08	25
Resource Grouping - Kaybob - Heavy - Conventional - 09;10;11;12						
2008	50.60	0.30	0.12	7	0.10	25
2009	0.00	0.30	0.12	0	0.10	0
2010	15.58	0.30	0.12	7	0.10	25
2011	47.75	0.30	0.12	7	0.10	25
2012	22.87	0.30	0.12	7	0.10	25
2013	0.00	0.30	0.12	0	0.10	0
2014	0.00	0.30	0.12	0	0.10	0
Resource Grouping - Kaybob - Heavy - Conventional - 13;14;15;16						
2009	12.26	0.35	0.12	7	0.10	25
2010	23.63	0.35	0.12	7	0.10	25
2011	12.32	0.35	0.12	7	0.10	25
2012	5.57	0.35	0.12	7	0.10	25
2013	0.61	0.35	0.12	7	0.10	25
2014	0.00	0.35	0.12	0	0.10	0

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Kaybob - Heavy - Tight - 03;04;05;06;07;08						
2009	5.95	0.60	0.50	7	0.25	25
2010	10.77	0.60	0.50	7	0.25	25
2011	0.00	0.60	0.50	0	0.25	0
2012	0.00	0.60	0.50	0	0.25	0
2013	5.56	0.60	0.50	7	0.25	25
2014	0.00	0.60	0.50	0	0.25	0
Resource Grouping - Kaybob - Heavy - Tight - 09;10;11;12						
2009	12.63	0.25	0.12	7	0.05	25
2010	0.00	0.25	0.12	7	0.05	25
2011	0.00	0.25	0.12	0	0.00	0
2012	55.28	0.25	0.12	7	0.05	25
2013	80.86	0.25	0.12	7	0.05	25
2014	0.00	0.25	0.12	0	0.00	0
Resource Grouping - Kaybob - Heavy - Tight - 13;14;15;16						
2010	6.07	0.20	0.12	7	0.05	25
2011	9.36	0.20	0.12	7	0.05	25
2012	19.65	0.20	0.12	7	0.05	25
2013	0.00	0.00	0.12	0	0.00	0
2014	0.00	0.00	0.12	0	0.00	0
Resource Grouping - Kaybob - Light - Conventional - 03;04;05;06;07;08						
2007	409.26	0.20	0.12	7	0.08	25
2008	758.21	0.20	0.12	7	0.08	25
2009	175.21	0.20	0.12	7	0.08	25
2010	546.82	0.20	0.12	7	0.08	25
2011	163.56	0.20	0.12	7	0.08	25
2012	42.46	0.20	0.12	7	0.08	25
2013	511.97	0.20	0.12	7	0.08	25
2014	1 433.89	0.20	0.12	7	0.08	25
Resource Grouping - Kaybob - Light - Conventional - 09;10;11;12						
2007	1 293.65	0.35	0.16	7	0.10	25
2008	621.62	0.35	0.16	7	0.10	25
2009	335.50	0.35	0.16	7	0.10	25
2010	284.52	0.35	0.16	7	0.10	25
2011	204.55	0.35	0.16	7	0.10	25
2012	67.17	0.35	0.16	7	0.10	25
2013	419.43	0.35	0.16	7	0.10	25
2014	451.68	0.35	0.16	7	0.10	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Kaybob - Light - Conventional - 13;14;15;16						
2007	3 062.96	0.25	0.16	7	0.10	25
2008	5 651.95	0.25	0.16	7	0.10	25
2009	952.88	0.25	0.16	7	0.10	25
2010	1 476.62	0.25	0.16	7	0.10	25
2011	1 381.14	0.25	0.16	7	0.10	25
2012	772.80	0.25	0.16	7	0.10	25
2013	2 004.52	0.25	0.16	7	0.10	25
2014	287.71	0.25	0.16	7	0.10	25
Resource Grouping - Kaybob - Light - Tight - 03;04;05;06;07;08						
2009	25.58	0.25	0.12	7	0.08	25
2010	251.98	0.25	0.12	7	0.08	25
2011	952.71	0.25	0.12	7	0.08	25
2012	3 926.62	0.25	0.12	7	0.08	25
2013	5 542.42	0.25	0.12	7	0.08	25
2014	5 490.11	0.25	0.12	7	0.08	25
Resource Grouping - Kaybob - Light - Tight - 09;10;11;12						
2009	238.98	0.60	0.40	7	0.25	25
2010	202.76	0.60	0.40	7	0.25	25
2011	1 191.14	0.60	0.40	7	0.25	25
2012	2 525.47	0.60	0.40	7	0.25	25
2013	4 947.27	0.60	0.40	7	0.25	25
2014	3 081.18	0.60	0.40	7	0.25	25
Resource Grouping - Kaybob - Light - Tight - 13;14;15;16						
2009	56.72	0.35	0.20	7	0.12	25
2010	1 025.76	0.35	0.20	7	0.12	25
2011	3 811.05	0.35	0.20	7	0.12	25
2012	5 717.48	0.35	0.20	7	0.12	25
2013	3 137.84	0.35	0.20	7	0.12	25
2014	2 047.00	0.35	0.20	7	0.12	25
Resource Grouping - Kaybob - Light - Shale - Duvernay						
2012	15.35	0.35	0.20	7	0.12	25
2013	27.32	0.35	0.20	7	0.12	25
2014	133.13	0.35	0.20	7	0.12	25
Resource Grouping - Peace River - Heavy - Conventional - 06;07						
2007	72.21	0.22	0.12	7	0.05	25
2008	84.86	0.22	0.12	7	0.05	25
2009	0.00	0.22	0.12	0	0.00	0
2010	0.19	0.22	0.12	7	0.05	25
2011	26.92	0.22	0.12	7	0.05	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Peace River - Heavy - Conventional - 08						
2007	242.44	0.60	0.50	7	0.25	25
2008	1 764.32	0.60	0.50	7	0.25	25
2009	122.04	0.60	0.50	7	0.25	25
2010	692.44	0.60	0.50	7	0.25	25
2011	1 469.68	0.60	0.50	7	0.25	25
2012	1 912.50	0.60	0.50	7	0.25	25
2013	760.49	0.60	0.50	7	0.25	25
2014	338.06	0.60	0.50	7	0.25	25
Resource Grouping - Peace River - Heavy - Conventional - 09;10;11						
2007	255.87	0.25	0.12	7	0.10	25
2008	41.74	0.25	0.12	7	0.10	25
2009	0.00	0.25	0.12	0	0.10	0
2010	14.14	0.25	0.12	7	0.10	25
2011	42.80	0.25	0.12	7	0.10	25
2012	52.87	0.25	0.12	7	0.10	25
2013	0.00	0.25	0.12	0	0.10	0
2014	148.62	0.25	0.12	7	0.10	25
Resource Grouping - Peace River - Heavy - Conventional - 16						
2007	14.29	0.40	0.16	7	0.08	25
2008	0.00	0.40	0.16	0	0.08	0
2009	3.46	0.40	0.16	7	0.08	25
Resource Grouping - Peace River - Heavy - Tight - 03;04;05;06;07;08						
2009	443.72	0.80	0.60	7	0.30	25
2010	603.80	0.80	0.60	7	0.30	25
2011	419.57	0.80	0.60	7	0.30	25
2012	334.72	0.80	0.60	7	0.30	25
2013	491.51	0.80	0.60	7	0.30	25
2014	550.08	0.80	0.60	7	0.30	25
Resource Grouping - Peace River - Heavy - Tight - 09;10;11						
2009	86.70	0.60	0.40	7	0.20	25
2010	339.00	0.60	0.40	7	0.20	25
2011	423.83	0.60	0.40	7	0.20	25
2012	893.49	0.60	0.40	7	0.20	25
2013	980.12	0.60	0.40	7	0.20	25
2014	642.06	0.60	0.40	7	0.20	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Peace River - Light - Conventional - 03;04						
2007	167.58	0.25	0.12	7	0.05	25
2008	172.96	0.25	0.12	7	0.05	25
2009	0.00	0.25	0.12	0	0.00	0
2010	105.46	0.25	0.12	7	0.05	25
2011	18.68	0.25	0.12	7	0.05	25
2012	2.24	0.25	0.12	7	0.05	25
2013	30.21	0.25	0.12	7	0.05	25
2014	9.79	0.25	0.12	7	0.05	25
Resource Grouping - Peace River - Light - Conventional - 05						
2007	361.48	0.25	0.16	7	0.10	25
2008	465.90	0.25	0.16	7	0.10	25
2009	259.61	0.25	0.16	7	0.10	25
2010	1 317.24	0.25	0.16	7	0.10	25
2011	1 201.31	0.25	0.16	7	0.10	25
2012	682.00	0.25	0.16	7	0.10	25
2013	199.46	0.25	0.16	7	0.10	25
2014	180.08	0.25	0.16	7	0.10	25
Resource Grouping - Peace River - Light - Conventional - 06;07						
2007	17.08	0.25	0.12	7	0.10	25
2008	20.67	0.25	0.12	7	0.10	25
2009	177.28	0.25	0.12	7	0.10	25
2010	144.73	0.25	0.12	7	0.10	25
2011	444.70	0.25	0.12	7	0.10	25
2012	591.64	0.25	0.12	7	0.10	25
2013	3.11	0.25	0.12	7	0.10	25
2014	0.00	0.25	0.12	0	0.10	0
Resource Grouping - Peace River - Light - Conventional - 08						
2007	90.86	0.25	0.12	7	0.08	25
2008	127.30	0.25	0.12	7	0.08	25
2009	35.61	0.25	0.12	7	0.08	25
2010	31.16	0.25	0.12	7	0.08	25
2011	17.11	0.25	0.12	7	0.08	25
2012	0.41	0.25	0.12	7	0.08	25
2013	7.28	0.25	0.12	7	0.08	25
2014	0.00	0.25	0.12	0	0.08	0

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Peace River - Light - Conventional - 09;10;11						
2007	3 621.15	0.25	0.12	7	0.05	25
2008	3 929.53	0.25	0.12	7	0.05	25
2009	1 233.61	0.25	0.12	7	0.05	25
2010	811.04	0.25	0.12	7	0.05	25
2011	1 131.12	0.25	0.12	7	0.05	25
2012	746.10	0.25	0.12	7	0.05	25
2013	1 367.73	0.25	0.12	7	0.05	25
2014	721.98	0.25	0.12	7	0.05	25
Resource Grouping - Peace River - Light - Conventional - 12;13						
2007	140.60	0.35	0.16	7	0.10	25
2008	308.27	0.35	0.16	7	0.10	25
2009	42.73	0.35	0.16	7	0.10	25
2010	117.24	0.35	0.16	7	0.10	25
2011	62.97	0.35	0.16	7	0.10	25
2012	0.00	0.35	0.16	0	0.10	0
2013	25.24	0.35	0.16	7	0.10	25
2014	17.24	0.35	0.16	7	0.10	25
Resource Grouping - Peace River - Light - Conventional - 14						
2007	84.26	0.35	0.20	7	0.14	25
2008	125.76	0.35	0.20	7	0.14	25
2009	25.08	0.35	0.20	7	0.14	25
2010	289.14	0.35	0.20	7	0.14	25
2011	515.69	0.35	0.20	7	0.14	25
2012	61.27	0.35	0.20	7	0.14	25
2013	73.63	0.35	0.20	7	0.14	25
2014	112.60	0.35	0.20	7	0.14	25
Resource Grouping - Peace River - Light - Conventional - 15						
2007	3 742.98	0.45	0.25	7	0.14	25
2008	7 041.79	0.45	0.25	7	0.14	25
2009	2 433.91	0.45	0.25	7	0.14	25
2010	1 931.41	0.45	0.25	7	0.14	25
2011	6 367.84	0.45	0.25	7	0.14	25
2012	5 338.95	0.45	0.25	7	0.14	25
2013	513.98	0.45	0.25	7	0.14	25
2014	438.20	0.45	0.25	7	0.14	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Peace River - Light - Conventional - 16						
2007	549.15	0.50	0.35	7	0.25	25
2008	400.84	0.50	0.35	7	0.25	25
2009	1 182.14	0.50	0.35	7	0.25	25
2010	4 495.76	0.50	0.35	7	0.25	25
2011	773.34	0.50	0.35	7	0.25	25
2012	221.09	0.50	0.35	7	0.25	25
2013	0.00	0.50	0.35	0	0.25	0
2014	0.00	0.50	0.35	0	0.25	0
Resource Grouping - Peace River - Light - Tight - 03;04						
2010	36.19	0.25	0.12	7	0.10	25
2011	0.00	0.25	0.12	0	0.10	0
2012	0.76	0.25	0.12	7	0.10	25
2013	263.08	0.25	0.12	7	0.10	25
2014	244.46	0.25	0.12	7	0.10	25
Resource Grouping - Peace River - Light - Tight - 05;06;07;08;09;10;11						
2009	61.47	0.30	0.20	7	0.10	25
2010	941.92	0.30	0.20	7	0.10	25
2011	2 405.98	0.30	0.20	7	0.10	25
2012	3 732.69	0.30	0.20	7	0.10	25
2013	7 914.74	0.30	0.20	7	0.10	25
2014	8 518.10	0.30	0.20	7	0.10	25
Resource Grouping - Peace River - Light - Tight - 12;13;14;15;16						
2009	37.49	0.35	0.20	7	0.12	25
2010	515.11	0.35	0.20	7	0.12	25
2011	2 490.78	0.35	0.20	7	0.12	25
2012	2 817.93	0.35	0.20	7	0.12	25
2013	1 314.36	0.35	0.20	7	0.12	25
2014	1 769.34	0.35	0.20	7	0.12	25
Resource Grouping - Northeast Alberta - Heavy - Conventional - 04;05;06;07;08						
2007	7.46	0.30	0.14	7	0.08	25
2008	3.35	0.30	0.14	7	0.08	25
2009	3.34	0.30	0.14	7	0.08	25
2010	2.92	0.30	0.14	7	0.08	25
2011	10.35	0.30	0.14	7	0.08	25
2012	5.74	0.30	0.14	7	0.08	25
2013	2.59	0.30	0.14	7	0.08	25
2014	90.17	0.30	0.14	7	0.08	25
Resource Grouping - Northeast Alberta - Heavy - Conventional - 14						
2010	6.50	0.40	0.12	7	0.05	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Northeast Alberta - Light - Conventional - 01;02;03;04;05;06;07						
2007	2.82	0.30	0.16	7	0.10	25
2008	1.78	0.30	0.16	7	0.10	25
2009	0.00	0.30	0.16	0	0.10	0
2010	0.01	0.30	0.16	7	0.10	25
2011	0.49	0.30	0.16	7	0.10	25
2012	10.41	0.30	0.16	7	0.10	25
2013	59.22	0.30	0.16	7	0.10	25
2014	243.00	0.30	0.16	7	0.10	25
Resource Grouping - Northeast Alberta - Light - Conventional - 08						
2010	0.43	0.12	0.10	7	0.05	25
2011	0.00	0.12	0.10	0	0.00	0
2012	0.00	0.12	0.10	0	0.00	0
2013	0.00	0.12	0.10	0	0.00	0
2014	18.39	0.12	0.10	7	0.05	25
Resource Grouping - Northeast Alberta - Light - Tight - 04;05;06;07;08;14						
2010	0.03	0.25	0.12	7	0.05	25
2011	0.00	0.25	0.12	7	0.05	25
2012	0.00	0.25	0.12	7	0.05	25
2013	19.37	0.25	0.12	7	0.05	25
2014	0.00	0.25	0.12	0	0.00	0
Resource Grouping - Northwest Alberta - Heavy - Conventional - 08;13;14;15						
2008	41.38	0.40	0.12	7	0.05	25
2009	21.34	0.40	0.12	7	0.05	25
Resource Grouping - Northwest Alberta - Light - Conventional - 08;13;14;15						
2007	882.40	0.40	0.30	7	0.20	25
2008	1 260.26	0.40	0.30	7	0.20	25
2009	823.71	0.40	0.30	7	0.20	25
2010	610.45	0.40	0.30	7	0.20	25
2011	1 454.18	0.40	0.30	7	0.20	25
2012	4 923.13	0.40	0.30	7	0.20	25
2013	3 228.46	0.40	0.30	7	0.20	25
2014	3 871.54	0.40	0.30	7	0.20	25
Resource Grouping - Northwest Alberta - Light - Tight - 08;13;14;15						
2010	6.00	0.50	0.30	7	0.20	25
2011	7.16	0.50	0.30	7	0.20	25
2012	11.72	0.50	0.30	7	0.20	25
2013	28.08	0.50	0.30	7	0.20	25
2014	173.42	0.50	0.30	7	0.20	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Fort St. John - Heavy - Conventional - 04;05;06;07;08						
2007	159.14	0.30	0.12	7	0.05	25
2008	72.79	0.30	0.12	7	0.05	25
2009	115.24	0.30	0.12	7	0.05	25
2010	48.07	0.30	0.12	7	0.05	25
2011	652.57	0.30	0.12	7	0.05	25
2012	953.87	0.30	0.12	7	0.05	25
2013	1 267.91	0.30	0.12	7	0.05	25
2014	917.38	0.30	0.12	7	0.05	25
Resource Grouping - Fort St. John - Heavy - Conventional - 10;11						
2007	5.56	0.30	0.12	7	0.05	25
Resource Grouping - Fort St. John - Heavy - Conventional - 12;13;14						
2009	14.80	0.30	0.12	7	0.05	25
2010	1.91	0.30	0.12	7	0.05	25
2011	146.54	0.30	0.12	7	0.05	25
2012	89.11	0.30	0.12	7	0.05	25
2013	0.00	0.30	0.12	0	0.00	0
2014	0.00	0.30	0.12	0	0.00	0
Resource Grouping - Fort St. John - Light - Conventional - 04;05;06;07;08						
2007	281.58	0.50	0.40	7	0.20	25
2008	648.26	0.50	0.40	7	0.20	25
2009	0.00	0.50	0.40	0	0.20	0
2010	317.92	0.50	0.40	7	0.20	25
2011	231.75	0.50	0.40	7	0.20	25
2012	236.32	0.50	0.40	7	0.20	25
2013	27.31	0.50	0.40	7	0.20	25
2014	94.32	0.50	0.40	7	0.20	25
Resource Grouping - Fort St. John - Light - Conventional - 10;11						
2007	203.18	0.30	0.12	7	0.08	25
2008	470.15	0.30	0.12	7	0.08	25
2009	193.99	0.30	0.12	7	0.08	25
2010	452.32	0.30	0.12	7	0.08	25
2011	618.35	0.30	0.12	7	0.08	25
2012	527.31	0.30	0.12	7	0.08	25
2013	2 138.56	0.30	0.12	7	0.08	25
2014	4 960.92	0.30	0.12	7	0.08	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Fort St. John - Light - Conventional - 12;13;14						
2007	319.95	0.25	0.12	7	0.05	25
2008	406.56	0.25	0.12	7	0.05	25
2009	0.00	0.25	0.12	0	0.00	0
2010	1.79	0.25	0.12	7	0.05	25
2011	120.35	0.25	0.12	7	0.05	25
2012	138.79	0.25	0.12	7	0.05	25
2013	153.17	0.25	0.12	7	0.05	25
2014	35.10	0.25	0.12	7	0.05	25
Resource Grouping - Lloydminster Saskatchewan - Heavy - Conventional - 06						
2007	6 566.22	0.25	0.12	7	0.08	25
2008	6 648.25	0.25	0.12	7	0.08	25
2009	6 438.44	0.25	0.12	7	0.08	25
2010	5 325.77	0.25	0.12	7	0.08	25
2011	5 780.92	0.25	0.12	7	0.08	25
2012	7 478.09	0.25	0.12	7	0.08	25
2013	10 697.54	0.25	0.12	7	0.08	25
2014	13 909.90	0.25	0.12	7	0.08	25
Resource Grouping - Lloydminster Saskatchewan - Heavy - Conventional - 07;08						
2007	2 259.74	0.30	0.20	7	0.10	25
2008	5 696.25	0.30	0.20	7	0.10	25
2009	2 875.61	0.30	0.20	7	0.10	25
2010	2 642.12	0.30	0.20	7	0.10	25
2011	4 630.59	0.30	0.20	7	0.10	25
2012	7 431.88	0.30	0.20	7	0.10	25
2013	12 329.28	0.30	0.20	7	0.10	25
2014	20 603.08	0.30	0.20	7	0.10	25
Resource Grouping - Lloydminster Saskatchewan - Heavy - Conventional - 13						
2007	561.70	0.20	0.12	7	0.05	25
2008	591.87	0.20	0.12	7	0.05	25
2009	275.24	0.20	0.12	7	0.05	25
2010	308.15	0.20	0.12	7	0.05	25
2011	896.13	0.20	0.12	7	0.05	25
2012	3 061.51	0.20	0.12	7	0.05	25
2013	1 364.61	0.20	0.12	7	0.05	25
2014	822.96	0.20	0.12	7	0.05	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Lloydminster Saskatchewan - Heavy - Conventional - 14;15						
2007	125.84	0.20	0.12	7	0.05	25
2008	311.53	0.20	0.12	7	0.05	25
2009	465.91	0.20	0.12	7	0.05	25
2010	106.25	0.20	0.12	7	0.05	25
2011	413.59	0.20	0.12	7	0.05	25
2012	1 472.38	0.20	0.12	7	0.05	25
2013	2 470.29	0.20	0.12	7	0.05	25
2014	1 737.36	0.20	0.12	7	0.05	25
Resource Grouping - Lloydminster Saskatchewan - Light - Conventional - 03;04;05;06;07;08						
2007	351.46	0.30	0.16	7	0.10	25
2008	1 561.00	0.30	0.16	7	0.10	25
2009	424.59	0.30	0.16	7	0.10	25
2010	523.36	0.30	0.16	7	0.10	25
2011	88.56	0.30	0.16	7	0.10	25
2012	467.42	0.30	0.16	7	0.10	25
2013	230.63	0.30	0.16	7	0.10	25
2014	534.39	0.30	0.16	7	0.10	25
Resource Grouping - Lloydminster Saskatchewan - Light - Tight - 03;04;05;06;07;08						
2007	0.00	0.00	0.00	0	0.00	0
2008	0.00	0.00	0.00	0	0.00	0
2009	127.22	0.25	0.12	7	0.08	25
2010	184.33	0.25	0.12	7	0.08	25
2011	1 154.02	0.25	0.12	7	0.08	25
2012	2 696.59	0.25	0.12	7	0.08	25
2013	6 739.20	0.25	0.12	7	0.08	25
2014	12 932.37	0.25	0.12	7	0.08	25
Resource Grouping - Southwest Saskatchewan - Heavy - Conventional - 03;04;05;06;07;08						
2007	409.80	0.20	0.12	7	0.05	25
2008	173.95	0.20	0.12	7	0.05	25
2009	220.71	0.20	0.12	7	0.05	25
2010	73.30	0.20	0.12	7	0.05	25
2011	334.62	0.20	0.12	7	0.05	25
2012	532.54	0.20	0.12	7	0.05	25
2013	503.81	0.20	0.12	7	0.05	25
2014	2 208.31	0.20	0.12	7	0.05	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Southwest Saskatchewan - Heavy - Conventional - 09;13;14						
2007	2 386.93	0.12	0.08	7	0.05	25
2008	1 179.34	0.12	0.08	7	0.05	25
2009	1 217.68	0.12	0.08	7	0.05	25
2010	3 048.59	0.12	0.08	7	0.05	25
2011	1 337.03	0.12	0.08	7	0.05	25
2012	2 487.00	0.12	0.08	7	0.05	25
2013	4 801.71	0.12	0.08	7	0.05	25
2014	8 963.39	0.12	0.08	7	0.05	25
Resource Grouping - Southwest Saskatchewan - Heavy - Tight - 09;13;14						
2007	22.50	0.30	0.16	7	0.10	25
2008	468.70	0.30	0.16	7	0.10	25
2009	1 306.18	0.30	0.16	7	0.10	25
2010	1 296.54	0.30	0.16	7	0.10	25
2011	1 114.60	0.30	0.16	7	0.10	25
2012	2 611.73	0.30	0.16	7	0.10	25
2013	1 921.00	0.30	0.16	7	0.10	25
2014	3 809.93	0.30	0.16	7	0.10	25
Resource Grouping - Southwest Saskatchewan - Light - Conventional - 03;04;05;06;07;08;09;13						
2007	30.13	0.30	0.20	7	0.10	25
2008	70.06	0.30	0.20	7	0.10	25
2009	55.57	0.30	0.20	7	0.10	25
2010	33.62	0.30	0.20	7	0.10	25
2011	4.85	0.30	0.20	7	0.10	25
2012	7.55	0.30	0.20	7	0.10	25
2013	2.85	0.30	0.20	7	0.10	25
2014	23.70	0.30	0.20	7	0.10	25
Resource Grouping - Southwest Saskatchewan - Light - Tight - 03;04;05;06;07;08;09;13						
2007	0.00	0.00	0.00	0	0.00	0
2008	0.00	0.00	0.00	0	0.00	0
2009	20.03	0.35	0.25	7	0.12	25
2010	72.86	0.35	0.25	7	0.12	25
2011	103.57	0.35	0.25	7	0.12	25
2012	338.97	0.35	0.25	7	0.12	25
2013	1 057.29	0.35	0.25	7	0.12	25
2014	2 979.56	0.35	0.25	7	0.12	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Southeast Saskatchewan - Heavy - Conventional - 06;07;08						
2007	77.57	0.25	0.12	7	0.05	25
2008	14.86	0.25	0.12	7	0.05	25
2009	0.00	0.25	0.12	0	0.00	0
2010	0.00	0.25	0.12	7	0.05	25
2011	0.00	0.25	0.12	0	0.00	0
2012	141.60	0.25	0.12	7	0.05	25
2013	19.45	0.25	0.12	7	0.05	25
2014	0.00	0.25	0.12	0	0.00	0
Resource Grouping - Southeast Saskatchewan - Heavy - Conventional - 09;10;11						
2007	269.39	0.30	0.20	7	0.10	25
2008	207.88	0.30	0.20	7	0.10	25
2009	205.60	0.30	0.20	7	0.10	25
2010	19.25	0.30	0.20	7	0.10	25
2011	33.49	0.30	0.20	7	0.10	25
2012	76.01	0.30	0.20	7	0.10	25
2013	264.42	0.30	0.20	7	0.10	25
2014	209.28	0.30	0.20	7	0.10	25
Resource Grouping - Southeast Saskatchewan - Heavy - Conventional - 13						
2007	3 731.86	0.25	0.12	7	0.08	25
2008	2 752.69	0.25	0.12	7	0.08	25
2009	2 095.03	0.25	0.12	7	0.08	25
2010	1 919.71	0.25	0.12	7	0.08	25
2011	4 712.46	0.25	0.12	7	0.08	25
2012	9 082.71	0.25	0.12	7	0.08	25
2013	10 719.13	0.25	0.12	7	0.08	25
2014	14 002.96	0.25	0.12	7	0.08	25
Resource Grouping - Southeast Saskatchewan - Heavy - Conventional - 14;15;16;17;18;19						
2007	100.87	0.25	0.12	7	0.08	25
2008	8.11	0.25	0.12	7	0.08	25
2009	11.48	0.25	0.12	7	0.08	25
2010	2.24	0.25	0.12	7	0.08	25
2011	2.38	0.25	0.12	7	0.08	25
2012	22.98	0.25	0.12	7	0.08	25
2013	16.30	0.25	0.12	7	0.08	25
2014	12.80	0.25	0.12	7	0.08	25
Resource Grouping - Southeast Saskatchewan - Light - Conventional - 06;07;08;09;10;11						
2012	24.66	0.25	0.16	7	0.10	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Southeast Saskatchewan - Light - Conventional - 13						
2007	2 293.75	0.30	0.12	7	0.10	25
2008	4 266.64	0.30	0.12	7	0.10	25
2009	1 819.95	0.30	0.12	7	0.10	25
2010	3 107.16	0.30	0.12	7	0.10	25
2011	2 514.16	0.30	0.12	7	0.10	25
2012	2 731.97	0.30	0.12	7	0.10	25
2013	5 150.69	0.30	0.12	7	0.10	25
2014	8 442.24	0.30	0.12	7	0.10	25
Resource Grouping - Southeast Saskatchewan - Light - Conventional - 14;15						
2007	40.29	0.25	0.12	7	0.05	25
2008	167.05	0.25	0.12	7	0.05	25
2009	85.05	0.25	0.12	7	0.05	25
Resource Grouping - Southeast Saskatchewan - Light - Tight - 13						
2007	2 346.05	0.25	0.12	7	0.10	25
2008	4 423.20	0.25	0.12	7	0.10	25
2009	7 449.31	0.25	0.12	7	0.10	25
2010	5 179.11	0.25	0.12	7	0.10	25
2011	7 920.98	0.25	0.12	7	0.10	25
2012	6 982.00	0.25	0.12	7	0.10	25
2013	10 820.07	0.25	0.12	7	0.10	25
2014	11 882.92	0.25	0.12	7	0.10	25
Resource Grouping - Southeast Saskatchewan - Light - Tight - 14;15						
2007	61.49	0.35	0.20	7	0.10	25
2008	88.82	0.35	0.20	7	0.10	25
2009	60.22	0.35	0.20	7	0.10	25
2010	69.75	0.35	0.20	7	0.10	25
2011	203.35	0.35	0.20	7	0.10	25
2012	774.21	0.35	0.20	7	0.10	25
2013	825.69	0.35	0.20	7	0.10	25
2014	1 777.13	0.35	0.20	7	0.10	25
Resource Grouping - Manitoba - Light - Conventional - 09;10;11;13;14						
2007	4 623.46	0.30	0.25	7	0.12	25
2008	2 467.34	0.30	0.25	7	0.12	25
2009	1 155.07	0.30	0.25	7	0.12	25
2010	899.66	0.30	0.25	7	0.12	25
2011	995.41	0.30	0.25	7	0.12	25
2012	1 988.48	0.30	0.25	7	0.12	25
2013	5 523.93	0.30	0.25	7	0.12	25
2014	7 105.51	0.30	0.25	7	0.12	25

Connection Year	Group Production Rate as of Dec. 31, 2014 Mkt bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate
Resource Grouping - Manitoba - Light - Tight - 09;10;11;13;14						
2007	32.55	0.60	0.50	7	0.25	25
2008	506.45	0.60	0.50	7	0.25	25
2009	1 333.34	0.60	0.50	7	0.25	25
2010	1 729.70	0.60	0.50	7	0.25	25
2011	3 465.87	0.60	0.50	7	0.25	25
2012	10 620.13	0.60	0.50	7	0.25	25
2013	12 018.54	0.60	0.50	7	0.25	25
2014	5 404.38	0.60	0.50	7	0.25	25

A4 – Decline Parameters for Oil Wells

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Southern Alberta - Heavy - Conventional - 03;04;05;06										
2007	97.35	0.65	0.35	7	0.25	20	0.16	45	0.10	90
2008	78.06	0.55	0.35	7	0.25	20	0.18	45	0.10	90
2009	100.84	0.75	0.50	7	0.30	20	0.20	45	0.10	90
2010	83.93	0.60	0.40	7	0.33	20	0.20	45	0.08	90
2011	91.86	0.60	0.45	7	0.28	20	0.18	45	0.08	90
2012	69.04	0.70	0.45	7	0.32	20	0.12	45	0.10	90
2013	67.79	0.90	0.40	7	0.30	20	0.10	45	0.08	90
2014	43.70	0.75	0.45	7	0.30	20	0.12	45	0.08	90
2015	46.22	0.58	0.30	7	0.22	20	0.12	45	0.08	90
2016	42.14	0.60	0.30	7	0.20	20	0.12	45	0.08	90
2017	32.80	0.20	0.40	7	0.25	20	0.18	45	0.08	90
Resource Grouping - Southern Alberta - Heavy - Conventional - 07										
2007	43.70	0.75	0.45	7	0.30	20	0.12	45	0.08	90
2008	46.22	0.58	0.30	7	0.22	20	0.12	45	0.08	90
2009	42.14	0.60	0.30	7	0.20	20	0.12	45	0.08	90
2010	32.80	0.20	0.40	7	0.25	20	0.18	45	0.08	90
2011	32.80	0.20	0.40	7	0.25	20	0.18	45	0.08	90
2012	49.29	0.75	0.50	7	0.25	20	0.16	45	0.08	90
2013	52.09	0.70	0.45	7	0.25	20	0.16	45	0.08	90
2014	83.84	0.80	0.40	7	0.20	20	0.16	45	0.08	90
2015	91.84	0.70	0.45	7	0.25	20	0.16	45	0.08	90
2016	99.84	0.70	0.45	7	0.25	20	0.16	45	0.08	90
2017	107.84	0.70	0.45	7	0.25	20	0.16	45	0.08	90
Resource Grouping - Southern Alberta - Heavy - Conventional - 08										
2007	30.73	0.80	0.35	7	0.25	20	0.12	45	0.05	90
2008	21.10	0.40	0.30	7	0.16	20	0.12	45	0.05	90
2009	43.81	0.65	0.37	7	0.30	20	0.16	45	0.05	90
2010	43.98	0.70	0.35	7	0.16	20	0.12	45	0.05	90
2011	32.50	0.55	0.25	7	0.20	20	0.12	45	0.05	90
2012	62.60	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2013	66.81	0.60	0.30	7	0.18	20	0.12	45	0.05	90
2014	79.06	0.60	0.30	7	0.18	20	0.12	45	0.05	90
2015	86.97	0.60	0.30	7	0.18	20	0.12	45	0.05	90
2016	95.67	0.60	0.30	7	0.18	20	0.12	45	0.05	90
2017	105.23	0.60	0.30	7	0.18	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Southern Alberta - Heavy - Conventional - 09;10										
2007	20.27	0.75	0.55	7	0.30	20	0.12	45	0.10	90
2008	15.96	0.20	0.12	7	0.08	20	0.05	45	0.10	90
2009	20.74	0.30	0.20	7	0.16	20	0.12	45	0.10	90
2010	14.84	0.60	0.30	7	0.20	20	0.12	45	0.10	90
2011	24.54	0.55	0.35	7	0.20	20	0.12	45	0.10	90
2012	15.58	0.70	0.30	7	0.20	20	0.12	45	0.10	90
2013	33.80	0.70	0.30	7	0.20	20	0.12	45	0.10	90
2014	22.66	0.70	0.30	7	0.20	20	0.12	45	0.10	90
2015	24.15	0.70	0.30	7	0.20	20	0.12	45	0.10	90
2016	24.15	0.70	0.30	7	0.20	20	0.12	45	0.10	90
2017	24.15	0.70	0.30	7	0.20	20	0.12	45	0.10	90
Resource Grouping - Southern Alberta - Heavy - Conventional - 13;14;15										
2007	20.60	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2008	79.32	1.25	0.60	7	0.40	20	0.12	45	0.05	90
2009	65.10	1.25	0.60	7	0.40	20	0.12	45	0.05	90
2010	46.19	0.75	0.40	7	0.25	20	0.12	45	0.05	90
2011	53.29	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2012	36.62	1.25	0.45	7	0.25	20	0.12	45	0.05	90
2013	25.67	0.85	0.45	7	0.25	20	0.12	45	0.05	90
2014	14.37	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	14.37	0.85	0.45	7	0.25	20	0.12	45	0.05	90
2016	14.37	0.85	0.45	7	0.25	20	0.12	45	0.05	90
2017	14.37	0.85	0.45	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Southern Alberta - Heavy - Tight - 07;08										
2010	68.31	1.65	0.95	7	0.30	20	0.12	45	0.05	90
2011	80.43	1.55	0.45	7	0.30	20	0.12	45	0.05	90
2012	141.66	0.60	0.80	7	0.40	20	0.12	45	0.05	90
2013	220.20	1.05	0.70	7	0.40	20	0.12	45	0.05	90
2014	69.25	1.05	0.70	7	0.40	20	0.12	45	0.05	90
2015	69.25	1.05	0.70	7	0.40	20	0.12	45	0.05	90
2016	69.25	1.05	0.70	7	0.40	20	0.12	45	0.05	90
2017	69.25	1.05	0.70	7	0.40	20	0.12	45	0.05	90
Resource Grouping - Southern Alberta - Heavy - Tight - 13;14;15										
2009	105.94	0.70	0.50	7	0.25	20	0.12	45	0.05	90
2010	224.46	2.00	0.85	7	0.40	20	0.12	45	0.05	90
2011	138.67	2.25	0.80	7	0.40	20	0.12	45	0.05	90
2012	45.21	1.75	0.60	7	0.40	20	0.12	45	0.05	90
2013	25.61	1.45	0.70	7	0.40	20	0.12	45	0.05	90
2014	30.43	1.00	0.70	7	0.30	20	0.12	45	0.05	90
2015	30.43	1.45	0.70	7	0.40	20	0.12	45	0.05	90
2016	30.43	1.45	0.70	7	0.40	20	0.12	45	0.05	90
2017	30.43	1.45	0.70	7	0.40	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Southern Alberta - Light - Conventional - 03;04;05;06										
2007	19.85	0.55	0.30	7	0.22	20	0.12	45	0.05	90
2008	16.75	0.75	0.25	7	0.20	20	0.12	45	0.05	90
2009	12.05	0.75	0.25	7	0.16	20	0.12	45	0.05	90
2010	14.45	0.65	0.12	7	0.10	20	0.05	45	0.05	90
2011	42.48	0.95	0.40	7	0.16	20	0.12	45	0.05	90
2012	26.76	0.65	0.30	7	0.20	20	0.12	45	0.05	90
2013	54.78	0.65	0.30	7	0.16	20	0.10	45	0.05	90
2014	88.44	0.80	0.40	7	0.20	20	0.10	45	0.05	90
2015	92.86	0.65	0.30	7	0.16	20	0.10	45	0.05	90
2016	97.50	0.65	0.30	7	0.16	20	0.10	45	0.05	90
2017	102.38	0.65	0.30	7	0.16	20	0.10	45	0.05	90
Resource Grouping - Southern Alberta - Light - Conventional - 07										
2007	70.51	1.00	0.50	7	0.32	20	0.16	45	0.05	90
2008	37.09	0.60	0.35	7	0.25	20	0.12	45	0.05	90
2009	25.18	0.60	0.45	7	0.25	20	0.16	45	0.05	90
2010	33.02	0.75	0.30	7	0.20	20	0.12	45	0.05	90
2011	52.94	1.25	0.65	7	0.30	20	0.12	45	0.05	90
2012	114.61	1.60	0.60	7	0.30	20	0.12	45	0.05	90
2013	115.81	1.15	0.50	7	0.25	20	0.12	45	0.05	90
2014	110.28	0.95	0.40	7	0.20	20	0.12	45	0.05	90
2015	110.28	1.15	0.50	7	0.25	20	0.12	45	0.05	90
2016	110.28	1.15	0.50	7	0.25	20	0.12	45	0.05	90
2017	110.28	1.15	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Southern Alberta - Light - Conventional - 08										
2007	37.16	0.50	0.30	7	0.25	20	0.12	45	0.08	90
2008	39.68	1.25	0.40	7	0.25	20	0.12	45	0.08	90
2009	22.44	0.50	0.35	7	0.25	20	0.16	45	0.08	90
2010	23.17	0.45	0.35	7	0.25	20	0.16	45	0.08	90
2011	28.57	0.55	0.35	7	0.25	20	0.12	45	0.08	90
2012	24.46	0.45	0.30	7	0.20	20	0.12	45	0.08	90
2013	60.23	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2014	92.51	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2015	102.51	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2016	107.51	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2017	112.51	0.50	0.30	7	0.20	20	0.12	45	0.08	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Southern Alberta - Light - Conventional - 09;10										
2007	18.23	0.10	0.05	7	0.05	20	0.05	45	0.05	90
2008	33.58	0.85	0.30	7	0.18	20	0.12	45	0.05	90
2009	7.46	0.20	0.12	7	0.05	20	0.05	45	0.05	90
2010	8.92	0.40	0.30	7	0.20	20	0.12	45	0.05	90
2011	26.10	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2012	22.76	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2013	19.41	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	19.41	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	19.41	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	19.41	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	19.41	0.65	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Southern Alberta - Light - Conventional - 13;14;15										
2007	31.79	0.40	0.30	7	0.20	20	0.16	45	0.05	90
2008	35.94	0.85	0.45	7	0.25	20	0.12	45	0.05	90
2009	40.17	0.60	0.50	7	0.35	20	0.12	45	0.05	90
2010	30.91	0.75	0.45	7	0.35	20	0.12	45	0.05	90
2011	30.75	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2012	22.65	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2013	105.81	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2014	145.42	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2015	152.69	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2016	156.51	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2017	160.42	0.60	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Southern Alberta - Light - Tight - 03;04;05;06										
2013	285.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	582.61	0.85	0.50	7	0.20	20	0.12	45	0.05	90
2015	582.61	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	582.61	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	582.61	0.65	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Southern Alberta - Light - Tight - 07;08;09;10										
2010	81.23	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2011	62.22	1.25	0.70	7	0.30	20	0.12	45	0.05	90
2012	170.93	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2013	150.33	1.05	0.50	7	0.30	20	0.12	45	0.05	90
2014	343.09	1.05	0.50	7	0.30	20	0.12	45	0.05	90
2015	343.09	1.05	0.50	7	0.30	20	0.12	45	0.05	90
2016	343.09	1.05	0.50	7	0.30	20	0.12	45	0.05	90
2017	343.09	1.05	0.50	7	0.30	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Southern Alberta - Light - Tight - 13;14;15										
2009	260.93	1.50	0.75	7	0.40	20	0.12	45	0.05	90
2010	56.32	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2011	55.73	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2012	120.63	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2013	255.68	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2014	306.82	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2015	314.49	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2016	322.35	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2017	330.41	1.25	0.60	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Lloydminster Alberta - Heavy - Conventional - 03;04;05										
2007	32.18	0.85	0.45	7	0.35	20	0.16	45	0.05	90
2008	12.74	0.95	0.55	7	0.25	20	0.12	45	0.05	90
2009	65.30	1.05	0.85	7	0.40	20	0.12	45	0.05	90
2010	34.83	1.50	0.75	7	0.25	20	0.12	45	0.05	90
2011	31.08	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2012	27.67	0.60	0.45	7	0.20	20	0.12	45	0.05	90
2013	63.25	0.60	0.45	7	0.20	20	0.12	45	0.05	90
2014	27.40	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	27.40	0.60	0.45	7	0.20	20	0.12	45	0.05	90
2016	27.40	0.60	0.45	7	0.20	20	0.12	45	0.05	90
2017	27.40	0.60	0.45	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Lloydminster Alberta - Heavy - Conventional - 06										
2007	27.93	0.12	0.35	7	0.32	20	0.25	45	0.10	90
2008	31.42	0.35	0.25	7	0.30	20	0.25	45	0.12	90
2009	31.45	0.60	0.30	7	0.20	20	0.12	45	0.10	90
2010	25.98	0.50	0.23	7	0.22	20	0.12	45	0.10	90
2011	22.55	0.35	0.30	7	0.20	20	0.12	45	0.10	90
2012	25.77	0.30	0.25	7	0.20	20	0.12	45	0.10	90
2013	44.44	0.30	0.25	7	0.20	20	0.12	45	0.10	90
2014	45.39	0.30	0.25	7	0.20	20	0.12	45	0.10	90
2015	45.39	0.30	0.25	7	0.20	20	0.12	45	0.10	90
2016	45.39	0.30	0.25	7	0.20	20	0.12	45	0.10	90
2017	45.39	0.30	0.25	7	0.20	20	0.12	45	0.10	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Lloydminster Alberta - Heavy - Conventional - 07;08										
2007	32.46	0.60	0.42	7	0.29	20	0.12	45	0.08	90
2008	35.78	0.65	0.35	7	0.30	20	0.20	45	0.08	90
2009	39.47	0.53	0.35	7	0.20	20	0.12	45	0.08	90
2010	41.59	1.00	0.45	7	0.28	20	0.12	45	0.08	90
2011	44.88	0.65	0.45	7	0.20	20	0.12	45	0.08	90
2012	56.33	0.75	0.42	7	0.20	20	0.12	45	0.08	90
2013	43.27	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2014	54.28	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2015	54.28	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2016	54.28	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2017	54.28	0.65	0.40	7	0.20	20	0.12	45	0.08	90
Resource Grouping - Lloydminster Alberta - Heavy - Conventional - 14										
2007	79.09	1.10	0.55	7	0.42	20	0.12	45	0.05	90
2008	67.71	0.85	0.45	7	0.30	20	0.12	45	0.05	90
2009	70.47	0.85	0.75	7	0.28	20	0.12	45	0.05	90
2010	72.14	0.95	0.55	7	0.20	20	0.12	45	0.05	90
2011	25.78	0.35	0.20	7	0.16	20	0.12	45	0.05	90
2012	45.30	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2013	52.39	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2014	60.02	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2015	65.02	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2016	68.02	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2017	70.02	0.85	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Lloydminster Alberta - Light - Conventional - 03;04;05										
2007	7.16	0.95	0.60	7	0.30	20	0.12	45	0.05	90
2008	3.14	1.55	0.50	7	0.28	20	0.16	45	0.08	90
2009	15.33	1.75	0.50	7	0.25	20	0.12	45	0.08	90
2010	0.00	0.00	0.00	0	0.00	0	0.00	0	0.08	0
2011	11.00	1.05	0.40	7	0.20	20	0.12	45	0.08	90
2012	24.84	1.05	0.40	7	0.20	20	0.12	45	0.08	90
2013	70.50	1.05	0.40	7	0.20	20	0.12	45	0.08	90
2014	35.45	1.05	0.40	7	0.20	20	0.12	45	0.08	90
2015	35.45	1.05	0.40	7	0.20	20	0.12	45	0.08	90
2016	35.45	1.05	0.40	7	0.20	20	0.12	45	0.08	90
2017	35.45	1.05	0.40	7	0.20	20	0.12	45	0.08	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Lloydminster Alberta - Light - Conventional - 06										
2007	34.86	1.40	0.65	7	0.30	20	0.12	45	0.05	90
2008	9.93	0.30	0.20	7	0.30	20	0.20	45	0.05	90
2009	12.48	0.80	0.40	7	0.22	20	0.12	45	0.05	90
2010	26.82	0.50	0.40	7	0.25	20	0.12	45	0.05	90
2011	23.45	0.60	0.40	7	0.25	20	0.12	45	0.05	90
2012	77.99	1.35	0.60	7	0.30	20	0.12	45	0.05	90
2013	25.40	0.85	0.40	7	0.25	20	0.12	45	0.05	90
2014	35.84	0.85	0.40	7	0.25	20	0.12	45	0.05	90
2015	35.84	0.85	0.40	7	0.25	20	0.12	45	0.05	90
2016	35.84	0.85	0.40	7	0.25	20	0.12	45	0.05	90
2017	35.84	0.85	0.40	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Lloydminster Alberta - Light - Conventional - 07;08										
2007	16.86	0.75	0.35	7	0.22	20	0.16	45	0.05	90
2008	9.78	0.65	0.25	7	0.20	20	0.10	45	0.05	90
2009	31.35	0.40	0.25	7	0.40	20	0.20	45	0.05	90
2010	39.73	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2011	43.38	1.25	0.65	7	0.35	20	0.12	45	0.05	90
2012	37.96	0.90	0.50	7	0.20	20	0.12	45	0.05	90
2013	42.09	0.75	0.40	7	0.20	20	0.12	45	0.05	90
2014	47.34	0.70	0.40	7	0.22	20	0.12	45	0.05	90
2015	47.81	0.75	0.40	7	0.20	20	0.12	45	0.05	90
2016	48.29	0.75	0.40	7	0.20	20	0.12	45	0.05	90
2017	48.77	0.75	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Lloydminster Alberta - Light - Conventional - 13;14										
2011	2.73	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2012	2.73	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2013	29.53	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2014	28.53	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2015	28.53	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2016	28.53	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2017	28.53	0.60	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Lloydminster Alberta - Light - Tight - 03;04;05;06										
2010	26.04	0.85	0.60	7	0.30	20	0.12	45	0.05	90
2011	45.01	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2012	36.27	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2013	65.89	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2014	60.00	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2015	63.00	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2016	65.00	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2017	66.00	1.25	0.60	7	0.30	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Lloydminster Alberta - Light - Tight - 13;14										
2014	21.45	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2015	21.45	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2016	21.45	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2017	21.45	1.25	0.60	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Eastern Alberta - Heavy - Conventional - 03;04;05										
2007	54.33	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2008	29.94	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2009	8.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2010	3.02	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2011	3.60	1.45	0.65	7	0.30	20	0.12	45	0.05	90
2012	29.68	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2013	17.02	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	70.89	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	70.89	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	70.89	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	70.89	0.65	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Eastern Alberta - Heavy - Conventional - 06										
2007	76.28	1.00	0.60	7	0.30	20	0.12	45	0.05	90
2008	60.02	0.80	0.40	7	0.16	20	0.12	45	0.05	90
2009	80.99	1.50	0.65	7	0.25	20	0.12	45	0.05	90
2010	25.21	0.65	0.20	7	0.16	20	0.12	45	0.05	90
2011	11.99	0.60	0.35	7	0.20	20	0.12	45	0.05	90
2012	17.02	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2013	77.18	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2014	186.15	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2015	195.46	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2016	200.34	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2017	205.35	0.85	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Eastern Alberta - Heavy - Conventional - 07;08;09;10										
2007	45.09	0.90	0.55	7	0.30	20	0.12	45	0.10	90
2008	29.76	0.70	0.30	7	0.12	20	0.12	45	0.10	90
2009	9.98	0.50	0.20	7	0.12	20	0.12	45	0.10	90
2010	32.77	0.70	0.40	7	0.25	20	0.12	45	0.10	90
2011	22.69	0.85	0.30	7	0.20	20	0.12	45	0.10	90
2012	19.81	0.85	0.35	7	0.20	20	0.12	45	0.10	90
2013	25.92	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2014	37.43	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2015	44.43	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2016	49.43	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2017	52.43	0.80	0.40	7	0.20	20	0.12	45	0.10	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Eastern Alberta - Heavy - Conventional - 13;14;15										
2007	73.59	0.50	0.40	7	0.20	20	0.16	45	0.05	90
2008	69.60	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2009	8.04	1.75	0.65	7	0.30	20	0.12	45	0.05	90
2010	31.36	0.60	0.35	7	0.20	20	0.12	45	0.05	90
2011	50.84	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2012	37.44	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2013	45.24	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	47.50	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2015	49.50	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	51.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	52.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Eastern Alberta - Light - Conventional - 03;04;05										
2007	12.50	0.80	0.40	7	0.25	20	0.18	45	0.10	90
2008	10.13	0.65	0.40	7	0.22	20	0.12	45	0.08	90
2009	6.98	0.85	0.30	7	0.20	20	0.12	45	0.08	90
2010	11.82	0.30	0.20	7	0.16	20	0.12	45	0.08	90
2011	12.49	0.60	0.30	7	0.20	20	0.12	45	0.08	90
2012	19.93	0.85	0.50	7	0.25	20	0.12	45	0.08	90
2013	27.62	0.85	0.50	7	0.25	20	0.12	45	0.08	90
2014	47.25	0.85	0.40	7	0.25	20	0.12	45	0.08	90
2015	50.79	0.85	0.50	7	0.25	20	0.12	45	0.08	90
2016	53.33	0.85	0.50	7	0.25	20	0.12	45	0.08	90
2017	54.66	0.85	0.50	7	0.25	20	0.12	45	0.08	90
Resource Grouping - Eastern Alberta - Light - Conventional - 06										
2007	27.84	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2008	37.53	0.45	0.35	7	0.20	20	0.12	45	0.05	90
2009	56.19	0.85	0.35	7	0.20	20	0.16	45	0.05	90
2010	32.42	0.50	0.40	7	0.30	20	0.16	45	0.05	90
2011	28.73	0.80	0.55	7	0.30	20	0.12	45	0.05	90
2012	27.78	0.30	0.20	7	0.16	20	0.12	45	0.05	90
2013	31.61	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2014	24.36	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	24.36	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2016	24.36	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2017	24.36	0.50	0.30	7	0.20	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Eastern Alberta - Light - Conventional - 07;08;09;10										
2007	23.56	1.25	0.40	7	0.20	20	0.12	45	0.10	90
2008	21.84	0.65	0.35	7	0.20	20	0.12	45	0.10	90
2009	17.67	0.50	0.40	7	0.20	20	0.12	45	0.10	90
2010	35.24	0.85	0.60	7	0.30	20	0.12	45	0.10	90
2011	47.16	0.80	0.50	7	0.30	20	0.12	45	0.10	90
2012	62.96	1.00	0.50	7	0.25	20	0.12	45	0.10	90
2013	50.57	0.90	0.50	7	0.25	20	0.12	45	0.10	90
2014	50.67	0.90	0.50	7	0.25	20	0.12	45	0.10	90
2015	50.67	0.90	0.50	7	0.25	20	0.12	45	0.10	90
2016	50.67	0.90	0.50	7	0.25	20	0.12	45	0.10	90
2017	50.67	0.90	0.50	7	0.25	20	0.12	45	0.10	90
Resource Grouping - Eastern Alberta - Light - Conventional - 13;14;15										
2007	7.40	0.75	0.55	7	0.30	20	0.22	45	0.05	90
2008	7.17	1.05	0.60	7	0.25	20	0.12	45	0.05	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	35.19	1.05	0.30	7	0.22	20	0.12	45	0.05	90
2011	43.17	0.95	0.60	7	0.30	20	0.12	45	0.05	90
2012	30.12	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2013	45.60	0.75	0.45	7	0.25	20	0.12	45	0.05	90
2014	68.71	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	72.15	0.75	0.45	7	0.25	20	0.12	45	0.05	90
2016	73.95	0.75	0.45	7	0.25	20	0.12	45	0.05	90
2017	75.80	0.75	0.45	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Eastern Alberta - Light - Tight - 03;04;05;06										
2009	34.01	1.95	0.85	7	0.70	20	0.25	45	0.05	90
2010	62.25	1.65	0.45	7	0.25	20	0.12	45	0.05	90
2011	44.22	1.35	0.60	7	0.35	20	0.12	45	0.05	90
2012	41.51	1.55	0.60	7	0.25	20	0.12	45	0.05	90
2013	33.41	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2014	29.54	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2015	26.54	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2016	24.54	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2017	23.54	1.25	0.60	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Eastern Alberta - Light - Tight - 07;08;09;10										
2013	119.63	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2014	119.63	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2015	119.63	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2016	119.63	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2017	119.63	0.65	0.40	7	0.22	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Central Alberta - Heavy - Conventional - 02;03										
2007	13.88	0.95	0.60	7	0.16	20	0.05	45	0.08	90
2008	39.14	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2009	7.70	0.85	0.55	7	0.25	20	0.12	45	0.08	90
2010	7.35	1.05	0.45	7	0.25	20	0.12	45	0.08	90
2011	0.00	0.00	0.00	0	0.00	0	0.00	0	0.08	0
2012	95.14	0.85	0.40	7	0.25	20	0.12	45	0.08	90
2013	0.00	0.00	0.00	0	0.00	0	0.00	0	0.08	0
2014	0.29	0.65	0.40	7	0.22	20	0.12	45	0.08	90
2015	18.41	0.00	0.00	0	0.00	0	0.00	0	0.08	0
2016	18.41	0.00	0.00	0	0.00	0	0.00	0	0.08	0
2017	18.41	0.00	0.00	0	0.00	0	0.00	0	0.08	0
Resource Grouping - Central Alberta - Heavy - Conventional - 04;05;06										
2007	24.27	1.05	0.40	7	0.22	20	0.22	45	0.12	90
2008	35.96	1.25	0.75	7	0.35	20	0.16	45	0.10	90
2009	7.53	0.40	0.30	7	0.20	20	0.12	45	0.10	90
2010	34.13	0.90	0.45	7	0.25	20	0.12	45	0.10	90
2011	23.45	0.65	0.25	7	0.20	20	0.12	45	0.10	90
2012	4.89	0.85	0.50	7	0.20	20	0.12	45	0.10	90
2013	99.91	0.85	0.50	7	0.20	20	0.12	45	0.10	90
2014	90.18	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2015	90.18	0.85	0.50	7	0.20	20	0.12	45	0.10	90
2016	90.18	0.85	0.50	7	0.20	20	0.12	45	0.10	90
2017	90.18	0.85	0.50	7	0.20	20	0.12	45	0.10	90
Resource Grouping - Central Alberta - Heavy - Conventional - 07;08										
2007	8.06	0.45	0.35	7	0.25	20	0.18	45	0.08	90
2008	22.88	1.50	0.75	7	0.30	20	0.16	45	0.05	90
2009	14.34	1.25	0.50	7	0.30	20	0.16	45	0.05	90
2010	20.11	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2011	19.53	0.90	0.60	7	0.30	20	0.12	45	0.05	90
2012	19.53	0.85	0.50	7	0.20	20	0.12	45	0.08	90
2013	32.90	0.80	0.50	7	0.20	20	0.12	45	0.08	90
2014	23.95	0.80	0.50	7	0.20	20	0.12	45	0.08	90
2015	23.95	0.80	0.50	7	0.20	20	0.12	45	0.08	90
2016	23.95	0.80	0.50	7	0.20	20	0.12	45	0.08	90
2017	23.95	0.80	0.50	7	0.20	20	0.12	45	0.08	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Central Alberta - Heavy - Conventional - 09;10										
2007	20.35	0.85	0.60	7	0.30	20	0.12	45	0.10	90
2008	30.08	0.65	0.45	7	0.20	20	0.05	45	0.08	90
2009	6.04	0.65	0.40	7	0.22	20	0.12	45	0.08	90
2010	0.00	0.00	0.00	0	0.00	0	0.00	0	0.08	0
2011	6.66	1.25	0.50	7	0.25	20	0.12	45	0.08	90
2012	20.68	1.25	0.50	7	0.25	20	0.12	45	0.08	90
2013	20.68	1.25	0.50	7	0.25	20	0.12	45	0.08	90
2014	20.68	1.25	0.50	7	0.25	20	0.12	45	0.08	90
2015	20.68	1.25	0.50	7	0.25	20	0.12	45	0.08	90
2016	20.68	1.25	0.50	7	0.25	20	0.12	45	0.08	90
2017	20.68	1.25	0.50	7	0.25	20	0.12	45	0.08	90
Resource Grouping - Central Alberta - Heavy - Conventional - 13										
2007	59.25	0.40	0.30	7	0.20	20	0.16	45	0.10	90
2008	73.07	1.00	0.50	7	0.25	20	0.16	45	0.10	90
2009	42.28	2.00	1.00	7	0.35	20	0.16	45	0.10	90
2010	39.51	0.60	0.40	7	0.30	20	0.18	45	0.10	90
2011	81.81	1.15	0.50	7	0.25	20	0.12	45	0.10	90
2012	27.51	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2013	38.73	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2014	52.70	0.65	0.40	7	0.22	20	0.12	45	0.10	90
2015	57.97	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2016	60.87	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2017	62.70	0.65	0.40	7	0.20	20	0.16	45	0.10	90
Resource Grouping - Central Alberta - Heavy - Conventional - 14;15										
2007	4.35	0.65	0.45	7	0.25	20	0.12	45	0.05	90
2008	62.18	1.25	0.75	7	0.20	20	0.16	45	0.12	90
2009	95.06	1.25	0.60	7	0.30	20	0.20	45	0.10	90
2010	55.36	0.55	0.40	7	0.30	20	0.20	45	0.10	90
2011	12.01	0.85	0.50	7	0.25	20	0.12	45	0.10	90
2012	135.62	0.85	0.50	7	0.25	20	0.12	45	0.10	90
2013	176.93	0.85	0.40	7	0.20	20	0.12	45	0.10	90
2014	101.93	0.85	0.40	7	0.20	20	0.12	45	0.10	90
2015	101.93	0.85	0.40	7	0.20	20	0.12	45	0.10	90
2016	101.93	0.85	0.40	7	0.20	20	0.12	45	0.10	90
2017	101.93	0.85	0.40	7	0.20	20	0.12	45	0.10	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Central Alberta - Heavy - Tight - 02;03;04;05;06;07;08										
2008	169.00	1.65	0.50	7	0.20	20	0.12	45	0.05	90
2009	107.21	1.55	0.60	7	0.30	20	0.12	45	0.05	90
2010	118.39	1.75	0.70	7	0.40	20	0.12	45	0.05	90
2011	114.80	1.85	0.72	7	0.40	20	0.12	45	0.05	90
2012	107.45	1.55	0.60	7	0.40	20	0.12	45	0.05	90
2013	155.97	1.65	0.65	7	0.30	20	0.12	45	0.05	90
2014	117.99	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2015	117.99	1.65	0.65	7	0.30	20	0.12	45	0.05	90
2016	117.99	1.65	0.65	7	0.30	20	0.12	45	0.05	90
2017	117.99	1.65	0.65	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Central Alberta - Heavy - Tight - 13;14;15										
2009	71.37	1.25	0.50	7	0.30	20	0.12	45	0.05	90
2010	108.63	0.60	0.30	7	0.20	20	0.12	45	0.05	90
2011	44.27	0.45	0.35	7	0.20	20	0.12	45	0.05	90
2012	27.66	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2013	18.40	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	101.71	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	101.71	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	101.71	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	101.71	0.65	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Central Alberta - Light - Conventional - 02;03										
2007	19.76	0.90	0.50	7	0.30	20	0.16	45	0.05	90
2008	34.41	0.60	0.50	7	0.30	20	0.12	45	0.05	90
2009	9.60	0.40	0.30	7	0.20	20	0.12	45	0.05	90
2010	7.72	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2011	40.32	0.75	0.35	7	0.20	20	0.12	45	0.05	90
2012	79.45	0.65	0.45	7	0.20	20	0.12	45	0.05	90
2013	36.16	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	6.12	0.85	0.45	7	0.20	20	0.12	45	0.05	90
2015	6.12	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2016	6.12	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2017	6.12	0.85	0.40	7	0.20	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Central Alberta - Light - Conventional - 04;05;06										
2007	22.96	0.95	0.30	7	0.25	20	0.20	45	0.10	90
2008	24.79	0.60	0.40	7	0.25	20	0.18	45	0.10	90
2009	14.12	0.50	0.30	7	0.20	20	0.12	45	0.10	90
2010	34.74	1.25	0.60	7	0.30	20	0.20	45	0.10	90
2011	25.77	1.15	0.35	7	0.20	20	0.12	45	0.05	90
2012	27.82	0.80	0.35	7	0.20	20	0.12	45	0.10	90
2013	24.95	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2014	80.88	0.80	0.30	7	0.20	20	0.12	45	0.10	90
2015	80.88	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2016	80.88	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2017	80.88	0.80	0.40	7	0.20	20	0.12	45	0.10	90
Resource Grouping - Central Alberta - Light - Conventional - 07;08										
2007	25.16	0.65	0.40	7	0.28	20	0.16	45	0.10	90
2008	27.63	0.75	0.40	7	0.22	20	0.16	45	0.10	90
2009	31.47	1.55	0.35	7	0.25	20	0.12	45	0.10	90
2010	34.92	0.65	0.35	7	0.20	20	0.12	45	0.05	90
2011	40.59	0.95	0.50	7	0.30	20	0.12	45	0.05	90
2012	61.11	0.10	0.70	7	0.30	20	0.12	45	0.05	90
2013	56.56	0.85	0.50	7	0.30	20	0.12	45	0.05	90
2014	58.53	0.80	0.40	7	0.20	20	0.16	45	0.08	90
2015	58.53	0.85	0.50	7	0.30	20	0.12	45	0.08	90
2016	58.53	0.85	0.50	7	0.30	20	0.12	45	0.08	90
2017	58.53	0.85	0.50	7	0.30	20	0.12	45	0.08	90
Resource Grouping - Central Alberta - Light - Conventional - 09;10										
2007	30.99	1.55	0.60	7	0.40	20	0.20	45	0.10	90
2008	59.14	0.55	0.35	7	0.20	20	0.12	45	0.05	90
2009	19.75	2.50	0.80	7	0.40	20	0.20	45	0.05	90
2010	21.11	1.75	0.60	7	0.20	20	0.12	45	0.05	90
2011	40.12	2.85	0.60	7	0.35	20	0.20	45	0.10	90
2012	7.98	2.85	0.60	7	0.35	20	0.20	45	0.10	90
2013	2.23	2.85	0.60	7	0.35	20	0.20	45	0.10	90
2014	57.94	2.85	0.60	7	0.35	20	0.20	45	0.10	90
2015	57.94	2.85	0.60	7	0.35	20	0.20	45	0.10	90
2016	57.94	2.85	0.60	7	0.35	20	0.20	45	0.10	90
2017	57.94	2.85	0.60	7	0.35	20	0.20	45	0.10	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Central Alberta - Light - Conventional - 13										
2007	42.68	0.85	0.50	7	0.25	20	0.20	45	0.05	90
2008	102.32	2.00	0.70	7	0.20	20	0.12	45	0.05	90
2009	52.72	1.75	0.55	7	0.30	20	0.12	45	0.05	90
2010	81.56	1.05	0.50	7	0.25	20	0.12	45	0.05	90
2011	62.70	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2012	61.76	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2013	49.83	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2014	27.00	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2015	24.30	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2016	23.09	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2017	21.93	1.25	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Central Alberta - Light - Conventional - 14;15										
2007	72.50	1.00	0.35	7	0.16	20	0.12	45	0.05	90
2008	110.44	1.25	0.60	7	0.30	20	0.16	45	0.05	90
2009	80.11	0.65	0.30	7	0.20	20	0.16	45	0.05	90
2010	45.28	0.65	0.30	7	0.20	20	0.12	45	0.05	90
2011	25.02	0.65	0.35	7	0.20	20	0.12	45	0.05	90
2012	49.99	0.60	0.35	7	0.20	20	0.12	45	0.05	90
2013	119.41	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2014	115.56	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2015	115.56	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2016	115.56	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2017	115.56	0.80	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Central Alberta - Light - Tight - 02;03;04;05;06;07;08										
2008	81.17	0.60	0.50	7	0.30	20	0.16	45	0.05	90
2009	67.96	0.65	0.55	7	0.30	20	0.14	45	0.05	90
2010	81.81	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2011	99.60	1.50	0.60	7	0.30	20	0.12	45	0.05	90
2012	89.23	1.25	0.75	7	0.30	20	0.12	45	0.05	90
2013	109.85	1.25	0.70	7	0.30	20	0.12	45	0.05	90
2014	120.54	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2015	125.54	1.25	0.70	7	0.30	20	0.12	45	0.05	90
2016	128.54	1.25	0.70	7	0.30	20	0.12	45	0.05	90
2017	129.54	1.25	0.70	7	0.30	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Central Alberta - Light - Tight - 13;14;15										
2009	71.37	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2010	61.57	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2011	44.27	0.60	0.40	7	0.22	20	0.12	45	0.05	90
2012	27.66	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2013	49.12	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2014	100.71	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	110.71	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2016	118.21	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2017	123.21	0.60	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Central Alberta - Light - Shale - Duvernay										
2012	72.21	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2013	0.01	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2014	165.19	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2015	165.19	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2016	165.19	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2017	165.19	0.65	0.40	7	0.22	20	0.12	45	0.05	90
Resource Grouping - West Central Alberta - Heavy - Conventional - 03										
2007	48.14	1.45	0.60	7	0.30	20	0.16	45	0.05	90
2008	38.63	1.45	0.60	7	0.22	20	0.12	45	0.05	90
2009	97.63	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2010	125.93	2.10	0.55	7	0.25	20	0.12	45	0.05	90
2011	60.41	0.40	0.30	7	0.20	20	0.12	45	0.05	90
2012	49.58	1.05	0.60	7	0.30	20	0.12	45	0.05	90
2013	84.74	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2014	343.71	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2015	326.53	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2016	326.53	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2017	326.53	1.25	0.60	7	0.30	20	0.12	45	0.05	90
Resource Grouping - West Central Alberta - Heavy - Conventional - 04;05;06;07;08										
2007	6.11	0.50	0.40	7	0.20	20	0.12	45	0.05	90
2008	13.60	0.50	0.40	7	0.20	20	0.12	45	0.05	90
2009	27.08	1.50	0.75	7	0.45	20	0.20	45	0.05	90
2010	12.70	1.75	0.60	7	0.40	20	0.20	45	0.05	90
2011	20.27	0.50	0.40	7	0.20	20	0.12	45	0.05	90
2012	34.24	0.60	0.45	7	0.25	20	0.12	45	0.05	90
2013	156.74	0.50	0.40	7	0.20	20	0.12	45	0.05	90
2014	142.85	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	142.85	0.50	0.40	7	0.20	20	0.12	45	0.05	90
2016	142.85	0.50	0.40	7	0.20	20	0.12	45	0.05	90
2017	142.85	0.50	0.40	7	0.20	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - West Central Alberta - Heavy - Conventional - 09										
2007	30.38	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2008	3.25	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	2.20	1.25	0.60	7	0.30	20	0.20	45	0.10	90
2011	11.02	0.85	0.30	7	0.20	20	0.12	45	0.05	90
2012	155.45	1.65	0.60	7	0.30	20	0.20	45	0.05	90
2013	189.94	1.65	0.65	7	0.30	20	0.20	45	0.05	90
2014	138.62	0.95	0.40	7	0.20	20	0.20	45	0.05	90
2015	124.76	1.65	0.65	7	0.30	20	0.20	45	0.05	90
2016	110.90	1.65	0.65	7	0.30	20	0.20	45	0.05	90
2017	97.03	1.65	0.65	7	0.30	20	0.20	45	0.05	90
Resource Grouping - West Central Alberta - Heavy - Conventional - 12;13										
2007	18.60	0.60	0.40	7	0.30	20	0.20	45	0.05	90
2008	61.52	0.65	0.50	7	0.20	20	0.12	45	0.05	90
2009	107.33	1.05	0.55	7	0.25	20	0.12	45	0.05	90
2010	191.06	1.65	0.55	7	0.25	20	0.12	45	0.05	90
2011	19.58	0.95	0.40	7	0.25	20	0.12	45	0.05	90
2012	158.25	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2013	186.35	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2014	89.08	1.25	0.50	7	0.20	20	0.12	45	0.05	90
2015	89.08	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2016	89.08	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2017	89.08	1.25	0.60	7	0.30	20	0.12	45	0.05	90
Resource Grouping - West Central Alberta - Heavy - Tight - 03;04;05;06;07;08;09										
2010	170.99	2.10	0.60	7	0.30	20	0.12	45	0.05	90
2011	80.50	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2012	99.13	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2013	81.74	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2014	93.66	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2015	93.66	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2016	93.66	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2017	93.66	0.80	0.40	7	0.20	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - West Central Alberta - Light - Conventional - 03										
2007	36.05	0.48	0.30	7	0.25	20	0.16	45	0.08	90
2008	22.56	0.20	0.50	7	0.32	20	0.20	45	0.08	90
2009	50.31	0.80	0.50	7	0.25	20	0.12	45	0.08	90
2010	35.04	1.35	0.60	7	0.30	20	0.12	45	0.08	90
2011	15.89	0.85	0.40	7	0.25	20	0.12	45	0.08	90
2012	15.52	1.35	0.75	7	0.30	20	0.12	45	0.08	90
2013	57.79	1.25	0.50	7	0.30	20	0.16	45	0.08	90
2014	87.15	1.25	0.50	7	0.30	20	0.16	45	0.08	90
2015	91.50	1.25	0.50	7	0.30	20	0.16	45	0.08	90
2016	96.08	1.25	0.50	7	0.30	20	0.16	45	0.08	90
2017	100.88	1.25	0.50	7	0.30	20	0.16	45	0.08	90
Resource Grouping - West Central Alberta - Light - Conventional - 04;05;06;07;08										
2007	25.79	0.90	0.55	7	0.25	20	0.12	45	0.05	90
2008	30.32	1.05	0.40	7	0.30	20	0.16	45	0.05	90
2009	28.10	1.25	0.35	7	0.25	20	0.16	45	0.05	90
2010	37.75	1.40	0.50	7	0.35	20	0.20	45	0.05	90
2011	63.36	1.00	0.55	7	0.30	20	0.14	45	0.05	90
2012	40.28	0.90	0.55	7	0.25	20	0.16	45	0.05	90
2013	79.92	0.90	0.55	7	0.30	20	0.16	45	0.05	90
2014	90.32	1.25	0.60	7	0.30	20	0.16	45	0.05	90
2015	99.35	0.90	0.55	7	0.30	20	0.16	45	0.05	90
2016	104.32	0.90	0.55	7	0.30	20	0.16	45	0.05	90
2017	109.53	0.90	0.55	7	0.30	20	0.16	45	0.05	90
Resource Grouping - West Central Alberta - Light - Conventional - 09										
2007	33.45	1.00	0.40	7	0.30	20	0.20	45	0.08	90
2008	24.58	0.40	0.40	7	0.25	20	0.20	45	0.08	90
2009	48.46	0.90	0.55	7	0.35	20	0.16	45	0.08	90
2010	82.91	1.45	0.65	7	0.30	20	0.16	45	0.08	90
2011	39.33	0.45	0.30	7	0.20	20	0.12	45	0.08	90
2012	135.41	0.90	0.50	7	0.25	20	0.12	45	0.08	90
2013	15.90	0.60	0.40	7	0.25	20	0.12	45	0.08	90
2014	44.96	0.60	0.40	7	0.20	20	0.12	45	0.08	90
2015	44.96	0.60	0.40	7	0.25	20	0.12	45	0.08	90
2016	44.96	0.60	0.40	7	0.25	20	0.12	45	0.08	90
2017	44.96	0.60	0.40	7	0.25	20	0.12	45	0.08	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - West Central Alberta - Light - Conventional - 12;13										
2007	142.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2008	45.45	1.50	0.70	7	0.35	20	0.20	45	0.10	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	32.52	1.50	0.75	7	0.40	20	0.20	45	0.10	90
2011	2.65	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2012	260.80	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2013	101.99	0.95	0.50	7	0.30	20	0.20	45	0.10	90
2014	109.57	1.25	0.60	7	0.30	20	0.12	45	0.10	90
2015	109.57	0.95	0.50	7	0.30	20	0.20	45	0.10	90
2016	109.57	0.95	0.50	7	0.30	20	0.20	45	0.10	90
2017	109.57	0.95	0.50	7	0.30	20	0.20	45	0.10	90
Resource Grouping - West Central Alberta - Light - Conventional - 14;15										
2007	405.12	0.10	0.14	7	0.35	20	0.30	45	0.10	90
2008	324.79	0.65	0.50	7	0.30	20	0.20	45	0.10	90
2009	403.52	1.65	1.15	7	0.45	20	0.20	45	0.10	90
2010	424.79	0.75	0.50	7	0.40	20	0.20	45	0.10	90
2011	249.49	0.10	0.30	7	0.25	20	0.20	45	0.10	90
2012	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2013	87.08	0.40	0.30	7	0.20	20	0.16	45	0.10	90
2014	87.08	0.40	0.30	7	0.20	20	0.16	45	0.10	90
2015	87.08	0.40	0.30	7	0.20	20	0.16	45	0.10	90
2016	87.08	0.40	0.30	7	0.20	20	0.16	45	0.10	90
2017	87.08	0.40	0.30	7	0.20	20	0.16	45	0.10	90
Resource Grouping - West Central Alberta - Light - Tight - 03										
2009	239.61	1.25	1.15	7	0.65	20	0.25	45	0.10	90
2010	120.87	1.50	0.70	7	0.30	20	0.12	45	0.05	90
2011	101.42	1.25	0.60	7	0.30	20	0.20	45	0.10	90
2012	105.88	1.20	0.60	7	0.30	20	0.20	45	0.10	90
2013	119.35	1.25	0.60	7	0.30	20	0.20	45	0.10	90
2014	220.54	1.25	0.60	7	0.30	20	0.20	45	0.10	90
2015	225.54	1.25	0.60	7	0.30	20	0.20	45	0.10	90
2016	230.54	1.25	0.60	7	0.30	20	0.20	45	0.10	90
2017	235.54	1.25	0.60	7	0.30	20	0.20	45	0.10	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - West Central Alberta - Light - Tight - 04;05										
2008	23.06	0.60	0.30	7	0.20	20	0.12	45	0.05	90
2009	108.56	1.05	0.60	7	0.30	20	0.12	45	0.05	90
2010	118.32	1.55	0.75	7	0.30	20	0.12	45	0.05	90
2011	110.19	1.25	0.65	7	0.35	20	0.12	45	0.05	90
2012	119.50	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2013	129.85	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2014	121.64	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2015	121.64	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2016	121.64	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2017	121.64	1.00	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - West Central Alberta - Light - Tight - 06;07;08;09										
2013	75.29	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2014	36.13	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2015	36.13	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2016	36.13	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2017	36.13	0.65	0.40	7	0.22	20	0.12	45	0.05	90
Resource Grouping - West Central Alberta - Light - Shale - Duvernay										
2013	97.08	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2014	0.01	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2015	97.08	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2016	97.08	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2017	97.08	0.80	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Foothills - Heavy - Conventional - 03;04;05;06;07;08;09										
2007	36.66	1.50	1.25	7	0.35	20	0.20	45	0.05	90
2008	15.61	1.15	0.45	7	0.35	20	0.20	45	0.05	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	26.67	0.65	0.40	7	0.25	20	0.12	45	0.05	90
2011	37.61	0.55	0.35	7	0.20	20	0.12	45	0.05	90
2012	37.61	0.55	0.35	7	0.20	20	0.12	45	0.05	90
2013	178.35	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2014	178.35	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2015	178.35	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2016	178.35	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2017	178.35	0.65	0.40	7	0.22	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Foothills - Heavy - Conventional - 13;14										
2010	62.63	1.25	0.60	7	0.40	20	0.12	45	0.05	90
2011	250.00	1.25	0.60	7	0.40	20	0.12	45	0.05	90
2012	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2013	0.25	1.25	0.45	7	0.20	20	0.12	45	0.05	90
2014	0.25	1.25	0.45	7	0.20	20	0.12	45	0.05	90
2015	83.42	1.25	0.45	7	0.20	20	0.12	45	0.05	90
2016	83.42	1.25	0.45	7	0.20	20	0.12	45	0.05	90
2017	83.42	1.25	0.45	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Foothills - Heavy - Tight - 03;04;05;06;07;08;09										
2009	41.10	1.15	0.55	7	0.16	20	0.12	45	0.05	90
2010	139.17	1.65	0.20	7	0.14	20	0.12	45	0.05	90
2011	66.82	1.25	0.55	7	0.20	20	0.12	45	0.05	90
2012	26.42	0.85	0.50	7	0.20	20	0.12	45	0.05	90
2013	313.43	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2014	313.43	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2015	313.43	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2016	313.43	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2017	313.43	1.25	0.60	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Foothills - Light - Conventional - 03;04;05;06;07;08;09										
2007	43.25	2.50	0.60	7	0.30	20	0.12	45	0.08	90
2008	22.61	2.25	0.65	7	0.30	20	0.16	45	0.08	90
2009	7.88	0.65	0.40	7	0.22	20	0.12	45	0.08	90
2010	13.52	0.50	0.40	7	0.30	20	0.12	45	0.08	90
2011	16.80	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2012	22.54	0.85	0.50	7	0.25	20	0.12	45	0.08	90
2013	70.29	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2014	36.54	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2015	36.54	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2016	36.54	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2017	36.54	0.40	0.30	7	0.20	20	0.12	45	0.08	90
Resource Grouping - Foothills - Light - Conventional - 13;14										
2007	342.92	0.65	0.35	7	0.20	20	0.12	45	0.08	90
2008	125.45	0.35	0.25	7	0.16	20	0.10	45	0.08	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	25.50	0.65	0.40	7	0.22	20	0.12	45	0.08	90
2011	54.13	0.65	0.40	7	0.25	20	0.12	45	0.08	90
2012	67.53	0.55	0.30	7	0.20	20	0.12	45	0.08	90
2013	170.23	0.40	0.30	7	0.20	20	0.10	45	0.08	90
2014	220.09	0.40	0.30	7	0.20	20	0.10	45	0.08	90
2015	240.09	0.40	0.30	7	0.20	20	0.10	45	0.08	90
2016	255.09	0.40	0.30	7	0.20	20	0.10	45	0.08	90
2017	265.09	0.40	0.30	7	0.20	20	0.10	45	0.08	90

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Resource Grouping - Foothills - Light - Tight - 03;04;05;06;07;08;09										
2009	51.10	1.60	0.65	7	0.16	20	0.12	45	0.08	90
2010	52.63	0.80	0.45	7	0.25	20	0.16	45	0.08	90
2011	78.49	1.45	0.75	7	0.40	20	0.20	45	0.08	90
2012	113.07	0.60	0.40	7	0.25	20	0.12	45	0.08	90
2013	139.58	0.60	0.40	7	0.30	20	0.12	45	0.08	90
2014	102.18	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2015	102.18	0.60	0.40	7	0.30	20	0.12	45	0.08	90
2016	102.18	0.60	0.40	7	0.30	20	0.12	45	0.08	90
2017	102.18	0.60	0.40	7	0.30	20	0.12	45	0.08	90
Resource Grouping - Foothills - Light - Tight - 13;14										
2013	0.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	37.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	37.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	37.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	37.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Kaybob - Heavy - Conventional - 03;04;05;06;07;08										
2007	53.85	0.80	0.40	7	0.30	20	0.12	45	0.08	90
2008	37.76	0.60	0.40	7	0.30	20	0.12	45	0.08	90
2009	27.21	0.50	0.40	7	0.25	20	0.12	45	0.08	90
2010	60.18	1.25	0.42	7	0.30	20	0.12	45	0.08	90
2011	45.95	1.75	0.60	7	0.30	20	0.12	45	0.08	90
2012	33.08	0.80	0.40	7	0.20	20	0.12	45	0.08	90
2013	60.44	1.05	0.50	7	0.25	20	0.12	45	0.08	90
2014	2.47	1.00	0.50	7	0.25	20	0.12	45	0.08	90
2015	32.00	1.05	0.50	7	0.25	20	0.12	45	0.08	90
2016	32.00	1.05	0.50	7	0.25	20	0.12	45	0.08	90
2017	32.00	1.05	0.50	7	0.25	20	0.12	45	0.08	90
Resource Grouping - Kaybob - Heavy - Conventional - 09;10;11;12										
2007	46.35	1.05	0.47	7	0.25	20	0.20	45	0.10	90
2008	35.05	0.80	0.50	7	0.30	20	0.12	45	0.10	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.10	0
2010	33.91	0.80	0.50	7	0.30	20	0.12	45	0.10	90
2011	30.30	0.65	0.40	7	0.22	20	0.12	45	0.10	90
2012	24.97	1.05	0.55	7	0.25	20	0.12	45	0.10	90
2013	24.48	1.05	0.55	7	0.25	20	0.12	45	0.10	90
2014	24.48	1.05	0.55	7	0.25	20	0.12	45	0.10	90
2015	24.48	1.05	0.55	7	0.25	20	0.12	45	0.10	90
2016	24.48	1.05	0.55	7	0.25	20	0.12	45	0.10	90
2017	24.48	1.05	0.55	7	0.25	20	0.12	45	0.10	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Kaybob - Heavy - Conventional - 13;14;15;16										
2007	75.37	0.50	0.25	7	0.18	20	0.12	45	0.05	90
2008	61.37	0.65	0.30	7	0.20	20	0.18	45	0.08	90
2009	28.84	0.60	0.40	7	0.25	20	0.12	45	0.05	90
2010	30.13	0.60	0.40	7	0.25	20	0.12	45	0.05	90
2011	58.21	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2012	38.86	0.65	0.45	7	0.25	20	0.12	45	0.05	90
2013	4.02	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2014	33.70	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2015	33.70	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2016	33.70	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2017	33.70	1.00	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Kaybob - Heavy - Tight - 03;04;05;06;07;08										
2008	28.73	0.40	0.25	7	0.20	20	0.12	45	0.05	90
2009	54.04	1.75	0.85	7	0.40	20	0.12	45	0.05	90
2010	51.76	2.00	0.60	7	0.30	20	0.12	45	0.05	90
2011	71.10	0.75	0.50	7	0.25	20	0.12	45	0.05	90
2012	160.20	1.55	0.65	7	0.30	20	0.12	45	0.05	90
2013	91.53	1.45	0.60	7	0.30	20	0.12	45	0.05	90
2014	125.01	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2015	125.01	1.45	0.60	7	0.30	20	0.12	45	0.05	90
2016	125.01	1.45	0.60	7	0.30	20	0.12	45	0.05	90
2017	125.01	1.45	0.60	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Kaybob - Heavy - Tight - 09;10;11;12										
2008	35.51	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2009	68.38	1.50	0.50	7	0.25	20	0.12	45	0.05	90
2010	126.13	1.40	0.60	7	0.25	20	0.12	45	0.05	90
2011	83.87	1.75	0.65	7	0.35	20	0.12	45	0.05	90
2012	255.93	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2013	145.47	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2014	56.43	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2015	47.97	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2016	43.17	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2017	41.01	1.25	0.50	7	0.25	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Kaybob - Heavy - Tight - 13;14;15;16										
2009	38.39	1.50	0.50	7	0.25	20	0.12	45	0.05	90
2010	27.56	1.50	0.50	7	0.25	20	0.12	45	0.05	90
2011	25.35	1.25	0.55	7	0.25	20	0.12	45	0.05	90
2012	32.71	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2013	195.62	1.10	0.50	7	0.20	20	0.12	45	0.05	90
2014	185.64	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2015	185.64	1.10	0.50	7	0.20	20	0.12	45	0.05	90
2016	185.64	1.10	0.50	7	0.20	20	0.12	45	0.05	90
2017	185.64	1.10	0.50	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Kaybob - Light - Conventional - 03;04;05;06;07;08										
2007	41.42	0.90	0.40	7	0.20	20	0.16	45	0.08	90
2008	30.25	0.65	0.35	7	0.20	20	0.14	45	0.05	90
2009	26.63	0.60	0.35	7	0.25	20	0.16	45	0.08	90
2010	46.65	1.40	0.40	7	0.25	20	0.12	45	0.08	90
2011	17.18	0.85	0.50	7	0.25	20	0.12	45	0.08	90
2012	7.61	0.65	0.40	7	0.25	20	0.12	45	0.08	90
2013	52.86	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2014	72.98	0.60	0.40	7	0.20	20	0.12	45	0.08	90
2015	92.98	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2016	107.98	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2017	117.98	0.40	0.30	7	0.20	20	0.12	45	0.08	90
Resource Grouping - Kaybob - Light - Conventional - 09;10;11;12										
2007	49.05	0.75	0.50	7	0.25	20	0.16	45	0.10	90
2008	53.59	1.20	0.55	7	0.35	20	0.18	45	0.10	90
2009	32.47	0.90	0.40	7	0.25	20	0.16	45	0.10	90
2010	18.64	0.55	0.30	7	0.20	20	0.16	45	0.10	90
2011	21.74	0.95	0.60	7	0.30	20	0.16	45	0.10	90
2012	15.03	1.25	0.60	7	0.30	20	0.20	45	0.10	90
2013	70.50	0.95	0.60	7	0.30	20	0.20	45	0.10	90
2014	88.67	0.95	0.60	7	0.30	20	0.20	45	0.10	90
2015	98.67	0.95	0.60	7	0.30	20	0.20	45	0.10	90
2016	103.67	0.95	0.60	7	0.30	20	0.20	45	0.10	90
2017	106.67	0.95	0.60	7	0.30	20	0.20	45	0.10	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Kaybob - Light - Conventional - 13;14;15;16										
2007	79.73	1.00	0.30	7	0.20	20	0.16	45	0.10	90
2008	62.78	0.50	0.30	7	0.20	20	0.16	45	0.10	90
2009	70.01	1.50	0.65	7	0.30	20	0.16	45	0.10	90
2010	92.50	1.25	0.45	7	0.25	20	0.16	45	0.10	90
2011	90.12	1.50	0.60	7	0.30	20	0.20	45	0.10	90
2012	39.23	1.05	0.50	7	0.30	20	0.20	45	0.10	90
2013	72.49	1.05	0.50	7	0.25	20	0.16	45	0.10	90
2014	92.64	1.05	0.50	7	0.25	20	0.16	45	0.10	90
2015	112.64	1.05	0.50	7	0.25	20	0.16	45	0.10	90
2016	127.64	1.05	0.50	7	0.25	20	0.16	45	0.10	90
2017	137.64	1.05	0.50	7	0.25	20	0.16	45	0.10	90
Resource Grouping - Kaybob - Light - Tight - 03;04;05;06;07;08										
2009	24.95	0.85	0.30	7	0.20	20	0.12	45	0.05	90
2010	102.57	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2011	94.83	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2012	140.73	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2013	142.23	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2014	139.00	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2015	139.00	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2016	139.00	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2017	139.00	0.85	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Kaybob - Light - Tight - 09;10;11;12										
2009	89.62	0.50	0.40	7	0.25	20	0.12	45	0.05	90
2010	150.22	1.50	0.50	7	0.25	20	0.12	45	0.05	90
2011	160.24	1.25	0.55	7	0.25	20	0.12	45	0.05	90
2012	205.23	1.50	0.60	7	0.30	20	0.12	45	0.05	90
2013	199.31	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2014	193.60	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2015	193.60	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2016	193.60	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2017	193.60	1.25	0.60	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Kaybob - Light - Tight - 13;14;15;16										
2009	80.58	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2010	159.01	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2011	170.98	1.25	0.60	7	0.25	20	0.12	45	0.05	90
2012	152.24	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2013	151.15	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2014	142.18	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2015	137.18	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2016	134.18	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2017	132.18	1.00	0.50	7	0.25	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Kaybob - Light - Shale - Duvernay										
2012	100.22	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2013	318.42	0.85	0.50	7	0.30	20	0.12	45	0.05	90
2014	130.76	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	130.76	0.85	0.50	7	0.30	20	0.12	45	0.05	90
2016	130.76	0.85	0.50	7	0.30	20	0.12	45	0.05	90
2017	130.76	0.85	0.50	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Peace River - Heavy - Conventional - 03;04;05										
2008	22.10	0.80	0.12	7	0.10	20	0.08	45	0.05	90
2009	15.53	0.40	0.25	7	0.14	20	0.12	45	0.05	90
2010	45.26	0.80	0.12	7	0.10	20	0.08	45	0.05	90
2011	35.39	0.95	0.50	7	0.20	20	0.12	45	0.05	90
2012	19.45	0.75	0.40	7	0.24	20	0.12	45	0.05	90
2013	32.59	0.75	0.20	7	0.14	20	0.12	45	0.05	90
2014	32.59	0.75	0.20	7	0.14	20	0.12	45	0.05	90
2015	32.59	0.75	0.20	7	0.14	20	0.12	45	0.05	90
2016	32.59	0.75	0.20	7	0.14	20	0.12	45	0.05	90
2017	32.59	0.75	0.20	7	0.14	20	0.12	45	0.05	90
Resource Grouping - Peace River - Heavy - Conventional - 06;07										
2007	92.57	1.05	0.65	7	0.40	20	0.16	45	0.05	90
2008	63.12	0.65	0.40	7	0.30	20	0.16	45	0.05	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	0.53	1.25	0.60	7	0.30	20	0.16	45	0.05	90
2011	45.28	1.65	0.60	7	0.22	20	0.12	45	0.05	90
2012	45.28	1.65	0.60	7	0.22	20	0.12	45	0.05	90
2013	45.28	1.65	0.60	7	0.22	20	0.12	45	0.05	90
2014	45.28	1.65	0.60	7	0.22	20	0.12	45	0.05	90
2015	45.28	1.65	0.60	7	0.22	20	0.12	45	0.05	90
2016	45.28	1.65	0.60	7	0.22	20	0.12	45	0.05	90
2017	45.28	1.65	0.60	7	0.22	20	0.12	45	0.05	90
Resource Grouping - Peace River - Heavy - Conventional - 08										
2007	123.43	0.95	0.65	7	0.45	20	0.25	45	0.10	90
2008	200.97	0.60	0.40	7	0.25	20	0.16	45	0.10	90
2009	40.80	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2010	121.64	0.65	0.40	7	0.30	20	0.16	45	0.10	90
2011	107.29	0.60	0.45	7	0.25	20	0.12	45	0.10	90
2012	105.53	0.60	0.40	7	0.20	20	0.12	45	0.10	90
2013	99.69	0.75	0.45	7	0.25	20	0.12	45	0.10	90
2014	32.28	0.65	0.40	7	0.25	20	0.12	45	0.10	90
2015	27.28	0.75	0.45	7	0.25	20	0.12	45	0.10	90
2016	24.28	0.75	0.45	7	0.25	20	0.12	45	0.10	90
2017	22.28	0.75	0.45	7	0.25	20	0.12	45	0.10	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Peace River - Heavy - Conventional - 09;10;11										
2007	50.99	1.25	0.45	7	0.20	20	0.10	45	0.05	90
2008	21.03	0.80	0.30	7	0.25	20	0.20	45	0.10	90
2009	40.78	0.60	0.30	7	0.20	20	0.12	45	0.05	90
2010	22.99	0.90	0.40	7	0.25	20	0.12	45	0.10	90
2011	14.94	1.25	0.50	7	0.25	20	0.12	45	0.10	90
2012	45.37	1.25	0.50	7	0.25	20	0.12	45	0.10	90
2013	17.41	1.15	0.50	7	0.25	20	0.12	45	0.10	90
2014	22.74	1.15	0.50	7	0.25	20	0.12	45	0.10	90
2015	22.74	1.15	0.50	7	0.25	20	0.12	45	0.10	90
2016	22.74	1.15	0.50	7	0.25	20	0.12	45	0.10	90
2017	22.74	1.15	0.50	7	0.25	20	0.12	45	0.10	90
Resource Grouping - Peace River - Heavy - Conventional - 12;13										
2007	55.30	0.65	0.55	7	0.35	20	0.18	45	0.05	90
2008	145.18	2.50	0.80	7	0.35	20	0.12	45	0.10	90
2009	13.37	0.65	0.40	7	0.25	20	0.12	45	0.05	90
2010	18.48	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2011	18.48	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2012	18.48	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2013	18.48	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2014	18.48	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2015	18.48	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2016	18.48	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2017	18.48	0.50	0.30	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Peace River - Heavy - Conventional - 14										
2007	102.24	1.65	0.80	7	0.30	20	0.12	45	0.05	90
2008	296.17	1.45	0.75	7	0.25	20	0.12	45	0.05	90
2009	49.15	1.65	1.15	7	0.55	20	0.20	45	0.05	90
2010	125.02	1.65	1.05	7	0.50	20	0.20	45	0.05	90
2011	77.68	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2012	76.49	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2013	60.52	1.25	0.50	7	0.20	20	0.12	45	0.05	90
2014	45.19	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2015	60.73	1.25	0.50	7	0.20	20	0.12	45	0.05	90
2016	60.73	1.25	0.50	7	0.20	20	0.12	45	0.05	90
2017	60.73	1.25	0.50	7	0.20	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Peace River - Heavy - Conventional - 15										
2007	33.56	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2008	74.20	0.50	0.35	7	0.20	20	0.12	45	0.08	90
2009	54.26	0.75	0.60	7	0.35	20	0.16	45	0.08	90
2010	58.62	1.50	0.60	7	0.30	20	0.20	45	0.10	90
2011	74.09	1.20	0.85	7	0.30	20	0.16	45	0.08	90
2012	86.48	0.70	0.55	7	0.25	20	0.16	45	0.08	90
2013	43.97	1.10	0.60	7	0.30	20	0.16	45	0.08	90
2014	43.97	1.10	0.60	7	0.30	20	0.16	45	0.08	90
2015	43.97	1.10	0.60	7	0.30	20	0.16	45	0.08	90
2016	43.97	1.10	0.60	7	0.30	20	0.16	45	0.08	90
2017	43.97	1.10	0.60	7	0.30	20	0.16	45	0.08	90
Resource Grouping - Peace River - Heavy - Conventional - 16										
2007	149.13	1.50	0.60	7	0.25	20	0.12	45	0.08	90
2008	0.00	0.00	0.00	0	0.00	0	0.00	0	0.08	0
2009	60.41	0.95	1.10	7	0.35	20	0.16	45	0.08	90
2010	60.41	0.95	1.10	7	0.35	20	0.16	45	0.08	90
2011	60.41	0.95	1.10	7	0.35	20	0.16	45	0.08	90
2012	60.41	0.95	1.10	7	0.35	20	0.16	45	0.08	90
2013	60.41	0.95	1.10	7	0.35	20	0.16	45	0.08	90
2014	60.41	0.95	1.10	7	0.35	20	0.16	45	0.08	90
2015	60.41	0.95	1.10	7	0.35	20	0.16	45	0.08	90
2016	60.41	0.95	1.10	7	0.35	20	0.16	45	0.08	90
2017	60.41	0.95	1.10	7	0.35	20	0.16	45	0.08	90
Resource Grouping - Peace River - Heavy - Tight - 03;04;05;06;07;08										
2009	94.51	0.75	0.45	7	0.35	20	0.12	45	0.05	90
2010	110.08	1.15	0.50	7	0.30	20	0.12	45	0.05	90
2011	42.17	0.70	0.50	7	0.30	20	0.12	45	0.05	90
2012	250.61	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2013	260.04	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2014	89.70	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2015	89.70	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2016	89.70	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2017	89.70	1.25	0.60	7	0.30	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Peace River - Heavy - Tight - 09;10;11										
2008	45.49	1.15	0.40	7	0.12	20	0.05	45	0.05	90
2009	80.86	1.50	0.60	7	0.30	20	0.12	45	0.05	90
2010	88.86	0.65	0.40	7	0.30	20	0.16	45	0.05	90
2011	86.25	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2012	108.67	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2013	82.89	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2014	108.16	0.85	0.45	7	0.25	20	0.12	45	0.05	90
2015	108.16	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2016	108.16	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2017	108.16	1.00	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Peace River - Heavy - Tight - 12;13;14;15;16										
2009	118.00	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2010	97.24	1.25	0.80	7	0.40	20	0.12	45	0.05	90
2011	3.03	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2012	18.35	1.00	0.50	7	0.30	20	0.12	45	0.05	90
2013	118.97	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2014	99.91	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2015	99.91	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2016	99.91	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2017	99.91	1.25	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Peace River - Light - Conventional - 03;04										
2007	23.29	0.70	0.22	7	0.14	20	0.12	45	0.05	90
2008	45.68	0.60	0.14	7	0.05	20	0.05	45	0.05	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	70.92	0.70	0.38	7	0.25	20	0.14	45	0.05	90
2011	25.84	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2012	1.91	0.50	0.20	7	0.14	20	0.12	45	0.05	90
2013	35.56	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2014	6.25	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2015	6.25	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2016	6.25	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2017	6.25	0.90	0.50	7	0.25	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Peace River - Light - Conventional - 05										
2007	11.50	0.30	0.14	7	0.12	20	0.05	45	0.05	90
2008	22.99	0.30	0.22	7	0.22	20	0.18	45	0.10	90
2009	52.16	0.90	0.45	7	0.25	20	0.16	45	0.10	90
2010	56.84	0.95	0.40	7	0.25	20	0.14	45	0.05	90
2011	94.85	0.85	0.55	7	0.25	20	0.16	45	0.10	90
2012	70.93	0.90	0.45	7	0.25	20	0.16	45	0.10	90
2013	36.77	0.95	0.50	7	0.25	20	0.16	45	0.10	90
2014	54.90	0.95	0.50	7	0.25	20	0.16	45	0.10	90
2015	54.20	0.95	0.50	7	0.25	20	0.16	45	0.10	90
2016	54.20	0.95	0.50	7	0.25	20	0.16	45	0.10	90
2017	54.20	0.95	0.50	7	0.25	20	0.16	45	0.10	90
Resource Grouping - Peace River - Light - Conventional - 06;07										
2007	120.87	1.25	0.65	7	0.30	20	0.12	45	0.08	90
2008	159.81	0.95	0.60	7	0.35	20	0.20	45	0.08	90
2009	240.50	0.65	0.50	7	0.20	20	0.12	45	0.08	90
2010	304.31	0.85	0.45	7	0.40	20	0.20	45	0.08	90
2011	245.43	0.35	0.45	7	0.30	20	0.20	45	0.08	90
2012	208.95	0.95	0.50	7	0.25	20	0.12	45	0.08	90
2013	23.85	0.85	0.50	7	0.25	20	0.12	45	0.08	90
2014	159.41	0.85	0.50	7	0.25	20	0.12	45	0.08	90
2015	159.41	0.85	0.50	7	0.25	20	0.12	45	0.08	90
2016	159.41	0.85	0.50	7	0.25	20	0.12	45	0.08	90
2017	159.41	0.85	0.50	7	0.25	20	0.12	45	0.08	90
Resource Grouping - Peace River - Light - Conventional - 08										
2007	49.22	0.50	0.30	7	0.20	20	0.16	45	0.08	90
2008	29.74	0.90	0.50	7	0.25	20	0.12	45	0.08	90
2009	23.95	0.85	0.45	7	0.25	20	0.12	45	0.08	90
2010	27.80	1.55	0.60	7	0.30	20	0.12	45	0.08	90
2011	6.24	1.00	0.30	7	0.20	20	0.12	45	0.08	90
2012	0.59	0.80	0.40	7	0.25	20	0.12	45	0.08	90
2013	4.26	0.80	0.40	7	0.25	20	0.12	45	0.08	90
2014	4.26	0.80	0.40	7	0.25	20	0.12	45	0.08	90
2015	4.26	0.80	0.40	7	0.25	20	0.12	45	0.08	90
2016	4.26	0.80	0.40	7	0.25	20	0.12	45	0.08	90
2017	4.26	0.80	0.40	7	0.25	20	0.12	45	0.08	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Peace River - Light - Conventional - 09;10;11										
2007	34.07	0.80	0.45	7	0.22	20	0.12	45	0.05	90
2008	34.60	0.75	0.40	7	0.22	20	0.12	45	0.05	90
2009	31.43	0.45	0.35	7	0.20	20	0.12	45	0.05	90
2010	39.35	0.95	0.40	7	0.30	20	0.20	45	0.05	90
2011	42.53	1.15	0.40	7	0.25	20	0.12	45	0.05	90
2012	50.60	1.15	0.60	7	0.25	20	0.12	45	0.05	90
2013	61.49	1.10	0.60	7	0.25	20	0.12	45	0.05	90
2014	32.88	1.10	0.50	7	0.25	20	0.12	45	0.05	90
2015	32.88	1.10	0.60	7	0.25	20	0.12	45	0.05	90
2016	32.88	1.10	0.60	7	0.25	20	0.12	45	0.05	90
2017	32.88	1.10	0.60	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Peace River - Light - Conventional - 12;13										
2007	81.05	0.65	0.40	7	0.35	20	0.20	45	0.12	90
2008	64.54	0.65	0.30	7	0.20	20	0.14	45	0.10	90
2009	17.94	0.65	0.40	7	0.37	20	0.20	45	0.10	90
2010	14.85	0.90	0.50	7	0.30	20	0.12	45	0.10	90
2011	62.19	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2012	62.19	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2013	19.20	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2014	16.31	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2015	16.31	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2016	16.31	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2017	16.31	0.65	0.40	7	0.20	20	0.12	45	0.10	90
Resource Grouping - Peace River - Light - Conventional - 14										
2007	97.57	1.05	1.10	7	0.55	20	0.25	45	0.08	90
2008	178.33	0.65	0.40	7	0.25	20	0.20	45	0.10	90
2009	55.15	1.50	0.70	7	0.30	20	0.12	45	0.05	90
2010	77.50	0.60	0.40	7	0.30	20	0.12	45	0.05	90
2011	170.51	0.75	0.40	7	0.25	20	0.12	45	0.05	90
2012	70.91	1.50	0.85	7	0.40	20	0.12	45	0.05	90
2013	47.81	0.95	0.55	7	0.30	20	0.12	45	0.05	90
2014	48.19	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2015	48.19	0.95	0.55	7	0.30	20	0.12	45	0.05	90
2016	48.19	0.95	0.55	7	0.30	20	0.12	45	0.05	90
2017	48.19	0.95	0.55	7	0.30	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Peace River - Light - Conventional - 15										
2007	65.11	0.65	0.40	7	0.30	20	0.30	45	0.10	90
2008	74.80	0.85	0.30	7	0.25	20	0.12	45	0.10	90
2009	73.74	1.30	0.40	7	0.30	20	0.12	45	0.10	90
2010	69.84	1.50	0.65	7	0.40	20	0.20	45	0.10	90
2011	72.28	1.00	0.50	7	0.25	20	0.12	45	0.10	90
2012	108.93	1.25	0.60	7	0.30	20	0.12	45	0.10	90
2013	34.97	1.25	0.50	7	0.25	20	0.12	45	0.10	90
2014	25.71	1.25	0.50	7	0.25	20	0.12	45	0.10	90
2015	23.14	1.25	0.50	7	0.25	20	0.12	45	0.10	90
2016	21.98	1.25	0.50	7	0.25	20	0.12	45	0.10	90
2017	20.88	1.25	0.50	7	0.25	20	0.12	45	0.10	90
Resource Grouping - Peace River - Light - Conventional - 16										
2007	122.11	1.05	0.90	7	0.50	20	0.20	45	0.10	90
2008	101.74	1.05	0.60	7	0.70	20	0.25	45	0.10	90
2009	167.63	1.25	1.40	7	0.30	20	0.20	45	0.10	90
2010	92.81	0.65	0.40	7	0.22	20	0.20	45	0.10	90
2011	66.47	1.60	0.60	7	0.30	20	0.20	45	0.10	90
2012	80.00	1.60	0.60	7	0.30	20	0.20	45	0.10	90
2013	80.00	1.60	0.60	7	0.30	20	0.20	45	0.10	90
2014	80.00	1.60	0.60	7	0.30	20	0.20	45	0.10	90
2015	80.00	1.60	0.60	7	0.30	20	0.20	45	0.10	90
2016	80.00	1.60	0.60	7	0.30	20	0.20	45	0.10	90
2017	80.00	1.60	0.60	7	0.30	20	0.20	45	0.10	90
Resource Grouping - Peace River - Light - Tight - 03;04										
2010	70.92	0.70	0.40	7	0.25	20	0.12	45	0.05	90
2011	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2012	3.09	0.70	0.40	7	0.25	20	0.12	45	0.05	90
2013	121.44	0.80	0.40	7	0.25	20	0.12	45	0.05	90
2014	130.74	0.80	0.40	7	0.25	20	0.12	45	0.05	90
2015	143.82	0.80	0.40	7	0.25	20	0.12	45	0.05	90
2016	153.89	0.80	0.40	7	0.25	20	0.12	45	0.05	90
2017	161.58	0.80	0.40	7	0.25	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Peace River - Light - Tight - 05;06;07;08;09;10;11										
2008	111.09	0.55	0.75	7	0.50	20	0.20	45	0.05	90
2009	57.25	1.20	0.60	7	0.35	20	0.20	45	0.05	90
2010	74.14	0.90	0.45	7	0.30	20	0.12	45	0.05	90
2011	118.95	0.95	0.50	7	0.30	20	0.12	45	0.05	90
2012	128.14	0.85	0.50	7	0.30	20	0.12	45	0.05	90
2013	160.46	0.80	0.50	7	0.30	20	0.12	45	0.05	90
2014	126.01	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2015	126.01	0.80	0.50	7	0.30	20	0.12	45	0.05	90
2016	126.01	0.80	0.50	7	0.30	20	0.12	45	0.05	90
2017	126.01	0.80	0.50	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Peace River - Light - Tight - 12;13;14;15;16										
2009	88.41	1.50	0.60	7	0.25	20	0.12	45	0.05	90
2010	86.18	1.30	0.60	7	0.30	20	0.12	45	0.05	90
2011	120.38	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2012	110.03	1.25	0.50	7	0.30	20	0.12	45	0.05	90
2013	100.40	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2014	119.79	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2015	119.79	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2016	119.79	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2017	119.79	0.90	0.50	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Northeast Alberta - Heavy - Conventional - 01;02;03										
2010	9.23	0.65	0.40	7	0.25	20	0.12	45	0.10	90
2011	0.00	0.00	0.00	0	0.00	0	0.00	0	0.10	0
2012	0.00	0.00	0.00	0	0.00	0	0.00	0	0.10	0
2013	0.00	0.00	0.00	0	0.00	0	0.00	0	0.10	0
2014	0.00	0.65	0.40	7	0.25	20	0.12	45	0.10	90
2015	9.23	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2016	9.23	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2017	9.23	0.00	0.00	0	0.00	0	0.00	0	0.00	0
Resource Grouping - Northeast Alberta - Heavy - Conventional - 04;05;06;07;08										
2007	9.52	0.60	0.25	7	0.16	20	0.08	45	0.05	90
2008	9.81	0.60	0.40	7	0.20	20	0.12	45	0.10	90
2009	9.55	0.80	0.40	7	0.20	20	0.14	45	0.08	90
2010	22.81	0.95	0.60	7	0.30	20	0.16	45	0.08	90
2011	27.81	0.80	0.50	7	0.25	20	0.16	45	0.08	90
2012	17.71	0.65	0.40	7	0.25	20	0.14	45	0.08	90
2013	9.96	0.65	0.40	7	0.25	20	0.14	45	0.08	90
2014	110.56	0.65	0.40	7	0.25	20	0.12	45	0.08	90
2015	110.56	0.65	0.40	7	0.25	20	0.14	45	0.08	90
2016	110.56	0.65	0.40	7	0.25	20	0.14	45	0.08	90
2017	110.56	0.65	0.40	7	0.25	20	0.14	45	0.08	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Northeast Alberta - Heavy - Conventional - 14										
2015	16.37	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2016	16.37	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2017	16.37	0.00	0.00	0	0.00	0	0.00	0	0.00	0
Resource Grouping - Northeast Alberta - Light - Conventional - 01;02;03;04;05;06;07										
2007	5.80	0.65	0.40	1	0.25	20	0.12	45	0.08	90
2008	7.10	0.90	0.50	7	0.25	20	0.12	45	0.08	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	0.26	0.90	0.60	7	0.30	20	0.12	45	0.05	90
2011	1.45	1.50	0.60	7	0.30	20	0.12	45	0.05	90
2012	5.90	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2013	76.52	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2014	54.28	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2015	54.28	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2016	54.28	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2017	54.28	0.90	0.50	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Northeast Alberta - Light - Conventional - 08										
2009	250.56	0.10	0.05	7	0.05	20	0.05	45	0.05	90
2010	250.56	0.10	0.05	7	0.05	20	0.05	45	0.05	90
2011	250.56	0.10	0.05	7	0.05	20	0.05	45	0.05	90
2012	250.56	0.10	0.05	7	0.05	20	0.05	45	0.05	90
2013	250.56	0.10	0.05	7	0.05	20	0.05	45	0.05	90
2014	130.58	0.10	0.05	7	0.05	20	0.05	45	0.05	90
2015	130.58	0.10	0.05	7	0.05	20	0.05	45	0.05	90
2016	130.58	0.10	0.05	7	0.05	20	0.05	45	0.05	90
2017	130.58	0.10	0.05	7	0.05	20	0.05	45	0.05	90
Resource Grouping - Northeast Alberta - Light - Conventional - 14										
2008	10.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	74.05	0.70	0.40	7	0.25	20	0.12	45	0.05	90
2011	7.85	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2012	40.95	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2013	40.95	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	40.95	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	40.95	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	40.95	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	40.95	0.65	0.40	7	0.20	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Northeast Alberta - Light - Tight - 04;05;06;07;08;14										
2011	24.29	1.25	0.50	7	0.20	20	0.12	45	0.05	90
2012	27.92	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2013	1.66	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2014	17.96	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2015	17.96	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2016	17.96	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2017	17.96	0.90	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Northwest Alberta - Heavy - Conventional - 08;13;14;15										
2007	66.44	2.50	0.50	7	0.30	20	0.12	45	0.05	90
2008	58.29	0.60	0.40	7	0.30	20	0.20	45	0.10	90
2009	290.75	3.00	1.20	7	0.40	20	0.12	45	0.05	90
2010	112.22	2.25	0.80	7	0.30	20	0.12	45	0.05	90
2011	20.75	2.25	0.60	7	0.30	20	0.12	45	0.05	90
2012	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2013	220.57	2.50	0.80	7	0.40	20	0.12	45	0.05	90
2014	76.38	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2015	76.38	2.50	0.80	7	0.40	20	0.12	45	0.05	90
2016	76.38	2.50	0.80	7	0.40	20	0.12	45	0.05	90
2017	76.38	2.50	0.80	7	0.40	20	0.12	45	0.05	90
Resource Grouping - Northwest Alberta - Light - Conventional - 08;13;14;15										
2007	92.92	1.25	0.60	7	0.35	20	0.20	45	0.08	90
2008	135.42	1.50	0.65	7	0.25	20	0.16	45	0.10	90
2009	76.35	0.65	0.45	7	0.35	20	0.20	45	0.08	90
2010	98.73	1.50	0.55	7	0.40	20	0.20	45	0.08	90
2011	68.00	0.80	0.45	7	0.25	20	0.12	45	0.08	90
2012	99.62	0.65	0.45	7	0.25	20	0.12	45	0.08	90
2013	49.38	0.90	0.50	7	0.25	20	0.12	45	0.08	90
2014	110.38	0.90	0.50	7	0.25	20	0.12	45	0.08	90
2015	110.38	0.90	0.50	7	0.25	20	0.12	45	0.08	90
2016	110.38	0.90	0.50	7	0.25	20	0.12	45	0.08	90
2017	110.38	0.90	0.50	7	0.25	20	0.12	45	0.08	90
Resource Grouping - Northwest Alberta - Light - Tight - 08;13;14;15										
2010	34.72	2.00	0.90	7	0.50	20	0.20	45	0.05	90
2011	37.09	2.00	0.80	7	0.40	20	0.20	45	0.05	90
2012	19.81	2.00	0.70	7	0.30	20	0.20	45	0.05	90
2013	39.33	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2014	155.77	1.15	0.50	7	0.30	20	0.12	45	0.05	90
2015	163.56	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2016	171.73	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2017	180.32	1.25	0.60	7	0.30	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Fort St. John - Heavy - Conventional - 04;05;06;07;08										
2007	80.31	1.50	0.60	7	0.20	20	0.35	45	0.10	90
2008	185.78	0.65	0.12	7	0.16	20	0.14	45	0.10	90
2009	76.37	0.30	0.50	7	0.65	20	0.30	45	0.10	90
2010	361.56	2.05	1.15	7	0.65	20	0.20	45	0.10	90
2011	132.48	0.95	0.65	7	0.45	20	0.20	45	0.05	90
2012	172.59	1.50	0.75	7	0.30	20	0.12	45	0.05	90
2013	154.90	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2014	106.15	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2015	101.15	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2016	96.15	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2017	91.15	1.00	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Fort St. John - Heavy - Conventional - 10;11										
2007	42.01	0.75	0.40	7	0.16	20	0.12	45	0.05	90
2008	65.58	0.25	0.22	7	0.18	20	0.12	45	0.05	90
2009	42.76	0.20	0.18	7	0.16	20	0.12	45	0.05	90
2010	88.77	1.05	0.60	7	0.25	20	0.12	45	0.05	90
2011	104.67	0.65	0.40	7	0.25	20	0.12	45	0.05	90
2012	62.37	0.75	0.45	7	0.25	20	0.12	45	0.05	90
2013	140.67	1.10	0.50	7	0.25	20	0.12	45	0.05	90
2014	73.99	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2015	73.99	1.10	0.50	7	0.25	20	0.12	45	0.05	90
2016	73.99	1.10	0.50	7	0.25	20	0.12	45	0.05	90
2017	73.99	1.10	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Fort St. John - Heavy - Conventional - 12;13;14										
2008	42.53	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2009	9.25	1.65	0.65	7	0.30	20	0.12	45	0.05	90
2010	1.68	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2011	75.98	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2012	36.19	1.45	0.60	7	0.30	20	0.12	45	0.05	90
2013	36.19	1.45	0.60	7	0.30	20	0.12	45	0.05	90
2014	36.19	1.45	0.60	7	0.30	20	0.12	45	0.05	90
2015	36.19	1.45	0.60	7	0.30	20	0.12	45	0.05	90
2016	36.19	1.45	0.60	7	0.30	20	0.12	45	0.05	90
2017	36.19	1.45	0.60	7	0.30	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Fort St. John - Light - Conventional - 04;05;06;07;08										
2007	19.61	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2008	59.09	0.85	0.30	7	0.10	20	0.10	45	0.05	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	59.91	0.75	0.50	7	0.20	20	0.12	45	0.05	90
2011	40.23	0.65	0.35	7	0.20	20	0.12	45	0.05	90
2012	25.18	0.75	0.40	7	0.30	20	0.12	45	0.05	90
2013	8.83	0.75	0.40	7	0.30	20	0.12	45	0.05	90
2014	15.32	0.75	0.40	7	0.25	20	0.12	45	0.05	90
2015	15.32	0.75	0.40	7	0.30	20	0.12	45	0.05	90
2016	15.32	0.75	0.40	7	0.30	20	0.12	45	0.05	90
2017	15.32	0.75	0.40	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Fort St. John - Light - Conventional - 10;11										
2007	80.17	1.50	0.45	7	0.20	20	0.12	45	0.10	90
2008	70.00	0.35	0.25	7	0.20	20	0.12	45	0.08	90
2009	55.78	0.60	0.40	7	0.25	20	0.12	45	0.08	90
2010	90.73	1.00	0.60	7	0.20	20	0.12	45	0.08	90
2011	125.51	1.50	0.40	7	0.30	20	0.12	45	0.08	90
2012	58.64	0.60	0.40	7	0.30	20	0.12	45	0.08	90
2013	142.93	0.60	0.40	7	0.30	20	0.12	45	0.08	90
2014	310.99	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2015	318.77	0.60	0.40	7	0.30	20	0.12	45	0.08	90
2016	323.55	0.60	0.40	7	0.30	20	0.12	45	0.08	90
2017	326.78	0.60	0.40	7	0.30	20	0.12	45	0.08	90
Resource Grouping - Fort St. John - Light - Conventional - 12;13;14										
2007	101.52	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2008	78.35	1.25	0.60	7	0.30	20	0.12	45	0.05	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	1.60	1.00	0.75	7	0.30	20	0.12	45	0.05	90
2011	33.81	0.75	0.40	7	0.20	20	0.12	45	0.05	90
2012	76.54	0.80	0.50	7	0.30	20	0.12	45	0.05	90
2013	34.92	0.80	0.50	7	0.20	20	0.12	45	0.05	90
2014	20.31	0.80	0.50	7	0.20	20	0.12	45	0.05	90
2015	19.30	0.80	0.50	7	0.20	20	0.12	45	0.05	90
2016	18.72	0.80	0.50	7	0.20	20	0.12	45	0.05	90
2017	18.53	0.80	0.50	7	0.20	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Lloydminster Saskatchewan - Heavy - Conventional - 03;04;05										
2007	3.18	0.45	0.35	7	0.30	20	0.20	45	0.05	90
2008	4.76	0.65	0.40	7	0.25	20	0.12	45	0.05	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	4.74	0.50	0.45	7	0.25	20	0.16	45	0.05	90
2011	3.37	0.65	0.45	7	0.30	20	0.16	45	0.05	90
2012	3.23	0.35	0.30	7	0.25	20	0.16	45	0.05	90
2013	4.91	0.50	0.35	7	0.25	20	0.16	45	0.05	90
2014	7.61	0.80	0.40	7	0.20	20	0.16	45	0.05	90
2015	7.99	0.50	0.35	7	0.25	20	0.16	45	0.05	90
2016	8.39	0.50	0.35	7	0.25	20	0.16	45	0.05	90
2017	8.80	0.50	0.35	7	0.25	20	0.16	45	0.05	90
Resource Grouping - Lloydminster Saskatchewan - Heavy - Conventional - 06										
2007	35.71	0.25	0.40	7	0.30	20	0.27	45	0.08	90
2008	27.68	0.30	0.40	7	0.35	20	0.25	45	0.08	90
2009	33.51	0.45	0.35	7	0.27	20	0.25	45	0.08	90
2010	32.19	0.30	0.25	7	0.35	20	0.25	45	0.08	90
2011	29.74	0.50	0.30	7	0.40	20	0.20	45	0.08	90
2012	24.47	0.45	0.30	7	0.35	20	0.20	45	0.08	90
2013	25.12	0.40	0.30	7	0.20	20	0.16	45	0.08	90
2014	27.33	0.40	0.30	7	0.20	20	0.16	45	0.08	90
2015	28.33	0.40	0.30	7	0.20	20	0.16	45	0.08	90
2016	29.33	0.40	0.30	7	0.20	20	0.16	45	0.08	90
2017	30.33	0.40	0.30	7	0.20	20	0.16	45	0.08	90
Resource Grouping - Lloydminster Saskatchewan - Heavy - Conventional - 07;08										
2007	31.42	0.40	0.35	7	0.40	20	0.22	45	0.12	90
2008	41.05	0.35	0.30	7	0.25	20	0.20	45	0.12	90
2009	26.91	0.25	0.20	7	0.30	20	0.25	45	0.12	90
2010	39.85	0.10	0.25	7	0.55	20	0.30	45	0.12	90
2011	30.06	0.30	0.40	7	0.35	20	0.20	45	0.12	90
2012	36.86	0.45	0.70	7	0.35	20	0.20	45	0.12	90
2013	32.00	0.55	0.35	7	0.25	20	0.20	45	0.12	90
2014	39.85	0.45	0.30	7	0.25	20	0.20	45	0.12	90
2015	39.85	0.55	0.35	7	0.25	20	0.20	45	0.12	90
2016	39.85	0.55	0.35	7	0.25	20	0.20	45	0.12	90
2017	39.85	0.55	0.35	7	0.25	20	0.20	45	0.12	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Lloydminster Saskatchewan - Heavy - Conventional - 13										
2007	33.51	0.55	0.40	7	0.20	20	0.12	45	0.05	90
2008	23.25	0.60	0.40	7	0.14	20	0.10	45	0.05	90
2009	20.69	0.35	0.28	7	0.20	20	0.12	45	0.05	90
2010	48.12	0.85	0.40	7	0.27	20	0.12	45	0.05	90
2011	23.56	0.35	0.25	7	0.20	20	0.12	45	0.05	90
2012	19.78	0.65	0.45	7	0.20	20	0.12	45	0.05	90
2013	14.57	0.35	0.25	7	0.20	20	0.12	45	0.05	90
2014	14.98	0.40	0.30	7	0.20	20	0.12	45	0.05	90
2015	14.83	0.35	0.25	7	0.20	20	0.12	45	0.05	90
2016	14.69	0.35	0.25	7	0.20	20	0.12	45	0.05	90
2017	14.54	0.35	0.25	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Lloydminster Saskatchewan - Heavy - Conventional - 14;15										
2007	28.01	0.95	0.35	7	0.10	20	0.05	45	0.05	90
2008	26.13	0.20	0.12	7	0.10	20	0.05	45	0.05	90
2009	83.23	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2010	41.84	0.85	0.80	7	0.30	20	0.12	45	0.05	90
2011	65.71	0.85	0.80	7	0.39	20	0.12	45	0.05	90
2012	42.01	0.85	0.70	7	0.30	20	0.12	45	0.05	90
2013	25.83	0.70	0.40	7	0.20	20	0.12	45	0.05	90
2014	17.92	0.60	0.40	7	0.20	20	0.12	45	0.05	90
2015	14.92	0.70	0.40	7	0.20	20	0.12	45	0.05	90
2016	12.92	0.70	0.40	7	0.20	20	0.12	45	0.05	90
2017	11.92	0.70	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Lloydminster Saskatchewan - Heavy - Tight - 03;04;05;06;07;08										
2009	30.47	0.65	0.45	7	0.25	20	0.20	45	0.05	90
2010	30.50	1.25	0.55	7	0.35	20	0.16	45	0.05	90
2011	25.85	0.90	0.60	7	0.35	20	0.20	45	0.05	90
2012	26.87	1.00	0.60	7	0.30	20	0.20	45	0.05	90
2013	29.72	0.80	0.50	7	0.30	20	0.20	45	0.05	90
2014	30.71	0.80	0.40	7	0.30	20	0.20	45	0.05	90
2015	31.71	0.80	0.50	7	0.30	20	0.20	45	0.05	90
2016	32.71	0.80	0.50	7	0.30	20	0.20	45	0.05	90
2017	33.71	0.80	0.50	7	0.30	20	0.20	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Lloydminster Saskatchewan - Light - Conventional - 03;04;05;06;07;08										
2007	3.25	0.60	0.40	7	0.20	20	0.16	45	0.10	90
2008	4.76	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2009	4.96	0.70	0.55	7	0.35	20	0.20	45	0.10	90
2010	4.84	0.60	0.40	7	0.25	20	0.16	45	0.10	90
2011	3.37	0.65	0.40	7	0.30	20	0.20	45	0.10	90
2012	3.23	0.40	0.35	7	0.25	20	0.20	45	0.10	90
2013	4.63	0.65	0.40	7	0.25	20	0.16	45	0.10	90
2014	13.91	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2015	14.91	0.65	0.40	7	0.25	20	0.16	45	0.10	90
2016	15.91	0.65	0.40	7	0.25	20	0.16	45	0.10	90
2017	16.91	0.65	0.40	7	0.25	20	0.16	45	0.10	90
Resource Grouping - Lloydminster Saskatchewan - Light - Tight - 03;04;05;06;07;08										
2009	30.47	0.65	0.45	7	0.25	20	0.20	45	0.10	90
2010	29.50	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2011	25.85	0.95	0.60	7	0.30	20	0.12	45	0.05	90
2012	26.87	0.95	0.60	7	0.30	20	0.12	45	0.05	90
2013	29.72	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2014	30.71	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2015	31.71	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2016	32.71	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2017	33.71	0.80	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Southwest Saskatchewan - Heavy - Conventional - 03;04;05;06;07;08										
2007	20.25	0.50	0.25	7	0.20	20	0.05	45	0.05	90
2008	15.61	0.20	0.35	7	0.25	20	0.14	45	0.05	90
2009	15.95	0.45	0.30	7	0.18	20	0.12	45	0.05	90
2010	10.07	0.25	0.20	7	0.16	20	0.12	45	0.05	90
2011	19.40	0.30	0.20	7	0.16	20	0.12	45	0.05	90
2012	31.85	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2013	33.84	0.60	0.30	7	0.20	20	0.12	45	0.05	90
2014	42.24	0.60	0.30	7	0.20	20	0.12	45	0.05	90
2015	51.24	0.60	0.30	7	0.20	20	0.12	45	0.05	90
2016	58.24	0.60	0.30	7	0.20	20	0.12	45	0.05	90
2017	64.24	0.60	0.30	7	0.20	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Southwest Saskatchewan - Heavy - Conventional - 09;13;14										
2007	25.59	0.40	0.20	7	0.12	20	0.05	45	0.05	90
2008	16.06	0.50	0.20	7	0.05	20	0.05	45	0.05	90
2009	18.41	0.40	0.20	7	0.05	20	0.05	45	0.05	90
2010	24.26	0.20	0.10	7	0.05	20	0.05	45	0.05	90
2011	24.19	0.45	0.12	7	0.08	20	0.08	45	0.05	90
2012	26.15	0.20	0.16	7	0.12	20	0.10	45	0.05	90
2013	47.24	0.20	0.16	7	0.12	20	0.08	45	0.05	90
2014	67.38	0.20	0.16	7	0.12	20	0.08	45	0.05	90
2015	74.11	0.20	0.16	7	0.12	20	0.08	45	0.05	90
2016	77.82	0.20	0.16	7	0.12	20	0.08	45	0.05	90
2017	79.77	0.20	0.16	7	0.12	20	0.08	45	0.05	90
Resource Grouping - Southwest Saskatchewan - Heavy - Tight - 03;04;05;06;07;08										
2009	19.33	1.05	0.40	7	0.20	20	0.12	45	0.05	90
2010	21.41	0.60	0.35	7	0.22	20	0.12	45	0.05	90
2011	18.62	0.50	0.40	7	0.30	20	0.12	45	0.05	90
2012	22.27	0.65	0.40	7	0.25	20	0.12	45	0.05	90
2013	31.34	0.60	0.40	7	0.25	20	0.12	45	0.05	90
2014	47.86	0.50	0.40	7	0.20	20	0.12	45	0.05	90
2015	57.86	0.60	0.40	7	0.25	20	0.12	45	0.05	90
2016	62.86	0.60	0.40	7	0.25	20	0.12	45	0.05	90
2017	67.86	0.60	0.40	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Southwest Saskatchewan - Heavy - Tight - 09;13;14										
2007	86.86	1.25	0.65	7	0.45	20	0.20	45	0.05	90
2008	84.71	1.25	0.60	7	0.30	20	0.08	45	0.05	90
2009	74.99	1.05	0.70	7	0.16	20	0.12	45	0.05	90
2010	59.18	1.05	0.45	7	0.20	20	0.05	45	0.05	90
2011	49.81	0.85	0.55	7	0.25	20	0.12	45	0.05	90
2012	62.00	0.80	0.60	7	0.25	20	0.12	45	0.05	90
2013	52.88	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2014	78.06	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	78.06	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2016	78.06	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2017	78.06	0.85	0.50	7	0.25	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Southwest Saskatchewan - Light - Conventional - 03;04;05;06;07;08;09;13										
2007	55.33	1.25	0.60	7	0.30	20	0.20	45	0.10	90
2008	11.26	0.60	0.40	7	0.30	20	0.20	45	0.10	90
2009	9.72	0.60	0.40	7	0.30	20	0.20	45	0.10	90
2010	7.12	0.60	0.30	7	0.20	20	0.12	45	0.05	90
2011	2.01	0.65	0.40	7	0.30	20	0.10	45	0.05	90
2012	6.64	0.80	0.40	7	0.30	20	0.20	45	0.10	90
2013	3.64	0.80	0.40	7	0.30	20	0.20	45	0.10	90
2014	52.09	0.80	0.40	7	0.30	20	0.20	45	0.10	90
2015	46.88	0.80	0.40	7	0.30	20	0.20	45	0.10	90
2016	46.88	0.80	0.40	7	0.30	20	0.20	45	0.10	90
2017	46.88	0.80	0.40	7	0.30	20	0.20	45	0.10	90
Resource Grouping - Southwest Saskatchewan - Light - Tight - 03;04;05;06;07;08;09;13										
2009	19.33	0.95	0.50	7	0.25	20	0.12	45	0.05	90
2010	21.41	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2011	18.62	0.50	0.40	7	0.30	20	0.20	45	0.10	90
2012	21.27	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2013	29.30	0.70	0.45	7	0.25	20	0.12	45	0.05	90
2014	41.86	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	51.86	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	56.86	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	58.86	0.65	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Southeast Saskatchewan - Heavy - Conventional - 06;07;08										
2007	10.98	0.50	0.30	7	0.14	20	0.12	45	0.05	90
2008	8.70	0.30	0.25	7	0.20	20	0.12	45	0.05	90
2009	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2010	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2011	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2012	14.07	0.80	0.40	7	0.25	20	0.12	45	0.05	90
2013	7.76	0.50	0.40	7	0.25	20	0.12	45	0.05	90
2014	7.76	0.50	0.40	7	0.25	20	0.12	45	0.05	90
2015	7.76	0.50	0.40	7	0.25	20	0.12	45	0.05	90
2016	7.76	0.50	0.40	7	0.25	20	0.12	45	0.05	90
2017	7.76	0.50	0.40	7	0.25	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Southeast Saskatchewan - Heavy - Conventional - 09;10;11										
2007	50.70	0.70	0.65	7	0.40	20	0.18	45	0.08	90
2008	50.79	0.70	0.65	7	0.30	20	0.20	45	0.08	90
2009	32.62	0.55	0.45	7	0.40	20	0.16	45	0.08	90
2010	8.47	0.65	0.50	7	0.20	20	0.12	45	0.08	90
2011	30.27	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2012	17.81	0.70	0.35	7	0.20	20	0.12	45	0.08	90
2013	22.89	0.65	0.40	7	0.25	20	0.12	45	0.08	90
2014	27.53	0.60	0.40	7	0.20	20	0.12	45	0.08	90
2015	31.53	0.65	0.40	7	0.25	20	0.12	45	0.08	90
2016	34.53	0.65	0.40	7	0.25	20	0.12	45	0.08	90
2017	36.53	0.65	0.40	7	0.25	20	0.12	45	0.08	90
Resource Grouping - Southeast Saskatchewan - Heavy - Conventional - 13										
2007	39.84	0.75	0.44	7	0.25	20	0.16	45	0.10	90
2008	34.51	0.75	0.45	7	0.25	20	0.16	45	0.10	90
2009	37.54	0.75	0.45	7	0.25	20	0.16	45	0.10	90
2010	44.51	0.80	0.55	7	0.25	20	0.16	45	0.10	90
2011	34.88	0.80	0.40	7	0.25	20	0.12	45	0.05	90
2012	36.80	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2013	40.83	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2014	49.94	0.80	0.45	7	0.20	20	0.12	45	0.05	90
2015	53.94	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2016	56.94	0.80	0.40	7	0.20	20	0.12	45	0.05	90
2017	58.94	0.80	0.40	7	0.20	20	0.12	45	0.05	90
Resource Grouping - Southeast Saskatchewan - Heavy - Conventional - 14;15;16;17;18;19										
2007	15.81	0.95	0.40	7	0.25	20	0.12	45	0.05	90
2008	17.36	0.75	0.40	7	0.25	20	0.12	45	0.05	90
2009	16.03	0.90	0.50	7	0.25	20	0.16	45	0.05	90
2010	5.50	0.40	0.30	7	0.20	20	0.12	45	0.05	90
2011	7.27	0.65	0.40	7	0.25	20	0.12	45	0.05	90
2012	8.60	0.65	0.30	7	0.20	20	0.12	45	0.05	90
2013	17.20	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2014	27.36	0.80	0.40	7	0.25	20	0.12	45	0.05	90
2015	37.36	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2016	47.36	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2017	57.36	0.80	0.50	7	0.25	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Southeast Saskatchewan - Heavy - Tight - 13										
2007	120.11	1.55	0.95	7	0.55	20	0.20	45	0.05	90
2008	29.32	1.90	0.80	7	0.35	20	0.16	45	0.05	90
2009	40.14	1.25	0.45	7	0.35	20	0.12	45	0.05	90
2010	58.01	1.60	0.55	7	0.30	20	0.12	45	0.05	90
2011	50.44	1.05	0.65	7	0.35	20	0.12	45	0.05	90
2012	78.02	0.95	0.70	7	0.35	20	0.12	45	0.05	90
2013	70.33	1.00	0.60	7	0.30	20	0.12	45	0.05	90
2014	55.00	1.00	0.60	7	0.30	20	0.12	45	0.05	90
2015	50.00	1.00	0.60	7	0.30	20	0.12	45	0.05	90
2016	47.00	1.00	0.60	7	0.30	20	0.12	45	0.05	90
2017	45.00	1.00	0.60	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Southeast Saskatchewan - Heavy - Tight - 14;15										
2008	40.86	0.65	0.45	7	0.25	20	0.12	45	0.05	90
2009	35.91	1.00	0.40	7	0.30	20	0.20	45	0.05	90
2010	37.44	1.15	0.60	7	0.35	20	0.20	45	0.05	90
2011	39.68	1.05	0.40	7	0.25	20	0.12	45	0.05	90
2012	53.82	1.15	0.60	7	0.30	20	0.12	45	0.05	90
2013	57.72	1.15	0.60	7	0.30	20	0.12	45	0.05	90
2014	85.75	1.10	0.60	7	0.30	20	0.12	45	0.05	90
2015	90.75	1.15	0.60	7	0.30	20	0.12	45	0.05	90
2016	94.75	1.15	0.60	7	0.30	20	0.12	45	0.05	90
2017	97.75	1.15	0.60	7	0.30	20	0.12	45	0.05	90
Resource Grouping - Southeast Saskatchewan - Light - Conventional - 06;07;08;09;10;11										
2012	21.10	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2013	21.10	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2014	21.10	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2015	21.10	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2016	21.10	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2017	21.10	0.90	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Southeast Saskatchewan - Light - Conventional - 13										
2007	61.79	1.10	0.55	7	0.35	20	0.25	45	0.08	90
2008	62.62	0.95	0.60	7	0.35	20	0.20	45	0.05	90
2009	50.43	0.90	0.55	7	0.30	20	0.20	45	0.08	90
2010	52.58	0.80	0.60	7	0.30	20	0.12	45	0.05	90
2011	48.61	0.85	0.50	7	0.35	20	0.20	45	0.08	90
2012	45.19	0.90	0.50	7	0.30	20	0.20	45	0.08	90
2013	46.96	0.70	0.50	7	0.25	20	0.12	45	0.08	90
2014	58.07	0.80	0.50	7	0.30	20	0.12	45	0.08	90
2015	59.24	0.70	0.50	7	0.25	20	0.12	45	0.08	90
2016	60.42	0.70	0.50	7	0.25	20	0.12	45	0.08	90
2017	61.63	0.70	0.50	7	0.25	20	0.12	45	0.08	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Southeast Saskatchewan - Light - Conventional - 14;15										
2007	20.21	0.35	0.25	7	0.20	20	0.12	45	0.05	90
2008	29.88	0.60	0.35	7	0.20	20	0.12	45	0.05	90
2009	17.92	0.55	0.35	7	0.20	20	0.12	45	0.05	90
2010	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2011	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2012	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2014	0.01	0.35	0.25	7	0.20	20	0.12	45	0.05	90
2015	20.21	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2016	20.21	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2017	20.21	0.00	0.00	0	0.00	0	0.00	0	0.00	0
Resource Grouping - Southeast Saskatchewan - Light - Tight - 13										
2007	49.55	0.20	0.18	7	0.14	20	0.20	45	0.05	90
2008	73.26	0.65	0.55	7	0.35	20	0.12	45	0.05	90
2009	60.72	0.80	0.65	7	0.30	20	0.12	45	0.05	90
2010	70.29	1.00	0.70	7	0.30	20	0.12	45	0.05	90
2011	70.48	0.95	0.55	7	0.30	20	0.12	45	0.05	90
2012	74.01	0.85	0.55	7	0.30	20	0.12	45	0.05	90
2013	82.93	0.75	0.45	7	0.25	20	0.12	45	0.05	90
2014	80.95	0.65	0.45	7	0.25	20	0.12	45	0.05	90
2015	80.95	0.75	0.45	7	0.25	20	0.12	45	0.05	90
2016	80.95	0.75	0.45	7	0.25	20	0.12	45	0.05	90
2017	80.95	0.75	0.45	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Southeast Saskatchewan - Light - Tight - 14;15										
2007	63.40	0.70	0.50	7	0.25	20	0.12	45	0.05	90
2008	41.68	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2009	35.91	0.80	0.50	7	0.30	20	0.20	45	0.08	90
2010	35.66	1.00	0.60	7	0.30	20	0.12	45	0.05	90
2011	37.28	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2012	50.63	0.80	0.50	7	0.25	20	0.12	45	0.05	90
2013	56.42	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2014	89.75	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2015	99.75	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2016	104.75	0.90	0.50	7	0.25	20	0.12	45	0.05	90
2017	107.25	0.90	0.50	7	0.25	20	0.12	45	0.05	90

Well Year	Initial Production Rate bbl/d	First Decline Rate	Second Decline Rate	Months to Second Decline Rate	Third Decline Rate	Months to Third Decline Rate	Fourth Decline Rate	Months to Fourth Decline Rate	Fifth Decline Rate	Months to Fifth Decline Rate
Resource Grouping - Manitoba - Light - Conventional - 09;10;11;13;14										
2007	28.88	1.00	0.60	7	0.25	20	0.12	45	0.05	90
2008	21.42	1.30	0.60	7	0.30	20	0.12	45	0.05	90
2009	26.60	1.15	0.60	7	0.30	20	0.12	45	0.05	90
2010	9.54	0.85	0.50	7	0.30	20	0.12	45	0.05	90
2011	11.01	0.90	0.50	7	0.30	20	0.12	45	0.05	90
2012	19.38	1.50	0.50	7	0.25	20	0.12	45	0.05	90
2013	20.13	1.00	0.50	7	0.20	20	0.12	45	0.05	90
2014	21.09	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2015	21.62	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2016	22.70	1.00	0.50	7	0.25	20	0.12	45	0.05	90
2017	23.83	1.00	0.50	7	0.25	20	0.12	45	0.05	90
Resource Grouping - Manitoba - Light - Tight - 09;10;11;13;14										
2007	14.32	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2008	56.43	0.65	0.70	7	0.40	20	0.12	45	0.05	90
2009	67.37	0.65	0.95	7	0.35	20	0.16	45	0.05	90
2010	73.05	1.25	0.85	7	0.45	20	0.20	45	0.05	90
2011	72.58	1.20	0.90	7	0.40	20	0.16	45	0.05	90
2012	73.03	1.05	0.60	7	0.30	20	0.12	45	0.05	90
2013	71.09	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2014	77.87	1.05	0.50	7	0.25	20	0.12	45	0.05	90
2015	77.87	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2016	77.87	0.85	0.50	7	0.25	20	0.12	45	0.05	90
2017	77.87	0.85	0.50	7	0.25	20	0.12	45	0.05	90

APPENDIX B

B1 – Allocation of Oil Drill Days by Area

Historical Oil Drill Days by Area

Year	01 - Southern Alberta	02 - Lloydminster AB	03 - Eastern Alberta	04 - Central Alberta	05 - West Central Alberta	06 - Foothills	07 - Kaybob	08 - Peace River	09 - Northeast Alberta	10 - Northwest Alberta	11 - Fort St. John	12 - Lloydminster Saskatchewan	13 - Southwest Saskatchewan	14 - Southeast Saskatchewan	15 - Manitoba
2005	2 251	1 911	1 080	2 889	1 795	821	2 461	4 020	49	574	661	4 912	550	6 420	1 402
2006	1 812	2 122	711	2 848	2 276	673	2 202	4 542	45	525	761	4 408	702	8 530	2 254
2007	1 544	1 698	881	2 416	1 501	250	1 190	4 057	41	540	1 247	3 638	792	9 903	2 002
2008	1 871	1 684	1 157	2 888	1 410	49	1 336	3 138	83	657	198	3 933	1 890	13 873	2 637
2009	1 286	1 059	225	1 309	1 475	56	1 232	1 442	12	137	734	2 384	907	6 778	1 858
2010	3 084	2 862	835	4 654	5 137	398	3 326	3 856	67	152	258	5 313	1 655	10 157	4 024
2011	4 065	3 141	1 977	7 061	6 787	908	6 716	5 769	59	263	1 072	8 575	4 015	10 107	9 113
2012	3 281	2 500	1 504	4 952	6 330	1 130	6 768	5 351	42	483	811	8 714	2 326	9 620	5 914
2013	2 550	2 441	1 088	4 872	5 017	1 067	5 289	3 962	45	315	789	9 246	2 625	8 418	3 227
2014	2 242	2 302	758	4 824	4 932	928	4 790	4 374	128	326	462	10 350	3 702	8 445	2 056

Historical Fraction of Total Oil Drill Days by Area

DrlYr	01 - Southern Alberta	02 - Lloydminster AB	03 - Eastern Alberta	04 - Central Alberta	05 - West Central Alberta	06 - Foothills	07 - Kaybob	08 - Peace River	09 - Northeast Alberta	10 - Northwest Alberta	11 - Fort St. John	12 - Lloydminster Saskatchewan	13 - Southwest Saskatchewan	14 - Southeast Saskatchewan	15 - Manitoba
2005	7%	6%	3%	9%	6%	3%	8%	13%	0%	2%	2%	15%	2%	20%	4%
2006	5%	6%	2%	8%	7%	2%	6%	13%	0%	2%	2%	13%	2%	25%	7%
2007	5%	5%	3%	8%	5%	1%	4%	13%	0%	2%	4%	11%	2%	31%	6%
2008	5%	5%	3%	8%	4%	0%	4%	9%	0%	2%	1%	11%	5%	38%	7%
2009	6%	5%	1%	6%	7%	0%	6%	7%	0%	1%	4%	11%	4%	32%	9%
2010	7%	6%	2%	10%	11%	1%	7%	8%	0%	0%	1%	12%	4%	22%	9%
2011	6%	5%	3%	10%	10%	1%	10%	8%	0%	0%	2%	12%	6%	15%	13%
2012	5%	4%	3%	8%	11%	2%	11%	9%	0%	1%	1%	15%	4%	16%	10%
2013	5%	5%	2%	10%	10%	2%	10%	8%	0%	1%	2%	18%	5%	17%	6%
2014	4%	5%	1%	10%	10%	2%	9%	9%	0%	1%	1%	20%	7%	17%	4%

Projected Oil Drill Days by Area - Mid-Range Price Case

DrlYr	01 - Southern Alberta	02 - Lloydminster AB	03 - Eastern Alberta	04 - Central Alberta	05 - West Central Alberta	06 - Foothills	07 - Kaybob	08 - Peace River	09 - Northeast Alberta	10 - Northwest Alberta	11 - Fort St. John	12 - Lloydminster Saskatchewan	13 - Southwest Saskatchewan	14 - Southeast Saskatchewan	15 - Manitoba
2015	843	911	284	1 616	1 525	288	1 468	1 783	58	114	349	6 392	1 175	2 864	1 084
2016	987	1 071	329	1 961	1 797	343	1 739	2 108	66	133	392	5 180	1 402	3 357	1 200
2017	763	844	261	1 467	1 349	260	1 327	1 628	54	104	327	6 908	1 071	2 594	1 011

Projected Fraction of Total Oil Drill Days by Area - Mid-Range Price Case

DrlYr	01 - Southern Alberta	02 - Lloydminster AB	03 - Eastern Alberta	04 - Central Alberta	05 - West Central Alberta	06 - Foothills	07 - Kaybob	08 - Peace River	09 - Northeast Alberta	10 - Northwest Alberta	11 - Fort St. John	12 - Lloydminster Saskatchewan	13 - Southwest Saskatchewan	14 - Southeast Saskatchewan	15 - Manitoba
2015	4%	4%	1%	8%	7%	1%	7%	9%	0%	1%	2%	31%	6%	14%	5%
2016	4%	5%	1%	9%	8%	2%	8%	10%	0%	1%	2%	23%	6%	15%	5%
2017	4%	4%	1%	7%	7%	1%	7%	8%	0%	1%	2%	35%	5%	13%	5%

Projected Oil Drill Days by Area - Higher Price Case															
DrlYr	01 - Southern Alberta	02 - Lloydminster AB	03 - Eastern Alberta	04 - Central Alberta	05 - West Central Alberta	06 - Foothills	07 - Kaybob	08 - Peace River	09 - Northeast Alberta	10 - Northwest Alberta	11 - Fort St. John	12 - Lloydminster Saskatchewan	13 - Southwest Saskatchewan	14 - Southeast Saskatchewan	15 - Manitoba
2015	892	962	299	1 726	1 621	307	1 559	1 890	61	120	363	6 546	1 249	3 031	1 125
2016	1 068	1 155	354	2 143	1 954	373	1 888	2 284	70	144	415	5 433	1 522	3 630	1 267
2017	926	1 014	310	1 836	1 660	320	1 624	1 983	63	125	374	7 415	1 314	3 139	1 145

Projected Fraction of Total Oil Drill Days by Area - Higher Price Case															
DrlYr	01 - Southern Alberta	02 - Lloydminster AB	03 - Eastern Alberta	04 - Central Alberta	05 - West Central Alberta	06 - Foothills	07 - Kaybob	08 - Peace River	09 - Northeast Alberta	10 - Northwest Alberta	11 - Fort St. John	12 - Lloydminster Saskatchewan	13 - Southwest Saskatchewan	14 - Southeast Saskatchewan	15 - Manitoba
2015	4%	4%	1%	8%	7%	1%	7%	9%	0%	1%	2%	30%	6%	14%	5%
2016	5%	5%	1%	9%	8%	2%	8%	10%	0%	1%	2%	23%	6%	15%	5%
2017	4%	4%	1%	8%	7%	1%	7%	9%	0%	1%	2%	32%	6%	14%	5%

Projected Oil Drill Days by Area - Lower Price Case															
DrlYr	01 - Southern Alberta	02 - Lloydminster AB	03 - Eastern Alberta	04 - Central Alberta	05 - West Central Alberta	06 - Foothills	07 - Kaybob	08 - Peace River	09 - Northeast Alberta	10 - Northwest Alberta	11 - Fort St. John	12 - Lloydminster Saskatchewan	13 - Southwest Saskatchewan	14 - Southeast Saskatchewan	15 - Manitoba
2015	900	970	302	1 743	1 636	309	1 572	1 906	61	121	365	4 843	1 260	3 056	1 131
2016	727	801	250	1 373	1 294	247	1 263	1 540	52	99	317	3 068	1 013	2 480	984
2017	702	781	242	1 328	1 232	237	1 215	1 494	51	96	310	3 802	979	2 389	961

Projected Fraction of Total Oil Drill Days by Area - Lower Price Case															
DrlYr	01 - Southern Alberta	02 - Lloydminster AB	03 - Eastern Alberta	04 - Central Alberta	05 - West Central Alberta	06 - Foothills	07 - Kaybob	08 - Peace River	09 - Northeast Alberta	10 - Northwest Alberta	11 - Fort St. John	12 - Lloydminster Saskatchewan	13 - Southwest Saskatchewan	14 - Southeast Saskatchewan	15 - Manitoba
2015	4%	5%	1%	9%	8%	2%	8%	9%	0%	1%	2%	24%	6%	15%	6%
2016	5%	5%	2%	9%	8%	2%	8%	10%	0%	1%	2%	20%	7%	16%	6%
2017	4%	5%	2%	8%	8%	1%	8%	9%	0%	1%	2%	24%	6%	15%	6%

B2 – Oil Wells Projections by Case

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
01	Heavy	Conventional	03;04;05;06	5	2	2	2	2	2	2	2	2	2
01	Heavy	Conventional	07	80	37	44	33	39	47	41	39	31	30
01	Heavy	Conventional	08	20	7	9	7	8	9	8	8	7	6
01	Heavy	Conventional	09;10	2	1	1	1	1	1	1	1	1	1
01	Heavy	Conventional	13;14;15	1	0	0	0	0	0	0	0	0	0
01	Heavy	Tight	07;08	0	0	0	0	0	0	0	0	0	0
01	Heavy	Tight	13;14;15	1	1	0	0	1	1	0	1	0	0
01	Light	Conventional	03;04;05;06	15	6	7	5	6	7	6	6	5	5
01	Light	Conventional	07	31	12	13	11	12	14	13	12	10	10
01	Light	Conventional	08	56	19	22	17	20	24	21	20	16	16
01	Light	Conventional	09;10	3	1	1	1	1	1	1	1	1	1
01	Light	Conventional	13;14;15	22	8	10	8	9	10	9	9	7	7
01	Light	Tight	03;04;05;06;07;08;09;10	1	0	1	0	0	1	0	0	0	0
01	Light	Tight	13;14;15	13	4	5	3	4	5	4	4	3	3
02	Heavy	Conventional	03;04;05	3	1	1	1	1	1	1	1	1	1
02	Heavy	Conventional	06	134	50	58	46	53	63	55	53	44	43
02	Heavy	Conventional	07;08	169	81	95	76	86	102	91	86	72	71
02	Heavy	Conventional	14	9	3	4	3	4	4	4	4	3	3
02	Light	Conventional	06	24	9	11	8	10	11	10	10	8	8
02	Light	Conventional	07;08	25	6	8	6	7	9	7	7	5	5
02	Light	Conventional	13;14	1	0	0	0	0	0	0	0	0	0
02	Light	Tight	03;04;05;06	63	15	19	14	16	21	18	16	12	12
03	Heavy	Conventional	03;04;05	6	2	3	2	3	3	3	3	2	2
03	Heavy	Conventional	06	2	1	1	1	1	1	1	1	1	1
03	Heavy	Conventional	07;08;09;10	6	2	3	2	2	3	2	2	2	2
03	Light	Conventional	03;04;05	6	2	3	2	2	3	3	2	2	2
03	Light	Conventional	06	5	2	2	1	2	2	2	2	1	1
03	Light	Conventional	07;08;09;10	37	14	16	13	15	17	15	15	12	12
03	Light	Conventional	13;14;15	14	5	6	5	6	7	6	6	5	5
03	Light	Tight	03;04;05;06	46	17	20	15	18	21	18	18	15	14
04	Heavy	Conventional	04;05;06	1	0	0	0	0	0	0	0	0	0
04	Heavy	Conventional	07;08	6	2	3	2	2	3	3	2	2	2
04	Heavy	Conventional	13	0	0	0	0	0	0	0	0	0	0
04	Light	Conventional	02;03	1	0	0	0	0	0	0	0	0	0
04	Light	Conventional	04;05;06	10	4	4	4	4	5	4	4	3	3
04	Light	Conventional	07;08	41	16	18	14	16	19	17	17	14	13
04	Light	Conventional	09;10	1	1	1	0	1	1	1	1	0	0
04	Light	Conventional	13	3	1	1	1	1	1	1	1	1	1
04	Light	Conventional	14;15	31	12	13	11	12	14	13	12	10	10
04	Light	Tight	02;03;04;05;06;07;08	319	102	127	92	110	140	118	111	86	83
04	Light	Tight	13;14;15	1	1	1	1	1	1	1	1	1	1
04	Light	Shale	Duvernay	2	0	0	0	0	0	0	0	0	0

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
05	Heavy	Conventional	03	1	1	1	1	1	1	1	1	0	0
05	Heavy	Conventional	04;05;06;07;08	1	0	0	0	0	0	0	0	0	0
05	Heavy	Conventional	09	7	2	2	2	2	2	2	2	2	2
05	Heavy	Conventional	12;13	3	2	2	2	2	3	2	2	2	2
05	Light	Conventional	03	9	3	4	3	3	4	4	4	3	3
05	Light	Conventional	04;05;06;07;08	42	16	18	14	16	20	17	17	14	13
05	Light	Conventional	09	5	2	2	2	2	2	2	2	2	2
05	Light	Conventional	12;13	4	2	2	1	2	2	2	2	1	1
05	Light	Tight	03	38	7	10	6	8	11	9	8	6	5
05	Light	Tight	04;05	288	91	106	80	96	115	98	97	77	73
05	Light	Shale	Duvernay	3	0	1	0	0	1	0	0	0	0
06	Light	Conventional	03;04;05;06;07;08;09	0	0	0	0	0	0	0	0	0	0
06	Light	Conventional	13;14	7	2	3	2	2	3	3	2	2	2
06	Light	Tight	03;04;05;06;07;08;09	36	11	13	10	12	15	13	12	10	9
07	Heavy	Tight	03;04;05;06;07;08	0	0	0	0	0	0	0	0	0	0
07	Heavy	Tight	09;10;11;12	0	0	0	0	0	0	0	0	0	0
07	Light	Conventional	03;04;05;06;07;08	24	9	10	8	9	11	10	9	8	8
07	Light	Conventional	09;10;11;12	2	1	1	1	1	1	1	1	1	1
07	Light	Conventional	13;14;15;16	1	0	0	0	0	0	0	0	0	0
07	Light	Tight	03;04;05;06;07;08	112	35	42	32	37	45	39	37	30	29
07	Light	Tight	09;10;11;12	98	28	34	25	30	37	32	31	24	23
07	Light	Tight	13;14;15;16	39	14	17	13	15	18	16	15	13	12
07	Light	Shale	Duvernay	10	2	2	1	2	2	2	2	1	1
08	Heavy	Conventional	03;04;05	0	2	2	2	2	2	2	2	2	2
08	Heavy	Conventional	08	12	5	5	4	5	6	5	5	4	4
08	Heavy	Conventional	09;10;11	4	2	2	1	2	2	2	2	1	1
08	Heavy	Tight	03;04;05;06;07;08	5	2	2	2	2	2	2	2	2	1
08	Heavy	Tight	09;10;11	13	5	6	4	5	6	5	5	4	4
08	Light	Conventional	03;04	2	2	2	2	2	2	2	2	2	2
08	Light	Conventional	05	4	1	2	1	1	2	2	1	1	1
08	Light	Conventional	08	1	9	8	8	9	8	8	9	8	8
08	Light	Conventional	09;10;11	24	9	11	8	10	11	10	10	8	8
08	Light	Conventional	14	2	1	1	1	1	1	1	1	1	1
08	Light	Conventional	15	4	2	2	1	2	2	2	2	1	1
08	Light	Conventional	16	1	0	1	0	1	1	1	1	0	0
08	Light	Tight	03;04	5	2	2	2	2	2	2	2	2	2
08	Light	Tight	05;06;07;08;09;10;11	178	66	81	61	71	88	76	72	57	55
08	Light	Tight	12;13;14;15;16	44	21	24	19	22	26	23	22	18	17
09	Heavy	Conventional	04;05;06;07;08	9	2	3	2	2	3	2	2	2	2
09	Light	Conventional	01;02;03;04;05;06;07	10	7	8	7	7	8	7	7	7	6
10	Light	Conventional	08;13;14;15	11	4	5	4	4	5	5	4	4	4
10	Light	Conventional	Zama		0	0	0	0	0	0	0	0	0
10	Light	Tight	08;13;14;15	4	1	1	1	1	1	1	1	1	1
11	Heavy	Conventional	04;05;06;07;08	4	6	6	6	6	6	6	6	5	5
11	Light	Conventional	04;05;06;07;08	1	0	0	0	0	0	0	0	0	0
11	Light	Conventional	10;11	22	14	16	13	15	17	15	15	12	12

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
12	Heavy	Conventional	06	254	77	93	71	82	101	87	83	66	64
12	Heavy	Conventional	07;08	399	98	118	81	106	130	105	107	79	72
12	Heavy	Conventional	13	20	8	9	7	8	9	8	8	7	6
12	Heavy	Conventional	14;15	81	30	35	28	32	38	33	32	27	26
12	Heavy	Conventional	Thermal EOR Projects		581	341	688	581	341	688	335	155	272
12	Light	Conventional	03;04;05;06;07;08	2	1	1	1	1	1	1	1	1	1
12	Light	Tight	03;04;05;06;07;08	1 232	236	284	220	251	309	269	253	207	202
13	Heavy	Conventional	03;04;05;06;07;08	70	22	27	20	24	29	25	24	19	19
13	Heavy	Conventional	09;13	83	31	36	29	33	39	34	33	27	27
13	Heavy	Tight	09;13	163	50	59	45	53	65	55	53	42	41
13	Light	Tight	03;04;05;06;07;08;09;13	171	54	64	49	57	70	61	57	46	45
14	Heavy	Conventional	09;10;11	5	2	2	2	2	2	2	2	2	2
14	Heavy	Conventional	13	273	103	120	95	108	129	113	109	91	89
14	Heavy	Conventional	14;15;16;17;18;19	0	0	0	0	0	0	0	0	0	0
14	Heavy	Conventional	CO_2-EOR Projects		0	0	0	0	0	0	0	0	0
14	Light	Conventional	13	198	69	81	63	73	87	76	74	60	58
14	Light	Conventional	14;15	0	0	0	0	0	0	0	0	0	0
14	Light	Tight	13	257	75	88	64	80	96	80	80	62	58
14	Light	Tight	14;15	107	37	43	34	39	47	41	39	32	31
15	Light	Conventional	09;10;11;13;14	130	115	124	112	118	128	121	118	110	109
15	Light	Tight	09;10;11;13;14	183	35	43	26	39	49	37	39	25	21
Total				**5 941**	**2 463**	**2 560**	**2 399**	**2 575**	**2 743**	**2 767**	**2 345**	**1 783**	**1 844**

B3 – Oil Wells Projections by Type by Case

	Mid-Range Price Case			Higher Price Case			Lower Price Case		
	Conventional	Tight	Shale	Conventional	Tight	Shale	Conventional	Tight	Shale
2000	5 066	0	0	5 066	0	0	5 066	0	0
2001	3 971	0	0	3 971	0	0	3 971	0	0
2002	3 366	0	0	3 366	0	0	3 366	0	0
2003	4 279	0	0	4 279	0	0	4 279	0	0
2004	3 976	0	0	3 976	0	0	3 976	0	0
2005	4 382	53	0	4 382	53	0	4 382	53	0
2006	4 655	128	0	4 655	128	0	4 655	128	0
2007	3 870	301	0	3 870	301	0	3 870	301	0
2008	3 674	910	0	3 674	910	0	3 674	910	0
2009	1 710	869	0	1 710	869	0	1 710	869	0
2010	2 920	2 231	0	2 920	2 231	0	2 920	2 231	0
2011	3 498	3 225	0	3 498	3 225	0	3 498	3 225	0
2012	2 923	3 337	4	2 923	3 337	4	2 923	3 337	4
2013	2 669	3 249	6	2 669	3 249	6	2 669	3 249	6
2014	2 505	3 421	15	2 505	3 421	15	2 505	3 421	15
2015	971	909	2	1 022	969	2	1 030	978	2
2016	1 123	1 092	3	1 208	1 192	3	853	773	2
2017	890	819	2	1 059	1 018	3	827	744	2

APPENDIX C

C1 – Deliverability Details by Case (bbl/d)

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
01	Heavy	Conventional	03;04;05;06	4 138	3 591	3 390	3 288	3 596	3 409	3 331	3 589	3 344	3 183
01	Heavy	Conventional	07	22 916	21 788	21 535	21 899	21 857	21 804	22 541	21 748	20 801	20 409
01	Heavy	Conventional	08	15 622	15 010	14 507	14 206	15 022	14 555	14 322	15 004	14 382	13 932
01	Heavy	Conventional	09;10	3 594	3 393	3 098	2 813	3 393	3 099	2 815	3 393	3 096	2 807
01	Heavy	Conventional	13;14;15	589	425	373	327	425	373	328	425	372	326
01	Heavy	Tight	07;08	620	401	311	244	401	311	245	401	309	242
01	Heavy	Tight	13;14;15	409	327	274	228	327	275	230	327	273	225
01	Light	Conventional	03;04;05;06	3 264	2 990	2 740	2 642	2 999	2 775	2 723	2 985	2 647	2 451
01	Light	Conventional	07	7 376	6 797	6 702	6 843	6 819	6 781	7 019	6 785	6 491	6 436
01	Light	Conventional	08	17 623	16 316	15 944	15 965	16 357	16 105	16 344	16 293	15 520	15 074
01	Light	Conventional	09;10	1 669	1 503	1 422	1 355	1 504	1 423	1 356	1 503	1 420	1 352
01	Light	Conventional	13;14;15	5 334	5 244	5 576	5 851	5 266	5 658	6 039	5 231	5 355	5 412
01	Light	Tight	03;04;05;06;07;08;09;10	9 204	7 968	7 276	6 890	7 971	7 284	6 909	7 967	7 253	6 847
01	Light	Tight	13;14;15	5 200	4 502	4 279	4 177	4 527	4 366	4 369	4 488	4 038	3 734
02	Heavy	Conventional	03;04;05	2 370	2 472	2 391	2 285	2 472	2 393	2 289	2 472	2 387	2 276
02	Heavy	Conventional	06	33 110	30 190	28 571	27 520	30 232	28 744	27 916	30 167	28 159	26 552
02	Heavy	Conventional	07;08	40 068	35 272	34 325	34 039	35 349	34 618	34 703	35 228	33 563	32 462
02	Heavy	Conventional	13	165	95	78	67	95	78	67	95	78	67
02	Heavy	Conventional	14	1 361	1 455	1 487	1 511	1 458	1 500	1 543	1 453	1 452	1 437
02	Light	Conventional	03;04;05	166	168	163	150	168	163	150	168	163	150
02	Light	Conventional	06	2 472	2 290	2 245	2 246	2 296	2 265	2 291	2 287	2 195	2 139
02	Light	Conventional	07;08	3 641	3 479	3 279	3 222	3 488	3 310	3 291	3 474	3 196	3 062
02	Light	Conventional	13;14	0	0	0	0	0	0	0	0	0	0
02	Light	Tight	03;04;05;06	1 496	2 715	2 835	2 964	2 744	2 939	3 200	2 698	2 531	2 440
03	Heavy	Conventional	03;04;05	501	578	609	652	580	620	677	576	582	593
03	Heavy	Conventional	06	2 381	2 427	2 338	2 280	2 429	2 346	2 299	2 426	2 318	2 236
03	Heavy	Conventional	07;08;09;10	4 481	3 872	3 506	3 233	3 874	3 512	3 249	3 871	3 488	3 197
03	Heavy	Conventional	13;14;15	1 654	2 240	2 020	1 828	2 240	2 020	1 828	2 240	2 020	1 828
03	Light	Conventional	03;04;05	1 875	1 892	1 774	1 692	1 894	1 781	1 709	1 891	1 755	1 652
03	Light	Conventional	06	1 965	1 591	1 371	1 193	1 592	1 374	1 198	1 591	1 365	1 179
03	Light	Conventional	07;08;09;10	8 167	7 615	6 992	6 603	7 627	7 034	6 695	7 609	6 880	6 386
03	Light	Conventional	13;14;15	1 734	2 087	2 173	2 254	2 094	2 201	2 318	2 083	2 099	2 107
03	Light	Tight	03;04;05;06	3 697	3 013	2 838	2 767	3 020	2 861	2 814	3 009	2 775	2 658
04	Heavy	Conventional	02;03	56	49	46	42	49	46	42	49	46	42
04	Heavy	Conventional	04;05;06	131	120	111	110	120	113	114	120	106	100
04	Heavy	Conventional	07;08	936	816	759	723	817	762	731	816	750	706
04	Heavy	Conventional	09;10	113	88	79	70	88	79	70	88	79	70
04	Heavy	Conventional	13	812	760	706	623	760	706	623	760	706	622
04	Heavy	Conventional	14;15	200	165	149	135	165	149	135	165	149	135
04	Heavy	Tight	13;14;15	35	27	28	27	27	28	27	27	28	27
04	Light	Conventional	02;03	1 704	1 607	1 513	1 436	1 607	1 513	1 436	1 607	1 512	1 435
04	Light	Conventional	04;05;06	10 487	9 006	8 310	7 693	9 010	8 329	7 736	9 004	8 265	7 586
04	Light	Conventional	07;08	11 528	10 064	9 559	9 242	10 080	9 617	9 372	10 056	9 406	8 936
04	Light	Conventional	09;10	1 291	1 332	1 191	1 046	1 333	1 192	1 048	1 332	1 188	1 042
04	Light	Conventional	13	4 261	3 885	3 718	3 541	3 886	3 720	3 544	3 885	3 715	3 534

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
04	Light	Conventional	14;15	18 032	19 462	19 315	18 954	19 473	19 382	19 108	19 455	19 192	18 525
04	Light	Tight	02;03;04;05;06; 07;08	33 525	30 578	30 051	30 442	30 877	31 090	32 741	30 408	26 953	25 367
04	Light	Tight	13;14;15	162	148	175	197	148	177	202	147	168	185
04	Light	Shale	Duvernay	195	412	392	372	413	396	380	411	381	352
05	Heavy	Conventional	03	69	13	0	0	13	0	0	13	0	0
05	Heavy	Conventional	04;05;06;07;08	128	207	189	189	208	192	198	206	179	170
05	Heavy	Conventional	09	793	276	216	219	277	221	229	275	204	197
05	Heavy	Conventional	12;13	636	490	461	459	491	466	470	489	446	432
05	Heavy	Tight	03;04;05;06;07; 08;09	0	7	0	0	7	0	0	7	0	0
05	Light	Conventional	03	3 404	3 215	3 017	2 879	3 220	3 033	2 917	3 213	2 972	2 791
05	Light	Conventional	04;05;06;07;08	19 176	18 273	17 348	16 934	18 288	17 421	17 099	18 265	17 181	16 503
05	Light	Conventional	09	2 408	1 970	1 814	1 711	1 971	1 820	1 724	1 969	1 798	1 681
05	Light	Conventional	12;13	354	421	410	416	424	419	436	420	385	373
05	Light	Conventional	14;15	4 074	4 137	3 915	3 543	4 137	3 915	3 543	4 137	3 915	3 543
05	Light	Tight	03	5 976	6 078	5 334	5 146	6 126	5 513	5 541	6 050	4 819	4 258
05	Light	Tight	04;05	50 639	43 842	38 944	37 292	44 066	39 751	39 053	43 714	36 693	33 270
05	Light	Shale	Duvernay	32	29	65	83	31	72	98	28	46	51
06	Light	Conventional	03;04;05;06; 07;08;09	1 491	1 529	1 428	1 319	1 529	1 428	1 319	1 529	1 428	1 318
06	Light	Conventional	13;14	3 835	3 586	3 565	3 706	3 590	3 602	3 795	3 583	3 506	3 449
06	Light	Tight	03;04;05;06; 07;08;09	6 656	5 546	4 778	4 630	5 573	4 875	4 846	5 531	4 517	4 131
06	Light	Tight	13;14	0	2	3	3	2	3	3	2	3	3
07	Heavy	Conventional	03;04;05;06; 07;08	107	30	18	16	30	18	16	30	18	16
07	Heavy	Conventional	09;10;11;12	147	120	110	99	120	110	99	120	110	99
07	Heavy	Conventional	13;14;15;16	116	87	76	69	87	76	69	87	76	69
07	Heavy	Tight	03;04;05;06; 07;08	40	31	33	36	31	34	38	30	31	31
07	Heavy	Tight	09;10;11;12	210	119	107	102	119	107	103	119	107	102
07	Heavy	Tight	13;14;15;16	57	39	37	35	39	37	35	39	37	35
07	Light	Conventional	03;04;05;06; 07;08	4 508	4 963	5 111	5 288	4 978	5 173	5 441	4 954	4 934	4 935
07	Light	Conventional	09;10;11;12	4 150	4 054	3 721	3 398	4 055	3 726	3 410	4 053	3 705	3 370
07	Light	Conventional	13;14;15;16	19 702	18 102	16 279	14 746	18 103	16 281	14 751	18 102	16 274	14 735
07	Light	Tight	03;04;05;06; 07;08	22 628	22 609	22 335	22 235	22 714	22 714	23 070	22 548	21 253	20 358
07	Light	Tight	09;10;11;12	19 790	15 631	14 304	13 838	15 737	14 685	14 667	15 570	13 224	11 947
07	Light	Tight	13;14;15;16	16 998	13 236	11 956	11 318	13 272	12 077	11 579	13 216	11 606	10 739
07	Light	Shale	Duvernay	607	985	955	932	989	970	967	982	908	858
08	Heavy	Conventional	03;04;05	8	11	11	10	11	11	10	11	11	10
08	Heavy	Conventional	06;07	254	205	191	181	205	191	181	205	191	181
08	Heavy	Conventional	08	3 024	2 078	1 646	1 365	2 080	1 654	1 381	2 077	1 628	1 326
08	Heavy	Conventional	09;10;11	1 013	970	875	803	970	876	808	969	869	794
08	Heavy	Conventional	12;13	0	0	0	0	0	0	0	0	0	0
08	Heavy	Conventional	14	0	0	0	0	0	0	0	0	0	0
08	Heavy	Conventional	15	0	0	0	0	0	0	0	0	0	0
08	Heavy	Tight	03;04;05;06; 07;08	1 276	935	756	660	938	766	682	933	726	613
08	Heavy	Tight	09;10;11	2 895	2 367	2 143	2 061	2 375	2 175	2 134	2 362	2 055	1 894
08	Light	Conventional	03;04	371	361	349	336	361	350	337	361	348	334

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
08	Light	Conventional	05	4 296	3 921	3 542	3 233	3 922	3 546	3 243	3 920	3 529	3 209
08	Light	Conventional	06;07	940	885	792	716	885	792	716	885	792	716
08	Light	Conventional	08	421	463	471	464	463	471	465	463	470	463
08	Light	Conventional	09;10;11	15 795	14 609	13 885	13 286	14 614	13 902	13 324	14 606	13 837	13 199
08	Light	Conventional	12;13	935	864	765	693	864	765	693	864	765	693
08	Light	Conventional	14	1 025	819	699	625	820	702	631	819	692	612
08	Light	Conventional	15	18 481	16 171	14 089	12 257	16 171	14 091	12 262	16 170	14 083	12 248
08	Light	Conventional	16	2 227	1 870	1 474	1 164	1 871	1 476	1 168	1 870	1 468	1 155
08	Light	Tight	03;04	982	963	1 006	1 059	968	1 027	1 106	960	947	954
08	Light	Tight	05;06;07;08; 09;10;11	29 172	31 192	31 206	31 642	31 381	31 883	33 144	31 084	29 285	28 247
08	Light	Tight	12;13;14;15;16	11 372	9 504	9 198	9 143	9 555	9 374	9 528	9 474	8 681	8 295
09	Heavy	Conventional	01;02;03	0	0	0	0	0	0	0	0	0	0
09	Heavy	Conventional	04;05;06;07;08	1 121	971	969	981	979	996	1 040	967	897	848
09	Heavy	Conventional	14	4	3	4	4	3	4	4	3	4	4
09	Light	Conventional	01;02;03;04; 05;06;07	192	710	781	854	713	793	881	708	748	793
09	Light	Conventional	8	24	17	15	15	17	15	15	17	15	15
09	Light	Conventional	14	0	3	4	4	3	4	4	3	4	4
09	Light	Tight		19	14	8	0	14	8	0	14	8	0
10	Heavy	Conventional	08;13;14;15	71	81	73	69	81	73	69	81	73	69
10	Light	Conventional	08;13;14;15	11 956	10 345	8 578	7 299	10 354	8 610	7 373	10 340	8 482	7 135
10	Light	Conventional	Zama	248	177	200	200	177	200	200	177	200	200
10	Light	Tight	08;13;14;15	326	516	512	507	522	529	545	513	458	426
11	Heavy	Conventional	04;05;06;07;08	4 483	4 955	5 056	4 960	4 959	5 067	4 984	4 953	5 019	4 911
11	Heavy	Conventional	10;11	23	19	18	17	19	18	17	19	18	17
11	Heavy	Conventional	12;13;14	736	685	644	613	685	644	613	685	644	613
11	Light	Conventional	04;05;06;07;08	706	602	478	393	602	478	394	602	477	392
11	Light	Conventional	10;11	13 765	14 292	15 763	16 901	14 376	16 075	17 607	14 245	14 903	15 282
11	Light	Conventional	12;13;14	1 759	1 796	1 638	1 493	1 796	1 638	1 493	1 796	1 638	1 493
12	Heavy	Conventional	06	72 273	58 751	54 470	51 466	58 826	54 755	52 119	58 709	53 533	50 174
12	Heavy	Conventional	07;08	65 406	55 396	50 676	47 156	55 550	51 240	48 378	55 308	48 842	44 712
12	Heavy	Conventional	13	13 005	11 170	10 442	9 973	11 173	10 453	9 998	11 168	10 404	9 923
12	Heavy	Conventional	14;15	7 244	7 527	7 263	6 980	7 538	7 300	7 057	7 520	7 140	6 830
12	Heavy	Conventional	Thermal EOR Projects	38 160	45 801	60 971	79 994	45 801	60 971	79 994	45 801	57 961	67 563
12	Light	Conventional	03;04;05;06;07;08	3 912	3 214	2 899	2 619	3 214	2 900	2 621	3 214	2 896	2 615
12	Light	Tight	03;04;05;06;07;08	43 623	44 170	42 711	41 977	44 374	43 495	43 764	44 054	40 009	38 576
13	Heavy	Conventional	03;04;05;06;07;08	8 031	7 503	7 813	8 081	7 537	7 953	8 422	7 483	7 332	7 419
13	Heavy	Conventional	09;13	35 568	33 938	34 240	34 370	34 009	34 519	35 013	33 897	33 345	33 069
13	Heavy	Tight	09;13	17 099	17 850	18 451	18 347	17 968	18 889	19 312	17 783	16 962	16 495
13	Light	Conventional	03;04;05;06;07; 08;09;13	170	108	98	88	108	98	88	108	98	88
13	Light	Tight	03;04;05;06;07; 08;09;13	9 157	9 350	10 075	10 597	9 433	10 402	11 352	9 302	8 939	9 145
14	Heavy	Conventional	06;07;08	1 715	1 676	1 586	1 509	1 676	1 586	1 509	1 676	1 586	1 509
14	Heavy	Conventional	09;10;11	1 455	1 118	986	925	1 120	992	938	1 117	967	899
14	Heavy	Conventional	13	58 610	51 535	49 890	48 373	51 662	50 380	49 490	51 463	48 187	46 256
14	Heavy	Conventional	14;15;16;17;18;19	449	344	317	296	344	318	298	343	315	293
14	Heavy	Conventional	CO2-EOR Projects	29 475	29 181	28 500	27 805	29 181	28 500	27 805	29 181	28 500	27 805
14	Light	Conventional	06;07;08;09;10;11	24	22	19	17	22	19	17	22	19	17

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
14	Light	Conventional	13	36 836	32 196	30 329	28 674	32 296	30 704	29 502	32 138	29 018	27 114
14	Light	Conventional	14;15	539	534	510	486	535	510	486	534	510	485
14	Light	Tight	13	61 060	53 397	50 903	47 894	53 584	51 585	49 362	53 290	48 568	45 088
14	Light	Tight	14;15	9 091	9 305	10 176	10 284	9 393	10 518	11 055	9 254	8 964	8 843
15	Light	Conventional	09;10;11;13;14	17 078	18 648	17 661	16 809	18 665	17 726	16 960	18 638	17 480	16 460
15	Light	Tight	09;10;11;13;14	28 893	19 755	15 797	13 794	19 830	16 072	14 388	19 712	15 055	12 414
Total Heavy				501 961	462 051	459 928	466 378	462 890	463 133	473 636	461 571	446 901	438 849
Total Light				667 895	615 667	583 747	564 678	617 898	591 972	582 975	614 394	559 019	525 062
Total Conventional				776 714	720 156	703 424	699 132	721 293	707 818	709 123	719 507	687 311	665 062
Total Tight				392 308	356 136	338 839	330 537	358 062	345 849	346 042	355 037	317 274	297 588
Total Shale				833	1 425	1 412	1 387	1 433	1 439	1 445	1 421	1 335	1 261
Total British Columbia				21 472	22 349	23 597	24 377	22 437	23 922	25 108	22 299	22 699	22 708
Total Alberta				589 510	542 881	513 295	498 166	544 513	519 296	511 574	541 950	496 591	467 414
Total Saskatchewan				512 902	474 084	473 325	477 910	475 342	478 089	488 581	473 366	454 095	444 916
Total Manitoba				45 971	38 403	33 458	30 603	38 495	33 798	31 348	38 350	32 534	28 873
Total Deliverability				**1 169 856**	**1 077 718**	**1 043 675**	**1 031 056**	**1 080 788**	**1 055 105**	**1 056 610**	**1 075 965**	**1 005 920**	**963 911**

rates are annual averages

*actual production up to and including April 2015

C1 – Deliverability Details by Case (m^3/d)

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
01	Heavy	Conventional	03;04;05;06	658	571	539	523	572	542	530	571	532	506
01	Heavy	Conventional	07	3 643	3 464	3 424	3 482	3 475	3 466	3 584	3 458	3 307	3 245
01	Heavy	Conventional	08	2 484	2 386	2 306	2 259	2 388	2 314	2 277	2 385	2 287	2 215
01	Heavy	Conventional	09;10	571	539	493	447	539	493	448	539	492	446
01	Heavy	Conventional	13;14;15	94	68	59	52	68	59	52	68	59	52
01	Heavy	Tight	07;08	99	64	49	39	64	49	39	64	49	38
01	Heavy	Tight	13;14;15	65	52	44	36	52	44	37	52	43	36
01	Light	Conventional	03;04;05;06	519	475	436	420	477	441	433	475	421	390
01	Light	Conventional	07	1 173	1 081	1 066	1 088	1 084	1 078	1 116	1 079	1 032	1 023
01	Light	Conventional	08	2 802	2 594	2 535	2 538	2 601	2 560	2 598	2 590	2 467	2 397
01	Light	Conventional	09;10	265	239	226	215	239	226	216	239	226	215
01	Light	Conventional	13;14;15	848	834	887	930	837	900	960	832	851	860
01	Light	Tight	03;04;05;06;07;08;09;10	1 463	1 267	1 157	1 095	1 267	1 158	1 098	1 267	1 153	1 089
01	Light	Tight	13;14;15	827	716	680	664	720	694	695	714	642	594
02	Heavy	Conventional	03;04;05	377	393	380	363	393	380	364	393	380	362
02	Heavy	Conventional	06	5 264	4 800	4 542	4 375	4 806	4 570	4 438	4 796	4 477	4 221
02	Heavy	Conventional	07;08	6 370	5 608	5 457	5 412	5 620	5 504	5 517	5 601	5 336	5 161
02	Heavy	Conventional	13	26	15	12	11	15	12	11	15	12	11
02	Heavy	Conventional	14	216	231	236	240	232	239	245	231	231	228
02	Light	Conventional	03;04;05	26	27	26	24	27	26	24	27	26	24
02	Light	Conventional	06	393	364	357	357	365	360	364	364	349	340
02	Light	Conventional	07;08	579	553	521	512	555	526	523	552	508	487
02	Light	Conventional	13;14	0	0	0	0	0	0	0	0	0	0
02	Light	Tight	03;04;05;06	238	432	451	471	436	467	509	429	402	388

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
03	Heavy	Conventional	03;04;05	80	92	97	104	92	99	108	92	92	94
03	Heavy	Conventional	06	379	386	372	363	386	373	365	386	368	356
03	Heavy	Conventional	07;08;09;10	712	616	557	514	616	558	516	616	555	508
03	Heavy	Conventional	13;14;15	263	356	321	291	356	321	291	356	321	291
03	Light	Conventional	03;04;05	298	301	282	269	301	283	272	301	279	263
03	Light	Conventional	06	312	253	218	190	253	218	190	253	217	187
03	Light	Conventional	07;08;09;10	1 298	1 211	1 112	1 050	1 213	1 118	1 064	1 210	1 094	1 015
03	Light	Conventional	13;14;15	276	332	346	358	333	350	368	331	334	335
03	Light	Tight	03;04;05;06	588	479	451	440	480	455	447	478	441	423
04	Heavy	Conventional	02;03	9	8	7	7	8	7	7	8	7	7
04	Heavy	Conventional	04;05;06	21	19	18	18	19	18	18	19	17	16
04	Heavy	Conventional	07;08	149	130	121	115	130	121	116	130	119	112
04	Heavy	Conventional	09;10	18	14	13	11	14	13	11	14	13	11
04	Heavy	Conventional	13	129	121	112	99	121	112	99	121	112	99
04	Heavy	Conventional	14;15	32	26	24	21	26	24	21	26	24	21
04	Heavy	Tight	13;14;15	5	4	4	4	4	4	4	4	4	4
04	Light	Conventional	02;03	271	256	241	228	256	241	228	256	240	228
04	Light	Conventional	04;05;06	1 667	1 432	1 321	1 223	1 433	1 324	1 230	1 431	1 314	1 206
04	Light	Conventional	07;08	1 833	1 600	1 520	1 469	1 603	1 529	1 490	1 599	1 495	1 421
04	Light	Conventional	09;10	205	212	189	166	212	190	167	212	189	166
04	Light	Conventional	13	677	618	591	563	618	591	563	618	591	562
04	Light	Conventional	14;15	2 867	3 094	3 071	3 013	3 096	3 082	3 038	3 093	3 051	2 945
04	Light	Tight	02;03;04;05;06; 07;08	5 330	4 862	4 778	4 840	4 909	4 943	5 205	4 834	4 285	4 033
04	Light	Tight	13;14;15	26	23	28	31	24	28	32	23	27	29
04	Light	Shale	Duvernay	31	65	62	59	66	63	60	65	61	56
05	Heavy	Conventional	03	11	2	0	0	2	0	0	2	0	0
05	Heavy	Conventional	04;05;06;07;08	20	33	30	30	33	31	31	33	28	27
05	Heavy	Conventional	09	126	44	34	35	44	35	36	44	32	31
05	Heavy	Conventional	12;13	101	78	73	73	78	74	75	78	71	69
05	Heavy	Tight	03;04;05;06;07; 08;09	0	1	0	0	1	0	0	1	0	0
05	Light	Conventional	03	541	511	480	458	512	482	464	511	473	444
05	Light	Conventional	04;05;06;07;08	3 049	2 905	2 758	2 692	2 908	2 770	2 719	2 904	2 732	2 624
05	Light	Conventional	09	383	313	288	272	313	289	274	313	286	267
05	Light	Conventional	12;13	56	67	65	66	67	67	69	67	61	59
05	Light	Conventional	14;15	648	658	623	563	658	623	563	658	623	563
05	Light	Tight	03	950	966	848	818	974	876	881	962	766	677
05	Light	Tight	04;05	8 051	6 970	6 192	5 929	7 006	6 320	6 209	6 950	5 834	5 290
05	Light	Shale	Duvernay	5	5	10	13	5	11	16	4	7	8
06	Light	Conventional	03;04;05;06;07; 08;09	237	243	227	210	243	227	210	243	227	210
06	Light	Conventional	13;14	610	570	567	589	571	573	603	570	557	548
06	Light	Tight	03;04;05;06;07; 08;09	1 058	882	760	736	886	775	770	879	718	657
06	Light	Tight	13;14	0	0	1	0	0	1	0	0	1	0

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
07	Heavy	Conventional	03;04;05;06; 07;08	17	5	3	3	5	3	3	5	3	3
07	Heavy	Conventional	09;10;11;12	23	19	17	16	19	17	16	19	17	16
07	Heavy	Conventional	13;14;15;16	18	14	12	11	14	12	11	14	12	11
07	Heavy	Tight	03;04;05;06; 07;08	6	5	5	6	5	5	6	5	5	5
07	Heavy	Tight	09;10;11;12	33	19	17	16	19	17	16	19	17	16
07	Heavy	Tight	13;14;15;16	9	6	6	6	6	6	6	6	6	6
07	Light	Conventional	03;04;05;06; 07;08	717	789	813	841	791	822	865	788	784	785
07	Light	Conventional	09;10;11;12	660	644	592	540	645	592	542	644	589	536
07	Light	Conventional	13;14;15;16	3 132	2 878	2 588	2 344	2 878	2 589	2 345	2 878	2 587	2 343
07	Light	Tight	03;04;05;06; 07;08	3 598	3 594	3 551	3 535	3 611	3 611	3 668	3 585	3 379	3 237
07	Light	Tight	09;10;11;12	3 146	2 485	2 274	2 200	2 502	2 335	2 332	2 475	2 102	1 899
07	Light	Tight	13;14;15;16	2 703	2 104	1 901	1 799	2 110	1 920	1 841	2 101	1 845	1 707
07	Light	Shale	Duvernay	96	157	152	148	157	154	154	156	144	136
08	Heavy	Conventional	03;04;05	1	2	2	2	2	2	2	2	2	2
08	Heavy	Conventional	06;07	40	33	30	29	33	30	29	33	30	29
08	Heavy	Conventional	08	481	330	262	217	331	263	220	330	259	211
08	Heavy	Conventional	09;10;11	161	154	139	128	154	139	128	154	138	126
08	Heavy	Conventional	12;13	0	0	0	0	0	0	0	0	0	0
08	Heavy	Conventional	14	0	0	0	0	0	0	0	0	0	0
08	Heavy	Conventional	15	0	0	0	0	0	0	0	0	0	0
08	Heavy	Tight	03;04;05;06; 07;08	203	149	120	105	149	122	108	148	115	97
08	Heavy	Tight	09;10;11	460	376	341	328	378	346	339	376	327	301
08	Light	Conventional	03;04	59	57	56	53	57	56	54	57	55	53
08	Light	Conventional	05	683	623	563	514	624	564	516	623	561	510
08	Light	Conventional	06;07	149	141	126	114	141	126	114	141	126	114
08	Light	Conventional	08	67	74	75	74	74	75	74	74	75	74
08	Light	Conventional	09;10;11	2 511	2 323	2 208	2 112	2 323	2 210	2 118	2 322	2 200	2 098
08	Light	Conventional	12;13	149	137	122	110	137	122	110	137	122	110
08	Light	Conventional	14	163	130	111	99	130	112	100	130	110	97
08	Light	Conventional	15	2 938	2 571	2 240	1 949	2 571	2 240	1 949	2 571	2 239	1 947
08	Light	Conventional	16	354	297	234	185	297	235	186	297	233	184
08	Light	Tight	03;04	156	153	160	168	154	163	176	153	151	152
08	Light	Tight	05;06;07;08;09; 10;11	4 638	4 959	4 961	5 031	4 989	5 069	5 269	4 942	4 656	4 491
08	Light	Tight	12;13;14;15;16	1 808	1 511	1 462	1 454	1 519	1 490	1 515	1 506	1 380	1 319
09	Heavy	Conventional	01;02;03	0	0	0	0	0	0	0	0	0	0
09	Heavy	Conventional	04;05;06;07;08	178	154	154	156	156	158	165	154	143	135
09	Heavy	Conventional	14	1	1	1	1	1	1	1	1	1	1
09	Light	Conventional	01;02;03;04;05; 06;07	31	113	124	136	113	126	140	113	119	126
09	Light	Conventional	8	4	3	2	2	3	2	2	3	2	2
09	Light	Conventional	14	0	0	1	1	0	1	1	0	1	1
09	Light	Tight	0	3	2	1	0	2	1	0	2	1	0
10	Heavy	Conventional	08;13;14;15	11	13	12	11	13	12	11	13	12	11
10	Light	Conventional	08;13;14;15	1 901	1 645	1 364	1 160	1 646	1 369	1 172	1 644	1 349	1 134
10	Light	Conventional	Zama	39	28	32	32	28	32	32	28	32	32
10	Light	Tight	08;13;14;15	52	82	81	81	83	84	87	82	73	68

Area	Class	Type	Resource Group		Mid-Range Price Case			Higher Price Case			Lower Price Case		
				2014	2015	2016	2017	2015	2016	2017	2015	2016	2017
11	Heavy	Conventional	04;05;06;07;08	713	788	804	789	788	806	792	788	798	781
11	Heavy	Conventional	10;11	4	3	3	3	3	3	3	3	3	3
11	Heavy	Conventional	12;13;14	117	109	102	97	109	102	97	109	102	97
11	Light	Conventional	04;05;06;07;08	112	96	76	62	96	76	63	96	76	62
11	Light	Conventional	10;11	2 189	2 272	2 506	2 687	2 286	2 556	2 799	2 265	2 369	2 430
11	Light	Conventional	12;13;14	280	285	260	237	285	260	237	285	260	237
12	Heavy	Conventional	06	11 491	9 341	8 660	8 183	9 353	8 705	8 286	9 334	8 511	7 977
12	Heavy	Conventional	07;08	10 399	8 807	8 057	7 497	8 832	8 147	7 691	8 793	7 765	7 109
12	Heavy	Conventional	13	2 068	1 776	1 660	1 586	1 776	1 662	1 590	1 776	1 654	1 578
12	Heavy	Conventional	14;15	1 152	1 197	1 155	1 110	1 198	1 161	1 122	1 196	1 135	1 086
12	Heavy	Conventional	Thermal EOR Projects	6 067	7 282	9 694	12 718	7 282	9 694	12 718	7 282	9 215	10 742
12	Light	Conventional	03;04;05;06; 07;08	622	511	461	416	511	461	417	511	460	416
12	Light	Tight	03;04;05;06; 07;08	6 936	7 022	6 790	6 674	7 055	6 915	6 958	7 004	6 361	6 133
13	Heavy	Conventional	03;04;05;06; 07;08	1 277	1 193	1 242	1 285	1 198	1 264	1 339	1 190	1 166	1 180
13	Heavy	Conventional	09;13	5 655	5 396	5 444	5 464	5 407	5 488	5 567	5 389	5 301	5 258
13	Heavy	Tight	09;13	2 719	2 838	2 933	2 917	2 857	3 003	3 070	2 827	2 697	2 622
13	Light	Conventional	03;04;05;06;07; 08;09;13	27	17	16	14	17	16	14	17	16	14
13	Light	Tight	03;04;05;06;07; 08;09;13	1 456	1 487	1 602	1 685	1 500	1 654	1 805	1 479	1 421	1 454
14	Heavy	Conventional	06;07;08	273	266	252	240	266	252	240	266	252	240
14	Heavy	Conventional	09;10;11	231	178	157	147	178	158	149	178	154	143
14	Heavy	Conventional	13	9 318	8 193	7 932	7 691	8 214	8 010	7 868	8 182	7 661	7 354
14	Heavy	Conventional	14;15;16;17; 18;19	71	55	50	47	55	51	47	55	50	47
14	Heavy	Conventional	CO_2-EOR Projects	4 686	4 639	4 531	4 421	4 639	4 531	4 421	4 639	4 531	4 421
14	Light	Conventional	06;07;08;09; 10;11	4	3	3	3	3	3	3	3	3	3
14	Light	Conventional	13	5 856	5 119	4 822	4 559	5 135	4 882	4 691	5 110	4 614	4 311
14	Light	Conventional	14;15	86	85	81	77	85	81	77	85	81	77
14	Light	Tight	13	9 708	8 489	8 093	7 615	8 519	8 201	7 848	8 472	7 722	7 168
14	Light	Tight	14;15	1 445	1 479	1 618	1 635	1 493	1 672	1 758	1 471	1 425	1 406
15	Light	Conventional	09;10;11;13;14	2 715	2 965	2 808	2 672	2 968	2 818	2 696	2 963	2 779	2 617
15	Light	Tight	09;10;11;13;14	4 594	3 141	2 512	2 193	3 153	2 555	2 287	3 134	2 393	1 974
Total Heavy				79 805	73 460	73 123	74 148	73 594	73 632	75 302	73 384	71 052	69 771
Total Light				106 187	97 883	92 808	89 777	98 238	94 116	92 686	97 681	88 877	83 478
Total Conventional				123 488	114 496	111 836	111 153	114 676	112 534	112 741	114 392	109 274	105 736
Total Tight				62 372	56 621	53 871	52 551	56 927	54 986	55 016	56 446	50 442	47 313
Total Shale				133	227	225	221	228	229	230	226	212	200
Total British Columbia				3 414	3 553	3 752	3 876	3 567	3 803	3 992	3 545	3 609	3 610
Total Alberta				93 725	86 311	81 607	79 202	86 571	82 561	81 334	86 163	78 952	74 313
Total Saskatchewan				81 545	75 373	75 253	75 982	75 573	76 010	77 678	75 259	72 195	70 736
Total Manitoba				7 309	6 106	5 319	4 865	6 120	5 373	4 984	6 097	5 173	4 590
Total Deliverability				**185 992**	**171 343**	**165 931**	**163 925**	**171 832**	**167 748**	**167 988**	**171 065**	**159 928**	**153 250**

rates are annual averages

*actual production up to and including April 2015

FIGURE C.1

Western Canada Oil Deliverability – Existing and Projected Wells – Mid-Range Price Case

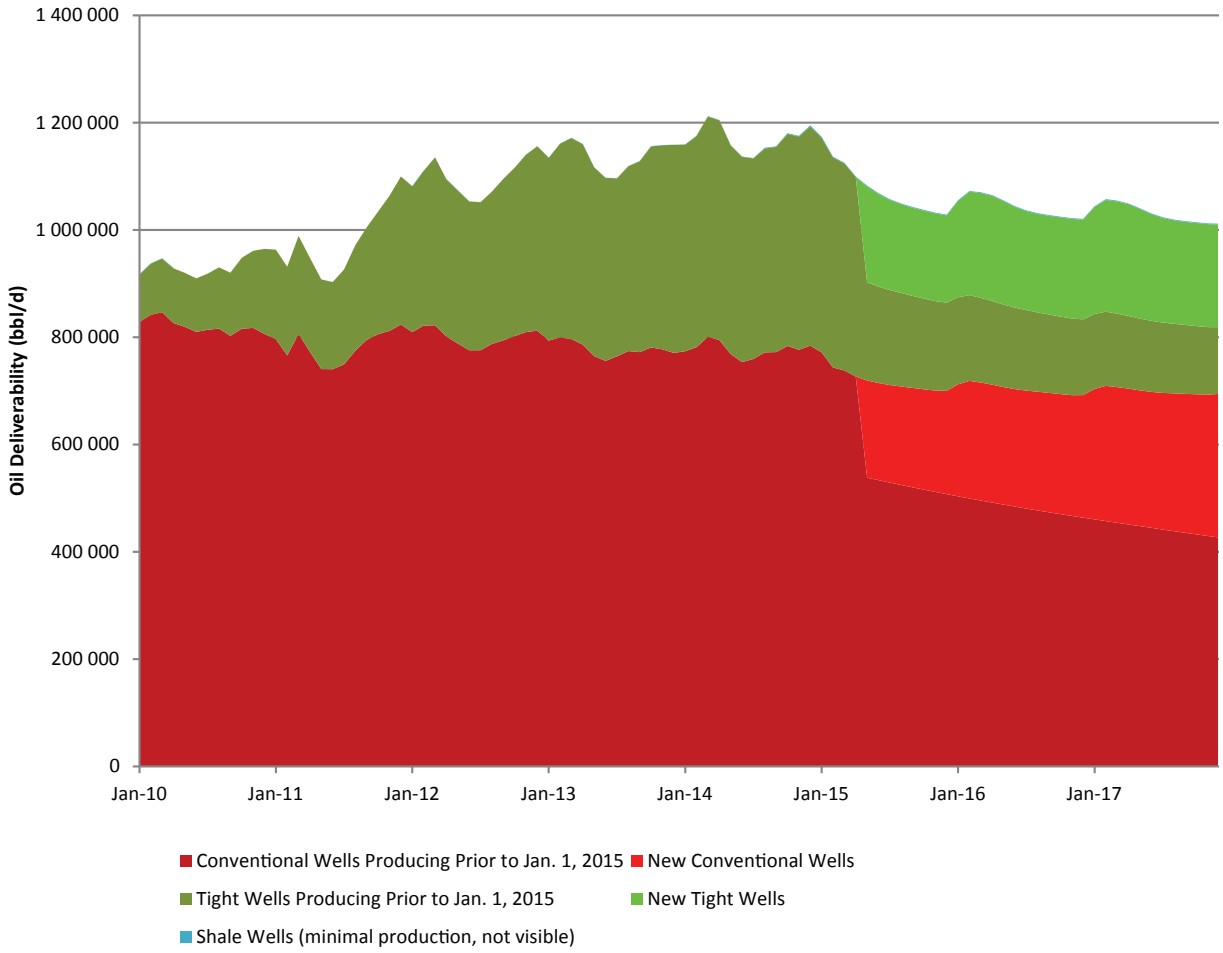

FIGURE C.2

Western Canada Oil Deliverability – Existing and Projected Wells – Higher Price Case

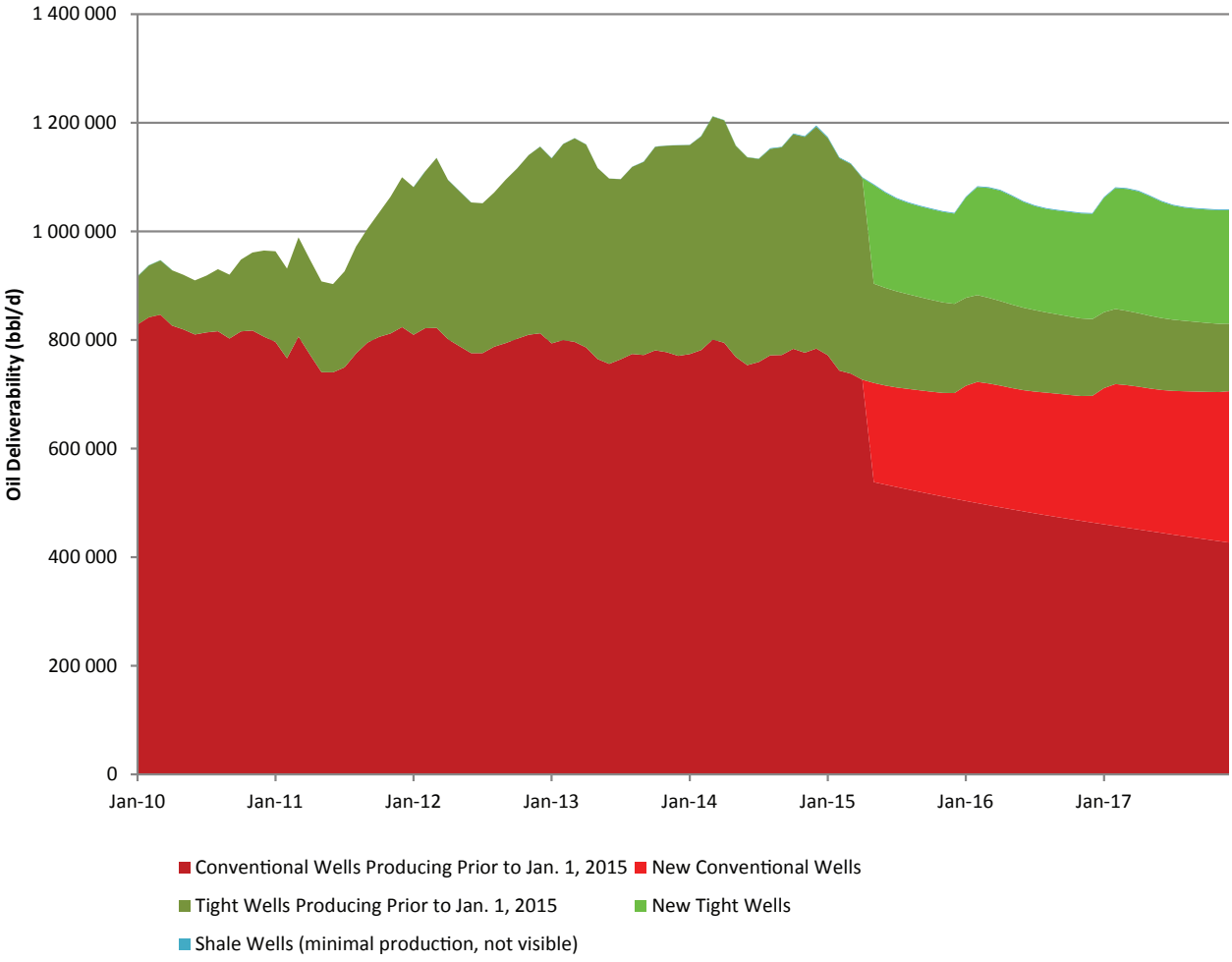

FIGURE C.3

Western Canada Oil Deliverability – Existing and Projected Wells – Lower Price Case